

Banner ODS and Banner EDW Handbook

*Release 8.1
April 2009*



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SunGard Higher Education

4 Country View Road
Malvern, Pennsylvania 19355
United States of America
(800) 522 - 4827

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Chapter 10 Indexes (Banner ODS and Banner EDW)

Glossary

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The Banner Operational Data Store (Banner ODS) and Banner Enterprise Data Warehouse (Banner EDW) allow your institution to accumulate vast amounts of data that, when properly aggregated, contain valuable information on institutional performance. Ideally, your institution would transform this data into information and knowledge that can be used to support your decision-making processes.

Using this solution, your institution can take full advantage of the data stored in your source system by turning it into applied knowledge that can help you make informed decisions, guide strategic institutional planning and forecasting based on analysis of historical trends, and enhance institutional performance.

Related Documentation

In addition to the Banner ODS and Banner EDW *Handbook*, the following documentation is available:

Release Guide - description of each enhancement and problem resolution included in the current release.

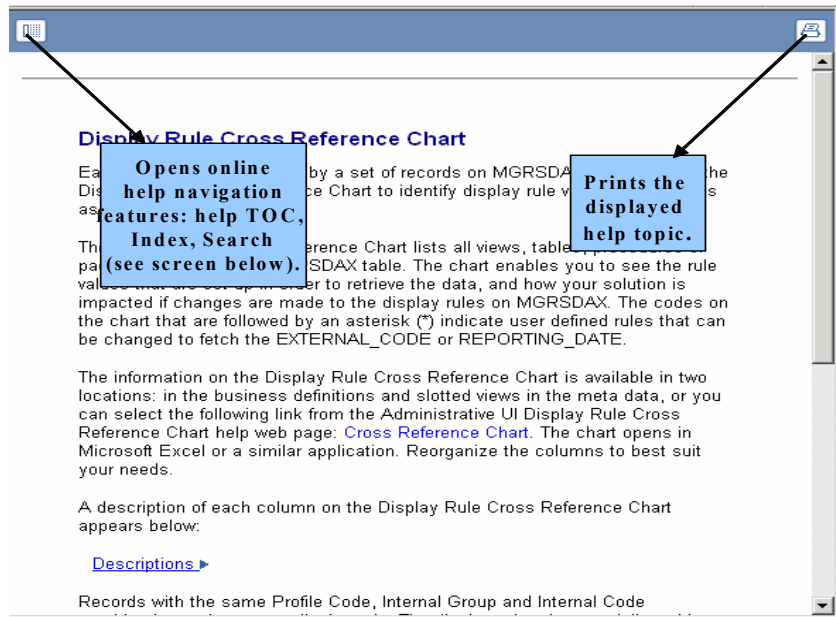
Installation Guide or *Upgrade Guide* – a technical guide to support your institution's conversion to the newest release.

GTVSDAX Handbook – for Banner clients, a user/technical/reference manual describing the setup and use of the Concept/Crosswalk Validation Form (GTVSDAX), which is used with the Object:Access views.

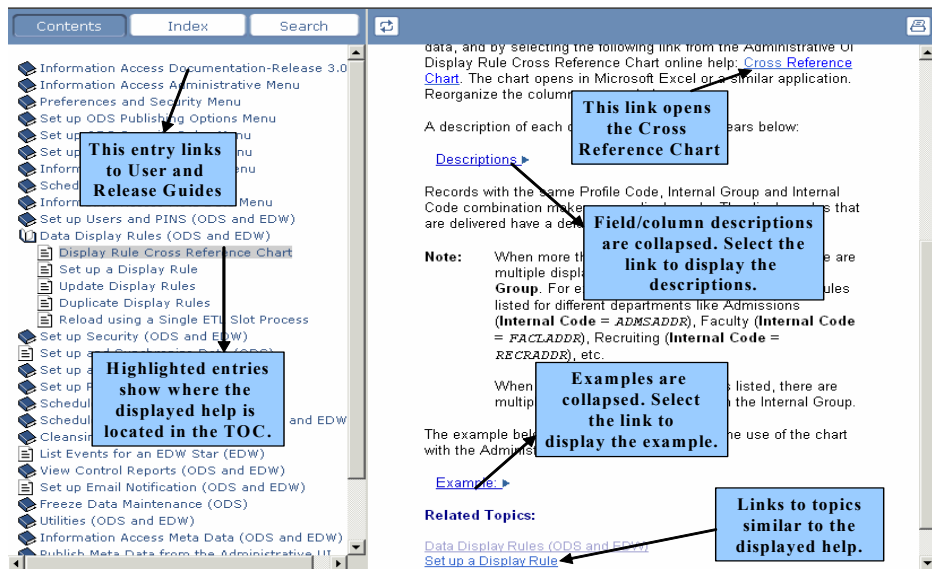
Banner Documentation Bookshelf Getting Started Guide – directs you to SunGard Higher Education documentation for your source system.

Online Help

Online help is available from any web page with a help link in the upper right-hand corner of the Administrative User Interface pages. When you select the **Help** link, the corresponding help page open. An example page appears below:



Select the icon in the upper right-hand corner to print a hardcopy version of the help topic. Select the icon in the upper left-hand corner to open a table of contents of all online help topics. The example page below shows an opened table of contents, and explains additional online help features.



Navigation

The help page that is open on the right, is highlighted in the table of contents on the left.

All blue, underlined text in the help is a link to open another file or help page, or to open a drop-down list of examples or field/column descriptions.

Documentation

All documentation for the current release is available through the online help. Select the “BPRA Documentation” entry (the first entry in the table of contents) to display a list and description of our current documentation. Select the link to open the corresponding guide.

Banner Performance Reporting and Analytics Data Flow

Higher Education is facing a variety of pressures that tie to how well institutions measure, account for, and improve performance. In order to achieve their institutional mission colleges and universities must define their business objectives to address and combat these pressures such as:

- Increase Operational Efficiency – maintain costs
- Maximize Funding – respond timely and appropriately to ensure revenue opportunities Optimize Accountability – legislative reporting, accreditation, budgetary reporting
- Increase Competitive Positioning – Institutional rankings, align curriculum to constituents demands

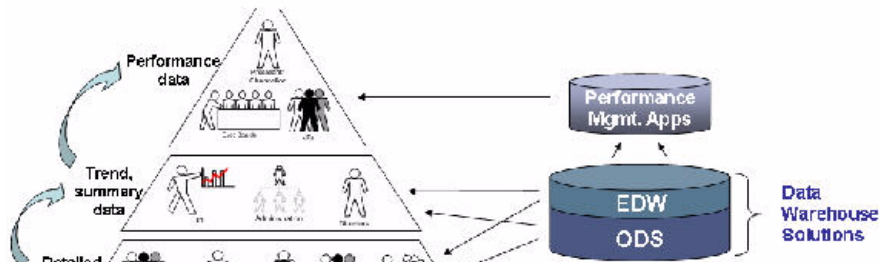
The common component to measure, account for and improve performance is timely access to accurate information. This means access to information that contains details for staff while providing summary information, trends, and analytics for operations to management and visibility into progress towards institutional goals and objectives at the executive level.

Banner Performance Reporting and Analytics is our foundation that enables all levels of staff to *create their own reports, analytics and ad-hoc queries*

- **Creates a single version of the truth** – data warehouse with pre-built data integration with Banner provide data integrity, security, quality, and accuracy. Create a single, trusted source of institutional data enterprise-wide, quickly and easily.
- **Designed for Higher Education** - data warehouse configures data to answer key questions across wide range of institutional processes. View your performance from summary through to detail, from any perspective, or across departments.

- **Short time to results** - rapid deployment gives you answers to key questions in the shortest time, provides quick wins and minimize impact on your infrastructure
- An **institution-wide solution** that can be implemented in phases, all at once or just for a single organization or business function.

ODS and EDW – The Foundation



The Banner Operational Data Store (Banner ODS) eases ad-hoc reporting and ensures consistent reporting results. It contains comprehensive information for all Banner modules, organized into simplified business concepts to simplify data access.

Banner Operational Data Store

The Banner Operational Data Store (Banner ODS) enables you to extract information from your administrative systems, reorganize the information into a simplified format, and then store the information in Banner ODS database where end users can create and deploy operational and ad hoc reports.

Banner ODS provides an extensive and flexible data store and business organized reporting views with fewer columns and improved performance. You can use these views alone, or in combination with other views. SunGard Higher Education also uses the Cognos8 Studio or Oracle Discoverer reporting tool to deliver an enterprise business area with many prejoined conditions to enhance operational and ad hoc reporting.

Why Use a Banner Operational Data Store?

A Banner ODS produces standard and custom reports without the typical overhead associated with a transactional system. A Banner ODS system is built specifically to manage the complex queries associated with institutional report generation.

A Banner ODS also provides the ability to select point-in-time, or frozen data. For example, many institutions close the course refund period three weeks from the start of an academic period; you can select specific data as of this date and use the data from this time frame in your reports. This provides an accurate count of full-time enrollment, or the amount of revenue generated to this point-in-time.

The performance advantages associated with a Banner ODS are perhaps the greatest benefit not only for Banner ODS system, but also for the administrative source system. Banner ODS is designed and built specifically for query purposes. This design results in faster query times in addition to increased load balancing on the administrative system. Most upgrades to the administrative system do not affect Banner ODS.

Data Store vs. Data Warehouse

Banner Enterprise Data Warehouse (Banner EDW) is the second solution, and provides additional reporting capabilities beyond what are provided in Banner ODS. Banner ODS contains current operational data formatted to ease ad hoc reporting, whereas Banner EDW contains detailed, historical data transformed into formats to support ease of analytical reporting and analysis. Extract, Transfer, and Load (ETL) facilities move data from Banner ODS to Banner EDW, providing consistency between the reporting solutions. The data being reported at different levels throughout your organization is synchronized with your SunGard Higher Education administrative systems, Banner ODS, and Banner EDW. If a president or department head needs to compare enrollments between spring and fall semesters, they could easily generate the report with Banner ODS. But, if that president needs to compare enrollment numbers from 1990 through 2004 against GPAs by demographics, they would graph that information with specified drill-downs using the information within Banner EDW.

Banner Enterprise Data Warehouse

Banner EDW gives decision makers at every level of the institution access to enterprise-wide analytical data so that they can proactively plan business activities. Banner EDW complements Banner ODS by providing operational stars that are meant to be refreshed on a regular basis like the Banner ODS. Banner EDW extends the capability of Banner ODS by providing snapshot stars, which are historical snapshots of institutional metrics and measures at a point in time. This complete solution pairs the industry-leading Cognos analytic tools with Banner EDW to significantly improve institutional effectiveness and decision making.

Banner EDW is integrated with the Online Analytical Processing (OLAP) capabilities of the Cognos toolset. Banner EDW includes prebuilt, pretested cubes that enable you to analyze key performance data from multiple perspectives with sub-second response time and without building custom data cubes on your own. The combination of prebuilt, higher

education specific cubes and the powerful analytical capabilities provide immediate value making it easier to follow trends, spot anomalies, compare information, and make informed decisions about and for students, faculty, administrators, alumni, and other constituents.

Why use a Banner Enterprise Data Warehouse?

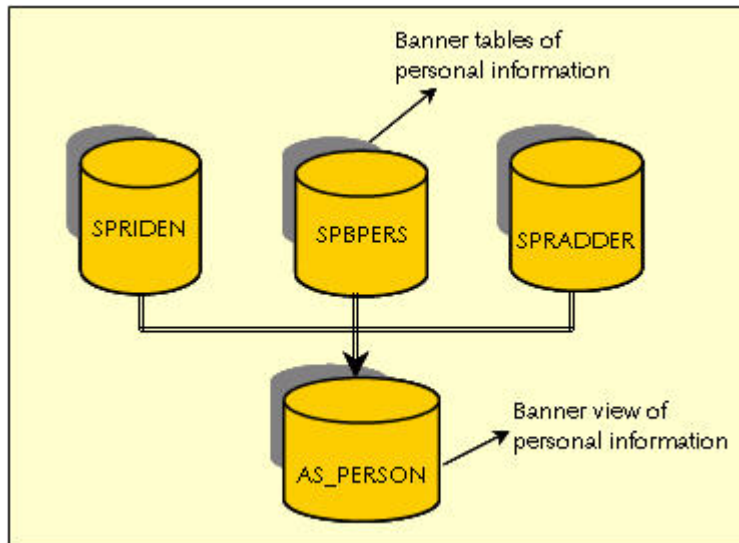
SunGard Higher Education designed Banner EDW to store data that is fed to it from Banner ODS. The data is stored on a relational database for the Banner ODS and on multi-dimensional database for the Banner EDW. The data moved into the Banner EDW is cleansed and restructured to support queries, summaries, and analyses, or to do operational reporting.

Banner EDW presents a coherent picture of business conditions at a single point-in-time for comparative reporting for significant events like census dates or to complement Banner ODS by providing operational stars that are refreshed on a regular basis like Banner ODS. Both sets of stars provided are paired with the industry-leading Cognos analytic tools to significantly improve institutional effectiveness and decision making.

The information flow from the source to Banner EDW appears below:

Banner Operational Data Store Architecture

The Banner Operational Data Store (Banner ODS) is designed to extract information from a source system such as Banner, and reformat the tables into a simplified set of tables to allow for quick and easy reporting. The concept is based on Banner Object:Access approach of grouping complex and normalized source tables into a series of more simplified, denormalized tables that are grouped by concept as in the Personal Demographic data example below:



To properly access the data from Banner tables above for reporting, you need to understand the rules used to store the data in each table, as well as the rules used to properly join the tables. These tables are some of the most commonly used tables in Banner for extracting person related information. Following are some examples.

Examples:

SPRIDEN

- Must be checked for a value of null to retrieve the most current record
- ENTITY_IND must be checked for a Person or Corporation (though for Advancement this is Person or Organization)
- Must be “driving table” in FROM clause

SPBPERS

- Join with SPRIDEN via PIDM column
- Outer Join must be used or omitted based on need

SPRADDR

- Join with SPRIDEN via PIDM column
- Outer Join must be used or omitted based on need
- STATUS_IND must be checked for active record
- FROM_DATE and TO_DATE must be checked for current date range allowing for NULL values to be included
- Highest or Lowest SEQ_NO within ADDRESS_TYPE must be used based on need

- ADDRESS_TYPE must be checked against a hierarchy of values to ensure that no more than one address is retrieved

You can access Banner information without understanding the complexities of the data structure because you can retrieve the data from the view. This method provides basic data access, but performance and non-Banner data integration issues are not addressed within Banner database.

Extract, Transform and Load Process

Banner ODS, and its associated data replication process, simplify reporting by replicating data onto a separate database apart from the production environment. This process is called the Extract, Transform, and Load (ETL) process.

Banner ODS uses the ETL process to extract data from the source database, transform the data, and loads it into Banner ODS. All ETL activities are performed from within Oracle PL/SQL packages, and deployed into Banner ODS database schema. The PL/SQL packages are created using Oracle Warehouse Builder (OWB). These packages are scheduled and run via the DBMS_JOBS queue in Oracle. You can submit and monitor the jobs using the Administrative User Interface. Typically referred to as ‘mappings’, the packages, when executed, delete, update and load data from the source to the composite tables based on the type of mappings executed.

Note

Banner and Banner ODS database instances should reside on separate servers and connect through a database link. ■

The source Oracle database is the database from which the source information, such as Banner, is derived. The source and Banner ODS database instances should reside on separate servers and connect through a database link.

During the initial load of Banner ODS, data is extracted from the source Oracle database using Oracle views that include specific business logic such as Enrolled or In State Resident indicators. The extracted data is then migrated into denormalized composite tables within Banner ODS. These composite tables represent a conceptual organizational structure, such as a Student, an Employee, or a Receivable Customer. To provide for data value security, the Administrative UI allows you to create Oracle Fine Grained Access rules and apply them to the composite tables to prevent information from being viewed without authorization.

The final layer of data access is the reporting views. These views allow calculated columns and increased flexibility in managing what data the end users can access. In select instances, such as the slotted concepts, data display rules are applied to user and institution profiles which filter out unwanted data.

To ensure that the data is current, you can incrementally refresh Banner ODS on a scheduled basis. OWB packages combine the business logic views with the change tables

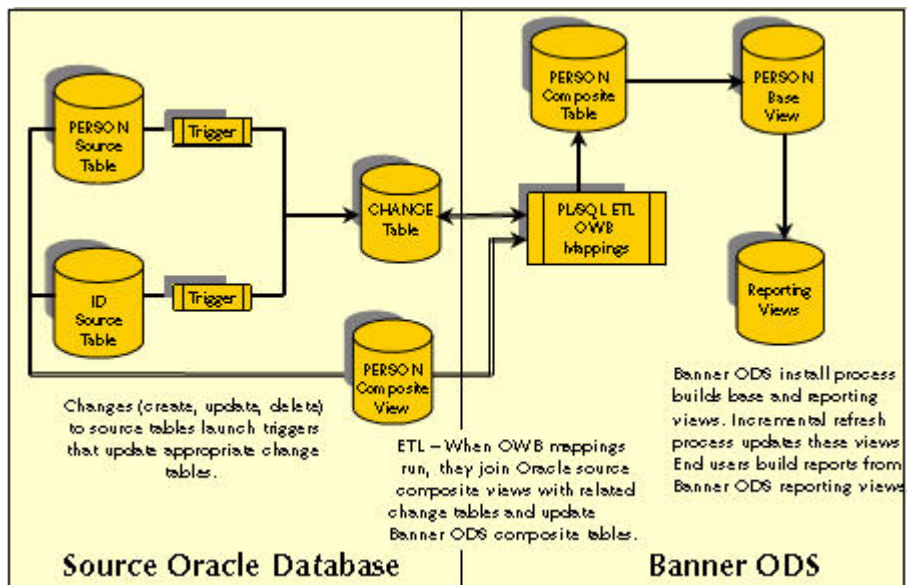
located in the product schemas to determine what updates are applied to Banner ODS composite tables.

You can manage all data loads and updates. Fine grained access rules, meta data management, data display rules and freeze data processing are managed with the Administrative UI.

Source Oracle Database and Banner ODS Components

Using the Oracle Warehouse Builder (OWB) ETL tool, triggers, and new data change tables in Banner, Banner ODS extracts data from Banner and loads it into a separate database schema. Indexes are added to Banner ODS tables as needed to enable the information to be accessed. Banner ODS is updated as needed (Incremental Refresh) to make additions, deletions or changes in Banner database. The data is then presented in a view similar.

The ETL process is accomplished using several components within the source Oracle database and Banner ODS. The following chart illustrates these components. Each component is described in subsequent sections.



Source Tables

Source tables are the database tables in the Banner information system from which data is extracted to load into Banner ODS.

Database Triggers

A single database trigger exists on each source table, excluding validation tables. Triggers are created for all tables used in a view, including function tables. They are created in the schema owner of the associated change table.

Each trigger identifies DML (Data Manipulation Language) activity on the table. When a change is made to an Banner table, that change is loaded into Banner ODS. The change launches a trigger. The trigger calls a stored PL/SQL procedure which updates the appropriate change tables to reflect the change in the source table. The triggers flag changes on Banner tables and update the appropriate change tables.

Triggers are created on the actual Banner tables that provide source data for Banner ODS. The triggers are not delivered with the baseline Banner applications.

Trigger Packages

Trigger packages manage the trigger procedures. There is one procedure for each change table with each procedure managing a unique index on the change table. There is one package per product area within Banner ODS such as Student, Human Resources, Finance, Financial Aid, Advancement. BANINST1 owns the trigger packages.

As data is entered into Banner, it is typically processed one row at a time. For each field being entered, the data is verified for field syntax, such as date or numeric formats, and fields requiring additional verification against rule tables. After the values are properly checked, the data is committed (or written) to the database table that will 'house' the information. During the 'commit' action, any Oracle triggers on the database table being written to are 'fired' and additional, but separate, logic is executed based on the parameters of the trigger (such as Before Insert, After Insert, etc.). Banner ODS has built and enabled triggers on all Banner tables that house information that is used in Banner ODS. Therefore, when one of Banner ODS triggers is 'fired', the trigger inserts the keys of the data being changed into the change tables along with a DML indicator. The existence of these rows in the change tables tells Banner ODS that Banner has data waiting to be retrieved.

Note

The change tables only maintain the most recent database activity for a row of information for a specific key. When multiple actions occur against the same Banner database table and row, only the last action is represented in the change table. This allows the replication process to work faster, and decreases the amount of data captured in the change tables. ■

Change Tables

Change tables maintain data about what tables and records have been changed, inserted, or deleted in the source system. There is not a one-to-one relationship between change tables and source tables or between changes tables and composite tables in Banner ODS. One change table exists for each logical group of information.

Change tables work like collector tables. They include four basic fields:

- Keys
- Table Name
- Process ID
- Most Recent DML.

Change tables reflect DML activity for specific Banner tables, but are also used when multiple tables use the same key.

Example:

The use of the SPRPCHG table that stores DML activities for the Hold and the Person composite views.

Change tables are owned by their respective product schemas, and are identified using standard Banner table naming conventions. The column names start with the seven-character prefix of the table name. All columns in each of the change tables are identical with the exception of the key columns. Here, the key columns represent the product/database tables they are accessing, and also represent the keys that Banner ODS uses when records change. All change tables are suffixed by 'CHG'.

The columns that comprise the change table are the key columns relative to the composite view(s) it supports, along with the TABLE_NAME and the PROCESS_ID columns. The last two columns allow inserts into the table with a null PROCESS_ID by updates to Banner that take place during Incremental Refresh. Since Banner ODS processes and deletes all rows in the change tables with a NOT NULL PROCESS_ID, the null value allows the row to stay until the next update. This ensures that it is not bypassed or inadvertently deleted.

Typically, a second index is created in the format of TABLE_NAME, PROCESS_ID, and RECORD_ACTION columns.

Example:

SPRPCHG – Change table for PIDM related Banner tables

Column Name	Data Type	Column Comment
SPRPCHG_TABLE_NAME	VARCHAR2(30)	Used to identify which composite view (and/or Banner ODS table) is being populated by this specific row of data.
SPRPCHG_PIDM	NUMBER	The change table needs to hold as many keys as are required to manage DELETE and UPDATE of information into Banner ODS. Keys do not need to identify a unique row, but must maintain some fields for comparison.
SPRPCHG_RECORD_ACTION	VARCHAR2(1)	Stores the last DML action for the key combination (<i>I</i> , <i>U</i> , or <i>D</i>).
SPRPCHG_PROCESS_ID	VARCHAR2(30)	Updated by the Banner ODS procedure UPDATE_CHANGE_TABLE which inserts non-null values to flag which rows are being processed during the incremental refresh process. This allows inserts to take place into the change table while replication is also taking place.
SPRPCHG_ACTIVITY_DATE	DATE	Reflects the actual date of that the rows was last inserted and/or updated.

Change Table Triggers

The Banner ODS maintains triggers on all Banner tables used to incrementally refresh data into the Banner ODS. Although the triggers are enabled on the actual Banner tables, they are referred to as ‘change table triggers’ because they populate Banner change tables with DML information. The trigger inserts rows of information in one or more change tables by invoking a procedure that packages all trigger insert actions for the Banner ODS change tables.

The triggers use basic logic except that the Exception routines allow for continued processing when encountering a DUP_VAL_ON_INDEX condition. This condition occurs when a row of data exists within the change table for the table’s unique index. When encountered, the procedure updates rather than inserts the information in the change table by overlaying the DML activity and the activity date. This action causes only the most recent DML activity to be stored in the change table.

All triggers are owned and maintained within the product schema of the table to which the triggers are added. For example, SATURN would own Student Triggers, etc.

- Trigger Procedures
 - Each Banner product has a procedure built for it that manages all change table triggers for that product area. For example, GOKODST for General, SOKODST for SATURN, etc.
 - The triggers are owned by the BANINST1 schema.

- The names for each procedure follow Banner standard naming conventions.

Composite Views and Functions/Packages

Composite views exist in Banner and usually match the composite tables that exist in Banner ODS. During the ETL process, when you perform a refresh of Banner ODS data, the composite views are joined with the appropriate change tables and updated with the changed information.

In some cases, functions are used to calculate new data that is created from Banner data and loaded into the Banner ODS. The composite views use packages to manage the functions built on the Banner database. There is one function package for each Banner ODS module of information, i.e., Student, Finance, Advancement, etc. These packages are installed into the ODSMGR schema.

Composite views represent a composite (mixture) of the tables selected from Banner and allow for a single piece of data to be extracted row-by-row, with all the business logic included in the view itself. These views use Object:Access standards. The column names are generic so that they can be used by all SunGard Higher Education product lines. Therefore, names familiar to Banner clients may be more generic than they are used to. For example, Term becomes Academic Period, PIDM becomes UID (unique ID).

The views can be used for reporting in Banner. But, they were designed to be extracted and loaded into Banner ODS, joined to Banner change tables, and to become the Incremental Refresh data extraction view.

Views are created and maintained in the ODSMGR schema. These views are accessed from Banner ODS through a database link that connects from Banner ODS ODSMGR schema to the Banner ODSMGR schema. Since these views are accessing data directly in the various source Banner tables, explicit SELECT (table) and EXECUTE (function) grants are assigned to the Banner ODSMGR schema via a grants script provided in the install media.

PL/SQL Scripts (OWB Mappings)

Your solutions use PL/SQL scripts, which are mappings built in Oracle Warehouse Builder (OWB). These OWB mappings identify the relationship of data between the source composite views and Banner ODS composite tables. You may see the scripts referred to as PL/SQL scripts or OWB mappings. The extract, transform and load processes built using OWB are the mappings that populate Banner ODS.

The OWB mappings are run during the initial load of Banner ODS and when you incrementally refresh Banner ODS. When run, the scripts load, update, or delete data in Banner ODS composite tables. Three scripts—Load, Update, and Delete—exist for each Banner ODS composite table. The different types of mappings perform the following functions:

- **LOAD mappings:** used to initially load Banner ODS composite tables by selecting all rows of data from the source system via the composite view.
- **DELETE mappings:** used to delete rows of data in Banner ODS when the change table reflects activity of any type for the key. Uses the key in the change table since no data will be found in the composite view for deletes. This process also updates the PROCESS_ID value in the corresponding change table for all rows before any delete takes place.
- **UPDATE:** mappings used to insert records into Banner ODS based on keys in the composite view joined against rows in the corresponding change table.



Note

It is mandatory that the DELETE mapping is run prior to the related UPDATE mapping or no records will be processed in the UPDATE mapping. ■

The Oracle Warehouse Builder user interface contains graphical editors that enable you to design a complete logical model of your warehouse. The OWB helps you plan how to extract data from a variety of sources, transform the data, and configure the data for loading into Banner ODS. The OWB code generator lets you deploy and populate Banner ODS without manual coding, and integrates with the Oracle database and query tools.

Banner ODS Composite Tables

Composite tables are the tables within Banner ODS that get loaded with data from the source system. These tables match element-for-element to the source composite views. The composite tables get populated during the initial install process. They are also update during the incremental refresh process.

- Denormalized tables are used to store “conceptual” structures of data.
- Normalized tables are used for quick data filtering or to include unlimited repeating values.
- The MGRSDAX rule table is used to load the composite tables.

Slotted Tables

- Slotted tables are used to denormalize Repeating Concepts (normalized tables.)
- Populated via rules from MGRSDAX.

Some GTVSDAX rules, but not values, are duplicated in the initial population of MGRSDAX. You should use the Administrative UI to add or modify MGRSDAX rules' values to meet your institution's needs.

Understanding Composite Tables and Slotted Tables

Banner ODS includes composite tables and slotted tables. Composite tables include the main data that is extracted from your source system and stored in Banner ODS.

Slotted tables store data values for a specific code related to a base table. For example, the TEST_SCORES_SLOTTED table in Banner ODS stores all valid Test Score values that were loaded from your source system to Banner ODS. When your end user creates a report against Banner ODS, the system pulls data from the composite tables. The system checks codes stored on the slotted tables, as needed, and pulls the appropriate code values. If you choose to use Business Profiles, the system pulls the appropriate values for the profile with which the user is associated. The default business profile of INSTITUTION is used when specific display rules are not established.

Using slotted tables optimizes the speed of your users' queries since the system need only check for specific code values as needed.

Both composite and slotted tables get updated when you run the refresh jobs to update Banner ODS data on a regular basis.

Updating Slotted Tables in Banner ODS

It is important to keep data in the slotted tables synchronized with data in the composite tables. Whenever you update composite tables, you should also update the related slotted tables.

Base Views

Base views are the initial views built within Banner ODS. These views match Banner ODS composite tables element-for-element.

Banner ODS Reporting Views

Data from each Banner ODS composite table is presented in one or more reporting views. Banner ODS reporting views are the views that your users use to create reports within Banner ODS. Users point their report writing tool at these views and build reports. Base views can also be used as reporting views.

The Datamart 1.0 product Object:Access views were recreated as additional reporting views for clients migrating reports written using the Object:Access views in the Datamart, or from Banner into Banner ODS. While will continue to support these views, they will only be enhanced to support migration, therefore, use of the views to create new reports is not recommended.

These Object:Access views are easy to identify because they use the same standard naming conventions as the Object:Access views delivered with Banner products.

Multi-Entity Processing

The Multi-Entity Processing (MEP) framework is available for all Banner ODS composite views, composite tables, and reporting views. This enables all information from multiple sources (data sources, institutions, campuses, etc.) that is located in one database to be selectively assigned security access as needed in Banner ODS.

Example

You could take data from multiple institutions that exists in one database, move that information into Banner ODS, and selectively restrict your user's access to that data by institution, etc.

The MEP columns only appear on generated meta data reports in the Administrative UI if MEP was set up for your institution.

Note

To use MEP with your source system and Banner ODS, Professional Services must provide the needed analysis, subsequent product enhancements and set up. This includes identifying which source tables require MEP, and which Banner ODS objects must be modified. ■

Administrative User Interface

The Administrative User Interface (UI) is web-based, using SGHE's WebTailor. You use the Administrative UI to set up and maintain Banner ODS and Banner EDW, including initiating and monitoring ETL processes. Administrative functions include:

- Preferences and Security - Use to manage security, set global preferences, and set up user accounts.
- Options - Use to control the processes to extract and load data into Banner ODS and Banner EDW, schedule a process, view control reports, view and/or remove scheduled processes, or maintain information about saving (freezing) data.
- Meta Data - Use to view and manage the meta data supporting the systems.
- New Web Tailor Administration - Use to customize a web menu, procedure, graphic element, set of information text, or a set of menu items. You can also update user roles, customize a web module, web rules, or WebTailor parameters; customize a login return location; and customize WebTailor overrides or global user interface settings.

Banner ODS Data Model

SunGard Higher Education has developed a data model that includes data from a number of higher education administrative system modules. The administrative system modules supported by Banner ODS data model include Student, Financial Aid, Advancement, Human Resources and Finance — including Accounts Receivable. Each of these modules, or areas of information, include a number of tables in the administrative systems. The data model brings the appropriate data elements from multiple tables in the source system into a different table structure in Banner ODS that supports the reporting needs of the entire institution.

The data model represents the data elements that are included in Banner ODS. Banner ODS shows the individual table, and the relationship with other tables stored within the model. It further includes all the data elements available in Banner ODS composite tables and/or the reporting views related to the object described.

Load Process

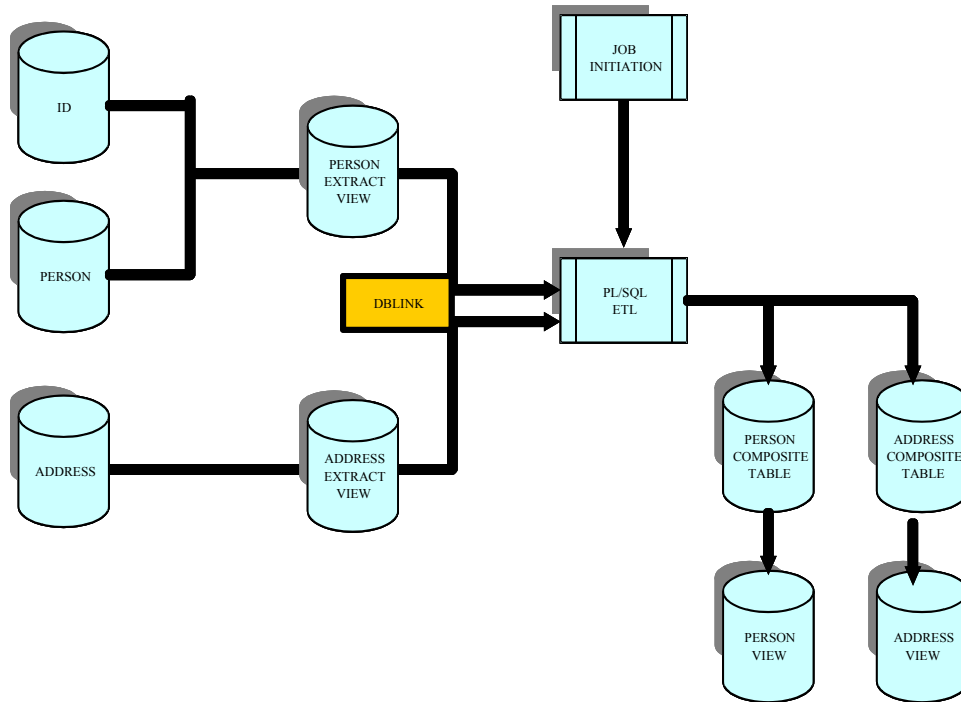
When a Load process is run, (from the Administrative UI, Select a Subprocess menu) one or more LOAD mappings run that extract all the data from a Composite view in the source system and move it into the corresponding Banner ODS Composite table. Typically, a complete load is run once, then the refresh process is run on a nightly basis to keep Banner ODS data in sync.

However, the Load process may be run periodically for one or more composite tables, for any number of reasons, including as an alternative to the Refresh process (see the “Using the Load vs. Refresh Process” section below). To facilitate the use of a load at any time, the Load process also purges the appropriate Change table(s), as applicable, that correspond to the Composite table(s) being loaded.

You may want to disable this feature on certain or all LOAD mappings. To disable the change table purge for a LOAD mapping, records can be created in MTVPARM. See the “Administrative User Interface” chapter of your “Handbook,” “Schedule a Process Parameters,” for information on the ETL_MAP_PACKAGE-_LOAD_PURGE Parameter.

Load Process Flow

Following is a process flowchart of Banner ODS:



1. Submit the Load job from the Administrative UI (Schedule a Process) to execute LOAD scripts for all mappings identified in that job.
2. PL/SQL script reads views via DBLINK, which accesses the ODSMGR schema from the source.
3. Write data to Banner ODS composite tables on a separate database.
4. Repeat the cycle for all jobs submitted until complete.
5. All process related information is logged in a Control Report, which is viewable via the Administrative UI. Review the associated Control Report for errors and job status messages.

Incremental Refresh Process

The term “incremental refresh” identifies how data synchronization occurs between the source and target set of tables to ensure that accurate information is stored in Banner EDW. Information that has changed in Banner ODS is captured and, through the use of ETL tool sets, is applied to the target system, Banner EDW. During the process, the change tables bring over only the data that has changed, and then the change tables are

purged/deleted. The Banner EDW incremental refresh is similar to the Banner ODS incremental refresh in that it uses records in change tables to identify the records which need to be refreshed. However, unlike Banner ODS which uses different mappings for load vs. refresh processing, the Banner EDW refresh uses the same mappings/process as the Banner EDW load but uses the corresponding change table to identify and process only the records which should be refreshed.

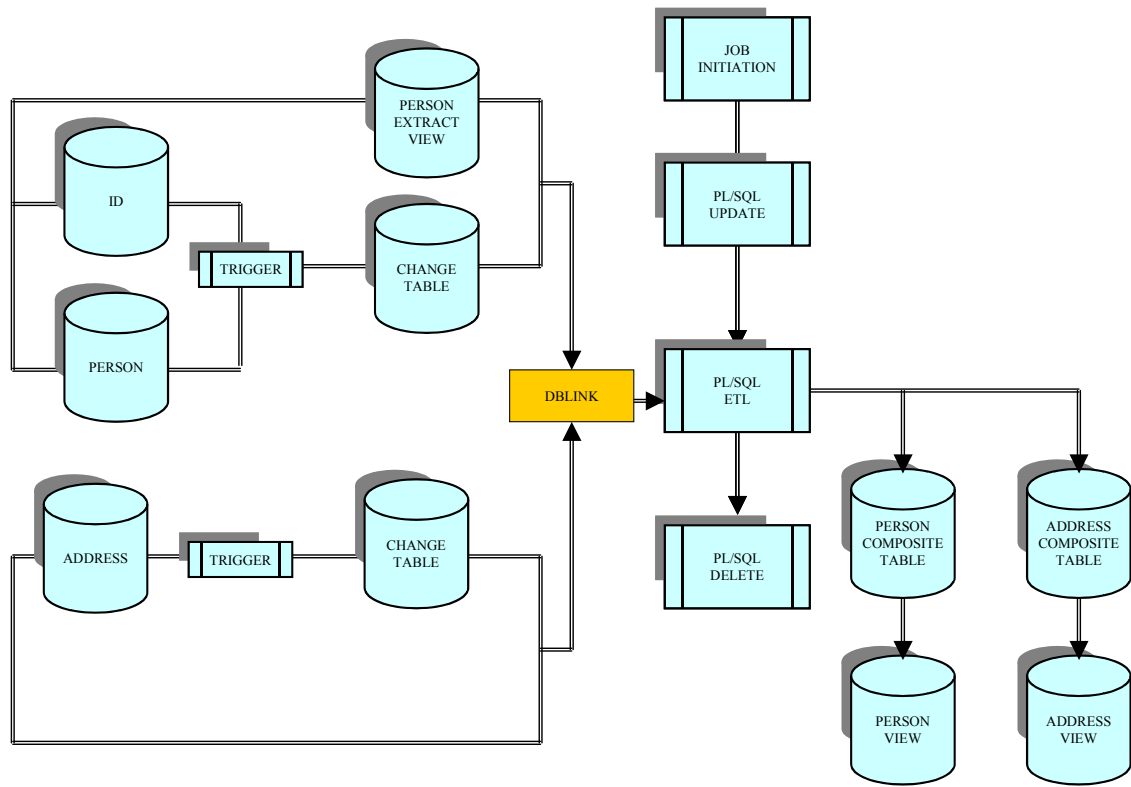
Once the Incremental Refresh process in Banner ODS is processed, and before the Banner ODS change table records are purged, change records are inserted into Banner EDW change tables using the `MAINTAIN_EDW_CHANGE_RECORDS` procedure. There is a one-to-one correspondence between each fact table and its associated change table.

In addition to processing the records in the change tables, the Banner EDW Incremental Refresh process incorporates records in a fact table's corresponding stage ERROR table, which would contain any records which previously had cleansing "errors". During the refresh, the ERROR table records' key values are entered into the corresponding change table and processed along with the change table records. Once combined with the change table records, the error table records are purged. However, any records with new cleansing errors are entered into the ERROR table during the refresh where they'll remain until the next refresh or load process is run for that fact table/star.

This approach is easy to maintain and has negligible impact upon the production environment.

Typically, a complete load is run once, and then the Incremental Refresh process for both Banner ODS and Banner EDW is run on a nightly basis to keep the data in sync. An incremental refresh should be run if data in Banner ODS has changed since the last time a refresh was run.

Incremental Refresh Process Flow



1. Submit the refresh job from the Administrative UI (Schedule a Process).
2. Select the Refresh process parameter.
3. During the ODSMGR refresh, before Banner side Banner ODS change tables are purged, insert records into EDWSTG change tables via the MAINTAIN_EDW_CHANGE_RECORDS procedure.
4. Insert the corresponding fact table's ERROR records' key values into the change table.
5. Use the Refresh process parameter in conjunction with the change table records.
6. Select the records to be processed.
7. Run the PL/SQL UPDATE process to delete records from the fact table to be refreshed.
8. Cleanse the refresh records.
9. Enter any records with cleansing records into the Error table.

10. Update/insert dimension records.
11. Insert refreshed records into the fact table.
12. Repeat for all jobs submitted until complete.
13. Verify the log file for a successful load and completion of all jobs.

Load Process vs. Incremental Refresh Process

Occasionally, a lot of data has changed in the source system and, therefore, in Banner ODS (such as via a data import, grade rolls at the end of an academic period, etc.), which creates a lot of data in the Change tables. This can slow down the Incremental Refresh process. In these cases, it is more efficient to run the Load process instead of the Incremental Refresh process (for those affected tables). Determining when it is more efficient to run a load versus a refresh is somewhat subjective, and can differ between Banner ODS Composite views and Banner EDW Stars.

Banner Enterprise Data Warehouse Architecture

Banner EDW and its associated event-based processing is designed to capture point-in-time information for trend analysis and historical reporting. Banner EDW also includes operational star data models that you can refresh on a regular basis in consort with Banner ODS. These data models provide a more current look at data and offer the ability to immediately assess key institution measures.

Banner EDW is designed to work with Banner ODS as a source within the same environment. All data extraction, transformation and load (ETL) activities are performed by Oracle PL/SQL packages generated by Oracle Warehouse Builder (OWB) and deployed into stage and production warehouse schemas. As with Banner ODS, these packages are scheduled and run via the DBMS_JOBS queue in Oracle. You can submit and monitor the jobs within the Administrative UI.

Banner EDW source and target database instances reside in the same database, but are in different schemas. As Banner EDW loads, data is extracted from Banner ODS using pipelined table functions. The extracted data is loaded into a staging area where data is cleansed based upon the institutional preferences.

The unique dimensional attribute combinations are then inserted into the dimension tables with a uniquely defined surrogate key. The facts of the extracted data are then loaded into

the fact table(s) along with the surrogate keys defining each record's unique combination of dimensional attributes.

To provide for data value security, the Administrative UI enables Oracle's fine grained access rules to be created and applied to the dimension tables and fact tables.

Oracle Warehouse Builder (OWB) Utilized to Perform ETL

The Oracle Warehouse Builder (OWB) user interface contains graphical editors that enable you to design a complete logical model of your warehouse. The OWB helps you plan how to extract data from Banner ODS, and transform and configure the data to load into Banner EDW. The OWB code generator lets you deploy and populate Banner EDW without manual coding, and integrates with the Oracle database and query tools.

Administrative User Interface

The Administrative User Interface is web-based, using SunGard Higher Education's WebTailor. This Administrative UI is used for the following administrative functions:

- Preferences and Security - Use to manage security, set global preferences, and set up user accounts.
- Options - Use to control the processes to extract, cleanse, and load data into the system, schedule a process (execute and monitor ETL processes),
- view control reports, view and/or remove scheduled processes, or maintain freeze data.
- Meta Data - Use to view and manage the meta data supporting the systems.
- New WebTailor Administration - Use to customize a web menu, procedure, graphic element, set of information text, or a set of menu items. You can also update user roles, customize a web module, web rules, or WebTailor parameters; customize a login return location; and customize WebTailor overrides or global user interface settings.
- Cleansing - Use to maintain descriptions to be stored in Banner EDW, and to translate codes from Banner ODS to Banner EDW.

Banner EDW Extensibility

The Banner EDW provides five additional user-defined fields on each of the dimension and fact tables. These fields or user attributes enable you to extend the data in the Banner EDW. You use the fields to specify user-defined measures on the fact tables and specify user-defined attributes on the dimension tables. These user-defined fields are included throughout the ETL process as place holders for your desired fields.

Using these additional fields, you only need to update the following items to extend the Banner EDW data models with your values.

- Update the data extract via the table extract function in the corresponding EXTR package.
- Update the cleansing rule that will process the user-defined values. If it is a new cleansing data element, you first need to create its default population link or enter the valid descriptions and values for the rule using the Administrative User Interface.
- Update the Cognos Framework Manager presentation view by giving the additional

Cleansing

Data cleansing is the process of verifying Banner ODS code values and possibly translating them to standardized code values in Banner EDW. The ETL mappings initially load code values and descriptions from Banner ODS into Banner EDW cleansing tables. Using the Administrative UI, the data warehouse administrator can set up cleansing rules specific for the institution.

Some of the cleansing that can take place includes:

- Creating new Banner EDW values based on Banner ODS values
- Changing an Banner ODS description value to a new value in Banner EDW
- Creating ranges of Banner ODS codes that become one code in Banner EDW
- Translating multiple Banner ODS values into one Banner EDW value and description
- Customizing the descriptions used in Banner EDW

Star Schemas

Star schemas are a standard data model technique used to design data warehouse tables. They contain fact tables and their associated dimension tables which are typically referenced via foreign keys. They are referred to as “star schemas” because of their appearance when viewing their entity-relationship diagrams. (ERDs)

The Banner Enterprise Data Warehouse provides two types of star schema data models: snapshot stars and operational stars. The difference between these two types of stars is based on when the data is refreshed or added to the star schema.

The fact table is the table in the star that stores the numerical performance measurements. It's where all amounts and counts are stored. For example, Total Credits is an enrollment fact that is stored in the Enrollment fact table.

Dimensions are the tables that contain descriptive attributes of business entities. In the query Total Credits by Program, Program is the dimension. Program is a dimension attribute of the Academic Study dimension table. There are typically many dimension tables associated with one fact table.

Cubes

Cubes are basically precalculated reports with data that you can rearrange and reformat. They provide the ability to manipulate predefined facts (measures) and dimensions (attributes) in various formats to provide different perspectives on an institution's business. Refer to the "Cubes" chapter of your Administration Guide for detailed star schema and cube information.

Using Cognos cubes as the user interface, you can browse data contained within the subset of the star schema in Banner EDW. This interface provides a predefined descriptive view of the information that would otherwise require some understanding of a database query language to accomplish. The presorted data loaded into the cube can be retrieved quickly and can permit multiple dimensions and measures to be selected and reviewed as desired.

Cognos Transformer provides the Cognos ETL equivalent of OWB for the loading of the Cognos cubes. Transformer provides the ability to define relationships within your data warehouse and pre-aggregate the measures presented to end users within the cubes.

Banner EDW Load Process for Time Sliced Stars

Below is an overview of the steps used to move data from Banner ODS to Banner EDW time sliced stars.

Process Flow

1. Extract data from Banner ODS based upon parameters passed from the Administrative UI. This data is loaded into the INPUT table associated with the business area being loaded.
2. Load information within the INPUT table to the associated CLEAN table and run the cleansing process. The cleansing process uses values defined by the institution within the Administrative UI to manage descriptions and translate codes to then update them in the CLEAN table.
3. Data from the CLEAN table is then used to discern the unique combinations of dimensional attributes within the data extracted. New combinations of attributes are inserted into their associated dimension tables and assigned a surrogate key. The first dimension analyzed is the time dimension. If the combination of dimensional attributes within the time dimension already exists, the loading process halts unless the Replace Indicator checkbox is checked. This ensures that historical data is not overridden unless explicitly requested by an institution.

4. After loading the attributes into the dimension tables, join the CLEAN table with its various associated dimension tables to obtain the surrogate keys associated with each record. This data is loaded into the associated WKEYS table.
5. Run the FACT_DELETE mapping to delete records in the fact table for the defined time slice when the Replace Indicator checkbox is checked.
6. Load data from the WKEYS table into the fact table.

Banner EDW Load Process for Non-Time Sliced Stars

Below is an overview of the steps used to move data from Banner ODS to Banner EDW non-time sliced or operational stars.

Process Flow

1. Extract data from Banner ODS based upon parameters passed from the Administrative UI. This data is loaded into the INPUT table associated with the business area being loaded.
2. Load information within the INPUT table to the associated CLEAN table and run the cleansing process. The cleansing process uses values defined by the institution within the Administrative UI to manage descriptions and translate codes to then update them in the CLEAN table.
3. Data from the CLEAN table is then used to discern the unique combinations of dimensional attributes within the data extracted. New combinations of attributes are inserted into their associated dimension tables and assigned a surrogate key.
4. After loading the attributes into the dimension tables, join the CLEAN table with its various associated dimension tables to obtain the surrogate keys associated with each record. This data is loaded into the associated WKEYS table.
5. Load data from the WKEYS table into the fact table.

Banner EDW Cleansing

“Cleansing” is the process of verifying Banner ODS code values and possibly translating them to standardized code values in Banner EDW. Use cleansing to:

- Translate a code value in Banner ODS to a new value in Banner EDW.
- Group together a range of Banner ODS code values into one Banner EDW value.
- Associate an effective date with code descriptions that may change over time.

Banner EDW Architecture Components

Oracle Warehouse Builder

Generated Objects

LOCATION: used to identify which schemas and database locations are used to generate DBLINKS.

Mappings

- INPUT: loads Banner ODS data into a staging INPUT table based upon parameters passed in the Administrative UI.
- CLEAN: passes data from the INPUT table to the CLEAN staging table and call the MGKDCLS.P_Cleanse_Input cleansing process.
- DIM_TIME: determines whether the extracted combination of time attributes exists within WDT_TIME. It inserts a new record within WDT_TIME with an assigned surrogate key if the combination of time attributes constitutes a new combination. If the Replace Indicator checkbox is not checked, the load process halts. Otherwise, the EVENT_DATE will be updated within WDT_TIME for the event being run.
- DIM_<dimension_name>: inserts a new record within a given dimension table with an assigned surrogate key if the combination of dimensional attributes in the extraction does not already exist within the dimension table.
- WKEYS: joins the CLEAN table with its associated dimension tables in order to place the measures from the extraction and the associated surrogate keys into the WKEYS staging table.
- FACT_DELETE: deletes records in the fact table for the extraction event when the Replace Indicator checkbox is checked.
- FACT_INSERT: loads data from the WKEYS table into the fact table.

Banner Enterprise Data Warehouse

Star Schema

- Dimension tables: used to store unique combination of descriptive attributes
- Fact tables: used to store the measures (amounts, counts, etc.)
- Staging tables: used as temporary storage of extraction information so that it may be manipulated with little or no effect to the actual star models.

Cubes

- One cube per summary star and cubes based on multiple operational stars.

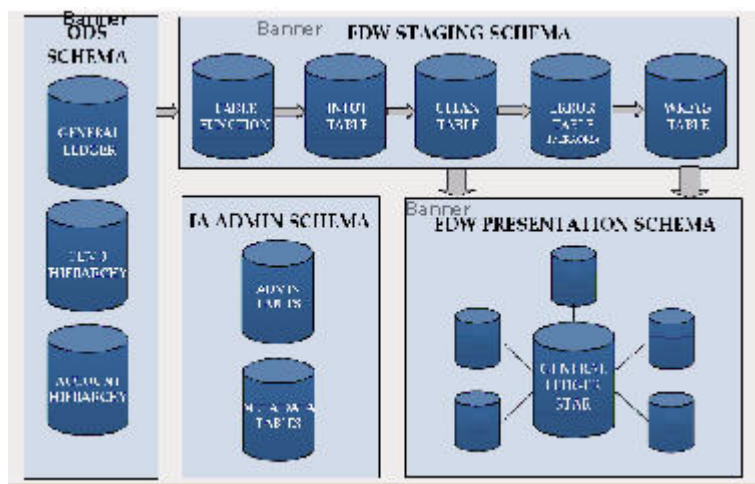
- One report per cube exists to provide a meaningful default view of data within a cube.

From Banner ODS to Banner EDW

Banner EDW stores data that is fed to it from Banner ODS. The data is stored on both primary storage and alternative storage. The data is cleansed and restructured to support queries, summaries, and analyses.

Banner ODS is a relational data model that is continuously incrementally refreshed from the Banner Administrative UI. Banner EDW reorganizes, groups and summarizes the information from Banner ODS star schemas containing operational, or at a specific point-in-time (event). The Administrative UI schedules Banner EDW load mappings to take place at scheduled times. Banner EDW also includes operational star data models that you can refresh on a regular basis like Banner ODS.

Below is a graphical representation of Banner ODS to Banner EDW data flow.



Banner EDW resides on the same machine and database as Banner ODS, but resides under the schema owner name of EDWMGR. Banner EDW also uses the EDWSTG schema as a repository for staging tables used to process extracts. Banner ODS is contained within the ODSMGR schema.

Banner ODS is a database of denormalized tables called composite tables. These composite tables store data contents from the administrative systems and are constructed specifically for reporting. Denormalizing combines data from many smaller tables into fewer, larger tables. This enhances data extraction and query access by eliminating the need to perform intensive performance table joins.

Data is retrieved from the source system(s) using composite views. These views use the existing business logic on the source system, and provide the extraction logic for the composite tables that reside on the reporting server. Banner ODS typically resides on a separate server in order to take advantage of the performance benefits associated with a query-only system. Business logic is not resident on the reporting server, ensuring that Banner ODS model can support all products. Because Banner ODS is a query-only system, the data in Banner ODS flows only one way — from the source administrative system to Banner ODS, never from Banner ODS to the administrative system.

Banner ODS standard composite tables were created with your industry-wide business needs in mind. This enables you to create your own reporting views and reports based on the delivered tables.

Banner ODS also includes Reporting (presentation) views. Reporting views are the final views you use to create reports.

Your Banner ODS is installed, set up and producing reports. You have just installed your new Banner EDW system. Now what? Below are the tasks you'll need to perform to properly set up Banner EDW. Refer to the section, "Setting Up and Maintaining Banner Enterprise Data Warehouse," in the *Administrative User Interface* chapter of this guide for detailed information on each of the following tasks.

Task 1 - Banner EDW Extract Parameters

Before you load data into Banner EDW, review the internal code parameters used by Banner EDW during processing. These parameters are defined within the MTVPARM table with an MTVPARM_INTERNAL_CODE_GROUP of 'EDW EXTRACT PARAMETERS':.

- HR_APPL_STAT
- EARNINGS
- Student Groups—STUDENT_LEVEL_GROUP, TEST, STUDENT_LEVEL_GROUP_TESTS
- INSTITUTION
- INSTITUTION_CHARACTERISTIC
- INST_GEOGRAPHIC_DIVISION
- MULTI_SOURCE_GROUP
- NULL_NATION
- PERSON_GEOGRAPHIC_DIVISION
- STUDENT_LEVEL_GROUP
- STUDENT_LEVEL_GROUP_TESTS
- TEST

Task 2 - Cleansing

Default cleansing values must be set up before loading the cleansing process. The cleansing process is applied to information loaded from Banner ODS into Banner EDW. This process translates some Banner ODS code values and maintains Banner ODS code descriptions before loading them into Banner EDW. This allows you to standardize descriptions and define data ranges that will be used as dimensional attributes.



Warning

You *must* set up all cleansing information before you run any Banner EDW load jobs. This is extremely important. ■

Task 3- Security

Secured access to data is controlled by Oracle policies, in conjunction with the Security Rules set up using the Administrative UI. A policy is an Oracle construct that applies a WHERE clause condition to any queries made against a table. A Security Rule is simply data in the security tables that determine what that WHERE condition will look like for a given user.

By default, Banner ODS and Banner EDW are delivered with no policies on any tables - that is, with no security restrictions on any tables. Therefore, you are free to set up the Security Rules for given users without affecting any user's ability to access the data. However, once the policies are defined for the tables, users can only access data to which they have been granted access.

Task 4 - Cubes

Cognos

Analytic tools within Cognos 8 enable you to view your institution's information using a variety of methods.

Analysis Studio allows you to use drag-and-drop techniques to manipulate dimensions and measures within a cube to view data from different perspectives. Refer to the Cognos 8 manuals for detailed instructions on how to use this application.

Your System Reporting Tools

Various other reporting tools may be used to connect to Banner EDW stars to create reports and cubes. A Cognos Framework Manager Model is defined for each of the Banner EDW cubes, and for the business concepts that are defined for the combination of operational star schemas.

Naming Conventions

The naming conventions and standards applied to scripts and database objects used to create and maintain the BPRA Solutions are described below.

Banner ODS Standards (ODSMGR Schema)

Front-End Views: Reporting Style

Object name

Natural language naming conventions are acceptable. Maximum length of 30 characters.

Examples:

PERSON, STUDENT_COURSE, CONSTITUENT

Additional Detail

Script names *must* follow unique 7-character naming standards. The first three characters are System Descriptor, Product ID and Object_ID. The next four characters are free form.

Front-End Views: Object:Access Style

Object name

Maximum length is 30 characters. See the table below.

1 st Character	<i>A</i>	O:A View Indicator
2 nd Character	<i>A</i> - Advancement <i>F</i> - Finance <i>P</i> - Payroll <i>R</i> - Financial Aid <i>S</i> - Student <i>T</i> - Accounts Receivable or Billing Receivable	Product Identifier
3 rd Character	_ (underscore)	
5 th -30 th Characters	Unique Descriptor	

Examples:

AS_STUDENT_DATA, AA_GIVING

Additional Detail

Script names are the same as the object name.

Front-End Composite Tables

Object name

Maximum length is 30 characters. See the table below.

1 st Character	<i>M</i> - Mart	System Descriptor
2 nd Character	<i>A</i> - Advancement <i>G</i> - General <i>F</i> - Finance <i>P</i> - Payroll <i>R</i> - Financial Aid <i>S</i> - Student <i>T</i> - Accounts Receivable or Billing Receivable	Product Identifier
3 rd Character	<i>T</i> - Table or <i>V</i> - View	Object Identifier
4 th Character	_ (underscore)	
5 th -30 th Characters	Unique Descriptor	

Examples:

MAT_GIFT, MGT_VALIDATION

Additional Detail

Script names *must* follow unique 7-character naming standards. The first three characters are System Descriptor, Product ID and Object ID. The next four characters are free form.

Indexes

Primary Key Indexes

Object name:

PK_{table_name} (For front-end tables, omit the first three identifiers). Maximum length is 30 characters.

Additional Indexes

Object name

Index will be either table name or abbreviation suffixed by “_INDEX_nn” where nn is a one-up number. Maximum length is 30 characters.

Administrative Standards (IA_ADMIN Schema)

Administrative Tables

Object name

Maximum length is 30 characters. See the table below.

1 st Character	<i>M</i> - Mart	System Descriptor
2 nd Character	<i>D</i> - Control Reports <i>G, T</i> - General Purpose	Table Purpose
3 rd Character	<i>B</i> - Base <i>R</i> - Repeating <i>T</i> - Temporary <i>V</i> - Validation	Table Type
4 th -7 th Characters	Unique Descriptor	

Examples:

MDBLOGH, MTVPARM

Additional Detail

Script names *must* follow unique 7-character naming standards. Script names are the same as the object name.

Administrative Packages

Object name

Maximum length is 30 characters. See the table below.

1 st Character	<i>M</i> - Mart	System Descriptor
2 nd Character	<i>G</i> - General Purpose	Product Identifier
3 rd Character	<i>K</i> - Package	Object Identifier
4 th -7 th Characters	Unique Descriptor	

Examples:

MGKSECR, MGKPARM

Additional Detail

Script names *must* follow unique 7-character naming standards. Script names are the same as the object name.

Meta Data Tables/Views

Object name

Maximum length is 30 characters. See the table below.

1 st Character	<i>W</i> - Warehouse	System Descriptor
2 nd Character	<i>M</i> - Meta Data	Table Purpose
3 rd Character	<i>T</i> - Table or <i>V</i> -View	Object Identifier
4 th Character	_ (underscore)	
5 th -30 th Characters	Unique Descriptor	

Examples:

WMT_SOURCE, WMV_TARGET_OBJECT

Additional Detail

Script names are the same as the object name.

Sequences

Object name

See the table below.

1 st Character	<i>M</i> - Mart	System Descriptor
2 nd Character	<i>G</i> - General Purpose	Product Identifier
3 rd Character	<i>S</i> - Sequence	Object Identifier
4 th -7 th Characters	Unique Descriptor	

Examples:

MGSHOST, MGSPARM, MGSPIDM, MGSSDAX

Additional Detail

Script names *must* follow unique 7-character naming standards. Script names are the same as the object name.

Banner EDW Standards (EDWMGR/EDWSTG Schemas)

Warehouse Tables

Star Schema Tables (EDWMGR Schema)

Object name:

Maximum length is 30 characters. See the table below.

1 st Character	<i>W</i> - Warehouse	System Descriptor
2 nd Character	<i>D</i> - Dimension <i>F</i> - Fact	Star Schema Table Type
3 rd Character	<i>T</i> - Table <i>Z</i> - Snapshot Table	Object Identifier
4 th Character	_ (underscore)	
5-5 th -30 th Characters	Unique Descriptor	

Examples:

WDT_TIME, WFT_EMPLOYEE_DETAIL

Additional Detail:

Script names are the same as the object name.

Staging Tables (EDWSTG Schema)

Object name:

Maximum length is 30 characters. See the table below.

1 st Character	<i>W</i> - Warehouse	System Descriptor
2 nd Character	<i>T</i> - Temporary	Warehouse Table Type
3 rd Character	<i>T</i> - Table	Object Identifier
4 th Character	_ (underscore)	
5 th -30 th Characters	Unique Descriptor, ending in any: _INPUT _CLEAN _ERROR _WKEYS	

Examples:

WTT_DEGREE_DETAIL_INPUT, WTT_ENROLLMENT_WKEYS

Additional Detail:

Script names are the same as the object name.

Sequences

Object name:

Maximum length is 30 characters. See the table below.

1 st Character	<i>W</i> - Warehouse	System Descriptor
2 nd Character	<i>D</i> - Dimension	Product Identifier
3 rd Character	<i>S</i> - Sequence	Object Identifier
4 th Character	_ (underscore)	
5 th -30 th Characters	Unique Descriptor, ending with _SEQ	

Examples:

WDS_GIFT_SEQ, WDS_JOB_SEQ

Additional Detail:

Sequences are created within the scripts that create the dimension tables.

Indexes and Constraints

Primary Key Indexes and Constraints

Object name:

Maximum length is 30 characters. See the table below.

1 st - 3 rd Character	PK_ (underscore)	Primary Key Prefix
4 th -30 th Characters		Table Name or Abbreviation (includes the first 4 characters, e.g., WFT_)

Examples:

PK_WFT_EMPLOYEE, PK_WFT_OPERATING_LEDGER

Foreign Key Constraints

Object name:

Maximum length is 30 characters. See the table below.

1st - 2nd Character	FK	Foreign Key Prefix
3rd Character	n	Where n is a one up number
4th Character	_ (underscore)	
5th-30th Characters		Child Table Name (omits the first 4 characters, e.g., WFT_)

Examples:

FK1_ENROLLMENT, FK2_ENROLLMENT



Banner to Banner ODS chapter includes information that should be completed for Banner-specific source systems, information that is unique to individual Banner products, and Banner composite views.

Implementation

The Implementation section contains information that should be completed for Banner-specific source systems.

Partition Exchange Option

Some load processes can take a significant amount of time to extract data into Banner ODS, depending on the number of records at your institution. Transaction History and Payroll Distribution information can account for a lot of the total data load time. To compensate for this, you can use Oracle's partition exchange functionality to load information into the MFT_TRANS_HISTORY and MPT_PAYROLL_DISTRIBUTION composite tables in Banner ODS. This enables you to run multiple load mappings for the same table at once, depending on the hardware at your institution. For instance, baseline transaction history load is broken into five separate loads that must run one at a time. After the first mapping is run, the second mapping runs, and so forth until all five are complete. Installing the partition exchange option allows you to run up to five separate mappings for either Transaction History and/or Payroll Distribution at once. This can cut the time to load each table by five. The objects that use partition exchange are optional items that are installed during your Banner ODS installation or upgrade.

Note

When installing these objects, the jobs that load these tables are no longer part of the LOAD_ALL_ODS_PRODUCTS job stream. You need to run these mappings manually through the Administrative UI. ■

In the Administrative UI, Schedule Banner ODS Mappings, there are five Transaction History Loads and Load Payroll History processes. These allow you to run one to five concurrent fiscal year loads for Transaction History, and one to five concurrent calendar year loads for Payroll History, at your discretion. Each job inserts a fiscal year / calendar year of information into a temporary table and exchanges it with its corresponding partition on the MFT_TRANS_HISTORY / MPT_PAYROLL_DISTRIBUTION tables when it is completed. The partition exchange renders a table's indexes as UNUSABLE.

An additional parameter has been included to automatically rebuild existing indexes. You should leave this parameter as *N* until the last fiscal year is loaded. By rebuilding only on the final fiscal year / calendar year load, you avoid rebuilding the index each time.

 Note

The nightly refresh processing is not affected by this new load process. ■

Use the following steps to schedule when you want each process to run:

1. Select Options from the Administrative UI menu.
2. Select **Schedule a Process**. The Select a Process page opens.
3. Select Schedule Banner ODS or Banner EDW Mappings. The Select a Subprocess page opens.
4. Select the Payroll or Transaction History process you want to run. The Schedule a Process page opens.
5. Enter the required Scheduling Parameters information.

5.1. Enter a **Run Date** (format dd-mon-yyyy) and **Runtime** (format hh24:mi:ss).

5.2. If you want to run the process on a recurring basis, enter an **Interval**.

Select the link next to the **Interval** field. A sample Interval window opens. Select the link under the **Interval Expression** column for the interval in which you want to schedule a process. For example, to run a process every day at the same time select *SYSDATE+1*.

6. Select **Save** to save the information about this job. The job is entered into the job queue to run at the specified day and time.

Prerequisite Tasks

The prerequisites below *must* be completed for Banner General and Finance products before Banner ODS tables are loaded initially. No prerequisites are required for the remaining Banner products.

Step 1 Task 1 - Define General Preferences Address Type

The MST_ADDRESS composite table stores a person's preferred address information from Banner SPRADDR table. Since this information is rule based, the Address Type value needs to be defined in Banner GTVSDAX form so that Banner view AS_PERSON knows which value to use when selecting the address records. All values entered into the GTVSDAX form should stay exactly as listed below except for the external code. This

value should be changed to match the client specific address type from the STVATYP table that defines a preferred address.

 Note

Only one address type can be specified for the preferred address. ■

Example:

<i>External Code</i>	<i>Internal Code</i>	<i>Internal Code Sequence Number</i>	<i>Internal Code Group</i>
PR	PREFADDR	1	ADDRESS

 Warning

You *must* alter and/or enter your institution's preferred address type before starting Banner ODS load and incremental refresh process. If this parameter is not set up, null values will appear in the preferred address fields. ■

Step 2 Task 2 - Define Fiscal Years for Baseline Transaction History Loads in Finance

 Note

This applies only to the baseline Transaction History Load. This is not required if you are using Partition Exchange. ■

The MFT_TRANSACTION_HISTORY composite table in Banner ODS stores detailed history information from Banner Finance transaction tables FGBTRND and FGBTRNH. These tables are typically very large and take a long time to load. To improve the performance and allow intermittent commits, the load process is 'staged' into five separate load processes. This allows the process to restart if any problems occur during the load. These load processes are driven by fiscal years. Which fiscal years are loaded, and to which load mappings they should belong is defined on the Set Up Parameters page of the Administrative UI. (MTVPARM)

There may be more than one fiscal year defined for each of the load mappings. Therefore, you may define fiscal year groupings that best suit your system resources.

To view SunGard delivered data, plus any data from your last Banner implementation, you need to set up the parameters starting with 1995. See the example below:

Select an Existing Parameter

Click a Description in the table below to select the Parameter you want to update or delete, or change the search criteria and click Search.

PARAMETER

Internal Group	Internal Code 1	Internal Code 2	Internal Code Sequence	External Code	Description
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_1	1	1994	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_1	1	1995	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_2	2	1996	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_2	2	1997	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_2	2	1998	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_2	2	1999	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_2	2	2000	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_3	3	2000	Fiscal Year To Load
PARAMETER	LOAD_MFT_TRANS_HISTORY	LOAD_MFT_TRANS_HISTORY_3	3	2001	Fiscal Year To Load

Step 3 Task 3 - Load Finance into Banner ODS

Note

This does not apply to Partition Exchange.

Loading Banner ODS Composite table, MFT_TRANS_HISTORY, is broken into five separate Load mappings. (See the “Banner to Banner ODS User Guide” for details on setting up fiscal year parameters to load this table.) These five Load mappings are part of the LOAD_FINANCE job/process as well as the LOAD_ALL_ODS_PRODUCTS job, and run when either of these jobs are scheduled. The Load Finance Transaction History process in Banner ODS Administrative User Interface runs these five load mappings separately. This allows you to load or reload the MFT_TRANS_HISTORY table without running each of the MFT_TRANS_HISTORY Load mappings separately, and without having to load or reload all of the other Finance tables. The Load Finance Transaction History process is located on the Schedule Banner ODS Mappings web page, and runs the following mappings in the following order:

- LOAD_MFT_TRANS_HISTORY_1, LOAD_MFT_TRANS_HISTORY_2
- LOAD_MFT_TRANS_HISTORY_3, LOAD_MFT_TRANS_HISTORY_4
- LOAD_MFT_TRANS_HISTORY_5

Because of the amount of time required to load the Transaction History table, you may want to remove the loading of the MFT_TRANS_HISTORY table out of the LOAD_FINANCE job, and load your table using this new LOAD_FINANCE_TRANSACTION_HISTORY job. To do this, your Systems Administrator can remove these load mappings from the LOAD_FINANCE job in the MTPARM table under the IA_ADMIN schema in Banner ODS.

Validation Table Data and Incremental Refresh

The Banner Operational Data Store (Banner ODS) was designed with validation table codes and descriptions stored on each individual data record. This design method was chosen to expedite the display of information since it eliminates the need for excessive joins of as many as 10 or 15 additional tables. During the design phase of Banner ODS, several methodologies on managing validation table change requirements were discussed with institutions. The consensus was that it would be preferable to build internal institutional policies and procedures to ensure that descriptions would not be changed, but that new codes would be added.

This is similar to the way in which Banner Course Catalog process works. If the title of the course changes, the institution creates a new catalog record with the new title for the new effective term - thus an entry with a description such as “Bowling Basics” that changed to “Bowling Fundamentals” would get a new code so that Banner ODS would reflect the data as it existed in the past for “Bowling Basics” and the new values reflected for “Bowling Fundamentals”. If it was determined that it was a necessary requirement to physically change a column description, then the institution policy would require that either a reload of all affected tables be initiated (very time intensive) or a script would be created at the institution that would update all columns in Banner ODS, altering the old value to the new value.

Therefore, to ensure that data integrity is maintained, it is important that no updates are applied to existing values within the validation tables once Banner ODS is placed into production and the incremental refresh cycle is implemented. Otherwise, there will be an inconsistency in the information displayed between the source system and Banner ODS.

To further explain the difficulty in incrementally refreshing tables based on coded description changes and not the result of data value changes, it is necessary to understand the efforts that would be required to try and implement a validation to data table refresh. First, the source system would have to be enhanced to maintain triggers on each validation table to track all DML activity. While it is possible to apply triggers to each of these tables, the trigger event would very likely have a performance impact on the source system since it would require the trigger to populate an entry into a change table for every row in every source data table that was populated with the altered validation table value. This would require a full table scan of every affected source table because the source system does not maintain keyed links between the validation tables and the data tables.

For example, the validation table STVDEPT is used enterprise wide in Banner Student, Advancement and H/R systems in 84 different tables. If a value were to be changed in the STVDEPT table, then the trigger on the STVDEPT table would have to read all 84 of the source tables to identify the key(s) of each row that contained the altered DEPT value, and then populate that key into the change table. Given the size of many of these data tables, the commit time required for the end user to wait on the change of the validation table in Banner would freeze their Banner session until the change table population took place.

The table below indicates what Banner ODS tables need to be reloaded if you change a description in any of the Banner validation tables:

Validation Table	Mapping	Composite View
AABMSHP	LOAD_MAT_MEMBERSHIP	AA_MEMBERSHIP
AFBCAMP	LOAD_MAT_SOLICITOR	AA_SOLICITOR
ASBSORG	LOAD_MAT_SOLICITOR	AA_SOLICITOR
ATVAMCT	LOAD_MAT_MEMBERSHIP	AA_MEMBERSHIP
ATVAMGP	LOAD_MAT_MEMBERSHIP_INTEREST	AA_MEMBERSHIP_INTEREST
ATVAMIN	LOAD_MAT_MEMBERSHIP_INTEREST	AA_MEMBERSHIP_INTEREST
ATVAMPM	LOAD_MAT_MEMBERSHIP_DUES	AA_MEMBERSHIP_DUES
ATVAMST	LOAD_MAT_MEMBERSHIP	AA_MEMBERSHIP
ATVAMTP	LOAD_MAT_MEMBERSHIP	AA_MEMBERSHIP
ATVASSC	LOAD_MAT_GIFT_ASSOC_ENTITY	AA_GIFT_ASSOCIATED_ENTITY
ATVCFAE	LOAD_MAT_DESG_GIVING	AA_DESIGNATION_GIVING_HISTORY
ATVCFAE	LOAD_MAT_GIFT	AA_GIFT
ATVCFAE	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
ATVCFAE	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVCFAE	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVCFAE	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVCMTP	LOAD_MAT_CAMP_GIVING	AA_CAMPAIGN_GIVING_HISTORY
ATVCMTP	LOAD_MAT_GIFT	AA_GIFT
ATVCMTP	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
ATVCMTP	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVCMTP	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVCMTP	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVDCAM	LOAD_MAT_GIFT_SOCIETY	AA_GIFT_SOCIETY
ATVDCAM	LOAD_MAT_MEMBERSHIP	AA_MEMBERSHIP
ATVDCNP	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
ATVDCNP	LOAD_MAT_CONSTITUENT_ENTITY	AA_ORGANIZATIONAL_CONSTITUENT
ATVDCPR	LOAD_MAT_GIFT_AUXILIARY	AA_GIFT_AUXILIARY
ATVDCST	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
ATVDCST	LOAD_MAT_CONSTITUENT_ENTITY	AA_ORGANIZATIONAL_CONSTITUENT
ATVDCYR	LOAD_MAT_GIFT_SOCIETY	AA_GIFT_SOCIETY
ATVDGRP	LOAD_MAT_GIFT	AA_GIFT
ATVDGRP	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
ATVDGRP	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVDONR	LOAD_MAT_GIFT_AUXILIARY	AA_GIFT_AUXILIARY
ATVDOTT	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
ATVDSTA	LOAD_MAT_GIFT	AA_GIFT
ATVDSTA	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING

Validation Table

Mapping

Composite View

ATVDSTA	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVDSTP	LOAD_MAT_DESG_GIVING	AA_DESIGNATION_GIVING_HISTORY
ATVDSTP	LOAD_MAT_GIFT	AA_GIFT
ATVDSTP	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
ATVDSTP	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVDSTP	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVDSTP	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVEXRS	LOAD_MAT_ADVANCEMENT_RATING	AA_ADVANCEMENT_RATING
ATVFISC	LOAD_MAT_ANNUAL_GIVING	AA_ANNUAL_GIVING
ATVFISC	LOAD_MAT_CAMP_GIVING	AA_CAMPAIGN_GIVING_HISTORY
ATVFISC	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
ATVFISC	LOAD_MAT_DESG_GIVING	AA_DESIGNATION_GIVING_HISTORY
ATVFISC	LOAD_MAT_GIFT	AA_GIFT
ATVFISC	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVFISC	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVFISC	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVFREQ	LOAD_MAT_PLEDGE_INSTALLMENT	AA_PLEDGE_INSTALLMENT
ATVFUND	LOAD_MAT_FUNDING_INTEREST	AA_FUNDING_INTEREST
ATVGACK	LOAD_MAT_GIFT	AA_GIFT
ATVGCLS	LOAD_MAT_GIFT	AA_GIFT
ATVGCLS	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVGCLS	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVGIFT	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVGIFT	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVGIVH	LOAD_MAT_FUNDING_INTEREST	AA_FUNDING_INTEREST
ATVGIVH	LOAD_MAT_PROSPECT_PROPOSAL	AA_PROSPECT_PROPOSAL
ATVINCM	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
ATVJOBC	LOAD_MAT_CONSTITUENT_ENTITY	AA_ORGANIZATIONAL_CONSTITUENT
ATVJOBC	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
ATVJOBC	LOAD_MAT_PREVIOUS_EMPLOYMENT	AA_PREVIOUS_EMPLOYMENT
ATVMOVE	LOAD_MAT_CONSTITUENT_CONTACT	AA_CONSTITUENT_CONTACT
ATVMOVE	LOAD_MAT_CONSTITUENT_PLAN	AA_CONSTITUENT_PLAN
ATVOCON	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
ATVPACK	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPCAT	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPCLS	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPDUR	LOAD_MAT_PLEDGE_INSTALLMENT	AA_PLEDGE_INSTALLMENT
ATVPGVE	LOAD_MAT_GIFT	AA_GIFT
ATVPGVE	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING

Validation Table

Mapping

Composite View

ATVPGVE	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
ATVPGVE	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
ATVPGVE	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPGVE	LOAD_MAT_PLEDGE_MATCHING	AA_PLEDGE_MATCHING
ATVPLDG	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPRCD	LOAD_MAT_SPECIAL_PURPOSE_GROUP	AA_SPECIAL_PURPOSE_GROUP
ATVPRMD	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVPRMD	LOAD_MAT_PLEDGE_INSTALLMENT	AA_PLEDGE_INSTALLMENT
ATVPROJ	LOAD_MAT_CONSTITUENT_CONTACT	AA_CONSTITUENT_CONTACT
ATVPROJ	LOAD_MAT_CONSTITUENT_PLAN	AA_CONSTITUENT_PLAN
ATVPROJ	LOAD_MAT_FUNDING_INTEREST	AA_FUNDING_INTEREST
ATVPROJ	LOAD_MAT_PROSPECT_PROPOSAL	AA_PROSPECT_PROPOSAL
ATVPROP	LOAD_MAT_PROSPECT_PROPOSAL	AA_PROSPECT_PROPOSAL
ATVPRST	LOAD_MAT_FUNDING_INTEREST	AA_FUNDING_INTEREST
ATVPRST	LOAD_MAT_PROSPECT_PROPOSAL	AA_PROSPECT_PROPOSAL
ATVPRTP	LOAD_MAT_SPECIAL_PURPOSE_GROUP	AA_SPECIAL_PURPOSE_GROUP
ATVPSTA	LOAD_MAT_PLEDGE	AA_PLEDGE
ATVREFR	LOAD_MAT_PROSPECT_INFO	AA_PROSPECT_INFO
ATVRSCR	LOAD_MAT_ADVANCEMENT_RATING	AA_ADVANCEMENT_RATING
ATVRTGT	LOAD_MAT_ADVANCEMENT_RATING	AA_ADVANCEMENT_RATING
ATVSCNT	LOAD_MAT_CONSTITUENT_CONTACT	AA_CONSTITUENT_CONTACT
ATVSICC	LOAD_MAT_CONSTITUENT_ENTITY	AA_ORGANIZATIONAL_CONSTITUENT
ATVSICC	LOAD_MAT_PREVIOUS_EMPLOYMENT	AA_PREVIOUS_EMPLOYMENT
ATVSOLC	LOAD_MAT_SOLICITOR	AA_SOLICITOR
ATVSTFT	LOAD_MAT_CONSTIT_STAFF_ASSIGN	AA_CONSTITUENT_STAFF_ASSIGN
ATVSTFT	LOAD_MAT_PROSPECT_INFO	AA_PROSPECT_INFO
ATVVIPC	LOAD_MAT_SPECIAL_PURPOSE_GROUP	AA_SPECIAL_PURPOSE_GROUP
ATVXREF	LOAD_MAT_RELATION	AA_RELATIONSHIP
FRVBASI	LOAD_MFT_GRANT	AF_GRANT
FRVBASI	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVCSTA	LOAD_MFT_GRANT	AF_GRANT
FRVCSTA	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVCSTD	LOAD_MFT_GRANT	AF_GRANT
FRVCSTD	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVCSTR	LOAD_MFT_GRANT	AF_GRANT
FRVCSTR	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVINDA	LOAD_MFT_GRANT	AF_GRANT
FRVINDA	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVINDD	LOAD_MFT_GRANT	AF_GRANT

Validation Table

Mapping

Composite View

FRVINDD	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FRVINDR	LOAD_MFT_GRANT	AF_GRANT
FRVINDR	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FTVACCI	LOAD_MAT_GIFT	AA_GIFT
FTVACCI	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVACCI	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVACCI	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVACCT	LOAD_MAT_GIFT	AA_GIFT
FTVACCT	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVACCT	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVACCT	LOAD_MFT_BUDG_AVAIL_LEDG	AF_BUDGET_AVAILABILITY_LEDGER
FTVACCT	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVACCT	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVACCT	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVACCT	LOAD_MFT_ENDOWMENT_UNITS	AF_ENDOWMENT_UNITS
FTVACCT	LOAD_MFT_FA_ADJUSTMENT	AF_FIXED_ASSET_ADJUSTMENT
FTVACCT	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVACCT	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVACCT	LOAD_MFT_GENERAL_LEDGER	AF_GENERAL_LEDGER
FTVACCT	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVACCT	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FTVACCT	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVACCT	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVACCT	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVACCT	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVACCT	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVACTV	LOAD_MAT_GIFT	AA_GIFT
FTVACTV	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVACTV	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVACTV	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVACTV	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVACTV	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVACTV	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVACTV	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVACTV	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVACTV	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVACTV	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVACTV	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVACTV	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING

Validation Table

Mapping

Composite View

FTVACTV	LOAD_MFT_TRANS_HISTORY_1	AF_TRANSACTION_HISTORY
FTVACTV	LOAD_MFT_TRANS_HISTORY_2	AF_TRANSACTION_HISTORY
FTVACTV	LOAD_MFT_TRANS_HISTORY_3	AF_TRANSACTION_HISTORY
FTVACTV	LOAD_MFT_TRANS_HISTORY_4	AF_TRANSACTION_HISTORY
FTVACTV	LOAD_MFT_TRANS_HISTORY_5	AF_TRANSACTION_HISTORY
FTVACTV	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVCOAS	LOAD_MAT_GIFT	AA_GIFT
FTVCOAS	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVCOAS	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVCOAS	LOAD_MFT_BUDG_AVAIL_LEDG	AF_BUDGET_AVAILABILITY_LEDGER
FTVCOAS	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVCOAS	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVCOAS	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVCOAS	LOAD_MFT_ENDOWMENT_ATTRIBUTE	AF_ENDOWMENT_ATTRIBUTES
FTVCOAS	LOAD_MFT_ENDOWMENT_DIST	AF_ENDOWMENT_DIST
FTVCOAS	LOAD_MFT_ENDOWMENT_MARKET	AF_ENDOWMENT_MARKET_VALUES
FTVCOAS	LOAD_MFT_ENDOWMENT_UNITS	AF_ENDOWMENT_UNITS
FTVCOAS	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVCOAS	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVCOAS	LOAD_MFT_FA_ITEM	AF_FIXED_ASSET_ITEM
FTVCOAS	LOAD_MFT_GENERAL_LEDGER	AF_GENERAL_LEDGER
FTVCOAS	LOAD_MFT_GRANT	AF_GRANT
FTVCOAS	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVCOAS	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FTVCOAS	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVCOAS	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVCOAS	LOAD_MFT_LOCN_HIERARCHY	AF_LOCATION_HIERARCHY
FTVCOAS	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVCOAS	LOAD_MFT_ORGN_HIERARCHY	AF_ORGANIZATION_HIERARCHY
FTVCOAS	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVCOAS	LOAD_MFT_PROG_HIERARCHY	AF_PROGRAM_HIERARCHY
FTVCOAS	LOAD_MFT_PROPOSAL	AF_PROPOSAL
FTVCOAS	LOAD_MFT_PURCHASE_ORDER	AF_PURCHASE_ORDER
FTVCOAS	LOAD_MFT_TRANS_HISTORY_1	AF_TRANSACTION_HISTORY
FTVCOAS	LOAD_MFT_TRANS_HISTORY_2	AF_TRANSACTION_HISTORY
FTVCOAS	LOAD_MFT_TRANS_HISTORY_3	AF_TRANSACTION_HISTORY
FTVCOAS	LOAD_MFT_TRANS_HISTORY_4	AF_TRANSACTION_HISTORY
FTVCOAS	LOAD_MFT_TRANS_HISTORY_5	AF_TRANSACTION_HISTORY
FTVCOAS	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION

Validation Table

Mapping

Composite View

FTVCOAS	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
FTVCOAS	LOAD_MPT_FACULTY_APPT_HIST	AP_FACULTY_APPOINTMENT_HISTORY
FTVCOAS	LOAD_MPT_FACULTY_RANK_HIST	AP_FACULTY_RANK_HISTORY
FTVCOAS	LOAD_MPT_FACULTY_SABB_HIST	AP_FACULTY_SABBATICAL_HISTORY
FTVCOAS	LOAD_MPT_PAYROLL_EARNING	AP_PAYROLL_EARNING
FTVCOAS	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
FTVCOAS	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVCOMM	LOAD_MFT_INVOICE_ITEM	AF_INVOICE_ITEM
FTVCOMM	LOAD_MFT_PO_ITEM	AF_PUCHASE_ORDER_ITEM
FTVCOMM	LOAD_MFT_RECEIVED_ITEM	AF_RECEIVED_ITEM
FTVCOMM	LOAD_MFT_RETURNED_ITEM	AF_RETURNED_ITEM
FTVCTYP	LOAD_MPT_PAYROLL_DIST	AN_PAYROLL_DISTRIBUTION
FTVFOBS	LOAD_MFT_RECEIVED_ITEM	AF_RECEIVED_ITEM
FTVFUND	LOAD_MAT_GIFT	AA_GIFT
FTVFUND	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVFUND	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVFUND	LOAD_MFT_BUDG_AVAIL_LEDG	AF_BUDGET_AVAILABILITY_LEDGER
FTVFUND	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVFUND	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVFUND	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVFUND	LOAD_MFT_ENDOWMENT_ATTRIBUTE	AF_ENDOWMENT_ATTRIBUTES
FTVFUND	LOAD_MFT_ENDOWMENT_DIST	AF_ENDOWMENT_DIST
FTVFUND	LOAD_MFT_ENDOWMENT_UNITS	AF_ENDOWMENT_UNITS
FTVFUND	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVFUND	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVFUND	LOAD_MFT_GENERAL_LEDGER	AF_GENERAL_LEDGER
FTVFUND	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVFUND	LOAD_MFT_GRANT_FUND	AF_GRANT_FUND
FTVFUND	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVFUND	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVFUND	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVFUND	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVFUND	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVINCL	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVLOCN	LOAD_MAT_GIFT	AA_GIFT
FTVLOCN	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVLOCN	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVLOCN	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVLOCN	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING

Validation Table

Mapping

Composite View

FTVLOCN	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVLOCN	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVLOCN	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVLOCN	LOAD_MFT_FA_ITEM	AF_FIXED_ASSET_ITEM
FTVLOCN	LOAD_MFT_GRANT	AF_GRANT
FTVLOCN	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVLOCN	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVLOCN	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVLOCN	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVLOCN	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVLOCN	LOAD_MFT_PROPOSAL	AF_PROPOSAL
FTVLOCN	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVORGN	LOAD_MAT_GIFT	AA_GIFT
FTVORGN	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVORGN	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVORGN	LOAD_MFT_BUDG_AVAIL_LEDG	AF_BUDGET_AVAILABILITY_LEDGER
FTVORGN	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVORGN	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVORGN	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVORGN	LOAD_MFT_ENDOWMENT_UNITS	AF_ENDOWMENT_UNITS
FTVORGN	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVORGN	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVORGN	LOAD_MFT_FA_ITEM	AF_FIXED_ASSET_ITEM
FTVORGN	LOAD_MFT_GRANT	AF_GRANT
FTVORGN	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVORGN	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVORGN	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVORGN	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVORGN	LOAD_MFT_ORGN_HIERARCHY	AF_ORGANIZATION_HIERARCHY
FTVORGN	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVORGN	LOAD_MFT_PROPOSAL	AF_PROPOSAL
FTVORGN	LOAD_MFT_PURCHASE_ORDER	AF_PURCHASE_ORDER
FTVORGN	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
FTVORGN	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
FTVORGN	LOAD_MPT_FACULTY_APPT_HIST	AP_FACULTY_APPOINTMENT_HISTORY
FTVORGN	LOAD_MPT_FACULTY_RANK_HIST	AP_FACULTY_RANK_HISTORY
FTVORGN	LOAD_MPT_FACULTY_SABB_HIST	AP_FACULTY_SABBATICAL_HISTORY
FTVORGN	LOAD_MPT_PAYROLL_EARNING	AP_PAYROLL_EARNING
FTVORGN	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION

Validation Table

Mapping

Composite View

FTVORGN	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVPROG	LOAD_MAT_GIFT	AA_GIFT
FTVPROG	LOAD_MAT_PLEDGE	AA_PLEDGE
FTVPROG	LOAD_MFT_ACCOUNT_INDEX	AF_ACCOUNT_INDEX
FTVPROG	LOAD_MFT_BUDG_AVAIL_LEDG	AF_BUDGET_AVAILABILITY_LEDGER
FTVPROG	LOAD_MFT_BUDG_DETAIL	AF_BUDGET_DETAIL
FTVPROG	LOAD_MFT_ENCUMBRANCE_ACCOUNT	AF_ENCUMBRANCE_ACCOUNTING
FTVPROG	LOAD_MFT_ENDOWMENT	AF_ENDOWMENT
FTVPROG	LOAD_MFT_ENDOWMENT_UNITS	AF_ENDOWMENT_UNITS
FTVPROG	LOAD_MFT_FA_DEPRECIATED_ITEM	AF_FIXED_ASSET_DEPRECIATION
FTVPROG	LOAD_MFT_FA_FUNDING_SOURCE	AF_FIXED_ASSET_FUNDING_SOURCE
FTVPROG	LOAD_MFT_GRANT_BILL_DETAIL	AF_GRANT_BILLING_DETAIL
FTVPROG	LOAD_MFT_GRANT_LEDGER	AF_GRANT_LEDGER
FTVPROG	LOAD_MFT_INV_ACCOUNTING	AF_INVOICE_ACCOUNTING
FTVPROG	LOAD_MFT_OPERATING_LEDGER	AF_OPERATING_LEDGER
FTVPROG	LOAD_MFT_PO_ACCOUNTING	AF_PURCHASE_ORDER_ACCOUNTING
FTVPROG	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVPROJ	LOAD_MPT_PAYROLL_DIST	AN_PAYROLL_DISTRIBUTION
FTVRUCL	LOAD_MAT_GIFT	AA_GIFT
FTVRUCL	LOAD_MPT_PAYROLL_DIST	AN_PAYROLL_DISTRIBUTION
FTVRUCL	LOAD_MTT_LEDGER_ACCOUNTING	AT_LEDGER_ACCOUNTING
FTVRUCL	LOAD_MTT_MISC_TRANSACTION	AT_MISCELLANEOUS_TRANSACTION
GTVCURR	LOAD_MTT_MISC_TRANSACTION	AT_MISCELLANEOUS_TRANSACTION
GTVDICD	LOAD_MGT_EVENT	AG_EVENT
GTVDICD	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
GTVEMAL	LOAD_MST_ORGANIZATION_ENTITY	AS_ORGANIZATION_ENTITY
GTVEMPH	LOAD_MGT_EVENT	AG_EVENT
GTVFSTA	LOAD_MGT_EVENT	AG_EVENT
GTVFUNC	LOAD_MGT_EVENT	AG_EVENT
GTVFUNC	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
GTVINSM	LOAD_MST_COURSE_SCHEDULE	AS_COURSE_SCHEDULE
GTVINSM	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
GTVINSM	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
GTVINSM	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
GTVLETR	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
GTVMAIL	LOAD_MAT_MAIL	AA_MAIL
GTVMTYP	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
GTVPURP	LOAD_MGT_EVENT	AG_EVENT
GTVSCHS	LOAD_MST_MEETING_TIME	AS_MEETING_TIME

Validation Table

Mapping

Composite View

GTVSYSI	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
GURIDEN	LOAD_MAT_ADVANCEMENT_RATING	AA_ADVANCEMENT_RATING
GURIDEN	LOAD_MAT_CONSTIT_STAFF_ASSIGN	AA_CONSTITUENT_STAFF_ASSIGN
GURIDEN	LOAD_MAT_CONSTITUENT_CONTACT	AA_CONSTITUENT_CONTACT
GURIDEN	LOAD_MAT_CONSTITUENT_PLAN	AA_CONSTITUENT_PLAN
GURIDEN	LOAD_MAT_PROSPECT_INFO	AA_PROSPECT_INFO
GURIDEN	LOAD_MAT_PROSPECT_PROPOSAL	AA_PROSPECT_PROPOSAL
GXVDIRD	LOAD_MPT_PAYROLL_DOC	AP_PAYROLL_DOCUMENT
NBBPOSN	LOAD_MPT_HR_APPL_STAT	AP_HR_APPLICATION_STATUS
NBBPOSN	LOAD_MPT_HR_APPLICATION	AP_HR_APPLICATION
NBBPOSN	LOAD_MPT_INTERVIEW	AP_INTERVIEW
NTRPCLS	LOAD_MPT_HR_APPL_STAT	AP_HR_APPLICATION_STATUS
NTRPCLS	LOAD_MPT_HR_APPLICATION	AP_HR_APPLICATION
NTRPCLS	LOAD_MPT_INTERVIEW	AP_INTERVIEW
NTRPCLS	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
NTRSGRP	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
NTRSGRP	LOAD_MPT_SALARY_RATE	AN_SALARY_RATE
NTVDOTT	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
NTVJOBP	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
NTVPFOC	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
NTVWKSH	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
PTRAPPS	LOAD_MPT_HR_APPL_STAT	AP_HR_APPLICATION_STATUS
PTRBCAT	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
PTRBDCA	LOAD_MPT_BENEFICIARY	AP_BENEFICIARY_DEPENDENT
PTRBDCA	LOAD_MPT_MONTHLY_DEDUCT	AP_MONTHLY_DEDUCTION
PTRBDCA	LOAD_MPT_TAX	AP_TAX
PTRBDCA	LOAD_MPT_YEARLY_DEDUCT	AP_YEARLY_DEDUCTION
PTRBREL	LOAD_MPT_BENEFICIARY	AP_BENEFICIARY_DEPENDENT
PTRBURE	LOAD_MPT_BARG_UNIT	AP_BARGAINING_UNIT
PTRCERT	LOAD_MPT_CERTIFICATION	AP_CERTIFICATION
PTRDFPR	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
PTREARN	LOAD_MPT_EMPL_EARN_CY	AP_EMPLOYEE_EARNING_CY
PTREARN	LOAD_MPT_PAYROLL_EARNING	AP_PAYROLL_EARNING
PTRECLS	LOAD_MPT_HR_APPLICATION	AP_HR_APPLICATION
PTRECLS	LOAD_MPT_PAYROLL_DIST	AN_PAYROLL_DISTRIBUTION
PTRECLS	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
PTREMPR	LOAD_MPT_EMPL_EARN_CY	AP_EMPLOYEE_EARNING_CY
PTREMPR	LOAD_MPT_EMPL_EARN_FY	AP_EMPLOYEE_EARNING_FY
PTREMPR	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION

Validation Table

PTEMPR	LOAD_MPT_PAYROLL_DEDN
PTEMPR	LOAD_MPT_PAYROLL_EMPL_POSN
PTEMPY	LOAD_MPT_PAST_EMPLOYMENT
PTRFTYP	LOAD_MPT_FACULTY_APPT_HIST
PTRFTYP	LOAD_MPT_FACULTY_RANK_HIST
PTRFTYP	LOAD_MPT_FACULTY_SABB_HIST
PTRJBLN	LOAD_MPT_EMPL_POSITION
PTRJBLN	LOAD_MPT_POSITION_DEF
PTRJCRE	LOAD_MPT_EMPL_POSITION
PTRLEAV	LOAD_MPT_LEAVE_ACCRUAL
PTRLEAV	LOAD_MPT_LEAVE_BALANCE
PTRLREA	LOAD_MPT_EMPLOYEE
PTRLREA	LOAD_MPT_FACULTY_SABB_HIST
PTRPGRP	LOAD_MPT_POSITION_DEF
PTRPICT	LOAD_MPT_EMPL_POSITION
PTRPICT	LOAD_MPT_LEAVE_ACCRUAL
PTRPICT	LOAD_MPT_PAYROLL_DEDN
PTRPICT	LOAD_MPT_PAYROLL_DIST
PTRPICT	LOAD_MPT_PAYROLL_DOC
PTRPICT	LOAD_MPT_PAYROLL_EARNING
PTRPICT	LOAD_MPT_PAYROLL_EMPL_POSN
PTRRANK	LOAD_MPT_FACULTY_RANK_HIST
PTRSKIL	LOAD_MPT_SKILL
PTRSKLV	LOAD_MPT_SKILL
PTRTENR	LOAD_MPT_FACULTY_APPT_HIST
PTRTENR	LOAD_MST_FACULTY
PTRTREA	LOAD_MPT_EMPLOYEE
PTVASRC	LOAD_MPT_HR_APPLICATION
PTVASSN	LOAD_MPT_EMPL_POSITION
PTVASSN	LOAD_MPT_PAYROLL_EMPL_POSN
PTVBARG	LOAD_MPT_BARG_UNIT
PTVBARG	LOAD_MPT_POSITION_DEF
PTVBDTY	LOAD_MPT_BENEFIT_DEDUCT
PTVDISP	LOAD_MPT_FACULTY_APPT_HIST
PTVDISP	LOAD_MPT_FACULTY_RANK_HIST
PTVDISP	LOAD_MPT_FACULTY_SABB_HIST
PTVEEOG	LOAD_MPT_HR_APPLICATION
PTVEFUN	LOAD_MPT_POSITION_DEF
PTVEGRP	LOAD_MPT_EMPLOYEE

Composite View

AP_PAYROLL_DEDUCTION
AP_PAYROLL_EMPLOYEE_POSITION
AP_PAST_EMPLOYMENT
AP_FACULTY_APPOINTMENT_HISTORY
AP_FACULTY_RANK_HISTORY
AP_FACULTY_SABBATICAL_HISTORY
AN_EMPLOYEE_POSITION
AN_POSITION_DEFINITION
AN_EMPLOYEE_POSITION
AP_LEAVE_ACCRUAL
AP_LEAVE_BALANCE
AP_EMPLOYEE
AP_FACULTY_SABBATICAL_HISTORY
AN_POSITION_DEFINITION
AN_EMPLOYEE_POSITION
AP_LEAVE_ACCRUAL
AP_PAYROLL_DEDUCTION
AN_PAYROLL_DISTRIBUTION
AP_PAYROLL_DOCUMENT
AP_PAYROLL_EARNING
AP_PAYROLL_EMPLOYEE_POSITION
AP_FACULTY_RANK_HISTORY
AP_SKILL
AP_SKILL
AP_FACULTY_APPOINTMENT_HISTORY
AS_FACULTY
AP_EMPLOYEE
AP_HR_APPLICATION
AN_EMPLOYEE_POSITION
AP_PAYROLL_EMPLOYEE_POSITION
AP_BARGAINING_UNIT
AN_POSITION_DEFINITION
AP_BENEFIT_DEDUCTION
AP_FACULTY_APPOINTMENT_HISTORY
AP_FACULTY_RANK_HISTORY
AP_FACULTY_SABBATICAL_HISTORY
AP_HR_APPLICATION
AN_POSITION_DEFINITION
AP_EMPLOYEE

Validation Table

Mapping

Composite View

PTVEGRP	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
PTVESKL	LOAD_MPT_HR_APPLICATION	AP_HR_APPLICATION
PTVESKL	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
PTVLCAT	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
PTVLCAT	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
PTVLCAT	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
PTVLGCD	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
PTVORGN	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
PTVORGN	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
PTVORGN	LOAD_MPT_FACULTY_APPT_HIST	AP_FACULTY_APPOINTMENT_HISTORY
PTVORGN	LOAD_MPT_FACULTY_RANK_HIST	AP_FACULTY_RANK_HISTORY
PTVORGN	LOAD_MPT_FACULTY_SABB_HIST	AP_FACULTY_SABBATICAL_HISTORY
PTVORGN	LOAD_MPT_PAYROLL_EARNING	AP_PAYROLL_EARNING
PTVORGN	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
PTVPCAT	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
PTVPCAT	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
PTVREVT	LOAD_MPT_FACULTY_APPT_HIST	AP_FACULTY_APPOINTMENT_HISTORY
PTVREVT	LOAD_MPT_REVIEW	AP_REVIEW
PTVSBTY	LOAD_MPT_FACULTY_SABB_HIST	AP_FACULTY_SABBATICAL_HISTORY
PTVSHCD	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
PTVSHCD	LOAD_MPT_PAYROLL_EARNING	AP_PAYROLL_EARNING
PTVSHCD	LOAD_MPT_PAYROLL_EMPL_POSN	AP_PAYROLL_EMPLOYEE_POSITION
PTVSTGR	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
PTVWKCP	LOAD_MPT_EMPL_POSITION	AN_EMPLOYEE_POSITION
RFRBASE	LOAD_MRT_AWARD_BY_FUND	AR_AWARD_BY_FUND
RFRBASE	LOAD_MRT_AWARD_BY_PERSON	AR_AWARD_BY_PERSON
RFRBASE	LOAD_MRT_AWARD_DISBURSEMENT	AR_AWARD_DISBURSEMENT
RFRBASE	LOAD_MRT_LOAN_APPLICATION	AR_LOAN_APPLICATION
RFRBASE	LOAD_MRT_TRACKING_REQUIREMENT	AR_FINAID_TRACKING_REQUIREMENT
ROBINST	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
ROBINST	LOAD_MRT_APPLICANT_NEED	AR_APPLICANT_NEED
ROBINST	LOAD_MRT_AWARD_BY_FUND	AR_AWARD_BY_FUND
ROBINST	LOAD_MRT_AWARD_BY_PERSON	AR_AWARD_BY_PERSON
ROBINST	LOAD_MRT_AWARD_DISBURSEMENT	AR_AWARD_DISBURSEMENT
ROBINST	LOAD_MRT_FINAID_APPL_STATUS	AR_FINAID_APPLICANT_STATUS
ROBINST	LOAD_MRT_FINAID_BUDGET_COMP	AR_FINAID_BUDGET_COMPONENT
ROBINST	LOAD_MRT_FINAID_ENROLLMENT	AR_FINAID_ENROLLMENT
ROBINST	LOAD_MRT_FINAID_FUND	AR_FINAID_FUND
ROBINST	LOAD_MRT_LOAN_APPLICATION	AR_LOAN_APPLICATION

Validation Table

ROBINST	LOAD_MRT_NEED_ANALYSIS
ROBINST	LOAD_MRT_SATISFACT_ACAD_PROG
ROBINST	LOAD_MRT_TRACKING_REQUIREMENT
ROBINST	LOAD_MRT_USER_DEFINED_FIELDS
ROBINST	LOAD_MRT_YEAR_TYPE_DEFINITION
ROBINST	LOAD_MST_YEAR_TYPE_DEF
RTVAPRD	LOAD_MRT_APPLICANT_NEED
RTVAPRD	LOAD_MRT_FINAID_APPL_STATUS
RTVAPRD	LOAD_MRT_FINAID_BUDGET_COMP
RTVAPRD	LOAD_MRT_YEAR_TYPE_DEFINITION
RTVBGRP	LOAD_MRT_FINAID_APPL_STATUS
RTVBGRP	LOAD_MRT_FINAID_BUDGET_COMP
RTVINFC	LOAD_MRT_NEED_ANALYSIS
RTVLNST	LOAD_MRT_LOAN_APPLICATION
RTVPGRP	LOAD_MRT_FINAID_APPL_STATUS
RTVSAPR	LOAD_MRT_SATISFACT_ACAD_PROG
RTVTGRP	LOAD_MRT_FINAID_APPL_STATUS
RTVTREQ	LOAD_MRT_TRACKING_REQUIREMENT
RTVTRST	LOAD_MRT_TRACKING_REQUIREMENT
SMRPRLE	LOAD_MST_CURRICULUM
SMRPRLE	LOAD_MST_CURRICULUM_BATCH
SMRPRLE	LOAD_MST_GENERAL_STUDENT
STVACAT	LOAD_MST_CURRICULUM
STVACAT	LOAD_MST_CURRICULUM_BATCH
STVACAT	LOAD_MST_CURRICULUM_BATCH
STVACAT	LOAD_MST_GENERAL_STUDENT
STVACCG	LOAD_MAT_SPECIAL_ACTIVITY
STVACCG	LOAD_MAT_SPECIAL_ACTIVITY_YR
STVACCG	LOAD_MST_STUDENT_ACTIVITY
STVACCT	LOAD_MST_COURSE_OFFERING
STVACTC	LOAD_MST_SPORT
STVACTC	LOAD_MST_STUDENT_ACTIVITY
STVACTP	LOAD_MAT_SPECIAL_ACTIVITY
STVACTP	LOAD_MAT_SPECIAL_ACTIVITY_YR
STVACTP	LOAD_MST_STUDENT_ACTIVITY
STVACYR	LOAD_MAT_DEGREE
STVACYR	LOAD_MGT_COMMUNICATION
STVACYR	LOAD_MST_ADMINISTRATOR
STVACYR	LOAD_MST_ADMISSIONS_ATTRIBUTE

Composite View

AR_NEED_ANALYSIS
AR_SATISFACTORY_ACAD_PROGRESS
AR_FINAID_TRACKING_REQUIREMENT
AR_USER_DEFINED_FIELDS
AR_YEAR_TYPE_DEFINITION
AS_YEAR_TYPE_DEFINITION
AR_APPLICANT_NEED
AR_FINAID_APPLICANT_STATUS
AR_FINAID_BUDGET_COMPONENT
AR_YEAR_TYPE_DEFINITION
AR_FINAID_APPLICANT_STATUS
AR_FINAID_BUDGET_COMPONENT
AR_NEED_ANALYSIS
AR_LOAN_APPLICATION
AR_FINAID_APPLICANT_STATUS
AR_SATISFACTORY_ACAD_PROGRESS
AR_FINAID_APPLICANT_STATUS
AR_FINAID_TRACKING_REQUIREMENT
AR_FINAID_TRACKING_REQUIREMENT
AS_CURRICULUM
AS_CURRICULUM_FOS
AS_LEARNER_CURRICULUM_FOS
AS_CURRICULUM
AS_ACADEMIC_OUTCOME
AS_CURRICULUM_FOS
AS_LEARNER_CURRICULUM_FOS
AA_SPECIAL_ACTIVITY
AA_SPECIAL_ACTIVITY_YEAR
AS_STUDENT_ACTIVITY
AS_COURSE_OFFERING
AS_SPORT
AS_STUDENT_ACTIVITY
AA_SPECIAL_ACTIVITY
AA_SPECIAL_ACTIVITY_YEAR
AS_STUDENT_ACTIVITY
AA_DEGREE
AG_COMMUNICATION
AS_ADMINISTRATOR
AS_ADMISSIONS_ATTRIBUTE

Validation Table

Mapping

Composite View

STVACYR	LOAD_MST_ADMISSIONS_COHORT	AS_ADMISSIONS_COHORT
STVACYR	LOAD_MST_ADMISSIONS_DECISION	AS_ADMISSIONS_DECISION
STVACYR	LOAD_MST_ADMISSIONS_RATING	AS_ADMISSIONS_RATING
STVACYR	LOAD_MST_ADMISSIONS_REQUIREM	AS_ADMISSIONS_REQUIREMENT
STVACYR	LOAD_MST_ADMISSIONS_SOURCE	AS_ADMISSIONS_SOURCE
STVACYR	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVACYR	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVACYR	LOAD_MST_CURRICULUM_BATCH	AS_ACADEMIC_OUTCOME
STVACYR	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVACYR	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVACYR	LOAD_MST_DISABILITY_INFO	AS_DISABILITY_INFORMATION
STVACYR	LOAD_MST_ENROLLMENT	AS_ENROLLMENT
STVACYR	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
STVACYR	LOAD_MST_GENERAL_STUDENT	AS_ACTIVE_TERMS
STVACYR	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVACYR	LOAD_MST_INSTRUCTIONAL_ASSIGN	AS_INSTRUCTIONAL_ASSIGNMENT
STVACYR	LOAD_MST_MEAL_ASSIGNMENT	AS_MEAL_ASSIGNMENT
STVACYR	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVACYR	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVACYR	LOAD_MST_OFFERING_COREQ	AS_OFFERING_COREQ
STVACYR	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVACYR	LOAD_MST_PHONE_ASSIGNMENT	AS_PHONE_ASSIGNMENT
STVACYR	LOAD_MST_RECRUITMENT_ATTRIBUTE	AS_RECRUITMENT_ATTRIBUTE
STVACYR	LOAD_MST_RECRUITMENT_COHORT	AS_RECRUITMENT_COHORT
STVACYR	LOAD_MST_RECRUITMENT_SOURCE	AS_RECRUITMENT_SOURCE
STVACYR	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVACYR	LOAD_MST_SPORT	AS_SPORT
STVACYR	LOAD_MST_STDNT_CRSE_ATT_STEP_1	AS_STUDENT_COURSE_ATTRIBUTE
STVACYR	LOAD_MST_STDNT_CRSE_ATT_STEP_2	AS_STUDENT_COURSE_ATTR_TRANS
STVACYR	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVACYR	LOAD_MST_STUDENT_ACTIVITY	AS_STUDENT_ACTIVITY
STVACYR	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVACYR	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVACYR	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVACYR	LOAD_MST_STUDENT_WORK_EXP	AS_STUDENT_WORK_EXPERIENCE
STVACYR	LOAD_MST_YEAR_TYPE_DEF	AS_YEAR_TYPE_DEFINITION
STVACYR	LOAD_MTT_ACCOUNT_DETAIL	AT_ACCOUNT_DETAIL
STVACYR	LOAD_MTT_AR_DEPOSITS	AT_AR_DEPOSIT

Validation Table

Mapping

Composite View

STVACYR	LOAD_MTT_CONTRACT	AT_CONTRACT
STVACYR	LOAD_MTT_EXEMPTION	AT_EXEMPTION
STVACYR	LOAD_MTT_INSTALLMENT_PLAN	AT_INSTALLMENT_PLAN
STVADMR	LOAD_MST_ADMISSIONS_REQUIREM	AS_ADMISSIONS_REQUIREMENT
STVADMT	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVADMT	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVADMT	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVADMT	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVADMT	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVADVR	LOAD_MST_ADVISOR	AS_ADVISOR
STVAPDC	LOAD_MST_ADMISSIONS_DECISION	AS_ADMISSIONS_DECISION
STVAPDC	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVAPRV	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVAPST	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVARTP	LOAD_MST_MEAL_ASSIGNMENT	AS_MEAL_ASSIGNMENT
STVARTP	LOAD_MST_PHONE_ASSIGNMENT	AS_PHONE_ASSIGNMENT
STVARTP	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVASCD	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVASTD	LOAD_MST_ACADEMIC_STANDING	AS_ACADEMIC_STANDING
STVASTD	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
STVASTY	LOAD_MST_INSTRUCTIONAL_ASSIGN	AS_INSTRUCTIONAL_ASSIGNMENT
STVASTY	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVATTR	LOAD_MST_COURSE_ATTRIBUTE	AS_COURSE_ATTRIBUTE
STVATTR	LOAD_MST_STDNT_CRSE_ATT_STEP_1	AS_STUDENT_COURSE_ATTRIBUTE
STVATTR	LOAD_MST_STDNT_CRSE_ATT_STEP_2	AS_STUDENT_COURSE_ATTR_TRANS
STVATTS	LOAD_MST_ADMISSIONS_ATTRIBUTE	AS_ADMISSIONS_ATTRIBUTE
STVATTS	LOAD_MST_RECRUITMENT_ATTRIBUTE	AS_RECRUITMENT_ATTRIBUTE
STVATYP	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
STVATYP	LOAD_MAT_CONSTITUENT_ENTITY	AA_ORGANIZATIONAL_CONSTITUENT
STVATYP	LOAD_MAT_GIFT_ASSOC_ENTITY	AA_GIFT_ASSOCIATED_ENTITY
STVATYP	LOAD_MAT_MAIL	AA_MAIL
STVATYP	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
STVATYP	LOAD_MAT_PROSPECT_INFO	AA_PROSPECT_INFO
STVATYP	LOAD_MAT_RELATION	AA_RELATIONSHIP
STVATYP	LOAD_MFT_FUND_HIERARCHY	AF_FUND_HIERARCHY
STVATYP	LOAD_MFT_INVOICE	AF_INVOICE
STVATYP	LOAD_MFT_ORGN_HIERARCHY	AF_ORGANIZATION_HIERARCHY
STVATYP	LOAD_MFT_PURCHASE_ORDER	AF_PURCHASE_ORDER

Validation Table

Mapping

Composite View

STVATYP	LOAD_MFT_VENDOR	AF_VENDOR
STVATYP	LOAD_MGT_EVENT	AG_EVENT
STVBCHR	LOAD_MST_INST_CHARACTERISTIC	AS_INSTITUTION_CHARACTERISTIC
STVBCLK	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVBLDG	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVBLDG	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVCAMP	LOAD_MAT_DEGREE	AA_DEGREE
STVCAMP	LOAD_MGT_EVENT	AG_EVENT
STVCAMP	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
STVCAMP	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVCAMP	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVCAMP	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVCAMP	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVCAMP	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVCAMP	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVCAMP	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVCAST	LOAD_MST_ACADEMIC_STANDING	AS_ACADEMIC_STANDING
STVCCSL	LOAD_MST_COURSE_SUPPLEMENTAL	AS_COURSE_SUPPLEMENTAL
STVCHRT	LOAD_MST_ADMISSIONS_COHORT	AS_ADMISSIONS_COHORT
STVCHRT	LOAD_MST_RECRUITMENT_COHORT	AS_RECRUITMENT_COHORT
STVCHRT	LOAD_MST_STUDENT_COHORT	AS_STUDENT_COHORT
STVCIPC	LOAD_MPT_POSITION_DEF	AN_POSITION_DEFINITION
STVCIPC	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVCIPC	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVCIPC	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVCIPC	LOAD_MST_FIELD_OF_STUDY	AS_FIELD_OF_STUDY
STVCIPC	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVCNTR	LOAD_MST_FACULTY_CONTRACT	AS_FACULTY_CONTRACT
STVCNTY	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
STVCNTY	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVCNTY	LOAD_MST_INSTITUTION	AS_INSTITUTION
STVCOLL	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
STVCOLL	LOAD_MAT_DEGREE	AA_DEGREE
STVCOLL	LOAD_MAT_DESG_GIVING	AA_DESIGNATION_GIVING_HISTORY
STVCOLL	LOAD_MAT_GIFT	AA_GIFT
STVCOLL	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
STVCOLL	LOAD_MAT_GIFT_MEMO	AA_GIFT_MEMO
STVCOLL	LOAD_MAT_GIFT_MULTIPLE	AA_GIFT_MULTIPLE
STVCOLL	LOAD_MAT_MEMBERSHIP_INTEREST	AA_MEMBERSHIP_INTEREST

Validation Table

Mapping

Composite View

STVCOLL	LOAD_MAT_PLEDGE	AA_PLEDGE
STVCOLL	LOAD_MGT_EVENT	AG_EVENT
STVCOLL	LOAD_MPT_EMPLOYEE	AP_EMPLOYEE
STVCOLL	LOAD_MRT_NEED_ANALYSIS	AR_NEED_ANALYSIS
STVCOLL	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVCOLL	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVCOLL	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVCOLL	LOAD_MST_FACULTY_DEPART_COLL	AS_FACULTY_DEPARTMENT_COLLEGE
STVCOLL	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVCOLL	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVCOLL	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVCOLL	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVCOMT	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVCOPC	LOAD_MST_STUDENT_WORK_EXP	AS_STUDENT_WORK_EXPERIENCE
STVCPLN	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
STVCREA	LOAD_MST_STUDENT_COHORT	AS_STUDENT_COHORT
STVCSTA	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVCTYP	LOAD_MST_CONTACT	AS_CONTACT
STVCTYP	LOAD_MST_PRE_STUDENT	AS_PRE_STUDENT
STVDEGC	LOAD_MAT_DEGREE	AA_DEGREE
STVDEGC	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVDEGC	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVDEGC	LOAD_MST_OUTCOME_HONOR	AS_OUTCOME_HONOR_DEPT
STVDEGC	LOAD_MST_OUTCOME_HONOR	AS_OUTCOME_HONOR_INST
STVDEGC	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVDEGS	LOAD_MST_CURRICULUM_BATCH	AS_ACADEMIC_OUTCOME
STVDEPT	LOAD_MAT_DEGREE	AA_DEGREE
STVDEPT	LOAD_MAT_GIFT	AA_GIFT
STVDEPT	LOAD_MAT_GIFT_MATCHING	AA_GIFT_MATCHING
STVDEPT	LOAD_MAT_PLEDGE	AA_PLEDGE
STVDEPT	LOAD_MGT_EVENT	AG_EVENT
STVDEPT	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVDEPT	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVDEPT	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVDEPT	LOAD_MST_FACULTY_DEPART_COLL	AS_FACULTY_DEPARTMENT_COLLEGE
STVDEPT	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVDEPT	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVDEPT	LOAD_MST_FIELD_OF_STUDY	AS_FIELD_OF_STUDY
STVDEPT	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT

Validation Table

Mapping

Composite View

STVDEPT	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVDEPT	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVDEPT	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVDISA	LOAD_MST_DISABILITY_INFO	AS_DISABILITY_INFORMATION
STVDISA	LOAD_MST_MEDICAL_INFORMATION	AS_MEDICAL_INFORMATION
STVDIVS	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVDIVS	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVDIVS	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVDIVS	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVDIVS	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVDPLM	LOAD_MST_PRE_STUDENT	AS_PRE_STUDENT
STVDPLM	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_HSCH
STVEDLV	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVEDLV	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVEDLV	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVEGOL	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVEGOL	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVEGOL	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVEGOL	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVELIG	LOAD_MST_SPORT	AS_SPORT
STVEMPL	LOAD_MST_STUDENT_WORK_EXP	AS_STUDENT_WORK_EXPERIENCE
STVEPSC	LOAD_MRT_NEED_ANALYSIS	AR_NEED_ANALYSIS
STVEPSC	LOAD_MST_ADDRESS	AS_ADDRESS
STVEPSC	LOAD_MST_INSTITUTION	AS_INSTITUTION
STVESTS	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
STVETYP	LOAD_MGT_EVENT	AG_EVENT
STVEXAM	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
STVFATT	LOAD_MST_FACULTY_ATTRIBUTE	AS_FACULTY_ATTRIBUTE
STVFCNT	LOAD_MST_FACULTY	AS_FACULTY
STVFCNT	LOAD_MST_FACULTY_CONTRACT	AS_FACULTY_CONTRACT
STVFCNT	LOAD_MST_INSTRUCTIONAL_ASSIGN	AS_INSTRUCTIONAL_ASSIGNMENT
STVFCNT	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVFCST	LOAD_MST_FACULTY	AS_FACULTY
STVFCTG	LOAD_MST_FACULTY	AS_FACULTY
STVFSTP	LOAD_MST_FACULTY	AS_FACULTY
STVGCHG	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVGCHG	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVGCHG	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVGCHG	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER

Validation Table

Mapping

Composite View

STVGCMT	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVGCMT	LOAD_MST_STDNT_CRSE_REG_AUD	AS_STUDENT_COURSE_REG_AUDIT
STVGEOD	LOAD_MGT_GEOGRAPHIC_REG_INST	AG_GEOGRAPHIC_REGION_INST
STVGEOR	LOAD_MGT_GEOGRAPHIC_REG_INST	AG_GEOGRAPHIC_REGION_INST
STVGMOD	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVGMOD	LOAD_MST_OFFERING_GRADE_MODE	AS_OFFERING_GRADE_MODE
STVGMOD	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVGMOD	LOAD_MST_STDNT_CRSE_REG_AUD	AS_STUDENT_COURSE_REG_AUDIT
STVGMOD	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVGMOD	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVGMOD	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVGRST	LOAD_MST_CURRICULUM_BATCH	AS_ACADEMIC_OUTCOME
STVHAPS	LOAD_MST_MEAL_ASSIGNMENT	AS_MEAL_ASSIGNMENT
STVHAPS	LOAD_MST_PHONE_ASSIGNMENT	AS_PHONE_ASSIGNMENT
STVHAPS	LOAD_MST_ROOM_ASSIGNMENT	AS_ROOM_ASSIGNMENT
STVHOND	LOAD_MAT_DEGREE	AA_DEGREE
STVHOND	LOAD_MST_OUTCOME_HONOR	AS_OUTCOME_HONOR_DEPT
STVHONR	LOAD_MAT_DEGREE	AA_DEGREE
STVHONR	LOAD_MST_OUTCOME_HONOR	AS_OUTCOME_HONOR_INST
STVHONR	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVINTS	LOAD_MST_INTEREST	AS_INTEREST
STVINTV	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVLEAD	LOAD_MAT_SPECIAL_ACTIVITY	AA_SPECIAL_ACTIVITY
STVLEAD	LOAD_MST_STUDENT_ACTIVITY	AS_STUDENT_ACTIVITY
STVLEAV	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVLEAV	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVLEND	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVLEVL	LOAD_MST_COURSE_LEVEL	AS_COURSE_LEVEL
STVLEVL	LOAD_MST_COURSE_PREREQ	AS_COURSE_PREREQ
STVLEVL	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVLEVL	LOAD_MST_GPA	AS_GPA_LEVEL
STVLEVL	LOAD_MST_GPA	AS_GPA_TERM
STVLEVL	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVLEVL	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVLEVL	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVLEVL	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVLEVL	LOAD_MST_STUDENT_WORK_EXP	AS_STUDENT_WORK_EXPERIENCE
STVMAJR	LOAD_MAT_DEGREE	AA_DEGREE
STVMAJR	LOAD_MRT_LOAN_APPLICATION	AR_LOAN_APPLICATION

Validation Table

Mapping

Composite View

STVMAJR	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVMAJR	LOAD_MST_FIELD_OF_STUDY	AS_FIELD_OF_STUDY
STVMAJR	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVMAJR	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVMAJR	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVMATL	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
STVMDEQ	LOAD_MST_MEDICAL_INFORMATION	AS_MEDICAL_INFORMATION
STVMEDI	LOAD_MST_DISABILITY_INFO	AS_DISABILITY_INFORMATION
STVMEDI	LOAD_MST_MEDICAL_INFORMATION	AS_MEDICAL_INFORMATION
STVMRCD	LOAD_MST_MEAL_ASSIGNMENT	AS_MEAL_ASSIGNMENT
STVMRTL	LOAD_MAT_RELATION	AA_RELATIONSHIP
STVMSCD	LOAD_MST_MEAL_ASSIGNMENT	AS_MEAL_ASSIGNMENT
STVNATN	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
STVNATN	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
STVNATN	LOAD_MFT_INVOICE	AF_INVOICE
STVNATN	LOAD_MPT_PAST_EMPLOYMENT	AP_PAST_EMPLOYMENT
STVNATN	LOAD_MRT_LOAN_APPLICATION	AR_LOAN_APPLICATION
STVNATN	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVNATN	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVNATN	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVNATN	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVOCCS	LOAD_MST_COURSE_SUPPLEMENTAL	AS_COURSE_SUPPLEMENTAL
STVORSN	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVPRCD	LOAD_MST_PHONE_ASSIGNMENT	AS_PHONE_ASSIGNMENT
STVPREV	LOAD_MST_ACADEMIC_STANDING	AS_ACADEMIC_STANDING
STVPSCD	LOAD_MST_PHONE_ASSIGNMENT	AS_PHONE_ASSIGNMENT
STVPTRM	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVPTRM	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVPTRM	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVPTRM	LOAD_MST_OFFERING_COREQ	AS_OFFERING_COREQ
STVPTRM	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVPTRM	LOAD_MST_STDNT_CRSE_ATT_STEP_1	AS_STUDENT_COURSE_ATTRIBUTE
STVPTRM	LOAD_MST_STDNT_CRSE_ATT_STEP_2	AS_STUDENT_COURSE_ATTR_TRANS
STVPTRM	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVPTRM	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVPTRM	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVPTYP	LOAD_MST_INSTITUTION	AS_INSTITUTION
STVRADM	LOAD_MST_ADMINISTRATOR	AS_ADMINISTRATOR
STVRADM	LOAD_MST_ADMISSIONS_RATING	AS_ADMISSIONS_RATING

Validation Table

Mapping

Composite View

STVRATE	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVRATE	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVRATE	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVRATP	LOAD_MST_ADMISSIONS_RATING	AS_ADMISSIONS_RATING
STVRECR	LOAD_MST_CONTACT	AS_CONTACT
STVRECR	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVRECR	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVREPS	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVRES	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVRES	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVRES	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVRGRE	LOAD_MST_ENROLLMENT	AS_ENROLLMENT
STVRSLT	LOAD_MST_CONTACT	AS_CONTACT
STVRSTA	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVRSTS	LOAD_MST_STDNT_CRSE_REG_AUD	AS_STUDENT_COURSE_REG_AUDIT
STVRSTS	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVRSTS	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVRTYP	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVRTYP	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVSAPR	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVSBGI	LOAD_MAT_DEGREE	AA_DEGREE
STVSBGI	LOAD_MRT_TRACKING_REQUIREMENT	AR_FINAID_TRACKING_REQUIREMENT
STVSBGI	LOAD_MST_ADMISSIONS_SOURCE	AS_ADMISSIONS_SOURCE
STVSBGI	LOAD_MST_CONTACT	AS_CONTACT
STVSBGI	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVSBGI	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVSBGI	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
STVSBGI	LOAD_MST_PRE_STUDENT	AS_PRE_STUDENT
STVSBGI	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_HSCH
STVSBGI	LOAD_MST_PREVIOUS_EDUCATION	AS_PREVIOUS_EDUCATION_PCOL
STVSBGI	LOAD_MST_RECRUITMENT_SOURCE	AS_RECRUITMENT_SOURCE
STVSBGI	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVSCHD	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVSCHD	LOAD_MST_COURSE_SCHEDULE	AS_COURSE_SCHEDULE
STVSCHD	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVSCHD	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVSCHD	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVSESS	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVSESS	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION

Validation Table

Mapping

Composite View

STVSESS	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVSESS	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVSITE	LOAD_MGT_EVENT	AG_EVENT
STVSITE	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVSITE	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVSPSR	LOAD_MST_DISABILITY_INFO	AS_DISABILITY_INFORMATION
STVSPSR	LOAD_MST_MEDICAL_INFORMATION	AS_MEDICAL_INFORMATION
STVSPST	LOAD_MST_SPORT	AS_SPORT
STVSSTS	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVSTAT	LOAD_MAT_CONSTITUENT_ENTITY	AA_CONSTITUENT
STVSTAT	LOAD_MAT_ORGANIZATION_CONTACT	AA_ORGANIZATION_CONTACT
STVSTAT	LOAD_MFT_INVOICE	AF_INVOICE
STVSTAT	LOAD_MPT_PAST_EMPLOYMENT	AP_PAST_EMPLOYMENT
STVSTAT	LOAD_MRT_LOAN_APPLICATION	AR_LOAN_APPLICATION
STVSTAT	LOAD_MRT_NEED_ANALYSIS	AR_NEED_ANALYSIS
STVSTAT	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVSTAT	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVSTAT	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVSTST	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVSTYP	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVSTYP	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVSTYP	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVSTYP	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVSUBJ	LOAD_MST_COURSE_ATTRIBUTE	AS_COURSE_ATTRIBUTE
STVSUBJ	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVSUBJ	LOAD_MST_COURSE_COREQ	AS_COURSE_COREQ
STVSUBJ	LOAD_MST_COURSE_LEVEL	AS_COURSE_LEVEL
STVSUBJ	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVSUBJ	LOAD_MST_COURSE_PREREQ	AS_COURSE_PREREQ
STVSUBJ	LOAD_MST_COURSE_SCHEDULE	AS_COURSE_SCHEDULE
STVSUBJ	LOAD_MST_COURSE_SUPPLEMENTAL	AS_COURSE_SUPPLEMENTAL
STVSUBJ	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVSUBJ	LOAD_MST_OFFERING_COREQ	AS_OFFERING_COREQ
STVSUBJ	LOAD_MST_OFFERING_GRADE_MODE	AS_OFFERING_GRADE_MODE
STVSUBJ	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVSUBJ	LOAD_MST_STDNT_CRSE_ATT_STEP_1	AS_STUDENT_COURSE_ATTRIBUTE
STVSUBJ	LOAD_MST_STDNT_CRSE_ATT_STEP_2	AS_STUDENT_COURSE_ATTR_TRANS
STVSUBJ	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVSUBJ	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS

Validation Table

Mapping

Composite View

STVSUBJ	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVSUBJ	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVTADM	LOAD_MST_TEST	AS_TEST
STVTEAC	LOAD_MST_TEST	AS_TEST
STVTEFR	LOAD_MST_TEST	AS_TEST
STVTEIN	LOAD_MST_TEST	AS_TEST
STVTEPR	LOAD_MST_TEST	AS_TEST
STVTERM	LOAD_MGT_COMMUNICATION	AG_COMMUNICATION
STVTERM	LOAD_MRT_AWARD_BY_PERSON	AR_AWARD_BY_PERSON
STVTERM	LOAD_MRT_AWARD_DISBURSEMENT	AR_AWARD_DISBURSEMENT
STVTERM	LOAD_MRT_FINAID_ENROLLMENT	AR_FINAID_ENROLLMENT
STVTERM	LOAD_MRT_SATISFACT_ACAD_PROG	AR_SATISFACTORY_ACAD_PROGRESS
STVTERM	LOAD_MRT_YEAR_TYPE_DEFINITION	AR_YEAR_TYPE_DEFINITION
STVTERM	LOAD_MST_ADMINISTRATOR	AS_ADMINISTRATOR
STVTERM	LOAD_MST_ADMISSIONS_ATTRIBUTE	AS_ADMISSIONS_ATTRIBUTE
STVTERM	LOAD_MST_ADMISSIONS_COHORT	AS_ADMISSIONS_COHORT
STVTERM	LOAD_MST_ADMISSIONS_DECISION	AS_ADMISSIONS_DECISION
STVTERM	LOAD_MST_ADMISSIONS_RATING	AS_ADMISSIONS_RATING
STVTERM	LOAD_MST_ADMISSIONS_REQUIREM	AS_ADMISSIONS_REQUIREMENT
STVTERM	LOAD_MST_ADMISSIONS_SOURCE	AS_ADMISSIONS_SOURCE
STVTERM	LOAD_MST_ADVISOR	AS_ADVISOR
STVTERM	LOAD_MST_COURSE_ATTRIBUTE	AS_COURSE_ATTRIBUTE
STVTERM	LOAD_MST_COURSE_CATALOG	AS_COURSE_CATALOG
STVTERM	LOAD_MST_COURSE_COREQ	AS_COURSE_COREQ
STVTERM	LOAD_MST_COURSE_LEVEL	AS_COURSE_LEVEL
STVTERM	LOAD_MST_COURSE_OFFERING	AS_COURSE_OFFERING
STVTERM	LOAD_MST_COURSE_PREREQ	AS_COURSE_PREREQ
STVTERM	LOAD_MST_COURSE_SCHEDULE	AS_COURSE_SCHEDULE
STVTERM	LOAD_MST_COURSE_SUPPLEMENTAL	AS_COURSE_SUPPLEMENTAL
STVTERM	LOAD_MST_CURRICULUM	AS_CURRICULUM
STVTERM	LOAD_MST_CURRICULUM_BATCH	AS_ACADEMIC_OUTCOME
STVTERM	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVTERM	LOAD_MST_CURRICULUM_BATCH	AS_CURRICULUM_FOS
STVTERM	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVTERM	LOAD_MST_DISABILITY_INFO	AS_DISABILITY_INFORMATION
STVTERM	LOAD_MST_FACULTY	AS_FACULTY
STVTERM	LOAD_MST_FACULTY_ATTRIBUTE	AS_FACULTY_ATTRIBUTE
STVTERM	LOAD_MST_FACULTY_CONTRACT	AS_FACULTY_CONTRACT
STVTERM	LOAD_MST_FACULTY_DEPART_COLL	AS_FACULTY_DEPARTMENT_COLLEGE

Validation Table

Mapping

Composite View

STVTERM	LOAD_MST_FIELD_OF_STUDY	AS_FIELD_OF_STUDY
STVTERM	LOAD_MST_GENERAL_STUDENT	AS_ACTIVE_TERMS
STVTERM	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVTERM	LOAD_MST_GENERAL_STUDENT	AS_LEARNER_CURRICULUM_FOS
STVTERM	LOAD_MST_INSTRUCTIONAL_ASSIGN	AS_INSTRUCTIONAL_ASSIGNMENT
STVTERM	LOAD_MST_MEETING_TIME	AS_MEETING_TIME
STVTERM	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVTERM	LOAD_MST_OFFERING_COREQ	AS_OFFERING_COREQ
STVTERM	LOAD_MST_OFFERING_GRADE_MODE	AS_OFFERING_GRADE_MODE
STVTERM	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVTERM	LOAD_MST_RECRUITMENT _ATTRIBUTE	AS_RECRUITMENT_ATTRIBUTE
STVTERM	LOAD_MST_RECRUITMENT_COHORT	AS_RECRUITMENT_COHORT
STVTERM	LOAD_MST_RECRUITMENT_SOURCE	AS_RECRUITMENT_SOURCE
STVTERM	LOAD_MST_SPORT	AS_SPORT
STVTERM	LOAD_MST_STDNT_CRSE_ATT_STEP_1	AS_STUDENT_COURSE_ATTRIBUTE
STVTERM	LOAD_MST_STDNT_CRSE_ATT_STEP_2	AS_STUDENT_COURSE_ATTR_TRANS
STVTERM	LOAD_MST_STDNT_CRSE_GRD_CHG	AS_STUDENT_COURSE_GRADE_CHG
STVTERM	LOAD_MST_STUDENT_ACTIVITY	AS_STUDENT_ACTIVITY
STVTERM	LOAD_MST_STUDENT_ATTRIBUTE	AS_STUDENT_ATTRIBUTE
STVTERM	LOAD_MST_STUDENT_COURSE_STEP_1	AS_STUDENT_COURSE_IN_PROGRESS
STVTERM	LOAD_MST_STUDENT_COURSE_STEP_2	AS_STUDENT_COURSE_HISTORY
STVTERM	LOAD_MST_STUDENT_COURSE_STEP_3	AS_STUDENT_COURSE_TRANSFER
STVTERM	LOAD_MST_YEAR_TYPE_DEF	AS_YEAR_TYPE_DEFINITION
STVTERM	LOAD_MTT_CONTRACT	AT_CONTRACT
STVTERM	LOAD_MTT_EXEMPTION	AT_EXEMPTION
STVTESE	LOAD_MST_COURSE_PREREQ	AS_COURSE_PREREQ
STVTESE	LOAD_MST_OFFERING_PREREQ	AS_OFFERING_PREREQ
STVTESE	LOAD_MST_TEST	AS_TEST
STVTMST	LOAD_MST_ENROLLMENT	AS_ENROLLMENT
STVTMST	LOAD_MST_FIELD_OF_STUDY	AS_FIELD_OF_STUDY
STVTOPS	LOAD_MST_COURSE_SUPPLEMENTAL	AS_COURSE_SUPPLEMENTAL
STVTOPS	LOAD_MST_NONINSTRUCT_ASSIGN	AS_NONINSTRUCTIONAL_ASSIGNMENT
STVTRCN	LOAD_MST_GENERAL_STUDENT	AS_GENERAL_STUDENT
STVTSRC	LOAD_MST_TEST	AS_TEST
STVWRSN	LOAD_MST_CURRICULUM_BATCH	AS_ADMISSIONS_APPLICATION
STVWRSN	LOAD_MST_CURRICULUM_BATCH	AS_RECRUITMENT_INFORMATION
STVWRSN	LOAD_MST_ENROLLMENT	AS_ENROLLMENT_HISTORY
TBBDCTC	LOAD_MTT_ACCOUNT_DETAIL	AT_ACCOUNT_DETAIL

Validation Table	Mapping	Composite View
TBBDETC	LOAD_MTT_CONTRACT	AT_CONTRACT
TBBDETC	LOAD_MTT_EXEMPTION	AT_EXEMPTION
TTVDCAT	LOAD_MTT_ACCOUNT_DETAIL	AT_ACCOUNT_DETAIL
TTVDCAT	LOAD_MTT_MISC_TRANSACTION	AT_MISCELLANEOUS_TRANSACTION
TTVDELI	LOAD_MTT_ACCOUNT	AT_ACCOUNT
TTVSRCE	LOAD_MTT_ACCOUNT_DETAIL	AT_ACCOUNT_DETAIL
TTVSRCE	LOAD_MTT_GRANT_ACCT_DETAIL	AT_GRANT_ACCOUNT_DETAIL

Product-Specific Information

Product-specific information is information that is unique to individual Banner products. The information is organized by product.

Common

List of Values for Parameters

The VALIDATION reporting view provides a pull-down list of values (LOV) for parameters by various reporting tools. Performing a select distinct on a code within a reporting view may be a valid solution to generate a List of Values. However, this method would likely cause a performance impact on the system. The VALIDATION reporting view can be used instead as the pull-down list. It provides the appropriate Banner Table name as a filter for VALIDATION.TABLE_NAME. The MGT_VALIDATION table is also used to build the LOV views that reside in the ODSLOV schema.

The information on the List and Detail Reports pages can be viewed online or exported to a CSV file (Microsoft Excel format) or XML file for printing or additional manipulation.

- AA_VALIDATION
- AF_VALIDATION
- AG_VALIDATION
- AN_VALIDATION
- AP_VALIDATION
- AR_VALIDATION
- AS_VALIDATION
- AT_VALIDATION

Each of these Banner composite views extracts values from validation tables in their respective Banner Product areas. Also included are the status indicators, effective dates, and sometimes the qualifiers.

Within Banner Finance, there are several groups of values stored within the FTVSDAT System Data Maintenance table. To properly represent some of these values, they have been pulled into the AF_VALIDATION Composite view with the TABLE_NAME as follows:

- GRANT_CATEGORY represents all grant categories stored within FTVSDAT
- GRANT_SUBCATEGORY represents all grant sub categories stored within FTVSDAT
- GRANT_TYPE represents all grant types stored within FTVSDAT

Values have been added to table FTVFSPD to represent beginning and ending periods. The added values are '00', '13', and '14'. The FTVFSYR table has for its description, the Fiscal Year converted to a 4 digit year.

In specific situations, Banner source tables were not used. The following is a compiled list of data element names used in place of Banner specific tables names. The source for each of these names is documented in Chapter 3 of the Banner Operational Data Store Handbook.

The hard coded TABLE_NAMES are as follows:

- ACADEMIC_TITLE
- ACCOUNT_ATTRIBUTE_TYPE
- ACCOUNT_ATTRIBUTE_VALUE
- ACCOUNT_CLASS
- ACCOUNT_LEVEL_1
- ACCOUNT_LEVEL_2
- ACCOUNT_LEVEL_3
- ACCOUNT_LEVEL_4
- ACCOUNT_POOL
- ACCOUNT_SET_CODE
- ACCOUNT_TYPE_ATTR_TYPE
- ACCOUNT_TYPE_ATTR_VALUE
- ACCOUNT_TYPE_LEVEL_1
- ACCOUNT_TYPE_LEVEL_2

- ACCOUNT_TYPE_SET_CODE
- ADVISOR_NAME_LFMI
- ASSIGNMENT_GRADE
- CALENDAR_MONTH
- CALENDAR_YEAR
- COLLECTION_AGENCY_NAME
- CONTRACT_NUMBER
- CONTRACT_TYPE
- COURSE_IDENTIFICATION
- COURSE_REFERENCE_NUMBER
- EMPLOYEE_STATUS
- EMPLOYEE_TIME_STATUS
- ENDOWMENT_FUND
- ENTITY_TYPE
- FINANCIAL_AID_SOURCE_TYPE
- FINANCIAL_AID_TYPE
- FINANCIAL_MANAGER
- FISCAL_QUARTER
- FUND_ATTRIBUTE_TYPE
- FUND_ATTRIBUTE_VALUE
- FUND_LEVEL_1
- FUND_LEVEL_2
- FUND_LEVEL_3
- FUND_LEVEL_4
- FUND_LEVEL_5
- FUND_POOL
- FUND_SET_CODE
- FUND_TYPE_ATTR_TYPE
- FUND_TYPE_ATTR_VALUE
- FUND_TYPE_LEVEL_1

- FUND_TYPE_LEVEL_2
- FUND_TYPE_SET_CODE
- GENDER
- INSTALLMENT_PLAN
- INSTRUCTOR_NAME
- INTENDED_TIME_STATUS
- INTERNAL_ACCOUNT_TYPE
- INTERNAL_FUND_TYPE
- LOCATION_LEVEL_1
- LOCATION_LEVEL_2
- LOCATION_LEVEL_3
- LOCATION_LEVEL_4
- LOCATION_LEVEL_5
- ORGANIZATION_ATTR_TYPE
- ORGANIZATION_ATTR_VALUE
- ORGANIZATION_LEVEL_1
- ORGANIZATION_LEVEL_2
- ORGANIZATION_LEVEL_3
- ORGANIZATION_LEVEL_4
- ORGANIZATION_LEVEL_5
- ORGANIZATION_LEVEL_6
- ORGANIZATION_LEVEL_7
- ORGANIZATION_LEVEL_8
- ORGANIZATION_POOL
- ORGANIZATION_SET_CODE
- ORG_FINANCIAL_MANAGER
- POSITION_STATUS
- POST_SECONDARY_SCHOOL
- PREF_CLAS
- PRINCIPAL_INVESTIGATOR

- PROGRAM_ATTR_TYPE
- PROGRAM_ATTR_VALUE
- PROGRAM_LEVEL_1
- PROGRAM_LEVEL_2
- PROGRAM_LEVEL_3
- PROGRAM_LEVEL_4
- PROGRAM_LEVEL_5
- PROGRAM_SET_CODE
- RECEIVABLE_CONTRACT
- RECEIVABLE_DELINQUENCY
- RECEIVABLE_EXEMPTION
- SECONDARY_SCHOOL
- SPORTS

Finance

Transaction_History FIELD_CODE Explanation

Following is an explanation of the use for FIELD_CODE and LEDGER_IND within the TRANSACTION_HISTORY reporting view. The LEDGER_IND and FIELD_CODE work together to drive what ledger amount field was updated.

Ledger_Ind	Ledger	Field_Code	Amount Field Updated	Description
G	General	01	Sum_Periodic_Debits	Debits
		02	Sum_Periodic_Credits	Credits
O	Operating	01	Curr_Adopted_Budget	Current Period Original Budget
		02	Curr_Budget_Adjustments	Current Period Budget Adjustment
		03	Curr_Year_To_Date_Activity	Current Period Activity
		04	Curr_Encumbrances	Current Period Purchase Order and General Encumbrance
		05	Curr_Budget_Reservation	Current Period Requisition Budget Reservation
		06	Curr_Accumulated_Budget	Current Period Accounted Budget

Ledger_Ind	Ledger	Field_ Code	Amount Field Updated	Description
E	Encumbrance	07	Curr_Temporary_Budget	Current Period Temporary Budget
		08	Curr_Grant_Activity	Obsolete
		01	Original_Amount	Original Encumbrance Amount
		02	Curr_Adjustments	Encumbrance Adjustments
		03	Curr_Liquidations	Encumbrance Liquidations

Student

Extracting Student Data

When a new base student record is created in Banner, a new record is created in the Banner ODS table MST_BASE_STUDENT. Each record in this table contains a range of academic periods in which the student status allows the student to register. If the status prevents the student from registering, then the beginning and ending academic periods in the Banner ODS record are the same and match the Banner effective term.

Additionally, the MST_BASE_STUDENT table contains information on each student's program of study. This table contains one record per student per effective term per curriculum.

How Banner ODS composite table MST_GENERAL_STUDENT is populated

Creating a new record within one of a number of Banner tables indicates to Banner ODS that the student has activity within a specific term. As a result, a new record is created in the MST_GENERAL_STUDENT table for the student and term when Banner ODS is loaded or refreshed.

Following is a list of Banner tables that define student activity in Banner ODS:

- SGBSTDN - student base table
- SFBETRM - student registration table
- SHRTTRM - institutional course maintenance term header table
- SHRTRAM - attendance period by transfer institution table
- SHRDGMR - degree table
- SGRCHRT - student cohort table
- SGRSPRT - sport table
- SGRSATT - student attribute table

- SGRSACT - student activity table
- SGRCOOP - cooperative education table
- RPRATRM - applicant award by term table
- RORSTAT - applicant status table
- TBRACCD - account charge/payment detail table
- TBBCSTU - contract student authorization table

The MST_GENERAL_STUDENT table also contains information about each student's program of study. This table contains one record per student per academic period with student activity per curricula.

Additional 'Zero' Record in Banner ODS Tables

In Banner, the values for student classification and academic standing are specific for a student, academic period, and their primary program level only. In Banner ODS, many reports require student classification and academic standing data for all student curricula, regardless of the level value. In order to create comprehensive reports while limiting the number of outer-joins used, a single record with a value of zero for the key fields (person_uid, student_level, and academic_period) is inserted into the MST_STUDENT_CLASSIFICATION and MST_ACADEMIC_STANDING composite tables as a step in the load mappings. Existing student classification and academic standing values are displayed if they exist for a specified student, level and academic period. Otherwise, the NULL values from this new record are displayed.

Key Student Views Architecture

Due to the complex architecture of some Student views, the table below shows how those Student reporting views are currently built from Banner to Banner ODS.

Note

The table below only refers to key views and key tables used within the reporting views.

Composite Views		Composite Tables	Reporting View	End Reporting View
AS_CURRICLUM_FOS	=>	MST_CURRICULUM_FOS	Split into	
		MST_CURR_ACADEMIC_OUTCOME		
AS_ACADEMIC_OUTCOME	+	MST_CURR_ACADEMIC_OUTCOME		
	=>	MST_ACADEMIC_OUTCOME	=>	ACADEMIC_OUTCOME

Composite Views		Composite Tables	Reporting View	End Reporting View
AS_CURRICLUM_FOS	=>	MST_CURRICULUM_FOS	Split into	
		MST_CURR_ACADEMIC_OUTCOME		
AS_ACADEMIC_OUTCOME	+	MST_CURR_ACADEMIC_OUTCOME		
	=>	MST_ACADEMIC_OUTCOME_SLOT	=>	ACADEMIC_OUTCOME_SLOT
AS_ACADEMIC_STANDING	=>	MST_ACADEMIC_STANDING		
AS_ENROLLMENT				
AS_ENROLLMENT_HISTORY	=>	MST_ENROLLMENT		
AS_LEARNER_CURRICLUM_FOS	=>	MST_CURR_STUDENT	Curric	
AS_STUDENT_CLASSIFICATION	=>	MST_STUDENT_CLASSIFICATION		
AS_GENERAL_STUDENT	=>	MST_GENERAL_STUDENT_STAGE		
MST_GENERAL_STUDENT_STAGE	+	MST_CURR_STUDENT	Non-curric	
	=>	MST_BASE_STUDENT	Non-curric	
AS_ACTIVE_TERMS	=>	MST_ACTIVE_TERMS_STAGE		
		MST_ACTIVE_TERMS_STAGE		
	+	MST_BASE_STUDENT		
	=>	MST_GENERAL_STUDENT		
		MST_GENERAL_STUDENT		
	+	MST_ENROLLMENT		
	+	MST_STUDENT_CLASSIFICATION		
	+	MST_ACADEMIC_STANDING	=>	ACADEMIC_STUDY
AS_CURRICLUM_FOS	=>	MST_CURRICULUM_FOS	Split into	
		MST_CURR_ADMISSIONS_APPL		
AS_ADMISSIONS_APPLICATION	+	MST_CURR_ADMISSIONS_APPL		

Composite Views	Composite Tables	Reporting View	End Reporting View
	=> MST_ADMISSIONS_APPLICATION	=>	ADMISSIONS_APPLICATION
AS_CURRICLUM_FOS	=> MST_CURRICULUM_FOS	Split into	
	MST_CURR_ACADEMIC_OUTCOME		
AS_ACADEMIC_OUTCOME	+ MST_CURR_ACADEMIC_OUTCOME		
	=> MST_ACADEMIC_OUTCOME		
	+		
AA_DEGREE	=> MAT_DEGREE		
	+		
AS_PREVIOUS_EDUCATION_HSCH	=> MST_PREVIOUS_EDUCATION		
AS_PREVIOUS_EDUCATION_PCOL	=> MST_PREVIOUS_EDUCATION	=>	COMBINED_ACADEMIC_OUTCOME
AS_ACADEMIC_STANDING	=> MST_ACADEMIC_STANDING		
AS_ENROLLMENT			
AS_ENROLLMENT_HISTORY	=> MST_ENROLLMENT		
AS_LEARNER_CURRICLUM_FOS	=> MST_CURR_STUDENT	curric	
AS_STUDENT_CLASSIFICATION	=> MST_STUDENT_CLASSIFICATION		
AS_GENERAL_STUDENT	=> MST_GENERAL_STUDENT_STAGE		
	MST_GENERAL_STUDENT_STAGE		
	+ MST_CURR_STUDENT		
	=> MST_BASE_STUDENT		
AS_ACTIVE_TERMS	=> MST_ACTIVE_TERMS_STAGE		
	MST_ACTIVE_TERMS_STAGE		
	+ MST_BASE_STUDENT		
	=> MST_GENERAL_STUDENT		

Composite Views	Composite Tables	Reporting View	End Reporting View
	MST_GENERAL_STUDENT		
	+ MST_ENROLLMENT		
	+ MST_STUDENT_CLASSIFICATION		
AS_CURRICLUM_FOS	+ MST_ACADEMIC_STANDING	=> STUDENT	+
	=> MST_CURRICULUM_FOS	Split into	
	MST_CURR_ACADEMIC_OUTCOME		
AS_ACADEMIC_OUTCOME	+ MST_CURR_ACADEMIC_OUTCOME		
	=> MST_ACADEMIC_OUTCOME	=> ACADEMIC_OUTCOME	= GOVERNMENT_ACADEMIC_OUTCOME
AS_LEARNER_CURRICLUM_FOS	=> MST_CURR_STUDENT	curric	
AS_GENERAL_STUDENT	=> MST_GENERAL_STUDENT_STAGE		
	MST_GENERAL_STUDENT_STAGE		
	+ MST_CURR_STUDENT		
	=> MST_BASE_STUDENT		
AS_ACTIVE_TERMS	=> MST_ACTIVE_TERMS_STAGE		
	MST_ACTIVE_TERMS_STAGE		
	+ MST_BASE_STUDENT		
	=> MST_GENERAL_STUDENT		
AS_CURRICLUM_FOS	=> MST_CURRICULUM_FOS	Split into	
	MST_CURR_ADMISSIONS_APPL		
AS_ADMISSIONS_APPLICATION	+ MST_CURR_ADMISSIONS_APPL		
	=> MST_ADMISSIONS_APPLICATION	=> ADMISSIONS_APPLICATION	= GOVERNMENT_ADMISSIONS
AS_ACADEMIC_STANDING	=> MST_ACADEMIC_STANDING		
AS_ENROLLMENT			
AS_ENROLLMENT_HISTORY	=> MST_ENROLLMENT		

Composite Views	Composite Tables	Reporting View	End Reporting View
AS_STUDENT _CLASSIFICATION	=> MST_STUDENT _CLASSIFICATION		
AS_LEARNER _CURRICLUM_FOS	=> MST_CURR_STUDENT	curric	
AS_GENERAL_STUDENT	=> MST_GENERAL_STUDENT _STAGE		
	MST_GENERAL_STUDENT _STAGE		
	+ MST_CURR_STUDENT		
	=> MST_BASE_STUDENT		
AS_ACTIVE_TERMS	=> MST_ACTIVE_TERMS _STAGE		
	MST_ACTIVE_TERMS _STAGE		
	+ MST_BASE_STUDENT		
	=> MST_GENERAL_STUDENT MST_GENERAL_STUDENT		
	+ MST_ENROLLMENT		
	+ MST_STUDENT _CLASSIFICATION		
	+ MST_ACADEMIC_STANDING	=> STUDENT, ACADEMIC _STUDY	= GOVERNMENT > _FINANCIAL_AID
AS_CURRICLUM_FOS	=> MST_CURRICULUM_FOS	Split into	
	MST_CURR_RECRUITMENT _INFO		
AS_RECRUITMENT _INFORMATION	+ MST_CURR_RECRUITMENT _INFO		
	=> MST_RECRUITMENT _INFORMATION	=>	RECRUITMENT _INFORMATION
AS_ACADEMIC_ STANDING	=> MST_ACADEMIC_STANDING		
AS_ENROLLMENT			
AS_ENROLLMENT_ HISTORY	=> MST_ENROLLMENT		
AS_STUDENT_ CLASSIFICATION	=> MST_STUDENT _CLASSIFICATION		
AS_LEARNER_ CURRICLUM_FOS	=> MST_CURR_STUDENT	curric	

Composite Views	Composite Tables	Reporting View	End Reporting View
AS_GENERAL_STUDENT	=> MST_GENERAL_STUDENT_STAGE		
	MST_GENERAL_STUDENT_STAGE		
	+ MST_CURR_STUDENT		
	=> MST_BASE_STUDENT		
AS_ACTIVE_TERMS	=> MST_ACTIVE_TERMS_STAGE		
	MST_ACTIVE_TERMS_STAGE		
	+ MST_BASE_STUDENT		
	=> MST_GENERAL_STUDENT		
	MST_GENERAL_STUDENT		
	+ MST_ENROLLMENT		
	+ MST_STUDENT_CLASSIFICATION		
	+ MST_ACADEMIC_STANDING =>		STUDENT

Composite Views

The composite views gather Banner source data necessary to populate and maintain the information stored in the Banner Operational Data Store (Banner ODS). This source information then updates the information that resides on the separate Banner ODS database.

Note

Any institution change to a composite view impacts Banner ODS maintenance processes.

Banner ODS composite view meta data is also available as published meta data. Use the following steps to view published composite view meta data reports using the Administrative UI.

1. Select **Meta Data** from the Administrative menu.
2. Select **Banner Operational Data Store**. The Banner Operational Data Store Reporting View Meta Data Reports page opens.
3. Select **Banner ODS Composite View Meta Data Reports** link located at the top right-hand corner of the page. The Operational Data Store Composite View Reports page opens.

4. Select a subject area. The Composite View Meta Data Reports page opens listing the view name and description.
5. To display the column details associated with the selected composite view, select one of the composite views. A description of each field on the report appears below:

Field	Description
Description	Business description of the composite view target, including the key and frequency of data returned by the view.
Target Column	Column name in the composite view target.
Business Definition	Defines the target column in business terms.
Database Data Type	Used for formatting purposes when writing reports.
Business Data Type	This field is empty by default. It can be used to store client-specific data about a given column.
Domain Value	This field is empty by default. It can be used to store client-specific data about a given column.
Source Name	Source table, FUNCTION, CONSTANT, or CALCULATION
Source Column	Source column name from the source table or view, if the source is a table or view. Name of the PL/SQL function if the source is FUNCTION, description of the constant if the source is CONSTANT, or description of the calculation used if the source is CALCULATION.



3

Administrative User Interface (Banner ODS and Banner EDW)



The Administrative User Interface (UI) enables you to easily perform the tasks required to set up and maintain Banner Operational Data Store (Banner ODS) and Banner Enterprise Data Warehouse (Banner EDW) at your institution. Review the map below to become acquainted with the location of the options on the Administrative UI menus.

Preferences and Security	Meta Data
Institutional Preferences	Banner Operational Data Store
Set Up Users & PIN	Banner Enterprise Data Warehouse
Set Up Data Display Rules	Maintain Banner ODS Meta Data
Set Up Banner ODS Security Rules	Maintain Banner EDW Meta Data
Set Up Banner EDW Security Rules	
Options	New Web Tailor Administration
Set Up Parameters	Customize a Web Menu or Procedure
Schedule a Process	Customize a Graphic Element
View Control Reports	Customize a Set of Information Text
View and/or Remove Scheduled Processes	Customize a Set of Menu Items
Freeze Data Maintenance	Update User Roles
Maintain Descriptions for Code Values	Customize a Web Module
Translate Code Values from Source Data	Customize Web Rules
List Events for a Banner EDW Star	Customize Web Tailor Parameters
	Customize a Login Return Location
	Customize Web Tailor Overrides
	Customize Global User Interface Settings
	Customize Web for Alumni Rules

There are a number of tasks involved in setting up and maintaining Banner ODS and Banner EDW. Some tasks are performed one time when you initially install and implement Banner ODS and Banner EDW. Other tasks are performed during implementation and on an ongoing basis. Each task is listed below, and is described in detail in the next sections of this guide.

- Setting up institutional preferences
- Setting up user accounts
- Setting up data display rules
- Setting up security
- Setting up and maintaining parameters
- Populating and synchronizing data in Banner ODS
- Scheduling a process
- Freezing Banner ODS data
- Reviewing meta data

You can also use Web Tailor to perform some security functions and set some security-related preferences. In addition, Web Tailor gives you some options for customizing the appearance and behavior. For more information on using Web Tailor, see the “Web Tailor User Guide.”



Warning

Because Banner ODS and Banner EDW contain sensitive business information, you should take standard precautions to prevent unauthorized access. User IDs and PINs should, of course, be kept secret, since anyone with a valid ID and PIN, and URL, can gain access to the system. ■

This section outlines all the tasks, and offers suggestions about when you want to perform them.

Administrative User Interface URL

Type the following URL into the address line of your browser to access Banner ODS and Banner EDW.

http://yourWebServer.yourDomain:yourPort/yourDAD/twbkwbis.P_WWWLogin

Set up Users and PINS (Banner ODS and Banner EDW)

Anybody using a reporting tool to access Banner ODS or Banner EDW must be defined as an Oracle User. Use your normal Oracle processes procedures to create user accounts.

After a user account is created, that user can report against Banner ODS or Banner EDW. Each user is listed in the Administrative UI on the View Banner EDW Business Profile and User Associations page. From that page, you can assign security rules for each user using a Business Profile. See [“Set up Fine-Grained Access Security \(Banner ODS and Banner EDW\)” on page 3-15](#) for more information.

You should set up user accounts for Banner ODS and Banner EDW users at your institution based on how each user needs to use Banner ODS or Banner EDW. Banner ODS and Banner EDW include two types of users:

- Administrative Users—who require a user account so they can use the Administrative UI to set up and maintain Banner ODS and Banner EDW.
- Oracle Users—who require an Oracle user account (set up in your source system) so that they can use a reporting tool to access Banner ODS or Banner EDW and build reports.

Some users may be both Administrative and Oracle users, in which case they need a user account of both types. In these cases, you can use the same user ID in both systems (Administrative UI and Oracle).

PINs are disabled if the number of login attempts is exceeded (set on Web Tailor “Customize Web Rules” screen). They can be easily enabled on the Update a User Account screen using this checkbox.

Create Users and PINs

Administrative UI users set up and maintain Banner ODS and Banner EDW at your institution. Each Administrative user must have a unique ID and PIN created for them in order to gain access to the Administrative UI.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Users & PIN**.
3. Click **Create a New User Account** from the Set Up User and PIN page. The Create a New User Account page opens.
4. Enter a User ID.

A User ID can be one to nine characters, is limited to numbers and upper case letters, and may not contain spaces. (If you enter lower case letters, they will be converted to upper case letters.)

5. Enter First, Middle, and Last Names (only Last Name is required.)
6. Enter a PIN (It must be exactly six numbers; it cannot contain letters or special characters.)
7. Indicate whether the PIN is enabled or disabled.
8. Click **Create**.

Update Existing Users

Use this option to update misspelled or changed names, or to enable or disable a PIN.

If a user's login attempts are exceeded (as set up in Web Tailor, Customize Web Rules page), their PIN is disabled. Use this page to enable their PIN.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Users & PIN**.
3. Click an entry from the **Name** column on the Set Up Users and PIN page.
4. Change the fields. Only the Last Name field is required.



Note

The PIN must be exactly six numbers, and cannot contain letters or special characters.

5. Click **Update** to save. Or, click **Delete** to remove the User Account.

Update User Roles

When you create an Administrative user, the user is set up in Web Tailor with two roles—Administrator and Web Tailor Administrator. This gives the user access to all options within both Banner ODS/Banner EDW and Web Tailor menus. There may be times when you want to change a user's access, for example, allow only access to Banner ODS/Banner EDW, but not Web Tailor. Use the steps below to change a user's defined roles in Web Tailor.

1. Click **New Web Tailor Administration** from the Administrative menu.
2. Click **Update User Roles**. The Select a User to Update page opens.

3. Enter the User ID, or select it from the drop-down list from the Select a User to Update page.
4. Click **Submit** to save.
5. Check or uncheck the boxes next to Meta Data, Options, Security and Web Tailor Administrator to assign the desired access privileges.
6. Click **Submit Changes**.

Data Display Rules (Banner ODS)

Display rules enable you to control and customize how data stored in your Banner ODS composite tables is displayed in your Reporting views. Display rules determine the positional location of data in a view, or the hierarchical order in which a particular type of data should be retrieved. “Positional” display rules are required for all Slotted views while “hierarchical” display rules are required for a sub-set of (non-slotted) Reporting views. There are also a number of display rules used to determine a value stored in either a Banner ODS composite table or displayed in a Banner ODS Reporting view. All display rules are stored in Banner ODS database table - MGRSDAX.

Example - Positional Display Rules (for Slotted views)

The TEST view in Banner ODS displays all valid test score values loaded from your source system to Banner ODS. This data is stored in a vertical presentation as “one row per person per test”. The corresponding TEST_SLOT view provides an alternative horizontal presentation, that ‘flattens’ the data to “one row per person with the details of (up to) seven test scores.” Positional display rules are required to define what seven test scores will be included, and in what position or order they will appear within this “slotted” presentation. These Display rules will be used to build the underlying MST_TEST_SLOT table.

Example – Hierarchical Display Rules (for applicable non-slotted views)

The PERSON_ADDRESS and ADDRESS_BY_RULE view displays one address per entity per ADDRESS_RULE (stored in MGRSDAX as an Internal Code under the Internal Group of ADDRESS, and must end in ADDR) to be used for mailing purposes.

The mailing address displayed is based upon the hierarchical display rules created to determine which address types should be retrieved for the mailing address. Users can create a series of hierarchical display rules based on priority, so that if “address type 1” does not exist, fetch “address type 2,” etc.

To invoke the ADDRESS_BY_RULE reporting view rule, add a Filter/WHERE clause that states “where ADDRESS_RULE = IC_REG_ADDR.” This will retrieve the first current address found in the source system for the hierarchy you created.

When Banner ODS is first installed, MGRSDAX (Banner ODS table that stores display rules) is populated with specific rules from your source system, as well as suggested SunGard Higher Education delivered rules. The records (or display rules) in MGRSDAX match external codes (institution specific values) with internal codes (SunGard Higher Education defined values). After Banner ODS system is installed, you must then use the Administrative UI Preferences and Security option and Set Up a Display Rule to review and update the display rules in MGRSDAX. This ensures that display rules match your criteria, and are set up to meet your reporting needs.

Multiple display rules can also be managed, or assigned, using business profiles. (See [“Set up a Display Rule” on page 3-10](#) for information on setting up business profiles.)

 Note

Business profiles are only used when more than one Oracle user is used to access the data from your institution supported report writer. ■

If business profiles are used, then the system pulls the appropriate values for the profile with which the user is associated, if a rule exists for that profile.

 Warning

If multiple profiles exist for that user, then the first profile with a matching display rule is used. ■

 Note

If no display rules are found for any profiles assigned to the user, the display rule for the default profile (INSTITUTION) is used. ■

For reporting views such as the TEST_SLOT view, use business profiles to designate unique sets of test score data and the positional order of that data within the view for different business offices and users at the institution.

For hierarchical reporting views such as the PERSON_ADDRESS view, business profiles enable you to designate unique sets of (mailing) address type hierarchies for different business offices and users.

Example:

A display rule consists of one or more related records in MGRSDAX. Records that share the same Profile Code, Internal Group and Internal Code values make up a single display rule. The display rule also includes the Business PROFILE_CODE that defaults to INSTITUTION or is set to an institution defined value.

MGRSDAX is delivered with the following records that all have an Internal Group value of ADDRESS, and the business profile of INSTITUTION.

Internal Group: ADDRESS

Profile Code	Internal Code	Internal Code Sequence	External Code
INSTITUTION	ALUMMAIL	1	BUS
INSTITUTION	ALUMMAIL	2	ART
INSTITUTION	ALUMMAIL	3	RES
INSTITUTION	ALUMMAIL	4	CPS
INSTITUTION	RECRLETR	1	ACCEPT
INSTITUTION	RECRLETR	2	CHKL
INSTITUTION	RECRLETR	3	COLLEGE NIGHT
INSTITUTION	RECRLETR	4	DCSN
INSTITUTION	RECRLETR	5	INTERVIEW ONE

The first four records also share the same Internal Code value of ALUMMAIL. These four records make up the Display Rule that defines which Mail codes to retrieve for Advancement-related reporting views. The last five records share the Internal Code value RECRLETR. These five records make up the display rule that defines which MAIL internal codes to retrieve for the COMMUNICATION_SLOT and Recruiting-related reporting views.

By editing the above values to reflect the Advancement and Recruiting Mail internal code values used by your institution, your users can then report on the desired data. Before your users begin creating reports, you need to review all of the delivered display rules, and edit them to reflect your institution's specific values.

Note

After changing display rules for views that work from slotted database tables, the corresponding slotted tables must be reloaded before the updated values will display in the reporting views seen by your users. By default, this happens during the incremental refresh cycle, which typically occurs nightly. However, if you want to see more immediate results, reload the corresponding slotted table(s) manually via the Schedule a Process page. See [“Schedule a Single Process” on page 3-75](#) ■

Note

Also note that there are few reporting views, like the PERSON_ADDRESS and ADDRESS_BY_RULE, that go directly against the rules in the MGRSDAX database table and do not need to be reloaded for you to view the changes. ■

Display Rule Information in Published Meta Data

Meta Data includes a business definition for each reporting view. When the reporting view being defined uses display rule entries from Banner ODS MGRSDAX database table, the required rule code, INTERNAL_GROUP and INTERNAL_CODE values are explained as part of the business definition. Most reporting views that require MGRSDAX rules have a column labeled PROFILE_CODE, and a column with the name of the view and XXXXXXXX_RULE that are used as the INTERNAL_GROUP for that set of display values.

When the reporting view has a column that uses the MGRSDAX database table, that is explained in the column business definition.

Display Rule Cross Reference Chart

Display rules are defined by a set of records stored in Banner ODS database table - MGRSDAX. You can use the Display Rule Cross Reference Chart to identify display rule value combinations as they are delivered.

The Display Rule Cross Reference Chart lists all views, tables, procedures or packages that use the MGRSDAX table. The chart enables you to see the rule values that are set up in order to retrieve the data, and how your solution is impacted if changes are made to the display rules on MGRSDAX. The codes on the chart followed by an asterisk (*) indicate user defined rules that can be changed to fetch the EXTERNAL_CODE or REPORTING_DATE.

To open the Display Rule Cross Reference Chart, select the following link from the Administrative UI Display Rule Cross Reference Chart online help: Cross Reference Chart.

The chart opens in Microsoft Excel or a similar application. You can reorganize the columns as needed. A description of each column on the chart appears below:

Column	Description
REPORTING_VIEWS	The view that is directly affected by a change to an MGRSDAX value in Banner ODS.
INTERNAL_GROUP	Value Banner ODS is using to connect the set of display rules with the reporting view and/or column that are to use them. These values are coded within Banner ODS and must be used for the purpose specified.

Column	Description
INTERNAL_CODE	Institutions may define any values as required to represent the business rules of the institution. Some values are extracted from Banner GTVSDAX rules for institutions that use the O:A views.
EXTERNAL_CODE	X identifies valid institutions values must be provided.
REPORTING_DATE	X indicates that the Reporting Date is used for sequence of display values.
TABLES	Banner ODS Composite table used as the basis for the selection of values based on the display rules defined by the institution on the MGRSDAX database table.
COMPARISON COLUMN	Column within Banner ODS composite table that is used to retrieve data based on the value in the either MGRSDAX_EXTERNAL_CODE or MGRSDAX_REPORTING_DATE.

Example:

TEST rule: The MSKTEST package gets the MGRSDAX_EXTERNAL_CODE value from MGRSDAX based on the MGRSDAX_INTERNAL_GROUP = 'TEST' and the MGRSDAX_INTERNAL_CODE = 'STDNTEST'. This value is then used to retrieve records from the TEST column in MST_TEST to populate the MST_TEST_SLOT table and the TEST_SLOT view.

REPORTING Package View Name of the package or view in which MGRSDAX is referenced.

Procedure/Function Name of the process or function being used by MGRSDAX.

Records with the same Profile Code, Internal Group and Internal Code combination make up one display rule. The display rules that are delivered have a default business profile code of INSTITUTION.

 Note

When more than one Internal Code is listed, there are multiple display rules for the value in the Internal Group. For example, there are several

ADDRESS rules listed for different departments like Admissions (Internal Code = ADMSADDR), Faculty (Internal Code = FACLADDR), Recruiting (Internal Code = RECRADDR), etc. ■

 Note

When more than one Profile Code is listed, there are multiple display rules for the value in the Internal Group. ■

The example below will help you tie together one use of the chart with the Administrative UI.

Example:

You want to see what display rules exist for (or are impacted by) the **VENDOR** reporting view because you want to change the external code for that reporting view. Follow the steps below:

1. The copy of the chart is already sorted in alphabetical order by Reporting View. Look in the Reporting View column (the first column) of the chart. Find **VENDOR**. It is near the end of the list.

You will find that the assigned Profile Code is **INSTITUTION**, the Internal Group is **ADDRESS** and the Internal Code is **VENDADDR** for **VENDOR**.

2. Open the Set Up a Display Rule web page in your Administrative UI.
3. Select the Profile Code (**INSTITUTION**), Internal Group (**ADDRESS**) and Internal Code (**VENDADDR**) from the drop-down lists.
4. Click **Search**. The Select an Existing Display Rule page opens. This page shows the display rule for the reporting view **VENDOR**.
5. To change the External Code, click **BU** under the External Code column.

The Update an Existing Display Rule page opens. You can change the external code from this page.

6. Click **Save**.

Set up a Display Rule

You may want to create new display rules by adding new internal codes for a business purpose, or by adding additional external codes not currently defined.

 Note

You may want to set up your business profiles before you set up display rules. ■

To create a new rule, follow the steps below:

1. From the Administrative menu, Click **Preferences & Security**.
2. Click **Set Up Data Display Rules**. The Set Up a Display Rule page opens.

 Note

If a PROFILE_CODE is to be used in the display rule, it must be set up first. See [“Set up Fine-Grained Access Security \(Banner ODS and Banner EDW\)” on page 3-15](#) for information on setting up business profiles. ■

3. Click **Create** from the Set Up a Display Rule page. The Create a New Display Rule page opens.
4. Enter the information for the new display rule, or click an existing code from one of the drop-down lists. Each field is described below:

Field	Description
Business Profile Code	Business Profile for which you want to set up display rules. You can create additional Business Profiles from the Create a Banner ODS EDW Business Profile web page. <i>INSTITUTION</i> is the default code for users for whom no other business profile is defined.
Internal Group	High-level group of rows of data (Internal Codes) that are categorized together to provide multiple entries for a single concept. The value is predefined by SunGard Higher Education. It should <i>not</i> be changed, but new internal groups can be added for client specific processing. (Click the appropriate value from the Internal Group list.)
Internal Code 1	Specific code relationships for source system concepts. This field is used internally within PL/SQL functions and procedures to determine which row(s) to retrieve from the MGRSDAX table. You can add new internal codes to be used for business purposes, and then click the appropriate code when writing a report. (Click the appropriate value from the Internal Code list.)

Field	Description
Internal Code Sequence Number	Internal sequence number that provides either a hierarchy or positional identifier: <i>Hierarchy identifier</i> Order in which to retrieve display rule driven data (such as the Address Type for a designated mailing address in the PERSON_ADDRESS view). Each sequence number should be a single numeric value. Give the most important code value a sequence number of 1, and number each subsequent value consecutively (such as 2, 3, 4). <i>Positional identifier</i> Position within a slotted view where a repeating group should appear. The sequence number entered by the user must correspond to the slotting concept applicable to the slotted view for which the display rule is being created (such sequence numbers 1-7 for the seven available test score slots in the TEST_SLOT view).
External Code	Institution-specific values that usually come from rules and validation tables in the transactional or administrative source system. Enter the values used by your institution to define either the hierarchy or the positional value for the particular display rule. Note: Change this value so that the external codes match your institution's code value for each display rule value.

5. Click **Save**. The Update an Existing Display Rule page opens.

 Note

After changing display rules the corresponding slotted tables must be reloaded for those changes to take effect. By default, this happens during the incremental refresh cycle, which typically occurs nightly. However, if you want to see more immediate results, reload the corresponding slotted table(s) manually via the Schedule a Process page. See [“Schedule a Single Process” on page 3-75](#) ■

Update Display Rules

You may want to display different types of test scores, address information, etc. If the display rule already exists, then you can use the steps below to add, update, duplicate or delete display rules.

Note

You can use these steps for every Profile Code, Internal Group and Internal Code combination listed in the table in the “Display Rule Cross Reference -Chart” section. ■

1. From the Administrative menu, Click **Preferences & Security**.
2. Click **Set Up Data Display Rules**. The Set Up a Display Rule page opens.
3. Choose a Business Profile, Internal Group, and Internal Code combination from the drop-down lists on the Set Up a Display Rule page. Or, you can show all groups and codes.
4. Click **Search**. The Select an Existing Display Rule page opens.

Note

Use the Meta Data reporting view business definition and the Display Rule Cross Reference chart, available from the **Help** button in the Administration UI, to identify Internal Group and Internal Code combinations that make up a Display Rule. Information about this chart is available in the “Display Rules Cross Reference” section. ■

5. Review all information for the selected combination. Determine the data on which your users want to report (it may be different from what is delivered). Create a list of the data you want to use in place of the data that was delivered.
6. Choose an External Code link from the External Code column to edit a record. The Update an Existing Display Rule page opens.
7. Make your change
8. Click **Save** to save the display rule. Click **Delete** to remove the display rule.

Note

After changing display rules, the corresponding slotted tables must be reloaded for those changes to take effect. By default, this happens during the incremental refresh cycle, which typically occurs nightly. However, if you want to see more immediate results, reload the corresponding slotted table(s) manually via the Schedule a Process page. See [“Schedule a Single Process” on page 3-75](#). ■

Duplicate Display Rules

To save time, you can copy the settings from an existing display rule and use it to create a new display rule.

1. From the Administrative menu, Click **Preferences & Security**.
2. Click **Set Up Data Display Rules**. The Set Up a Display Rule page opens.
3. Choose a Business Profile, Internal Group and Internal Code combination from the drop-down lists on the Set Up a Display Rule page. Or, choose to show all groups and codes.
4. Click **Search**. The Select an Existing Display Rule page opens.
5. Choose an external code link from the External Code column. The Update an Existing Display Rule page opens.
6. Enter the External Code information or select it from the drop-down list.
7. Click the **Duplicate**. The Create a New Display Rule page opens.
8. Replace the information for the existing display rule with the information for the new display rule.
9. Click **Save** to save your settings.

Note

After changing display rules, the corresponding slotted tables must be reloaded for those changes to take effect. By default, this happens during the incremental refresh cycle, which typically occurs nightly. However, if you want to see more immediate results, reload the corresponding slotted table(s) manually via the Schedule a Process page. See [“Schedule a Single Process” on page 3-75](#). ■

Reload using a Single Extract Transform and Load (ETL) Slot Process

Changes made to a display rule affect all associated slotted tables and reporting views. The ETL slot process must be rerun before any changes made to slotted tables or display rules can be viewed in the slotted reporting views. If only one slotted table was changed, then this process enables you to quickly run a single slot process. Use the following steps to schedule when you want to run a slot process job.

1. Click **Options** from the Administrative UI menu.
2. Click **Schedule a Process**. The Select a Process page opens.

3. Click **Schedule Banner ODS or Banner EDW Mappings**. The Select a Subprocess page opens.
4. Click **Run A Single ETL Slot Package** from the Select a Subprocess page. The Schedule a Process page opens.
5. Choose the table from the Slotted Table to Reload drop-down list.
6. Enter the required Scheduling Parameters information.
 - 6.1. Enter a Run Date (format dd-mon-yyyy) and Runtime (format hh24:mi:ss).
 - 6.2. If you want to run the process on a recurring basis, enter an Interval.

Click the link next to the Interval field. A sample Interval window opens. Click the link under the Interval Expression column for the interval in which you want to schedule a process. For example, to run a process every day at the same time click SYSDATE+1.
7. Click **Save** to save the information about this job. The job is entered into the job queue to run at the specified day and time.

Set up Fine-Grained Access Security (Banner ODS and Banner EDW)

Banner ODS and Banner EDW include two types of users:

- Oracle users who require an Oracle user account in your source system so they can access Banner ODS and Banner EDW to build reports
- Administrative users who require a user account in the Administrative UI so they can use the UI to maintain Banner ODS and Banner EDW.

This section explains how fine-grained access security applies to the first type of users - Oracle users when they access Banner ODS or Banner EDW for reporting.

Fine-grained access security lets you selectively restrict an Oracle user's access to rows of Banner ODS or Banner EDW data based on the value of a specific data element. For example, you might allow a user to see data only from their own department. After you set up security rules and assign them to Oracle users, the rules are applied when the user searches for information within Banner ODS or Banner EDW.

Note

This security applies to the rows of data returned, not the columns. To 'mask' columns of data for a given reporting view, create a copy of the view with those columns removed that contain sensitive data. ■

Secured access to data is controlled by Oracle Policies, in conjunction with the security rules set up in the Administrative UI. A policy is an Oracle construct that applies a WHERE clause predicate to any queries made against a table. A security rule is simply data in Banner ODS or Banner EDW security tables that determine what that WHERE predicate should look like for a given user.

By default, Banner ODS and Banner EDW are delivered with no Policies (no security restrictions) on any tables. Therefore, you can set up data access values (security rules) for given users without affecting any user's ability to access Banner ODS or Banner EDW data. However, once Policies are defined for the tables, users can only access data to which they have been granted permission.

Once a policy is set up on a Banner ODS or Banner EDW table, Oracle calls the MGKSECR package to create a WHERE clause predicate any time that the database table is accessed, such as using a SELECT query. The MGKSECR package, in turn, uses the security rules data to generate the appropriate WHERE clause predicate for the current Oracle User ID. For users with access set to "all" (either All Banner ODS Data, All Banner EDW Data, All Data for that Area, or All Data for all columns and rules in the table), MGKSECR does not generate a predicate, thereby allowing those users full access to that data. For rules that list access to particular values, for example campus codes of A, B, or C, MGKSECR generates a corresponding WHERE clause code with the appropriate level of restriction.

Note

Security rules are cumulative -- they are joined with an AND clause. Users must be granted access rights for each rule in a table in order to gain access. For example, if a table has three security rules defined, and two of the rules give *all* access, but the third rule gives the user access to *none*, that user will not have access to any data in that table. ■

You can manage users by grouping similar users together as business profiles. You can also manage Security and Display Rule assignments as a group rather than at the individual user account level.

Use Banner ODS menu selections in the order below to set up your security:

1. Set up Organizational Areas.

Set up one or many organizational areas by grouping similar areas together. See [“Set up and Maintain Organizational Areas” on page 3-17](#) for additional information.

2. Set up and Maintain User ID Translations, and Set up Business Profiles

These menu options can be completed in any order.

- **User ID Translations**

Bring Banner data into Banner ODS fine-grained access. See [“Banner User ID Translations” on page 3-19](#) for additional information.

- Business Profiles

Group similar users together. See [“Set up Business Profiles” on page 3-22](#) for additional information.

3. Security Rules

Defines the data that each user can access. See [“Set up and Maintain Security Rules” on page 3-25](#) for additional information.

4. (optional) Security Predicates

Review the code that generates the predicate in MGKSECR to determine if it is aligned correctly with your business rules. Also, verify the code that is generated for a security predicate. See [“Security Predicates” on page 3-47](#) for additional information.

5. Assign Security Rules

Enables security rules to work. Policies are either turned on or turned off. See [“Policy Management” on page 3-48](#) for additional information.

6. Transfer Banner Fine-Grained Access process.

This process transfers data for Finance Fund, Fund Type, and Organizations, and for Human Resources Organizations, and Employee Class from Banner to Banner ODS. To transfer additional data you need to set up additional rules. See [“Transfer Banner Fine-Grained Access” on page 3-133](#) for additional information.

Set up and Maintain Organizational Areas

Organizational Areas are used to set up and group organizational areas together, and to help simplify the implementation of Banner ODS fine-grained access.

Example

If you have users in the Human Resources area that should have access to all of the Human Resources tables. Instead of granting access for each user to each individual Human Resources table, you can define an Organizational Area called “HR” (the name is user-defined). Then, when you create your Banner ODS Security Rules for Human Resources tables, assign those rules to the “HR” Organizational Area. Once your Organizational Areas and Human Resources Security Rules are created, go to the Assign Security Rules page. Select your Human Resources users then, check the **Access All Data In This Area** check box. This gives the user access to all tables included in the “HR” Organizational Area.

Organizational Areas can be set up in any manner you wish. In the example above, an Organizational Area was created which included all Employee tables. However, you could also set up Organizational Areas that cross Banner product groups or you could set up Organizational Areas that are subsets of a product group. The idea is that you

can set up Organizational Areas in any way that makes sense for the way you divide security among your reporting users.

Banner ODS is delivered with sample Organizational Areas and sample Security Rules that are assigned to them. The sample data gives an idea of how to go about setting up your own Organizational Areas and the Security Rules that apply to them.

Create a Banner ODS Organizational Area

Use to create organizational areas.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Organizational Areas**.
4. Click **Create a Banner ODS Organizational Area**.
5. Enter the code and description.
6. Click **Save**.

Update a Banner ODS Organizational Area

Use to update organizational areas.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Organizational Areas**.
4. Click an organizational area code description.
5. Select another organizational code, or change the current description.

Note

The table at the bottom of the page indicates what rows in that table will be deleted if you delete the organizational area. ■

6. Click **Save**.

Delete a Banner ODS Organizational Area

Use to delete organizational areas.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Organizational Areas**.
4. Click an organizational area code description.
5. Select another organizational code, or change the current description.

Note

The table at the bottom of the page indicates what rows in that table will be deleted if you delete the organizational area. ■

6. Click **Save**.

Banner User ID Translations

Use Banner User ID Translations to match Banner security user IDs with Banner ODS security IDs if they are different and you plan to run the Transfer Banner Fine-Grained Access process.

The MGBXWLK table (owned by the IA_ADMIN schema and set up through the Banner User ID Translations pages) is used to associate the two IDs. MGBXWLK contains two primary columns: the Banner User ID and the Banner ODS User ID. The Banner ODS User ID is not required, therefore you can transfer all Banner User IDs into the MGBXWLK table without triggering constraint errors. MGBXWLK has two primary purposes:

- Facilitate data transfer when user IDs are not the same
- Additional security. You may not want everyone with fine-grained access information in Banner to be able to access the data in Banner ODS. In that case, you would follow the instructions in [“- Restrict the Information Transferred to a Limited Group of Users” on page 3-20](#). Only those users whose user IDs were added to MGBXWLK are able to access Banner ODS data after all the fine-grained access policies are enabled.

The MGBXWLK table is populated based on the scenarios below.

- Banner User IDs are the same as the Banner ODS User IDs

- The MGBXWLK table does not need to be populated
- The delivered Administrative parameter record with internal group *BANNER TO ODS FGA TRANSFER* and internal code *ODS USER ID NOT FOUND* is used to

tell the transfer job what to do when a given Banner ODS user ID is not found in MGBXWLK. As delivered the value of External Code is *USE BANNER USER ID*.

- Some User IDs are the Same in Banner and Banner ODS, and Some are Not

- Enter only users with different Banner and Banner ODS user IDs into the MGBXWLK table (using the Set Up and Maintain Banner User ID Translations pages). Users with the same user ID in Banner and Banner ODS can be omitted from the table.
- The delivered Administrative parameter record with internal group *BANNER TO ODS FGA TRANSFER* and internal code *ODS USER ID NOT FOUND* is used to tell the Transfer Banner Fine-Grained Access process what to do when a given Banner ODS user ID is not found in MGBXWLK. As delivered the value of external Code is *USE BANNER USER ID*.
- If you populated the MTVPARM record with an external code of *USE BANNER USER ID*, but populated MGBXWLK with only the Banner User IDs and the Banner ODS User IDs have not yet been populated, the process [“Transfer Banner Fine-Grained Access” on page 3-133](#), (MGKXFER.P_TransferFGA), does not read the MGBXWLK table and the Banner User ID is used.

- All Users are to have a record in MGBXWLK, regardless of whether the Banner and Banner ODS User IDs are the Same

- Add all Banner user IDs (**Banner User ID** field) and Banner ODS user IDs (**Banner ODS User ID** field) to MGBXWLK. This includes users with the same Banner user ID as their Banner ODS user ID.
- Enter the same MTVPARM record as [“- Banner User IDs are the same as the Banner ODS User IDs”](#) and [“- Some User IDs are the Same in Banner and Banner ODS, and Some are Not”](#), but with an external code of *DENY ACCESS*.

- Restrict the Information Transferred to a Limited Group of Users

- Add the limited set of Banner user IDs to MGBXWLK. If the Banner ODS user IDs are different, enter them in the **Banner ODS User ID** field. If the Banner User IDs are the same in Banner ODS, enter the Banner User IDs in the **Banner User ID** field and the **Banner ODS User ID** field.
- Enter the same MTVPARM record as [“- Some User IDs are the Same in Banner and Banner ODS, and Some are Not”](#) and [“- All Users are to have a record in MGBXWLK, regardless of whether the Banner and Banner ODS User IDs are the Same”](#) but with an external code of *DENY ACCESS*.

Create Banner User ID Translations

Use this to match a Banner user ID with a Banner ODS user ID.

Prerequisites

It is recommended that the Banner ODS ID is set up so that it can be selected from the drop-down list that appears when you select **Select a Banner ODS User ID** on the translation Create and Update pages.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Banner User ID Translations**.
4. Click **Create a New User ID Translation**.

If no User ID translations exist, you are taken directly to the Create a New User ID Translation page.

5. Enter the Banner user ID, or click the **Select a Banner User ID** link to choose it from the list.

The Banner User IDs are drawn from the Banner Finance tables FORUSFN, FORUSOR, and FOBPROF, and the Banner HR tables PSRORG, PTRUSER, and PSRECLS.

6. Enter the Banner ODS user ID, or click the **Banner ODS User ID** link to choose it from the list.

The **Select a Banner ODS User ID** list is drawn from the WAV_ALL_USERS view which contains a list of IDs for users most likely to run the reports. Your institution can change this view to include additional users (ODSMGR IA_ADMIN, for example) so that additional user IDs will appear in the list.

7. Click **Save**.

Update Banner User ID Translations

Use this to change the Banner ODS user ID matched with a Banner user ID.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Banner User ID Translations**.
4. Select the Banner user ID you want to change.
5. Enter the Banner ODS user ID, or click the link to select it from a list.
6. Click **Save**.

Delete Banner User ID Translations

Use this to delete the Banner ODS user ID matched with a Banner user ID.

1. Click **Preferences and Security**.
2. Click **Set up Banner ODS or Banner EDW Security Rules**.
3. Click **Set up and Maintain Banner User ID Translations**.
4. Select the Banner user ID you want to change.
5. Enter the Banner ODS user ID, or click the link to select it from a list.
6. Click **Delete**.

Set up Business Profiles

Business Profiles enable you to easily manage groups of users by grouping similar users together. In turn, you can manage Security and Display Rule assignments as a group rather than at the individual user account level.

First you create a Business Profile, then associate one or more users with that Business Profile, or associate one or more Profiles with one or more users.

Multiple display rules can also be managed, or assigned, using business profiles.

Note

Business profiles are only used when more than one Oracle user is used to access the data from your institution supported report writer. ■

If business profiles are used, then the system pulls the appropriate values for the profile with which the user is associated, if a rule exists for that profile.

Note

If multiple profiles exist for that user, then the first profile with a matching display rule is used. If no display rules are found for any profiles assigned to the user, the display rule for the default profile (*INSTITUTION*) is used. ■

For reporting views such as the TEST_SLOT view, use business profiles to designate unique sets of test score data and the positional order of that data within the view for different business offices and users at the institution.

For hierarchical reporting views such as the PERSON_ADDRESS view, business profiles enable you to designate unique sets of (mailing) address type hierarchies for different business offices and users.

Create a Business Profile

Use this to create a business profile.

Prerequisites

- Create an organizational area
- 1. Click **Preferences and Security**.
- 2. Click **Set up Banner EDW Security Rules**.
- 3. Click **Set Up Business Profiles**.
- 4. Click **Create a Banner EDW Business Profile**.
- 5. Enter a new profile code and description.
- 6. Click **Save**.

See [“View, Update or Delete a Business Profile” on page 3-24](#) for steps on updating and viewing Business Profiles.

Associate Business Profiles with a User

Use this to associate a Business Profile with a user or group of users. You can also link to the Set Up Banner EDW Security Rules page to set up security rule assignments for that profile or user.

1. Click **Preferences and Security**.
2. Click **Set up Banner EDW Security Rules**.
3. Click **Associate Users and Business Profiles**.
4. Choose the user to which you want to associate (or view existing) Business Profiles.

If you selected the user from the user drop-down list, then click **Refresh Profile List** to redisplay the business profiles list for that user.

Below the user drop-down list is an alphabetical list of all Business Profiles and the user name associated with them.

5. Check or uncheck the corresponding check boxes to associate or disassociate Business Profiles with the user.
6. To set up security rules for a user, click **Assign Security Rules**. This opens to the Set Up Banner EDW Security Rules page.

See [“Set up Fine-Grained Access Security \(Banner ODS and Banner EDW\)” on page 3-15](#) for additional information.

7. Click **Save** to update the user associations.

Associate Users with a Business Profile

Use this option to associate a user or group of users with a Business Profile. You can also link to the Set Up Banner EDW Security Rules page to set up security rule assignments for that profile or user.

1. Click **Preferences and Security**.
2. Click **Set up Banner EDW Security Rules**.
3. Click **Associate Users and Business Profiles**.
4. Choose the Business Profile to which you want to associate (or view existing) users from the **Business Profile** column.

Note

When you select the Business Profile column or Oracle User Name column, the table toggles between associating a Business Profile with a user and associating a user with a Business Profile. ■

5. Check the corresponding check boxes to associate or disassociate users with a Business Profile.
6. Click **Save** to submit your changes.
7. To set up security rules for a Business Profile, click **Assign Security Rules**.

See [“Set up Fine-Grained Access Security \(Banner ODS and Banner EDW\)” on page 3-15](#) for instructions on assigning security rules.

View, Update or Delete a Business Profile

Use this option to change or delete a Business Profile.

1. Click **Preferences and Security**.
2. Click **Set up Banner EDW Security Rules**.
3. Click **Set Up Business Profiles**.
4. Click the description of the Business Profile you want to change.

The Update a Banner EDW Business Profile page opens. From this page you can change the descriptions or delete the Business Profile.

5. Make your changes to the description. Click **Save** to submit your changes.

OR

Click **Delete** to remove the displayed profile.



Note

The table at the bottom of the page indicates what rows in that table are also deleted if you delete the business profile. ■

Set up and Maintain Security Rules

The following tables (in the IA_ADMIN schema) are used to store the security rules information in Banner ODS and Banner EDW.

Table	Functional Name	Security Rules Stored
MGBFGAA	Fine Grained Access User Areas	Indicates if the user has access to all of the elements and values within an area code
MGBFGAE	Fine Grained Access User Elements	Indicates if the user has access to all of the values within an element code
MGBFGAV	Fine Grained Access User Values	If the user does not have the MGBFGAV_ALL_IND or MGBFGAA_ALL_IND for an element, area, or all of FGA, indicates which values for the element the user may access.
MGBSECR	User Security Table.	Various user security related data.
MGBFGAR	Fine Grained Access Element Rule Table	The security rules that consist of Banner ODS/ Banner EDW tables and columns that have security applied to them.
MTVFGAA	Fine Grained Access Area Validation Table	The security rules that consist of Banner ODS/ Banner EDW area that have security applied to them.

Understanding the data relationships in these tables is best explained by reviewing the Administrative UI that maintains that data.

To set up security, you need to:

- Determine the data security requirements

- Set up and maintain the security rules

Determine Data Security Requirements

Use this section to determine whether it's necessary to restrict some users' access to some of the data within Banner ODS and Banner EDW and to determine the specific security restrictions that apply to each user.



Warning

When deciding whether to apply fine-grained access, keep in mind that its use limits the accuracy and usefulness of data. The system does not inform users that the data they are seeing has been filtered by fine-grained access security. This can cause incorrect numerical results in some circumstances. ■

Example

If a user queries across the entire institution, and that same user has been restricted from seeing data from some departments. Although the data appears to cover the whole institution, it does in fact sum data only from those departments which the user is allowed to access. The user may draw incorrect conclusions if he or she is unaware that the data is incomplete.

If you choose to use fine-grained access, you have the following options for the level of access you can give an individual Oracle user who accesses Banner ODS:

- Full access to all data in Banner ODS.
- Full access to all data at the level of the Organizational Dimension, for example, Academic, Course and Academic, Financial, or Workforce.
- Full access to all data at an element level, for example, college, department, major, organization, or fund level.
- Restricted access to data at the element level based on a list or range of values for a specific data element, for example., allow a user to access only data related to the user's department or a range of fund codes.

Set up a Security Rule

If you want to secure data at a granular level, you need to create the security rules that define that level of security. A security rule consists of an Organization Dimension, Table, Rule Type, and Column (you may define one or two columns).

Setting up a rule involves entering and maintaining the data that comprises a rule in the MGBFGAR table. You can use the Administrative UI to create and maintain the list of security rules that can be applied to a given user account, and to assign particular values for a given rule to a given user account. (Another method available using the Administrative UI is to assign values for a given rule using [“Set up Fine-Grained Access](#)

[Security \(Banner ODS and Banner EDW\)” on page 3-15](#). The Administrative UI uses the MGKFGAC package to apply the security rules you define.

Use the [“Set up and Maintain Security Rules” on page 3-25](#) option within the Administrative UI to create, update, delete, and search for rules. (These processes are described in the next few sections.) Creating or updating rules is reflected in the MGBFGAR table. Deleting rules changes the MGBFGAR table, but in addition, any values related to a rule that are deleted are cascaded through the other fine-grained access tables. There is a list at the bottom of the security rules web pages that indicates what rows in the table are deleted if the security rule is deleted.

Sample security rules (generated from the ods\ia_admin\dbscripts\mgbfgar_data_ods.sql script) are added to MGBFGAR when ODS is installed or upgraded. The delivered sample Finance and Human Resources security rules reflect the way that security rules should be set up if you plan to use Transfer Banner Fine-Grained Access. Since those rules are added to MGBFGAR by the install or upgrade, they can be viewed through the Administrative UI Set Up and Maintain Security Rules pages.

Prerequisites

- Create organizational areas
 - Create business profiles
1. Determine a Banner EDW table and column value on which you want to secure information.
 2. Click **Preferences & Security** from the Administrative menu.
 3. Click **Set Up Banner EDW Security Rules**.
 4. Click **Set Up and Maintain Banner EDW Security Rules**. The Set Up a Banner EDW Security Rule page opens.
 5. Click **Create** from the Set up a Banner EDW Security page. The Create a New Security Rule page opens.
 6. Enter the values for each field as described below.

Field	Description
Organizational Areas	This attribute enables you to group similar rules together for easier maintenance/assignment. You can grant access to entire sets of columns/tables at this level using a single check-box. Rules are delivered with four groupings. You can add more groupings using the “Set up and Maintain Organizational Areas” on page 3-17 .
Table	Banner EDW table on which you want to secure data, for example, the MST_TEST table, the MPT_EMPL_EARN_FY table, etc.

Field	Description
Rule Type	The type of Security Rule. There are two possibilities: <i>Range:</i> This type of rule pertains to limits, such as Financial amounts. Results in a WHERE clause predicate like: WHERE COLUMN1 > [some value1] AND < [some value2]. <i>List:</i> This type of rule pertains to lists of valid values. Results in a WHERE clause predicate that matches up the list of allowed values (from the MGBFGAV table) with the values in the source table itself. Note: The Transfer Banner Fine-Grained Access process only uses security rules with rule type of "List".
Column 1	Banner EDW table column to which the rule pertains.
Query for Column 1	The PL/SQL SELECT statement used to populate the list of values in the Administrative UI for the specified Column 1 when assigning values to users. Click Generate to automatically create the PL/SQL statement. The base rules are delivered with simple SELECT DISTINCT queries for each of the columns on the various Banner EDW tables. However, if performance becomes an issue (for the SELECT DISTINCTs to return), you can create temporary tables (manually) from the results of a SELECT DISTINCT query, then change this query to have the rule point to the temporary table instead. For two-column rules, select distinct values for both columns into a temporary table and then include select distinct statements for both query for Column1 and query for Column 2.

Example

You have a two-column rule for MFT_GENERAL_LEDGER where Column 1 is FUND and Column 2 is CHART_OF_ACCOUNTS. First create a table: CREATE TABLE *temp_table* as SELECT DISTINCT CHART_OF_ACCOUNTS, FUND FROM MFT_GENERAL_LEDGER. Then, in Query for Column 1 enter SELECT DISTINCT FUND FROM *temp_table* and in Query for Column 2 enter SELECT DISTINCT CHART_OF_ACCOUNTS FROM *temp_table*.

Field	Description
Column 2	An optional second column on the Banner EDW table to which the rule pertains. This column can be used to join AND values together from two columns. Note: If you are creating or modifying rules that deal with Finance such as Fund, Organization, Account, Location, or Program you <i>must</i> enter the table's Chart of Accounts column name in the Column 2 field. This is required because Banner ODS Finance hierarchy tables check to see if there are additional permissions for a given user, and that lookup on the hierarchy table cannot occur without a value for Chart of Accounts. Example You want to set up a security rule for the FUND column on MFT_GENERAL_LEDGER. You enter <i>FUND</i> into Column 1 and CHART_OF_ACCOUNTS into Column 2. If you create that rule without CHART_OF_ACCOUNTS in Column 2, a user's permissions for General Ledger Funds are incomplete because the Transfer Banner Fine-Grained Access process and the Fine-Grained Access Policy package, MGKSECR, are not able to read the Fund hierarchy table, MFT_FUND_HIERARCHY. If a user has access to Fund 0100 for Chart of Accounts A, the Transfer Banner Fine-Grained Access process and MGKSECR can look up the Fund hierarchy record and determine if there are additional Fund codes related to Fund 0100 that this user should also have access to. Those additional Fund codes would be stored on the hierarchy record in Fund Level 1, 2, 3, 4, and 5.
Query for Column 2	The PL/SQL SELECT statement used to populate the list of values in the Administrative UI for the optional Column 2. Click Generate to automatically create the PL/SQL statement.

Field	Description
FGA Transfer Type	Select a value for this field if you plan to use the Transfer Banner Fine-Grained Access process to transfer security information from Banner to Banner ODS. • Finance Organization • Finance Fund • HR Organization • HR Employee Class A rule is excluded from the Transfer Banner Fine-Grained Access process if this column is blank. Note: A rule <i>must</i> contain a value in this field for the Transfer Banner Fine-Grained Access process to use the rule during the transfer. Example When the Transfer Banner Fine-Grained Access process transfers Finance Fund permissions into Banner ODS, it selects the rules from MGBFGAR that apply to the Finance Fund transfer. To include a rule in the Finance Fund part of the transfer process select <i>Finance Fund</i>.

Field	Description
Column 2 Type	When you create or modify a security rule that is used to apply security to an element of Finance, that rule must have a value for the Chart of Accounts in the Column 2 field. In addition, Column 2 Type must contain the value <i>Chart of Accounts</i> which identifies the column 2 value as a Chart of Accounts value.

Example

If a rule is created to limit access to the **Fund** column on the General Ledger, you would select *FUND* as the Column 1 value, *CHART_OF_ACCOUNTS* as the column 2 value, and *Chart of Accounts* as the Column 2 Type.

Note: It is obvious that the column 2 value is a Chart of Accounts value because the name of the column is *CHART_OF_ACCOUNTS*. This is not obvious for all Chart of Accounts column names. Some appear as *DESG_CHART_OF_ACCOUNT* on the *MAT_GIFT* table and *HOME_ORGANIZATION_CHART* on *MPT_EMPLOYEE*. The **Column 2 Type** field explicitly identifies a column 2 value as a Chart of Accounts column.

If the rule's column 2 value is a Chart of Accounts column name during the Transfer Banner Fine-Grained Access process, then the Chart of Accounts value is brought over from Banner when the data is written to MGBFGAV.

Field	Description
Predicate Code	Leave this field blank for all rules that pertain to Finance Fund, Finance Organization, and Human Resources Organization to transfer file access permissions using the Transfer Banner Fine-Grained Access process. When the field is blank, the Transfer Banner Fine-Grained Access process writes additional data to MGBFGAV from the appropriate Banner ODS Finance Hierarchy table.

Example

If John Smith has access to Fund 0100, when the Predicate Code is blank on all of the Finance Fund security rules, the Transfer Banner Fine-Grained Access process reads the Banner ODS Finance Fund Hierarchy table, MFT_FUND_HIERARCHY, and determines if having access to fund 0100 also gives John access to additional Fund numbers. If the Fund Hierarchy entry for Fund 0100 includes a Fund Level 1 value of 0101 and a Fund Level 2 value of 0102, additional records are written to MGBFGAV giving John access to funds 0101 and 0102 as well as fund 0100.

However, if you preferred to have the Fund Hierarchy values for funds 0101 and 0102 added to the query predicate at query runtime by means of a join to the Fund Hierarchy, you can add a Predicate Code of *Fund* to each of the Finance Fund security rules.

Note: It is not recommended that you use the Predicate Code for Finance Fund, Finance Organization, or Human Resources Organization rules because adding the join to the Banner ODS applicable Hierarchy table at runtime can significantly impact query performance.

Keep in mind that Banner Finance permissions are transferred only for Fund and Organization (whether they apply to Finance or HR tables). If you want to add security rules for other portions of Finance, (namely Account, Location, or Program), those permissions are not transferred from Banner. You need to create those security rules with a predicate code of *Account*, *Location*, or *Program* so that the additional values from the appropriate hierarchy table are included in the query predicate at runtime.

However, the same potential performance warning applies for using predicate codes for those security rules. To resolve the performance issue you might consider adding records to MGBFGAV for rules pertaining to Account, Location, or Program.

7. Click **Save**.

Update or Delete a Security Rule

Perform all of these steps for each Security Rule you want to set up. Use the following steps to update an existing Security Rule.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up a Banner EDW Security Rules**.
3. Click **Set Up and Maintain Banner EDW Security Rules**. The Set Up a Banner EDW Security Rule page opens.
4. From the drop-down list, choose the **organizational area**, **table**, and/or **column** for the rule you want to edit.

Click **Search**. The list of related Security Rules displays.

5. Click the link in the **Column 1** column for the rule you want to edit. The Update an Existing Rule page opens.
6. Edit **Query for Column 1**, **Query for Column 2**, **FGA Transfer Type**, **Column 2 Type**, and/or **Predicate Code**. Click **Save**.

OR

Click **Delete** to remove the displayed security rule.

Note

The table at the bottom of the page indicates what rows in that table will be deleted if you delete the security rule. ■

Assign Security Rules

After security rules are created, you must determine what level of security each user requires. This is also where the rules are turned on and off.

Next, set up the security rules for users. You can use the Administrative UI to maintain the list of rules in the MGBFGAR table.

Note

The administrator account that you use to set up fine-grained access control needs to have unrestricted access to all data, or the list of values the administrator can grant to others is limited to what the administrator can access. ■

Use any of the following methods to secure user access:

- user name
- organizational area

- business profile
- element

Secure Access by User Name

Use the following steps to assign security by user name. This method also enables you to grant a user access to all data in the entire solution by checking a single checkbox.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Banner EDW Security Rules**.
3. Click **Assign Banner EDW Security Rules**.

The list of User IDs is determined by the IA_ADMIN.WAV_ALL_USERS view. This view contains a list of IDs for users most likely to run the reports. Your institution can change this view to include additional users (ODSMGR IA_ADMIN, for example) so that additional user IDs will appear in the list.

4. Check the **Access to all Banner EDW Data** check box for each user in which you want to assign access to all data from the Secure Banner EDW Access by User Name page.

Each column is described below.

Click the individual user's name to restrict access to specific areas for that user. The link opens the Secure by Organizational Dimension page. See [“Secure Access by User ID” on page 3-36](#) for steps on restricting a user's access by Organizational Dimension.

Field	Description
Oracle User Name	Grouping of similar rules for easier maintenance/assignment. Rules are delivered with four groupings, but more groupings can be added in the MTVFGAA validation table, and can be used for new or existing rules. To restrict access for a specific user, click that user's user name. Organizational Dimension restrictions are made on the Secure Banner EDW Access by Organizational Dimension page. See “Secure Access by User ID” on page 3-36 to restrict a user's access.
Profiles	Set up an existing business profiles on the Create a Business Profile page. Click Assign Profiles to open the View Business Profiles and User Association page.
Access Level	The current level of access the user has to areas of information. To grant full access, check the checkbox in the Access to all Banner EDW Data column. Possible values: <i>All</i> Green. Full access. <i>Partial</i> Yellow. Access to specified areas only. <i>None</i> Red. No access.
Access to all Banner ODS or Banner EDW Data	Check the checkbox to give the user unrestricted access to all areas and information. If the checkbox is checked, a Y is stored in the MGBSECR_FGA_ALL_IND column in the MGBSECR table. When the MGKSECR package is called from the policy, no predicate is returned. This allows access to all data.

5. Click **Save** to update the Administrative UI.

Secure Access by User ID

Use the following steps to assign security to an individual user.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Banner EDW Security Rules**.
3. Click **Assign Security Rules**.

The Secure Banner EDW Access by User Name page opens listing all users and their current access level to information. Check the **Access to All Banner ODS Data** check box to grant the user unrestricted access to all information.

4. Click the user name to which you want to assign access from the Secure Banner EDW Access User Name page.

This page displays the security rules defined on the Set Up Banner EDW Security Rule page. The rules are grouped alphabetically by Organizational Dimension.

Each column is described below:

Column	Description
Oracle User Name	Click Select Another User to open the Secure Access by User Name page.
Profiles	Existing Business Profiles set up on the Create a Business Profile page. Click Assign Profiles to open the View Banner ODS Business Profile and User Associations page
Access to All Banner EDW Data	Check the checkbox to give the user unrestricted access to all areas and information. Click Duplicate User to open the Duplicate User Security Rules window.
Organizational Area	Area within the institution set up within the IA_ADMIN.MTVFGAA table.

Column	Description
Access All Data in this Area	Select the checkbox to grant the user security access to information within the corresponding organizational area. The list of areas is stored in the MTVFGAA table. You may change this list as desired. Rules can be grouped differently, for example. The All Data indicator for an area is stored in the MGBFGAA_ALL_IND in the MGBFGAA table. If the indicator is <i>Y</i> for a given table you are accessing, no predicate is returned from MGKSECR and you have full access.
Table	Banner ODS or EDW table on which you want to secure data, for example, the MST_TEST table, the MPT_EMPL_EARN_FY table, etc. Click the link to enable or disable the security policies for that organizational area.

Column	Description
Element	Click an element to open the Secure Access by Element page. Elements can be set up as double or single column rule elements on the Create Security Rules page. Double Column Rules If a single rule was created that applies to two element columns, then both of the column names appear together in the Element column on the Secure Access by Organizational Dimension page, and are connected by an & (ampersand). This may be done when the user needs to see both pieces of the data in order to accurately understand the data. Single Column Rules A single column rule is when an element column was set up with a single column and a single rule.

Column	Description
Rule Type	The type of Security Rule. There are two possibilities: <i>Range:</i> This type of rule pertains to limits, such as Financial amounts. Results in a WHERE clause predicate like: WHERE COLUMN1 > [some value1] AND < [some value2] <i>List:</i> This type of rule pertains to lists of valid values. Results in a WHERE clause predicate that matches up the list of allowed values (from the MGBFGAV table) with the values in the source table itself.
Access Level	The level of security access assigned to the user. <i>All</i> Green. Full access. <i>Partial</i> Yellow. Access to specified areas only. <i>None</i> Red. No access.

5. To copy security access settings from one user or Business Profile to another, click **Duplicate User**. The Duplicate User Security Rules window opens.
 - 5.1. Choose the user(s) and Business Profiles(s) whose setting you want to merge, or duplicate. To choose more than one user or profile, hold down the Ctrl key while you continue to choose users or profiles.
 - 5.2. Use the radio buttons to indicate whether to merge current settings together, or replace one set of settings with another.
 - 5.3. Click **Duplicate** to save your settings, or **Cancel** to close the page.
6. Click **Save** at the bottom of the page to update the Administrative UI.

Secure Access by Business Profile

Use the following steps to assign security by Business Profiles.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Banner EDW Security Rules**.

3. Click **Assign Security Rules**. The Secure Banner EDW Access by User Name page opens listing all users and their current access level.
4. Click **Secure by Profile** from the Secure Banner EDW Access by User Name page. The Secure Banner EDW Access by Profile page opens.

A description of each field on the page appears below:

Field	Description
Business Profile	Existing Business Profiles set up on the Create a Business Profile page. Click a Business Profiles to open the Set Up Security Rules page.
Access Level	The level of security access assigned to the business profile. <i>All</i> Green. Full access. <i>Partial</i> Yellow. Access to specified areas only. <i>None</i> Red. No access.
Access to All Banner EDW Data	Check the check box to give the business profile unrestricted access to all information.

5. Click the Business Profile to which you want to assign access from the Secure Banner ODS Access by Profile page. The Set Up Security Rules page opens.

This page displays the security rules defined on the Set Up Banner ODS Security Rule page. The rules are grouped alphabetically by Organizational Area. Each column is described below:

Column	Description
Profile	Click Select Another Profile to open the Secure Access by Profile page.
Users	The Users associated with this Business Profile. Click Assign Users to open the View Banner ODS Business Profile and User Associations page.
Access to All Banner ODS Data	Check the checkbox to give the Business profile unrestricted access to all areas and information. Click Duplicate User to open the Duplicate User Security Rules window.

Column	Description
Organizational Area	Area within the institution set up within the IA_ADMIN.MTVFGAA table.
Access All Data in this Area	Select the checkbox to grant the Business Profile security access to information within the corresponding organizational area. The list of areas is stored in the MTVFGAA table. You may change this list as desired. Rules can be grouped differently, for example. The All Data indicator for an area is stored in the MGBFGAA_ALL_IND in the MGBFGAA table. If the indicator is Y for a given table you are accessing, no predicate is returned from MGKSECR and you have full access.
Table	Banner ODS table on which you want to secure data, for example, the MST_TEST table, the MPT_EMPL_EARN_FY table, etc. Click the link to enable or disable the security policies for that organizational area.
Element	Click an element to open the Secure Access by Element page. Elements can be set up as double or single column rule elements on the Create Security Rules page.

Double Column Rules

If a single rule was created that applies to two element columns, then both of the column names appear together in the **Element** column on the Secure Access by Organizational Dimension page, and are connected by an & (ampersand). This may be done when the user needs to see both pieces of the data in order to accurately understand the data.

Single Column Rules

A single column rule is when an element column was set up with a single column and a single rule.

Column	Description
Rule Type	The type of Security Rule. There are two possibilities: Range: This type of rule pertains to limits, such as Financial amounts. Results in a WHERE clause predicate like: WHERE COLUMN1 > [some value1] AND < [some value2] List: This type of rule pertains to lists of valid values. Results in a WHERE clause predicate that matches up the list of allowed values (from the MGBFGAV table) with the values in the source table itself
Access Level	The level of security access assigned to the user. <i>All</i> Green. Full access. <i>Partial</i> Yellow. Access to specified areas only. <i>None</i> Red. No access.

6. To copy security access settings from one user or Business Profile to another, click **Duplicate User**. The Duplicate User Security Rules window opens.
 - 6.1. Choose the user(s) and Business Profiles(s) whose setting you want to merge, or duplicate. To choose more than one user or profile, hold down the Ctrl key while you continue to choose users or profiles.
 - 6.2. Use the radio buttons to indicate whether to merge current settings together, or replace one set of settings with another.
 - 6.3. Click **Duplicate** to save your settings, or **Cancel** to close the page.
7. Click **Save** at the bottom of the page to update the Administrative UI.

Secure Access by Element

Use the following steps to assign security by element.

1. Click **Preferences & Security** from the Administrative menu.
2. Click **Set Up Banner EDW Security Rules**.

3. Click **Assign Security Rules**. The Secure Banner EDW Access by User Name page opens listing all users and their accessibility to information. If you wish to secure by element for a Business Profile, select **Secure By Profile**.
4. Depending on whether you are securing by User ID or by Business Profile, choose a name for Oracle User Name or Business Profile column. The Set Up Security Rules page opens.

This page displays the security rules defined on the Set Up Banner EDW Security Rules page. The rules are grouped alphabetically by Organizational Dimension.

5. Elements can be set up as double or single column rule elements on the Create Security Rules page.

Double Column Rules

If a single rule was created that applies to two element columns, then both of the column names appear together in the **Element** column on the Secure Access by Organizational Dimension page, and are connected by an & (ampersand). This is often done when the user needs to see both pieces of the data in order to accurately understand the data.

Single Column Rules

A single column rule is when an element column is set up with a single column and a single rule.

6. Choose the element to which you want to assign security for the user. The Secure Banner EDW Access by Element page opens.

From this page you can:

- choose another element
- assign profiles to the user/business profile to access all values for the element
- copy user access to another user

A description of each field appears below:

Field	Description
Oracle User Name	The user's Oracle User ID. Grouping of similar rules for easier maintenance/assignment. Rules are delivered with four groupings, but more groupings can be added in the MTVFGAA validation table, and can be used for new or existing rules.
Organizational Area	Area within the institution set up within the IA_ADMIN.MTVFGAA table.

Field	Description
Table	Banner EDW table on which you want to secure data, for example, the MST_TEST table, the MPT_EMPL_EARN_FY table, etc.
Element	Elements can be set up as double or single column rule elements on the Create Security Rules page. <i>Double Column Rules</i> If a single rule was created that applies to two element columns, then both of the column names appear together in the Element column on the Secure Access by Organizational Dimension page, and are connected by an & (ampersand). This is often done when the user needs to see both pieces of the data in order to accurately understand the data. <i>Single Column Rules</i> A single column rule is when an element column is set up with a single column and a single rule.

Field	Description
Rule Type	The type of Security Rule. There are two possibilities: <i>Range:</i> This type of rule pertains to limits, such as Financial amounts. Results in a WHERE clause predicate like: WHERE COLUMN1 > [some value1] AND < [some value2] <i>List:</i> This type of rule pertains to lists of valid values. Results in a WHERE clause predicate that matches up the list of allowed values (from the MGBFGAV table) with the values in the source table itself.
Allow this user/ profile Access to	Click the appropriate button: <i>All values:</i> The user is granted access to all values for this element, and is stored in the MGBFGAE_ALL_IND column as a Y. If new values are add, they will be considered accessible after the next refresh. <i>Only the values specified below:</i> Specify which values the user can access. If new values are added then they will not be considered accessible after the next refresh. Each new value needs to be checked individually. You can click All Values, which is then stored in the MGBFGAE_ALL_IND column as a Y, then the user or business profile is granted access to all values for this element. If you can choose Only the values specified below, then you can choose the specific values to which the user will have access (a la carte style). Those selected values are then stored in the MGBFGAV table.

7. Indicate whether you want to allow the user or business profile access to all values, or only the values that appear in the Values table below the **Allow this user (or profile) Access to** radio group.

- 7.1. If you selected a single column rule element, then refer to the sample screen for a single column rule element below:

Click the checkbox next to a value to give the user access to that value, then click Save.

Oracle User Name: DBSNMP
Organizational Area: Academic Organization
Table: MST_ACADEMIC_OUTCOME
Element: CAMPUS [Select Another Element](#) [Duplicate Values](#)
Rule Type: LIST
Allow this user access to ☐ All values
☒ **Only** the values specified below

[Select All](#) | [Deselect All](#)

Values	Access
001	☐
1	☐
B	☐
H	☐
M	☐
U	☐
NULL *	☐
Cypress College Campus	☒

A description of each single column rule element column appears below:

Field	Description
Value	These values are set up in the validation tables in your source system. NULL indicates missing codes in your source system.
Access	Check the checkbox of the values to which you want to assign security for the selected user.

- 7.2. If you selected a double column rule element, then refer to the sample screen for a double column rule element below.

Click the checkbox next to a value to give the user access to that value, then click Save.

Oracle User Name: DBSNMP
Organizational Area: Academic Organization
Table: MFT_GENERAL_LEDGER
Element: CHART_OF_ACCOUNTS [Select Another Element](#) [Duplicate Values](#)
Rule Type: LIST
Allow this user access to ☐ All values
☒ **Only** the values specified below

Values	Access to Values of FUND
B	3/53
I	0/37

A description of each column appears below

Column	Description
Value	These values are set up in the validation tables in your source system. NULL indicates missing codes in your source system.
Access to Values of (column name)	These values have one rule for two columns. The number to the right of the slash indicates the number of values in the column that have been assigned to the user. The second number indicates the total number of possible values available for that column. In the sample screen above, 2 out of 53 possible values have been assigned for the FUND column.

8. Click **Save** to keep your settings.

Security Predicates

An important, but optional, step in your implementation of Banner ODS Fine-grained Access is to review the delivered code in the MGKSECR PL/SQL package. This way you can review the delivered business logic, and determine if it is appropriate for your institution. You can also determine if there is any business logic that you might want to add.

If you encounter issues using the Security system, you might examine the security predicates that are generated. Enter the following query:

Query:
select mgksecur.f_check_ODS_fga('ODSMGR','MST_TEST') from dual;
Returns:
exists (select 'x' from mgbfgav where mgbfgav_username =
sys_context('userenv','session_user') and

```
mgbfgav_fgaa_code='ACAORG'and mgbfgav_column_name = 'TEST' and
NVL(mgbfgav_value,1) = NVL(TEST,1)) and exists(select 'x' from
mgbfgav where mgbfgav_username = sys_context(
'userenv','session_user') and mgbfgav_fgaa_code = 'ACAORG' and
mgbfgav_column_name = 'TEST_TYPE' and NVL(mgbfgav_value,1) =
NVL(TEST_TYPE,1))
```

Oracle produces a JOIN to the security tables for any columns that do not have the **All Data** indicator set. This allows the Oracle query optimizer to determine the fastest way to retrieve the data.

Policy Management

Typically, policies (and hence security) are either completely on or off. Two scripts are delivered with the Administrative UI to help manage the policies.

Prerequisites

- Create organizational areas
- Create user ID translations
- Create business profiles
- Create security rules

Policies for all Tables

To set up policies for all the tables that have security rules defined for them, run the following script:

```
sqlplus IA_ADMIN/<password> @create_all_fga_policies
```

Note

These scripts are delivered in the dbscripts/utility_scripts directory. ■

To remove all the policies from Banner EDW tables, run:

```
sqlplus IA_ADMIN/<password> @drop_all_fga_policies
```

Note

These scripts add or drop Policies only for those tables with defined security rules. However, by default, security rules are not defined for all Banner EDW tables. You should review the list of security rules in the Administrative UI to verify that all tables that you want to secure have rules defined. Since you only set up Policies for the tables with rules, any other tables remain unsecured. Remember, however, you can always update the security rules later, and then rerun the “drop” and “create” scripts to establish Policies as well. ■

Policies for a Single Table

Banner ODS is delivered with a script that can create a policy for a single table. This script enables you to independently test security access. Edit the script to supply the name of the table for which you want to create a policy, and then run the following:

```
sqlplus IA_ADMIN/<password> @create_fga_policy
```

Another way to enable a policy for a single table is available on the Assign Security Rules/ set Up Security Rules pages of the Administrative UI. In the **Table** column is a link that is either set to **Policy Enabled**, or **Policy NOT Enabled**. Click the link to toggle between enabling or disabling the policy for a single table.

Example:

1. Create a new user to access Banner ODS - call the account BRUCE.
2. Use the MST_TEST table, and add nine rows using the following commands:

```
TRUNCATE TABLE ODSMGR.MST_TEST;
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test1','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test1','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test1','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test2','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test2','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test2','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST,TEST_TYPE) VALUES ('Test3','Type A');
INSERT INTO ODSMGR.MST_TEST (TEST) VALUES ('Test3');
INSERT INTO ODSMGR.MST_TEST (TEST) VALUES ('Test3');
COMMIT;
```

Note

The last two rows have a NULL value for TEST_TYPE. ■

Banner ODS does not have any policies in place when it is delivered. If the user BRUCE has been granted SELECT access to the MST_TEST table, you can execute the following query:

```
SQL> select count(*) from odsmgr.mst_test;
```

```
COUNT(*)
```

```
9
```

3. Apply the policy to this table (from the IA_ADMIN user account):

```
SQL> set serveroutput on size 50000;
```

```
SQL> exec mgkutil.p_createFGAPolicy('ODSMGR','MST_TEST',1);
```

Policy added to table: MST_TEST

PL/SQL procedure successfully completed.

- Run the BRUCE query again. The following appears:

```
SQL> select count(*) from odsmgr.mst_test;

COUNT(*)
-----
0
```

Look in the Administrative UI Security. The BRUCE account is displayed with no global access.

- Select the **All Data** checkbox, and rerun the query. The following appears:

Secure Access by User Name

 You have successfully updated this entry.

To give a user unrestricted access to all data, click the checkbox in the user's name.

Oracle User Name	Access to All Data
ANONYMOUS	☐
BRUCE	☒
CTXSYS	☐

```
SQL> select count(*) from odsmgr.mst_test;

COUNT(*)
-----
9
```

- Clear the **All Values**.
- Click the **Save**.
- Choose the BRUCE account.

To duplicate these results check/uncheck the **Access All Data in This Area** checkbox for the Academic Organization. To continue to test this, choose a combination of values for the two columns in the MST_TEST table, namely:

MST_STUDENT_COURSE	COURSE_LEVEL	LIST	NOTE
MST_TEST	TEST	LIST	None
MST_TEST	TEST_TYPE	LIST	None
MST_COURSE_CATALOG	COURSE	LIST	None

9. Enable the first two values of the TEST element as follows:

Oracle User Name:

BRUCE

Organizational Dimension:

Academic Organization

Table:

MST_TEST

Element:

TEST

[Select Another Element](#)

Rule Type:

LIST

Allow this user access to

☐ All values

☒ Only the values specified below

[Select All](#) | [Deselect All](#)

Values	Access
Test1	☒
Test2	☒
Test3	☐

[Select All](#) | [Deselect All](#)

Save

Reset All Fields

And yet:

```
SQL> select count(*) from odsmgr.mst_test;
```

```
COUNT(*)
```

```
-----  
0
```

Security rules are cumulative. Users must have access to values across *all* columns/
rules for a given table in order to access the data.

10. Update the TEST_TYPE element as follows:

Oracle User Name: BRUCE
Organizational Dimension: Academic Organization
Table: MST_TEST
Element: TEST_TYPE [Select Another Element](#)
Rule Type: LIST
Allow this user access to ☐ All values
☒ Only the values specified below

[Select All](#) | [Deselect All](#)

Values	Access
Type A	☒
NULL *	☐

(* - refers to actual database NULL value)

[Select All](#) | [Deselect All](#)

The expected results are:

```
SQL> select count(*) from odsmgr.mst_test;

COUNT(*)
-----
6
```

You can continue to test security using the Administrative UI, and see the results from queries that are run against the system.

Administrative User Interface Data Access

Once policies are in place, you control all access to tables using the information in the security (MGBFGA*) tables. You might wonder how can the Administrative UI issue the SELECT DISTINCT queries to retrieve the list of values? Shouldn't they need to be configured in the Security Tables also? Does the user account used by the web or application server have some kind of back door around the security system? The answer is, yes and no. As part of the Policy/FGA security system, Oracle provides a way to selectively bypass security using application context variables. You can create a context that is associated with a particular package that has permission to set application context values. This can then be retrieved by other parts of the application.

In practice, this means you can create a context called IA_FGA and associate it with the Administrative UI (MGKFGAC) package. In that package, you can set a context variable prior to making queries to the tables. Then, when Oracle calls the MGKSECR package to

enforce the policy, it checks that the context variable exists, and sensing it, returns no predicate. This allows full access to the data in that table. The context variable only exists for the life of the package (in the application server memory) and can be accessed only by that package. So, no other attempts to access the context are allowed. This allows the Administrative UI to maintain complete access to administer security while keeping security in place for all other access attempts. (For more information on using Application Context for security, see the Oracle Database Security Guide)

Set up and Synchronize Data (Banner ODS)

Maintaining current data in Banner ODS is key to producing accurate reports. Banner ODS uses programs—Oracle Warehouse Builder (OWB) mappings—to associate elements in the administrative system with their corresponding elements in Banner ODS. When you run a job (schedule a process via the Administrative UI), it calls the related mappings and loads or updates the data defined by them.

Banner ODS includes two main categories of mappings:

- **LOAD mappings**—load data from the administrative system into Banner ODS. These mapping names include a “LOAD_” prefix.
- **REFRESH mappings**—update Banner ODS with data that has changed in the administrative system. Mappings in this category have an “UPDATE_” or “DELETE_” prefix. Typically, these mappings exist in pairs. To perform a complete refresh, you run the DELETE mapping followed by its associated UPDATE mapping.

Banner ODS is delivered with hundreds of mappings already defined. LOAD and REFRESH mappings exist for each composite table in Banner ODS. To make it easier to work with the mappings, they are organized into groups by product area. This gives you the ability to run one job that includes a group of mappings at one time. (For example, Finance-related mappings.) Or, you can run a single mapping.

Banner ODS exists in a self-contained environment separate from your source system. You synchronize data between the two systems using the processes that load and refresh data in Banner ODS. Even with daily synchronization, you can expect minor differences between the two systems. Three main reasons that differences exist are:

- Data currency in Banner ODS is dependent on the timing of a query against Banner ODS, and when Banner ODS was last refreshed. Changes that occur in the administrative system after the last refresh are not reflected until the next refresh occurs. This causes a variance between the two systems until Banner ODS is refreshed again.
- Display rules may differ between the two systems. In Banner ODS, display rules defined on the MGRSDAX table drive Banner ODS views created to support

existing Object:Access functionality. Differences may occur based on which rules are applied to each system.

- Security rules may also cause differences between the two systems. Your source system allows you to set up fine-grained access security at the element level as does Banner ODS. Rules in both systems are discrete, so there may be differences in the data a user can view based on the security rules defined within each system.

It is important to keep in mind these possible differences while reporting against Banner ODS.

- When you first install Banner ODS, populate it with data from your source system by running the “Load All Banner ODS Products” job
- Refresh data in Banner ODS on a regular basis by scheduling jobs that update Banner ODS each night
- Update specific areas of Banner ODS as needed by scheduling that job when data is changed in the source system

Set up and Synchronize Data (Banner EDW)

Banner EDW stores data that is fed to it from Banner ODS. Use the Administrative UI to schedule jobs, which run OWB mappings that take information from Banner ODS and load it into Banner EDW.

Once cleansing and MTVPARM records have been finalized, Banner EDW can now be populated (also known as Banner EDW Load Process). To populate Banner EDW, jobs are run from the Administrative UI. Each job requires certain runtime parameters to be selected. Once the job is submitted, Oracle Warehouse Builder (OWB) mappings take information from Banner ODS to Banner EDW. First, the mappings extract the appropriate Banner ODS data based on the parameters selected. During processing, the data runs through cleansing setting Banner EDW codes and short and long descriptions. Next, the dimension and fact tables are loaded. There are two menu groups for scheduling EDW process/jobs - ‘Schedule Banner EDW Snapshot Mappings’ and ‘Schedule Banner EDW Operational Mappings’. The EDW operational mappings will store all data relative to the selected star based. The EDW snapshot stars are event based and can be optionally loaded if it suits your business needs.

You can monitor the progress of the jobs from the View Control Reports page under the Options menu in the Administrative UI. If there are cleansing errors, the codes which could not be translated will be listed in the control report. Modify the cleansing code translation and description records to accommodate for those new values and then either re-run the job, replacing the event or run the Fix process for that star.

A number of pieces of information are to perform internal functions. These pieces of information are called parameters, and are stored in the Parameter Table (MTVPARM) in Banner EDW. If Banner EDW requires one of these pieces of information while running a process or displaying an administrative web page, it goes to MTVPARM and gets the needed information.

Before you populate Banner EDW, you need to review and edit the parameters related to these tasks.

Follow the steps below to populate Banner EDW:

1. Click **Options** from the Administrative UI menu.
2. Click **Schedule a Process**. The Select a Process page opens.
3. Click **Schedule Banner EDW Snapshot Mappings** or **Schedule Banner EDW Operational Mappings** from the Select a Process page. The Select a Subprocess page opens.
4. Click the mappings group that corresponds to the star(s) you want to load. The Schedule a Process page opens.
5. Enter values for other Process Parameters, if any exist, for the selected process.

For instructions on how to set up process parameters, refer to the “Schedule a Process Parameter” section.

EDW EXTRACT PARAMETERS Parameter

This parameter is used to populate Banner EDW. It helps to control how certain Banner EDW extracts operate when moving information from Banner ODS to Banner EDW.

Note

The EDW EXTRACT Parameters must be set up for your institution before you can populate the Banner EDW. ■

Budget Components

The EDW EXTRACT PARAMETERS parameter includes values for Budget Components that identify which of your institution’s budget component codes should be used to calculate specific subtotal amounts for designated Budget Groups, for example, the Tuition and Fee Budget amount. The Budget Components’ Tuition and Fees parameter values are used by the Load Banner EDW Financial Aid Application to sum the budget component amounts associated with an aid applicant’s assigned Budget Group into a single Tuition and Fee Budget amount before loading it into Banner EDW.

The following table illustrates the EDW EXTRACT PARAMETERS Budget Component values that were present at installation. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
BUDGET_COMPONENT	TUITION_FEE		FEES	Fees
BUDGET_COMPONENT	TUITION_FEE		T+F	Tuition and Fees
BUDGET_COMPONENT	TUITION_FEE		TUIT	Tuition

Earnings

The EDW EXTRACT PARAMETERS parameter includes values for Earnings that let you group your institution's earning codes into one of three categories: regular, overtime and other. The Earnings parameter values are used by the Load Banner EDW Employee and Load Banner EDW Employee Position jobs to group earning information before loading it into Banner EDW.

The following table illustrates some of the EDW EXTRACT PARAMETERS Earnings values that were present at installation. This is not a comprehensive list of the installed values. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
EARNINGS	OTHER		ADJ	Adjunct Pay By Course

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
EARNINGS	OTHER		ADV	Advanced Pay
EARNINGS	OTHER		AIP	Administrative Increment Plan

HR Application Status

The EDW EXTRACT PARAMETERS parameter includes values for HR Application Status (HR_APPL_STAT.) The HR_APPL_STAT parameter values define HR application statuses relative to employment offered, employment accepted, interview offered, and interview completed. These values are used by the Load Banner EDW Employment Application job for loading data into Banner EDW.

The following table illustrates the EDW EXTRACT PARAMETERS HR Application Status values that were present at installation. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
HR_APPL_STAT	EMPLOYMENT_ACCEPTED		OA	Offer Accepted
HR_APPL_STAT	EMPLOYMENT_OFFERED		OP	Employment Offered
HR_APPL_STAT	INTERVIEW_COMPLETED		II	Interview Completes
HR_APPL_STAT	INTERVIEW_OFFERED		1R	Interview Offered

Institution

The EDW EXTRACT PARAMETERS parameter includes values for the Banner source background institution code that identifies the home institution. This is used when loading data for post secondary schools attended by the prospective student. The data loaded in the Post Secondary School star schema is a combination of data from the Prior College information (external institutions attended) and the home institution. This identifies when the person attended the institution to which they are applying at a different level and potentially earned an award or degree from the home institution. This value is used to load the post secondary school data from Banner Degrees and Other Formal Awards (SHRDGMR) into the WDT_POST_SECONDARY_SCHOOL dimension table and WFT_POST_SECONDARY_SCHOOL fact table.

The following table illustrates the EDW EXTRACT PARAMETERS Institution values that were present at installation.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
INSTITUTION	HOME_INSTITUTION		4654	INSTITUTION value which indicates your home institution

Institution Characteristics

The EDW EXTRACT PARAMETERS parameter includes values for the Banner source background institution characteristics that are used for specific values defined in Banner EDW. Since these codes can be established by your institution on the Institution Characteristic Validation Table (STVBCHR), you need to define the values specifically identified in the INSTITUTION star schema.

There are five institution characteristic codes that must be defined to load the WDT_INSTITUTION dimension table. The following table illustrates the EDW EXTRACT PARAMETERS Institution Characteristic values that were present at installation. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
INSTITUTION_CHARACTERISTIC	FOUR_YEAR_INSTITUTION_		4	Four Year Institution
INSTITUTION_CHARACTERISTIC	HOMESCHOOL		T	Homeschool
INSTITUTION_CHARACTERISTIC	PRIVATE_INSTITUTION		V	Private Institution
INSTITUTION_CHARACTERISTIC	PUBLIC_INSTITUTION		U	Public Institution
INSTITUTION_CHARACTERISTIC	TWO_YEAR_INSTITUTION		2	Two Year Institution

Institution Geographic Division

The EDW EXTRACT PARAMETERS parameter includes values for the Banner Geographic Division code (GTVGEOD) to be used to place the source background institution into a geographic division and associated geographic region. Banner permits the use of many combinations for different offices and uses, so this should be the set of geographic regions associated with the geographic division that is used for recruiting and admissions processing. This value is used to load the institution data into the WDT_GEOGRAPHIC_REGION dimension table.

The following table illustrates the EDW EXTRACT PARAMETERS Institution Geographic Division values that were present at installation. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
INST_GEOGRAPHIC_DIVISION	WDT_GEOGRAPHIC_REGION		RECRUITS	Geographic Division used for the institution geographic region

Multi-Source Group

The EDW EXTRACT PARAMETERS parameter includes a Multi-Source Group record that is used by institutions using the Banner EDW in a multi-institution environment. You can create a MULTI_SOURCE_GROUP record with a location specific code for each institution of a multi-institution environment. You can then choose one of these MULTI_SOURCE_GROUP values from the Source Institution field when you schedule a Banner EDW Snapshot Mapping (from the Schedule a Process page.) The selected code will be associated with the institution-specific data that gets loaded into the Banner EDW.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
MULTI_SOURCE_GROUP	SGHE		SGHE	SunGard HE University of Malvern Pennsylvania

If your institution uses the Banner EDW in a multi-institution environment, you will need to ensure that the MULTI_SOURCE_GROUP record delivered with the Banner EDW remains synchronized with values of the Cleansing Default Values parameter as shown in the following table. For more information about ensuring that these parameter values match, refer to the section [“Change Multi_Source Records of the Cleansing Default Values Parameter”](#).

EDW EXTRACT PARAMETERS parameter	CLEANSING DEFAULT VALUES parameter
External Code	= Description of record where Internal Code 1 = MULTI_SOURCE_CLEANSER_VALUE
Description	= Description of record where Internal Code 1 = MULTI_SOURCE_CLEANSER_LONG

Null Nation

The EDW EXTRACT PARAMETERS parameter includes values for the Banner source nation code that identifies the home nation. This nation value is used when loading address data for institutions, prospective students and applicants.

If an institution, prospective student or applicant is from the home nation, their Banner nation source field is null. However, to make report information more valuable a populated nation field is preferred. Rather than load a null for nation in the Banner EDW, this NULL_NATION value is used to load the home nation data from Banner into the

WDT_POSTAL dimension table and WFT_POST_SECONDARY_SCHOOL, WFT_ADMISSIONS_APPLICATION and WFT_INSTITUTION fact tables.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
NULL_NATION	NULL_NATION_VALUE		157	Nation Value which indicates your home nation

Person Geographic Division

The EDW EXTRACT PARAMETERS includes values for the Banner Geographic Division code (STVGEOD). It places the person in a geographic division and associated geographic region. Banner permits the use of many combinations of the code for different offices and uses, so this should be the set of geographic regions associated with the geographic division that is used for recruiting and admissions processing at the institution. This value is used to load the prospective student data into the WDT_GEOGRAPHIC_REGION dimension table.

The following table illustrates the EDW EXTRACT PARAMETERS Person Geographic Division values that were present at installation.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
PERSON_GEOGRAPHIC_DIVISION	PROSPECTIVE_STUDENT		RECRUITS	Geographic Division used to determine the person's geographic region

Student Groups and Tests

There are three values of the EDW EXTRACT PARAMETERS related to student parameter groups that need to be defined for the Load Banner EDW Recruiting and Administration job. The parameter values are Student Level Group, Student Level Group Tests and Test.

Student Level Group: Use these parameters to define how your institution would prefer to group together student levels for extract into Banner EDW. For each Student Level Group your institution defines, link Banner ODS student levels to that level group. There may be one or more Banner ODS student levels linked to each extract level group. For example, the Under Graduate Student Level Group could be created to extract recruiting and admissions records for students with a level code of undergraduate or undeclared. You may define as many Student Level Group extracts as you wish.

Student Level Group Tests: Use these parameters to determine for each Student Level Group which test information your institution prefers to extract with that Student Level Group. Assign each Student Level Group one Group Tests code. For example, the Under Graduate Student Level Group may be linked to the UGTEST Student Level Group Tests parameter.

Test: Use this group of parameters to specify for each Student Level Group Test up to seven different Banner ODS test types your institution wishes to extract with that Group Test. For example, a Student Level Group Test of UGTEST may extract SAT, ACT and TOEFL test scores.

Example

Banner ODS student levels of Undeclared (00) and Under Graduate (UG) might both belong to the extract group of UNDERGRADUATE. Then that extract group of UNDERGRADUATE is associated with the test group of UGTEST. Then, the test group of UGTEST is linked to the test codes of SAT Math(S02), SAT Verbal (S01), etc. So, when the undergraduate group is selected for extraction, students with the level codes of UG and OO are selected, as well as their test scores for tests SAT Math and SAT Verbal.

The following table illustrates some of the EDW EXTRACT PARAMETERS values for the Student Groups and Tests that were present at installation. This is not a comprehensive list of the installed values. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
STUDENT_LEVEL_GROU P	CONTINUING_ EDUCATION		CE	Continuing Education

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
STUDENT_LEVEL_GROUP	GRADUATE		GR	Graduate
STUDENT_LEVEL_GROUP	LAW		LW	Law
STUDENT_LEVEL_GROUP_TESTS	GRADUATE		GRTEST	WRIT, MATH, T02
STUDENT_LEVEL_GROUP_TESTS	LAW		LAWTEST	LSAT, T02
TEST	GRTEST	1	WRIT	Writing Entry Level
TEST	LAWTEST	1	LSAT	Law School Admissions Test

Test Code

The EDW EXTRACT PARAMETERS parameter includes values for Test Codes that identify your institution's Banner test codes for specific test types, for example, SAT Combined and ACT Composite. The Test Code parameter values are used by the Load/Refresh Admissions Financial Aid Record Aggregate job to select specific test scores before loading them into the aggregate fact table.

The following table illustrates the EDW EXTRACT PARAMETERS Test Code values that were present at installation. The second row gives a definition of each field.

Internal Group: EDW EXTRACT PARAMETERS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
A short description of the extract parameter group.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the administrative page.
TEST_CODE	ACT_COMPOSITE		A05	ACT Composite
TEST_CODE	SAT_COMBINED		SATC	SAT Combined

Set up Parameters (Banner ODS and Banner EDW)

Parameters that are delivered with your solution are stored in a table called MTVPARM. You can use the Administrative UI to view and modify the entries in MTVPARM, and to customize Banner ODS and Banner EDW, and the Administrative UI. (Example customizations: Schedule a process, define mappings that move data from the source system, define data cleansing, freeze data, publishing meta data, etc. See [“Set up Customized Scheduled Processes” on page 3-83](#) for additional information.)

Note

These parameters are different from the actual runtime parameters that you supply when you schedule a process (run the mappings). (See [“Schedule a Process Parameters \(Banner ODS and Banner EDW\)” on page 3-90](#).) The parameters discussed in this section are internal parameters that are used in internal processing.

A parameter can include multiple values. The values for a single parameter all use the same Internal Code. You use the Internal Code to choose a parameter to edit. Parameters are edited on the Set Up a Parameter page of the Administrative UI.

Follow the steps below to create a parameter entry.

1. Click **Options** from the Administrative UI menu. The Options menu opens.
2. Click **Set Up Parameters**. The Set Up a Parameter page opens.
3. Click **Create** from the Set Up a Parameter page, or click **Duplicate** from the Update an Existing Parameter page. The Create a New Parameter page opens.
4. Enter the information for the new parameter. A description of each field, followed by an example, appears below:

Field	Description
Internal Group	Rows of data with varying Internal Codes that are categorized together to provide multiple entries for one parameter.
Internal Code 1	Parameter values. Related values have the same Internal Code 1.
Internal Code 2	Used in combination with Internal Code 1 to further define the parameter values when the values in Internal Code 1 are not unique. Often this field is not used.
Internal Code Sequence Number	Order in which multiple rows of data appear within their parameter group. For parameters that are used to create a list, it specifies the order in which the values will appear in that list.

Field	Description
External Code	Short description of the parameter value for the related Internal Code. Also used as a Yes/No value indicator in some parameters.
Description	Long description of the parameter value for the related Internal Code.
System Required?	Yes or No. Indicates whether the field is required for production processing.

Example: Event parameter

When you freeze data, you must specify an event so that the process knows where to load the new information. The Event parameter is used to define EVENT codes that are used for freezing data.

The Internal Group value is EVENT. It's used to identify all of the values for the Event parameter.

Internal Code 1 defines the various areas within Banner ODS that require different event definitions. It includes all the Subprocess values used to freeze data

Internal Code 2 defines each different event related to the areas defined by Internal Code 1. The values in this field are the valid values you can enter in the Event Code field.

The Internal Code Sequence is used to order parameter values that fall within the same area defined by Internal Code 1.

5. Click **Save** to create the new parameter.

Update or Delete a Parameter

Follow the steps below to change or delete an existing parameter.

1. Click **Options** from the Administrative UI menu. The Options menu opens.
2. Click **Set Up Parameters**. The Set Up a Parameter page opens.
3. From the **Show All Internal Groups** drop-down list on the Set Up a Parameter page, choose the Internal Group and Internal Code name of the parameter you want to access. Or, keep the default setting to show all Internal Groups or Internal Codes.



Tip

If you know the first letter of the Internal Group or Code you want to choose, open the **Show all Internal Groups** (or **Codes**) drop-down list then type the first letter of the group or code. Your cursor will move to the

first group or code in the list that begins with that letter. This saves you from scrolling through the entire list. ■

 Note

All internal codes appear in the drop-down list, not just the codes associated with the selected Internal Group. ■

4. Click **Search**. The Select an Existing Parameter page opens.
5. Click the description link that corresponds to the parameter entry you want to update or delete. The Update an Existing Parameter page opens.
6. Change the information as needed.

 Note

Only External Codes less than 80 characters in length display in the drop-down list. You can create entries that are longer than 80 characters, and they will exist in the system, but do not appear in the list. ■

7. Click **Save**, to save the parameter, or **Delete** to completely remove the parameter.

System Parameters

Your solution is delivered with values that define aspects of your solution. Below are the delivered system parameters, and how they are used. Additional information can be found in the [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) section.

 Note

The parameters listed below are delivered with Banner ODS, followed by an additional list of parameters that are also delivered with Banner EDW. For a list of parameters used only to schedule a process, see [“Schedule a Process Parameters \(Banner ODS and Banner EDW\)” on page 3-90](#). ■

Parameters (Banner ODS and Banner EDW)

This Parameter . . .	Used for this Task and Solution . . .	Does This . . .
ADMIN_PREFERENCES	Administrative UI for Banner ODS and Banner EDW	Optional parameters. These are various settings used to control aspects of the Administrative UI. Currently can be used to control the number of Control Reports that are displayed on the main selection page.
BANNER TO ODS FGA TRANSFER	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Transfers security for Banner Finance Fund, Fund Type, and Organizations, and Banner Human Resources Organizations and Employee Class.

This Parameter . . .	Used for this Task and Solution . . .	Does This . . .
CLEANSING PREFIX		
ETL CONTROL GROUP	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Groups together ETL MAP PACKAGE and/or ETL SLOT PACKAGE jobs as one job.
ETL MAP PACKAGE	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Groups related jobs (OWB mappings) as one job.
ETL MAP PACKAGE LOAD PURGE	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Identifies the required crosswalk DELETE mappings for the Load Purge Process.
ETL MAP PACKAGE LOGIC	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Allows you to specify job termination logic for a mapping within a job stream. By default, all mappings in a job run in sequence regardless of whether they have errors or not. By defining an ETL Map Package record for a given mapping in a job, you can have the job stop if that mapping encounters errors. This parameter is used primarily with Banner EDW jobs as they have dependencies from one step (or mapping) to another, while Banner ODS mappings are independent of each other.
ETL MAP PACKAGE RECONCILE LOGIC	“Reconcile a Single Banner ODS Table” on page 3-132 and “Reconcile Multiple Banner ODS Tables” on page 3-131	Provides a list of mappings that are exceptions in the reconcile Banner ODS tables process. In this list are the mappings that are ignored in the reconcile process because of the complexity of the mapping or other factors outside the scope of reconciling that Banner ODS table. This list also includes mappings that require either multiple source composite views or mappings in order to reconcile a Banner ODS table.

This Parameter . . .	Used for this Task and Solution . . .	Does This . . .
ETL SLOT PACKAGE	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Groups together related slot jobs (SQL packages) as one job.
EVENT	“Freeze Data Maintenance (Banner ODS and Banner EDW)” on page 3-149	Defines EVENT codes used for Freezing data.
EVENT-EDW	“Freeze Data Maintenance (Banner ODS and Banner EDW)” on page 3-149	Defines the Event parameter for freezing EDW business concepts.
INSTALLED PROCESS	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Populates a list of processes displayed on the Select a Process page.
JOB	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Defines the actual name of the job (program) to run when you schedule a process.
JOB INTERVAL	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Defines the list of sample Job Interval settings displayed in the Select an Interval window on the Schedule a Process page.
JOB_KILLER	“Kill a Running Job/ Process” on page 3-80	Defines which administrative accounts have the ability to stop a process that is running.
JOB_NOTIFICATION	“Set up E-mail Notification (Banner ODS and Banner EDW)” on page 3-147	Defines a list of process parameters you need to set up e-mail notification.
METADATA	Meta Data publishing. “Meta Data (Banner ODS and Banner EDW)” on page 3-159	Defines meta data related settings. Currently there is one for where to publish Meta Data pages, and another for where to view them.

This Parameter . . .	Used for this Task and Solution . . .	Does This . . .
ODS FINANCE TEXT	Finance Reporting Text Views	Defines different types of text for Finance Reporting Text Views. For example, Encumbrance Text, Grant Text, Fund Text, Fixed Asset Text, etc.
OWB_SYSTEM_PARAMETER	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Defines the list of known OWB system – used when running mappings, to differentiate which mapping parameters are passed to OWB specifically, and which are passed to the mapping itself.
PARAMETER	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Defines a list of a job’s input parameters you need to supply when you schedule a process.
PUBL_CATE_CODE	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Used during meta data publishing to differentiate the source from the target types.
SSR CONFIGURATION (optional)	Chapter 9, “Self-Service Reporting (Banner ODS)”	Defines the location of the SSR help files and Banner ODS metadata used by SSR, if SSR is installed.
SUBPROCESS	“Schedule a Process (Banner ODS and Banner EDW)” on page 3-70	Populates a list of processes displayed on the Select a Subprocess page.
Parameters (Banner EDW)		
This Parameter . . .	Used for this . . .	Does This . . .
CLEANSING DATA ELEMENT	“Cleansing (Banner EDW)” on page 3-107	The list of data elements used in Cleansing. The elements listed here are what show up in the drop-down lists for cleansing description and code value screens.
CLEANSING DEFAULT LINK	Cleansing Load for Banner EDW	For those cleansing data elements that get their initial values from a Banner ODS validation table, this parameter defines which sub-code in Banner ODS validation to look for.

This Parameter . . .	Used for this . . .	Does This . . .
CLEANSING DEFAULT VALUES	“Cleansing (Banner EDW)” on page 3-107	Define the value, and long and short descriptions, used in Banner EDW for NULL and BAD (i.e. value not found in cleansing values list) cleansing values.
CLEANSING EFF_DATE ELEMENTS	“Cleansing (Banner EDW)” on page 3-107	Define which Cleansing data elements use effective dating
CLEANSING PREFIX ELEMENTS	“Cleansing (Banner EDW)” on page 3-107	Define which Cleansing data elements use prefixes.
CLEANSING RANGE ELEMENTS	“Cleansing (Banner EDW)” on page 3-107	Define which Cleansing data elements use a date range.
CLEANSING SOURCES	“Cleansing (Banner EDW)” on page 3-107	Defines the sources used for cleansing (Banner EDW) and for Freezing data (Banner ODS).
EVENT_EebDW	“List Events for a Banner EDW Star (Banner EDW)” on page 3-127	Determines which columns to exclude from the List Events for a Banner EDW Star page.
EDW EXTRACT PARAMETERS	Populating Banner EDW	Controls how certain Banner EDW extracts operate when moving information from Banner ODS to Banner EDW.

Schedule a Process (Banner ODS and Banner EDW)

Jobs can be scheduled to run at specific times. To run load and refresh (update) jobs, select the **Schedule a Process** option on the Options menu of the Administrative UI. To review a spreadsheet of processes and subprocesses, Banner ODS fact and Banner EDW fact tables, click this link: [Processes List](#).

The chart opens in Microsoft Excel or a similar application. You can reorganize the columns as needed. A description of each column on the chart appears below:

This section describes how to schedule a process. Below are the processes that can be loaded or run.

Banner ODS Processes

Schedule Banner ODS Mappings

Use this option to load or update the corresponding data into all Banner ODS composite and slotted tables.

- Load All Banner ODS Products
- Refresh All Banner ODS Products
- Load Accounts Receivable
- Load Advancement
- Load Finance
- Load Financial Aid
- Load General
- Load Human Resources
- Load Student
- Refresh Accounts Receivable
- Refresh Advancement
- Refresh Finance
- Refresh Financial Aid
- Refresh General
- Refresh Human Resources
- Refresh Student
- Refresh Validation Tables
- Load All Banner ODS Slotted Tables
- Run A Single Banner ODS Mapping
- Run A Single ETL Slot Package
- Refresh Date Hierarchy Table
- Load Finance Transaction History

Banner ODS Utilities

Use this option to report source change table counts, reconcile tables, add comments to reporting views, and run checks and balances.

- Report Source Change Table Counts
- Synchronize Comments for Multiple Reporting Views
- Synchronize Comments for a Single Reporting View
- Transfer Banner Fine-Grained Access
- Banner ODS Checks and Balances
- Reconcile Multiple Tables
- Reconcile a Single Table
- Test Job for ETL PACKAGES

Banner EDW Processes

Schedule Banner EDW Snapshot Mappings

Use this option to schedule to run all mappings that load the corresponding snapshot star.
Use the Fix options to run all mappings that load the corresponding star, but use the cleansing error table as input.

Snapshot Academic Program Course Star
 Snapshot Advancement Giving Star
 Snapshot Course Registration Star
 Snapshot Employee Star
 Snapshot Employee Degree Star
 Snapshot Employee Position Star
 Snapshot Employment Application Star
 Snapshot Enrollment Star
 Snapshot Financial Aid Pre Student Star
 Snapshot Financial Aid Student Star
 Snapshot General Ledger Star
 Snapshot Graduation Completion Star
 Snapshot Grant and Project Star
 Snapshot Operating Ledger Star
 Snapshot Receivable Customer Star
 Snapshot Receivable Revenue Star
 Snapshot Recruiting and Admissions Star
 Fix Academic Program Course Star
 Fix Advancement Giving Star
 Fix Course Registration Star
 Fix Employee Star
 Fix Employee Degree Star
 Fix Employee Position Star
 Fix Employment Application Star
 Fix Enrollment Star
 Fix Financial Aid Pre Student Star
 Fix Financial Aid Student Star
 Fix General Ledger Star
 Fix Graduation Completion Star
 Fix Grant and Project Star
 Fix Operating Ledger Star
 Fix Receivable Customer Star
 Fix Receivable Revenue Star
 Fix Recruiting and Admissions Star
 8.0 Migrate Snapshot Academic Program Course Star
 8.0 Migrate Snapshot Advancement Giving Star
 8.0 Migrate Snapshot Course Registration Star
 8.0 Migrate Snapshot Employee Star
 8.0 Migrate Snapshot Employee Degree Star
 8.0 Migrate Snapshot Employee Position Star
 8.0 Migrate Snapshot Employment Application Star

8.0 Migrate Snapshot Enrollment Star
8.0 Migrate Snapshot Financial Aid Pre Student Star
8.0 Migrate Snapshot Financial Aid Student Star
8.0 Migrate Snapshot General Ledger Star
8.0 Migrate Snapshot Graduation Completion Star
8.0 Migrate Snapshot Grant and Project Star
8.0 Migrate Snapshot Operating Ledger Star
8.0 Migrate Snapshot Receivable Customer Star
8.0 Migrate Snapshot Receivable Revenue Star
8.0 Migrate Snapshot Recruiting and Admissions Star



Note

Migration processes are delivered for each star.



Warning

Before you schedule any jobs to run, you *must* review and set up parameters associated with scheduling a process. See [“Set up Parameters \(Banner ODS and Banner EDW\)” on page 3-64](#) for more details.

Schedule Banner EDW Operational Mappings

Use this option to run all mappings that load or refresh the corresponding star.

Load/Refresh All Banner EDW Operational Stars
Load/Refresh All Banner EDW Financial Aid
Load/Refresh All Banner EDW General
Load/Refresh All Banner EDW Student
Load/Refresh Administrator Star
Load/Refresh Admissions Application Star
Load/Refresh Admissions Recruitment Star
Load/Refresh Admissions Application Attribute Star
Load/Refresh Admissions Application Cohort Star
Load/Refresh Admissions Application Decision Star
Load/Refresh Admissions Application Rating Star
Load/Refresh Admissions Application Requirement Star
Load/Refresh Contact Star
Load/Refresh Financial Aid Application Star
Load/Refresh Financial Aid Award by Academic Period Star
Load/Refresh Financial Aid Award by Aid Year Star
Load/Refresh Hold Star
Load/Refresh Institution Star
Load/Refresh Interest Star
Load/Refresh Post Secondary Institution Star

Load/Refresh Prospective Student Star
Load/Refresh Recruitment Attribute Star
Load/Refresh Recruitment Cohort Star
Load/Refresh Secondary School Subject Star
Load/Refresh Test Star
Load/Refresh Admissions Financial Aid Record Aggregate
Load/Refresh Attribute, Cohort and Test Group Tables
Load/Refresh Calendar Date Dimension
Load/Refresh Event Dimension
Load/Refresh Indicator Dimension
Freeze Impact of Aid on New Enrollment Concept Data
Freeze Manage Applicant Concept Data

Banner EDW Utilities

Use this option to report source change table counts, reconcile tables and run checks and balances.

Banner EDW Checks and Balances
Load Banner EDW Data Default Cleansing Values

Schedule a Single Process

Use the following steps to schedule when you want a single process to run:

Note

You can only run a single Banner ODS mapping, -not a single Banner EDW mapping. ■

1. Click **Options** from the Administrative UI menu.
2. Click **Schedule a Process**. The Select a Process page opens.
3. Choose the type of process you want to schedule to run from the Select a Process page.

If you chose Schedule Banner ODS Mappings or Freeze Multiple Banner ODS Tables/Views, then the Select a Subprocess page opens. Continue to the next step below.

All other selections open the Schedule a Process page. Skip to step #4.

4. Choose the subprocess you want to run. The Schedule a Process page opens.
5. If you selected the subprocess **Run a Single Banner ODS Mapping**, choose the mapping from the **Mapping to Run** drop-down list.

6. Enter values for other Process Parameters for the selected process, if any exist.
7. Enter the required Scheduling Parameters information.

7.1. Enter a **Run Date** (format dd-mon-yyyy) and **Runtime** (format hh24:mi:ss).

7.2. If you want to run the process on a recurring basis, enter an **Interval**.

Click the link next to the **Interval** field. A sample Interval window opens.
Click the link under the **Interval Expression** column for the interval in which you want to schedule a process. For example, to run a process every day at the same time select *SYSDATE+1*.

8. Click **Save** to save the information about this job. The job is entered into the job queue to run at the specified day and time.

Schedule Multiple Processes

You can schedule and list multiple processes with different parameters as a group. For example, if you want to run multiple Banner ODS Freeze Tables.

To create a multiple process schedule, you must export the definition of each desired single process (including all related parameters) to a comma separated values (.csv) file. You can then use that information to define/copy multiple job definitions in that file into a single master schedule which is then re-imported into the job queue.

To schedule multiple processes:

1. From the Administrative UI menu, click **Options**.
2. Click **Schedule a Process**. The Select a Process page opens.
3. From the Select a Process page, choose the type of process you want to schedule.

If you chose Schedule Banner ODS Mappings, Banner ODS Utilities, Banner EDW Utilities, or Freeze Multiple Banner ODS Tables/Views, then the Select a Subprocess page opens. Continue to the next step below.

For all other selections, the Schedule a Process page opens. Skip to step 5.

4. Choose a subprocess. The Schedule a Process page opens.
5. If you selected the subprocess **Run a Single Banner ODS** or **Banner EDW Mapping**, choose the mapping from the **Mapping to Run** drop-down list.
6. To open the.csv file, click **Export**.

You can either open the file directly, or save it to another directory and open it from there.

The column names in the .csv file are described below:

Column	Description
JOBDEF	A constant for parsing the input data.
DATE	Date the job should run. Use MON-DD-YYYY format.
TIME	Time the job should run. Use H:MM:SS format.
PROCESS and SUBPROCESS	Internal identifiers for the job.
(Additional job specific parameters)	Any job-specific parameters such as Event, Source Institution, etc. For job-specific parameters that use drop-down lists of allowable values, all possible values for those fields are provided in the export download so that they can be copied when setting up the job records to import.

 Warning

You *must* retain the formatting of each field in the .csv file. Each field is surrounded by single quotes. These must be retained for the import to parse the data correctly. Microsoft Excel sometimes strips a leading single quote from the contents of a cell, so you *must* be sure it is retained in the .csv output. You may want to use an alternate editing application, although Microsoft Excel works fine as long as you are careful. ■

7. Duplicate the **JOB** line once for each run desired.
8. Enter the date and time you want the process to run.
9. Enter the desired parameter values for each line.
10. Remove extra values in the additional lines. An example resulting .csv file is displayed below:

JOBDEF								
	B	C	D	E	F	G	H	I
	DATE	TIME	PROCESS	SUBPROCESS	Source Institution:	Event:	Academic Period	Replace Event (Check)
	JAN-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG021	200910	Y
	FEB-28-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG020	200830	Y
	MAR-29-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG019	200820	Y
	APR-31-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG018	200811	Y
	MAY-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG017	200810	Y
	JUN-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG016	200809	Y
	JUL-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG015	200740	Y
	AUG-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG014	200730	Y
	SEP-31-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG013	200720	Y
	OCT-30-2007	23:00:00	MAPGROUP-EDW	LOAD_EDW_ENROLLMENT	SGHE	REG012	200710	Y

11. Click **Import** on the Schedule a Process page to re-import the .csv file into the Administrative UI.
12. Enter the name of the exported job into the subwindow, or search for it using **Browse**.
13. Click **Import Jobs**.

The Select and View Scheduled Processes window opens in the background listing the new jobs.

View and Remove a Scheduled Process

You can schedule to run a process/job immediately, or at a future date/time. Processes scheduled to run at a future time remain in the job queue until runtime. Processes already in the queue can be edited as long as they have not run.

Use the steps below to access the queue and review which processes are scheduled, or to edit or delete a job from the queue.

1. Click **Options** from the Administrative menu.
2. Click **View and/or Remove Scheduled Processes**. The Select and View Scheduled Processes page opens.
3. Choose the date from which you would like to view scheduled processes from the Select and View Scheduled Processes page.

Click **Select a Date** to open a calendar window. The default date is *Today*. When you Choose a date on the calendar, that date appears in the date field.

4. Click **Display Jobs**. The processes scheduled for the selected date display.

To sort the columns in ascending or descending order, click the corresponding column header.

To Edit

- 4.1. Click **Edit** next to the job number. The Schedule a Process page opens.
- 4.2. Make your changes.
- 4.3. Check the **Overwrite Existing Job in Queue** checkbox at the bottom of the page to overwrite the existing process.

Or, leave the box unchecked to create a duplicate process with the information.
- 4.4. Click **Submit**.

To Delete

- 4.1. To delete processes, check the checkbox in the **Delete** column for the process you want to delete.
- 4.2. Click **Delete Jobs**.

Configure an Account and Stop a Running Job/Process

Sometimes jobs/processes run for too long, or are run by accident and you want to stop the job and maybe restart it later. A running job/process can be stopped from the job's control report if the user's account is configured to allow this feature.

Configure a User Account to Kill a Job/Process

A user account name must be configured before that user has the ability to stop a job.

Prerequisite

Set up the Administrative user name accounts (See [“Set up Users and PINS \(Banner ODS and Banner EDW\)” on page 3-3.](#))

1. Click **Options** from the Administrative UI menu.
2. Click **Set up Parameters**.
3. Click **Create**.
4. In the **Internal Group Code** field type *JOB KILLER*, or select it from the drop-down list.
5. In the **Internal Code 1** field type *ACCOUNT NAME*, or select it from the drop-down list.
6. In the **External Code** field, type the administrative user name (account log in name).

If the user name was entered as an External Code when the parameter was created (by following the steps of Options<Set up Parameters<click **Create** button) you can select the name from the drop-down list.

7. Enter a description into the description field. The description is usually the same as what appears in the External Code field.
8. Click **Save**.

Kill a Running Job/Process

A running job/process can be stopped from within the job's/processes control report.

Prerequisite

The administrative account user name must be set up with this ability. See [“Configure a User Account to Kill a Job/Process” on page 3-79](#)

1. Click **Options** from the Administrative UI menu.
2. Click **View Control Reports**.
3. Click the link in the **Process** column for the job/process you want to stop.

The Control Report for that process opens.

4. Click **Kill Job** located in the **Status** column.

Note

This link only appears for jobs that are currently running, and if the user's account is properly configured to kill jobs. ■

The Process Termination Wizard window opens and displays the process attributes.

5. Choose to either kill the process (at the operating system level), or to have the wizard display a list of Oracle commands needed to kill the process manually from the command line outside Banner ODS.

Killing the process at the operating system level immediately stops the process, refreshes the Control Report, and displays a *Terminated* status for the process.

Note

Killing a running process could leave the affected parts of Banner ODS in an undefined state, depending on the process that was stopped. Be sure to clean up data as necessary. Rerun the process to overwrite existing data. ■

Run a Process from Outside the Administrative UI

All Banner ODS and Banner EDW processes can be run from outside the Administrative UI. The processes are defined in the database as PL/SQL packaged procedures, therefore they can be run from outside the Administrative UI using any application that executes Oracle commands (typically Oracle's sqlplus utility). The name of the (packaged) procedure to run for a given process is defined using the JOB parameter (See [“JOB Parameter” on page 3-95](#) in the Banner ODS Handbook for additional information.). However, an easy way to determine the name of the procedure used to execute a process is to submit that process to run at a future date, then view the process definition in the Job Queue using the steps below.

1. Schedule the Load Student process to run from the Schedule Banner ODS Mappings menu.
2. Select a date or time in the future.
3. Click **Submit**.
4. Return to the Options menu.
5. Select **View and/or Remove Scheduled Processes**.
6. Enter the date you scheduled the process to run.
7. Click **Display Jobs**.

Below is an example page that might display:

Select and View Scheduled Processes

Current Date: 07-OCT-2008 13:04:24

Delete	Job	Next Run Date	Interval	Job To Run
☐	811 Edit	31-OCT-08-23:00:00	null	mgkmap.P_RunETLMapSlots(8,JOB,'LOAD_STUDENT',NULL, '');

[Delete Jobs](#)

This page indicates in the **Job To Run** field that the Load Student process calls the (IA_ADMIN.) MGKMAP.p_runETLMapSlots, and takes the following parameters:

```
PROCEDURE P_RunETLMapSlots(userID IN VARCHAR2 DEFAULT NULL,  
jobNumber IN BINARY_INTEGER DEFAULT NULL,  
process IN VARCHAR2 DEFAULT NULL,  
subProcess IN VARCHAR2 DEFAULT NULL,  
parms IN VARCHAR2 DEFAULT NULL);
```

Parameter	Description
userID	Name/ID of the user associated with the job. The 8 in the example is the Administrative UI user account for "BILL" (for example, select mgbuser_id from mgbuser where mgbuser_pidm=&userID;)
jobNumber	Number of the job, and of the corresponding Control Report created when the job runs. When these jobs are run using the Administrative UI, using the DBMS_JOBS queue to run them, Oracle takes the <i>JOB</i> keyword and substitutes in the actual job number in the queue for this value. (811 in the example above). When the job is run outside the Administrative UI, you can give the job any number you want to. <i>Tip:</i> Do not use a number that is currently used by the Control Report or you'll have duplicate numbers. Begin numbering with high numbers so that the jobs are easy to find.
process	Name of the PROCESS to schedule (see Admin UI PROCESS parameter description). In the example it is LOAD_STUDENT.
subprocess	Name of the SUBPROCESS to schedule (see Admin UI PROCESS parameter description). In the example it is NULL (or empty)
parms	Any process-specific parameters needed. In the example there are none. Typical LOAD/REFRESH jobs in Bann ODS do not take parameters. When scheduling the job through the Administrative UI, these parameters are specified on the Submit page (things like checkboxes, dropdown selections, etc). See “PARAMETER Parameter” on page 3-104 in the Banner ODS Handbook for additional information.)

8. Issue the following command to run LOAD_STUDENTjob:

```
EXEC mgkmap.P_RunETLMapSlots(8,811,'LOAD_STUDENT',NULL, "");
```

In the example, this would run the LOAD_STUDENT job as the userID 8 and the job number 811.

 Note

This executes the job synchronously, outside of the DBMS_JOBS queue, meaning the job actually runs to completion and the above call does not return until the job completes. This is usually desired when calling jobs outside the Administrative UI.

It is also possible to submit jobs to the DBMS_JOBS queue externally as well to run jobs asynchronously. See the DBMS_JOBS package documentation for more details. ■

9. Remove the job from the queue when you are finished.

All other Administrative UI processes (Metadata Publishing, the Utilities, etc) can also be executed externally following similar steps.

Set up Customized Scheduled Processes

A scheduled process can be set up to run one or more customized mappings, and to have the new, customized process appear in the list of scheduled processes on the Select a Subprocess page.

For example, you want to bring in additional data and you don't want to modify an existing mapping. You can create your own mapping(s) then run it either as part of one of the existing processes, like LOAD_STUDENT, REFRESH_ALL, etc., or create your own process, like LOAD_MY_DATA, etc.

The way mappings are organized can also be changed. Delivered mappings are grouped into processes. LOAD_STUDENT runs all the Student LOAD mappings, REFRESH_HR runs all the HR REFRESH mappings, etc. However, you can combine the groups differently to improve performance, to run them simultaneously in separate job processes, etc.

Banner EDW processes are set up like Banner ODS processes, in that they use the same ETL_MAP_PACKAGE, JOB, and SUBPROCESS parameter entries. Banner EDW processes also use the ETL_MAP_PACKAGE_LOGIC parameter to indicate a termination point for the process. By default, all mappings within a process execute regardless of whether they error. Setting up an ETL_MAP_PACKAGE_LOGIC allows a job to terminate if a mapping errors, and if the delivered processes to load the cubes use these parameters.

If you wanted to add new star or cube, you can duplicate one of the existing processes (complete with PROCESS, SUBPROCESS, ETL_MAP_PACKAGE entries).

To set up a scheduled mappings process, you need to:

- create a parameter record with an internal group code using the ETL_MAP_PACKAGE parameter set up for each new OWB mapping to be scheduled
- use the SUBPROCESS parameter to create a new group containing one or more customized mappings (MAPGROUP-EDW) to appear on the Select a Subprocess web page, and on the Schedule Banner ODS Mappings menu. It is also possible to add the new OWB mapping to an already existing group, by selecting one of the entries in the pull-down list.

- link the JOB parameter record to the process. This tells Banner ODS and Banner EDW which item in the Schedule Banner ODS or Banner EDW Mappings list (MAPGROUP-EDW) to run.

Follow the steps below. Examples appear after the steps.

1. Click **Set Up Parameters** from the Options menu. The Set Up a Parameter page opens.
2. Click **Create** from the Set Up a Parameter page. The Create a New Parameter page opens. Enter the information for the new process, or select it from the drop-down lists.
3. Click **Save**.

Repeat these steps once for each mapping in the group to set up the ETL MAP PACKAGE parameter, once to set up the SUBPROCESS (or PROCESS) parameter, and once to set up the JOB parameter. They can be set up in any order.

4. To run the newly created process, click **Schedule a Process** from the Options menu. The Select a Process page opens.
5. Click **Schedule Banner ODS or Banner EDW Mappings**. The Select a Subprocess page opens.
6. Choose your new process.

Banner ODS Example:

The example below walks you through how to create a scheduled process called TEST_LOAD_STUDENT_COURSE. This group will have one mapping called TEST_LOAD_STUDENT_COURSE_1

First, create an internal group record using the ETL MAP PACKAGE parameter.

1. Click **Set Up Parameters** from the Options menu. The Set up a Parameter page opens.
2. Open the Create a New Parameter page.
3. Enter the information below into the fields.

In This Field ...	Enter This ...	Here's Why ...
Internal Group	ETL MAP PACKAGE	<i>Must</i> be ETL MAP PACKAGE.
Internal Code 1	TEST_LOAD_STUDENT_COURSE	Mapping group name. Create your own name, or specify an existing group if you want to add this mapping to an existing group.
Internal Code 2	TEST_LOAD_STUDENT_COURSE_1	Mapping name in OWB and the package name in Banner ODS.
Internal Code Sequence Number	1	Order of the mappings within the Mapping group (Internal Code 1). Controls the order in which multiple mappings are executed within that group. If you add more mappings then the code should on number up such as 2, 3, 4, 5, etc.
External Code	ODS_TARGET_STUDENT	Location/project in the OWB repository. These locations pertain to the schema containing the target table(s).
Description	TEST_LOAD_STUDENT_COURSE_1	Actual name of the mapping. <i>Must</i> be the exact same entry as entered into the Internal Code 2 field.
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

4. Click **Save**.

Second, set up the SUBPROCESS parameter so that you can create and name a new group of one or more customized mappings. This tells Banner ODS that you want this new process(es) to appear on the Select a Subprocess page, and on the Schedule Banner ODS Mappings menu (MAPGROUP) on that page.

1. Click **Create a New Parameter** at the bottom of the page. The fields on the page reset.
2. Enter the following information.

In This Field ...	Enter This ...	Here's Why ...
Internal Group	SUBPROCESS	<i>Must</i> be SUBPROCESS. This tells Banner ODS to display this group on the Select a Subprocess menu.
Internal Code 1	MAPGROUP	Must be MAPGROUP in order to display this group on the Schedule Banner ODS Mappings menu. You can enter a different SUBPROCESS name if you want to create or use additional process listings.
Internal Code 2		This field remains blank.
Internal Code Sequence Number	1	Order of the entries on the Select a Subprocess menu. Entries with the same number are sorted by group name. If you add more mappings then the code should on number up such as 2, 3, 4, 5, etc.
External Code	TEST_LOAD_MST_STUDENT	Group name. Must be the same as what was entered into the Internal Code 1 field when you set up the ETL MAP PACKAGE parameter.
Description	TEST Load MST Student	Actual text you want to display on the Schedule Banner ODS Mappings list on the Schedule a Subprocess page.
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

3. Click **Save.**

Third, link the JOB parameter to the new group of mappings. This tells Banner ODS which item in the Schedule Banner ODS Mappings list (MAPGROUP) to run.

- 1. Click **Create a New Parameter**** at the bottom of the page. The fields on the page reset.
- 2. Enter the following information.**

In This Field ...	Enter This ...	Here's Why ...
Internal Group	JOB	JOB <i>must</i> be entered.
Internal Code 1	MAPGROUP	Must match the Internal Code 1 field of the SUBPROCESS record.
Internal Code 2	TEST_LOAD_STUDENT	<i>Must</i> match the Internal Code 1 field when you set up the ETL MAP PACKAGE.
Internal Code Sequence Number	1	Leave as <i>is</i> .
External Code	0	Leave as <i>0</i> .
Description	mgkmap.P_RunETLMapSlots	Name of the PL/SQL procedure executed by the process. For mapping scheduled processes, use the standard procedure P_RunETLMapSlots
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

3. Click **Save**.

Banner EDW Example:

The example below walks you through how to create a scheduled process called TEST_LOAD_EDW_EMPLOYEE. This group will have one mapping called TEST_LOAD_EDW_EMPLOYEE_1

First, create an internal group record using the ETL MAP PACKAGE parameter.

1. Open the Create a New Parameter page.
2. Enter the information below into the fields.

In This Field . . .	Enter This . . .	Here's Why . . .
Internal Group	ETL MAP PACKAGE	<i>Must</i> be ETL MAP PACKAGE.
Internal Code 1	TEST_LOAD_EDW_EMPLOYEE	Mapping group name. Create your own name, or specify an existing group if you want to add this mapping to an existing group.
Internal Code 2	TEST_LOAD_EDW_EMPLOYEE_1	Mapping name in OWB and the package name in Banner EDW.
Internal Code Sequence Number	1	Order of the mappings within the Mapping group (Internal Code 1). Controls the order in which multiple mappings are executed within that group. If you add more mappings then the code should on number up such as 2, 3, 4, 5, etc.
External Code	EDW_GENERATE_LEDGER OR STAGE_GENERAL_LEDGER	Location/project in the OWB repository. These locations pertain to the schema containing the target table(s).
Description	TEST_LOAD_EDW_EMPLOYEE_1	Actual name of the mapping. <i>Must</i> be the exact same entry as entered into the Internal Code 2 field.
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

3. Select **Save**.

Second, set up the SUBPROCESS parameter so that you can create and name a new group of one or more customized mappings. This tells Banner EDW that you want this new process(es) to appear on the Select a Subprocess page, and on the Schedule Banner EDW Mappings menu (MAPGROUP-EDW) on that page.

1. Click **Create a New Parameter** at the bottom of the page. The fields on the page reset.
2. Enter the following information.

In This Field . . .	Enter This . . .	Here's Why . . .
Internal Group	SUBPROCESS	<i>Must</i> be SUBPROCESS. This tells Banner EDW to display this group on the Select a Subprocess menu.
Internal Code 1	MAPGROUP-EDW	Must be MAPGROUP in order to display this group on the Schedule Banner EDW Mappings menu. You can enter a different SUBPROCESS name if you want to create or use additional Process listings.
Internal Code 2		This field remains blank.
Internal Code Sequence Number	1	Order of the entries on the Select a Subprocess menu. Entries with the same number are sorted by group name. If you add more mappings then the code should on number up such as 2, 3, 4, 5, etc.
External Code	TEST_LOAD_EDW_EMPLOYEE	Group name. Must be the same as what was entered into the Internal Code 1 field when you set up the ETL MAP PACKAGE parameter.
Description	TEST Load EDW Employee	Actual text you want to display on the Schedule Banner EDW Mappings list on the Schedule a Subprocess page.
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

3. Click Save.

Third, link the JOB parameter to the new group of mappings. This tells Banner EDW which item in the Schedule Banner EDW Mappings list (MAPGROUP-EDW) to run.

1. Click **Create a New Parameter** at the bottom of the page. The fields on the page reset.
2. Enter the following information.

In This Field . . .	Enter This . . .	Here's Why . . .
Internal Group	JOB	JOB <i>must</i> be entered.
Internal Code 1	MAPGROUP-EDW	Must match the Internal Code 1 field of the SUBPROCESS record.
Internal Code 2	TEST_LOAD_STUDENT	<i>Must</i> match the Internal Code 1 field when you set up the ETL MAP PACKAGE.
Internal Code Sequence Number	1	Leave as <i>is</i> .
External Code	0	Leave as <i>0</i> .
Description	mgkmap_P_RunETLMaps	Name of the PL/SQL procedure executed by the process. For mapping scheduled processes, use the standard procedure mgkmap_P_RunETLMaps.
System Required	No	Parameter records entered through the Administrative UI are marked as <i>No</i> to differentiate those delivered by SunGard Higher Education. Display only.

3. Click **Save**.

Schedule a Process Parameters (Banner ODS and Banner EDW)

The Administrative UI uses several system parameters to create the web pages associated with scheduling a process (running the mappings). The next sections describe these parameters, their purpose, and their role in scheduling a process.

Note

These runtime parameters are different from the set up parameters stored in MTVPARM (See [“Set up Parameters \(Banner ODS and Banner EDW\)” on page 3-64.](#))

Parameters are maintained on the Set Up a Parameter page of the Administrative UI. See [“Update or Delete a Parameter” on page 3-65](#) for additional information on updating parameters. Each parameter and its purpose appear below:

This Parameter . . .	Does This . . .
“INSTALLED PROCESS Parameter” on page 3-92	Populates a list of processes displayed on the Select a Process page.
“SUBPROCESS Parameter” on page 3-93	Populates a list of processes displayed on the Select a Subprocess page.
“JOB Parameter” on page 3-95	Defines the actual name of job (program) to run when you schedule a process.
“ETL MAP PACKAGE Parameter” on page 3-96	Groups related jobs (OWB mappings) as one job.
“ETL MAP PACKAGE LOAD PURGE Parameter” on page 3-98	Identifies DELETE mappings for the Load Purge Process.
“ETL MAP PACKAGE LOGIC Parameter” on page 3-100	Allows you to specify job termination logic for a mapping within a job stream. By default, all mappings in a job run in sequence regardless of whether they have errors or not. By defining an ETL Map Package record for a given mapping in a job, you can have the job stop if that mapping encounters errors. This parameter is used primarily with Banner EDW jobs as they have dependencies from one step (or mapping) to another, while Banner ODS mappings are independent of each other.
“ETL MAP PACKAGE RECONCILE LOGIC Parameter” on page 3-100	Provides a list of mappings that are exceptions in the reconcile Banner ODS tables process. In this list are the mappings that are ignored in the reconcile process because of the complexity of the mapping or other factors outside the scope of reconciling that Banner ODS table. This list also includes mappings that require either multiple source composite views or mappings in order to reconcile a Banner ODS table.
“ETL SLOT PACKAGE Parameter” on page 3-101	Groups together related slot jobs (SQL packages) as one job.
“ETL CONTROL GROUP Parameter” on page 3-102	Groups together ETL MAP PACKAGE and/or ETL SLOT PACKAGE jobs as one job.

EDW EXTRACT

Controls how certain Banner EDW extracts operate when moving information from Banner ODS to Banner EDW.

[“PARAMETER Parameter”
on page 3-104](#)

Defines a list of a job’s input parameters you need to supply when you schedule a process.

INSTALLED PROCESS Parameter

The Description field for this parameter defines the process names that display on the Select a Process page of the Administrative UI. You can choose from that list to schedule a process.

This parameter is delivered with one entry for each type of process (job) that you can run. The processes defined by this parameter have ‘children’ defined by the SUBPROCESS and JOB parameters. To designate the parent/child relationship, match the External Code of the INSTALLED PROCESS to the Internal Code 1 of the SUBPROCESS and the Internal Code 1 of the JOB.

The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: INSTALLED PROCESS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Can be a short description of the process. This field is not used in processing, but it requires a value.	N/A	Order for entries on Select a Process page.	Short description of the process. Map values of this field to the Internal Code 1 values of Subprocesses and related Jobs to define them as its children.	Actual process name that appears on the Select a Process administrative page.
ADHOC_FREEZE	N/A	6	ADHOC_FREEZE	Freeze A Single Banner ODS Table/View
FREEZE_TABLE	N/A	5	FREEZE_TABLE	Freeze Multiple Banner ODS Tables/Views
MAPGROUP	N/A	1	MAPGROUP	Schedule Banner ODS Mappings

Setting up the INSTALLED PROCESS parameter

The only field you should change for the delivered values of this parameter is the **Description** field. If you want to change the name of a process that appears on the Select a Process page, change its description.

Create a new Installed Process parameter value

If you want to add a process developed by your institution, create the process and add it as a new record for this parameter.

SUBPROCESS Parameter

The **Description** field of this parameter defines the subprocess names that display on the Select a Subprocess of the Administrative UI.

This parameter is delivered with one entry for each subprocess, which are processes grouped under one of the main processes—Schedule Banner ODS or Banner EDW Mappings, Freeze Multiple Banner ODS Tables/Views, or Freeze A Single Banner ODS Table/View.

Subprocesses are related to JOB parameter values and both are “children” of one of the processes defined by the INSTALLED PROCESS parameter. To designate the parent/child relationship, match the **External Code** of the INSTALLED PROCESS to the **Internal Code 1** of the SUBPROCESS and the **Internal Code 1** of the JOB.

The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: SUBPROCESS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Map to External Code of the INSTALLED PROCESS that is parent to this subprocess.	N/A	Order for entries with same Internal Code 1 .	Short description of the subprocess. Use values of this field in the Internal Code 2 of its related Job.	Actual process name that appears on the Select a Subprocess administrative page.
MAPGROUP	N/A	1	LOAD_ALL	Load all Banner ODS products

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
MAPGROUP	N/A	2	LOAD_ALL_SLOTS	Load all Banner ODS slotted tables
MAPGROUP	N/A	3	LOAD_FINANCE	Load finance
MAPGROUP	N/A	8	REFRESH_ALL	Refresh all Banner ODS products
MAPGROUP	N/A	9	REFRESH_FINANCE	Refresh finance
MAPGROUP	N/A	14	RUN_SINGLE_MAP	Run a single mapping

Set up the SUBPROCESS Parameter

The only field you should change for the delivered values of this parameter is the Description. If you want to change the name of a subprocess that appears on the Select a Subprocess page, change its Description.

Create a SUBPROCESS Parameter

You can add to the subprocess list jobs developed by your institution that you can then run via the Administrative UI. Use the following steps to do this.

1. Create the job.
2. Add the job to the list of subprocesses you can schedule by creating a new Subprocess parameter with the following values:
 - 2.1. **Internal Group:** Subprocess
 - 2.2. **Internal Code 1:** The External Code value of the INSTALLED PROCESS you want the subprocess to be listed under. Existing values include:
 - MAPGROUP to list under the Schedule OWB Mappings process.
 - FREEZE_TABLE to list under the Freeze Multiple Banner ODS Tables process.
 - ADHOC_FREEZE to list under the Freeze A Single Banner ODS Table process.
 - 2.3. **Internal Code 2:** blank
 - 2.4. **Internal Code Sequence Number:** Number indicating the order in which to run this subprocess.
 - 2.5. **External Code:** The External Code value of the INSTALLED PROCESS you want the subprocess to be listed under. See existing values listed above with the **Internal Code 1** field.

- 2.6. Description:** The name of the subprocess that will display on the Select a Subprocess page in the Administrative UI.

JOB Parameter

This parameter defines the actual program name of a job that gets sent to the job queue via the **Schedule a Process** administrative page in the Options menu.

This parameter is delivered with one entry for each process (job) that you can schedule. A Job is related to a SUBPROCESS and a “child” of one of the processes defined by the INSTALLED PROCESS parameter. To designate the parent/child relationship, match the **External Code** of the INSTALLED PROCESS to the **Internal Code 1** of the SUBPROCESS and the **Internal Code 1** of the JOB.

The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: JOB

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Map to External Code of the INSTALLED PROCESS that is parent to this job.	Map to External Code of the SUBPROCESS related to this job.	N/A	The number of parameters that get passed to the mapping.	Actual program name (package.procedure) for the job. Refer to the mgkproc package for more information about submitting jobs.
MAPGROUP	LOAD_ALL	1	0	mgkmap.P_RunETLMapSlots
MAPGROUP	LOAD_ALL_SLOTS	1	0	mgkmap.P_RunETLMapSlots
MAPGROUP	LOAD_AR	1	0	mgkmap.P_RunETLMapSlots
MAPGROUP	LOAD_FINANCE	1	0	mgkmap.P_RunETLMapSlots

Set up the JOB Parameter

You should not edit any of these entries. If your institution doesn’t maintain one of the areas of Banner ODS or Banner EDW data, you can delete all of the entries for that area.

Create a Job Parameter Value

You can add a program developed by your institution to the Schedule a Process page. Create the program and define it by adding a new record for this parameter with the program name in the **Description** field.

OWB Mappings and Slot Packages

OWB mappings are executed from the Administrative UI via the MGKMAP package. This package provides routines for running both OWB mappings and slotted table LOAD and UPDATE jobs. Refer to the MGKMAP package for more details.

The primary APIs used in the MGKMAP package are:

P_RunETLMapSlots:

When a process/subprocess pair is passed to the procedure, it runs all mappings and slot package records associated with that process/subprocess combination. Specifically, if any **ETL Control Group** records are defined for the process/subprocess pair and the **Description** value is *Y*, then the procedure runs all Mapping and Slot Package records associated with those Control Group areas. If there are no **ETL Control Group** records associated the process/subprocess pair but there are individual mapping records associated with the pair, the procedure runs those Mapping and Slot Package records.

Example: P_RunETLMapSlots

As delivered, the ETL Control Group parameter records for all baseline systems have an External Code value of *Y*. This means data for all systems is loaded into Banner ODS when you submit the Load All Banner ODS Products and Refresh All Banner ODS Products processes. If you want to load only Student and Finance data into Banner ODS, set the **External Code** field to *N* for the ETL Control Group record for each of the other systems. The Mappings and Slot Packages will only run for Student and Finance when you submit the Load All Banner ODS Products and Refresh All Banner ODS Products processes.

P_RunETLMaps:

When a process/subprocess pair is passed to the procedure, it runs all mappings associated with that process/subprocess combination. This API follows the same processing rules as *P_RunETLMapSlots*, except that it only runs mappings; it does *not* run Slot Packages.

P_RunETLSlots:

When a process/subprocess pair is passed to the procedure, it runs all Slot Packages associated with that process/subprocess combination. This API follows the same processing rules as *P_RunETLMapSlots*, except that it only runs Slot Packages; it does *not* run mappings.

P_RunSingleMap:

When a process/subprocess pair and mapping name are passed to the procedure, it runs that single mapping.

ETL MAP PACKAGE Parameter

Hundreds of OWB mappings are used to load and refresh Banner ODS and Banner EDW data, and to cleanse Banner EDW data. The ETL Map Package parameter defines groups

of related mappings as one job. This allows you to quickly run just one job that, for example, loads all of the AR mappings.

This parameter is delivered with one entry for each mapping. The actual program name for the mapping occupies the Internal Code 2 and Description fields and is associated with an ETL group name in the Internal Code 1 field.

Example

When you run the LOAD_AR job using the Schedule a Process option in the Administrative UI, the mappings associated with each ETL Map Package entry that has an Internal Code 1 of LOAD_AR is run. The External Code field contains the Location value defined for the mappings in OWB. These values are defined at mapping deployment time (usually at install) and are generally not modified.

The following table shows the entries for ETL Map Package entries that have an Internal Code 1 value of LOAD_AR. The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: ETL MAP PACKAGE

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
The ETL group to which the mapping is assigned.	Mapping name.	Order to run the mapping within the group.	OWB locations of the mapping.	Mapping name.
LOAD_AR	LOAD_MTT_ACCOUNT	1	ODS_TARGET_AR	LOAD_MTT_ACCOUNT
LOAD_AR	LOAD_MTT_ACCOUNT_DE TAIL	2	ODS_TARGET_AR	LOAD_MTT_ACCOUNT_DE TAIL
LOAD_AR	LOAD_MTT_APPLICATION_ OF_PAYM	3	ODS_TARGET_AR	LOAD_MTT_APPLICATION_ OF_PAYM
LOAD_AR	LOAD_MTT_AR_DEPOSITS	4	ODS_TARGET_AR	LOAD_MTT_AR_DEPOSITS
LOAD_AR	LOAD_MTT_CONTRACT	5	ODS_TARGET_AR	LOAD_MTT_CONTRACT
LOAD_AR	LOAD_MTT_EXEMPTION	6	ODS_TARGET_AR	LOAD_MTT_EXEMPTION
LOAD_AR	LOAD_MTT_INSTALLMENT _PLAN	7	ODS_TARGET_AR	LOAD_MTT_INSTALLMENT _PLAN
LOAD_AR	LOAD_MTT_LEDGER_ACC OUNTING	8	ODS_TARGET_AR	LOAD_MTT_LEDGER_ACC OUNTING

Set up the ETL MAP PACKAGE Parameter

You shouldn't change any of the delivered values for this parameter.

Create an ETL Map Package

You can define a new ETL group of mappings by creating a new set of related ETL Map Package parameter entries. Create one new entry for each mapping in the group using the following steps.

1. Create new entries with a new ETL Group name in the **Internal Code 1** field.
2. Specify in the **Internal Code 2** and **Description** fields for the mappings you want to include in the group.
3. Specify the location of each mapping in the **External Code** field.
4. Specify the order in which to run the mappings in the **Internal Code Sequence Number** field.
5. Add the new ETL group to the list of subprocesses you can schedule by creating a new Subprocess parameter with the following values:
 - 5.1. **Internal Group**: Subprocess
 - 5.2. **Internal Code 1**: MAPGROUP
 - 5.3. **Internal Code 2**: blank
 - 5.4. **Internal Code Sequence Number**: Number indicating the order in which to run this subprocess.
 - 5.5. **External Code**: the new ETL Group name you created. This is the value in **Internal Code 1** in the ETL Map Package entries created above.
 - 5.6. **Description**: Name of the subprocess (ETL Group job) as it appears on the Select a Subprocess administrative page.

ETL MAP PACKAGE LOAD PURGE Parameter

As part of the LOAD mapping Change Table Purge process, use this parameter to define the appropriate DELETE mapping for those LOAD_x mappings that do not have an equivalent DELETE_x counterpart, or where no Change table purge is required.

The MGKMAP package in Banner ODS (in the IA_ADMIN schema which executes the various OWB mappings that make up a job) automatically runs the Purge process for each change table that is related to a particular Load mapping. The name of the change table and the PROCESS_ID (a key field in the change table that identifies which records relate

to a given mapping) are retrieved from the corresponding Delete mapping of the same name where LOAD_x = DELETE_x. For example, for the LOAD mapping LOAD_MST_STUDENT, the DELETE_MST_STUDENT mapping is used to identify the change table and process ID. However, occasionally there is no direct equivalent DELETE mapping for the LOAD mapping in context, or no change table purge is required. For example:

- Sometimes the mapping names do not match exactly (for example, LOAD_MAT_ORGANIZATION_CONTACT and DELETE_MAT_ORGANIZATION_CONT).
- LOAD mappings that require multiple DELETE mappings.
- LOAD mappings where change tables do not exist (such as the VALIDATION mappings) and subsequently no purge process is required.
- LOAD mappings are broken up across several sequential mappings (such as LOAD_MFT_TRANS_HISTORY_1, _2, 3, etc.) and the change table purge process is only required to run once (DELETE_MFT_TRANS_HISTORY).

In these cases, a Load Purge parameter is required to provide the MGKMAP package with the appropriate crosswalk information to designate what DELETE mapping(s) are required to run the Change Table Purge process, or when the Change Table Purge process should be ignored.

Any errors encountered when running the purge appear in the Load Control Report.

Use the following codes:

- Group Code: ETL_MAP_PACKAGE_LOAD_PURGE
- Internal Code: Enter the designated LOAD mapping
- External Code: Enter the designated DELETE mapping(s) or, enter NA to disable the Purge process for a given LOAD mapping.

The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: ETL MAP PACKAGE LOAD PURGE

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Name of LOAD mapping		Ignored	Name of DELETE mapping(s – note comma-separated if >1) or “NA”	Simple text to explain record’s purpose.
LOAD_MAT_ORGANIZATION_CONTACT		1	DELETE_MAT_ORGANIZATION_CONT	Load Purge Record

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
LOAD_MGT_VALIDATION_GENERAL		1	NA	Load Purge Record
LOAD_MFT_TRANS_HI STORY_1		1	DELETE_MFT_TRANS _HISTORY	Load Purge Record
LOAD_MFT_TRANS_HI STORY_2		1	NA	Load Purge Record
LOAD_MFT_TRANS_HI STORY_3		1	NA	Load Purge Record

ETL MAP PACKAGE LOGIC Parameter

This parameter controls job processing if an error occurs during one of the mappings. By default, the MGKMAP package, which executes mappings for a job, runs all mappings for the job, regardless of whether they complete successfully. This assumes that there are no dependencies between mappings. However, within Banner EDW, there are such dependencies (such as when the Time Key does not process correctly).

Use this parameter to override processing logic. Specifically, if a parameter record exists with the ETL Map Package Logic group code, and the same Internal Code 1 (the job name) and Internal Sequence Number as the ETL Map Package record for the mapping for the job in question, and the External Code is set to “Terminate Job,” then the job stops if there is an error in that particular mapping.

ETL MAP PACKAGE RECONCILE LOGIC Parameter

This parameter controls how the reconciliation process identifies LOAD mappings which do not follow the standard pattern (of one source Composite view equating to one Banner ODS Composite table). Those exceptions are noted by the External Code, being either:

- IGNORE: used to identify mappings *not* to try to reconcile
- IGNORE COLUMN: used to identify specific columns (1 parameter record per column) not to try to reconcile, where Int Code2 stores the column name
- UNION: used to identify Composite tables populated by multiple Composite views, in which case the name(s) of the related mappings are stored in the **Description** field.

Internal Group: ETL MAP PACKAGE RECONCILE LOGIC

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Name of LOAD mapping	Ignored	1	Action to take	Either simple description or name of related LOAD mappings
LOAD_MAT_CONST IT_STAFF_ASSIGN	Ignored	1	IGNORE	Do not reconcile this mapping
LOAD_MST_STDNT _CRSE_ATT_STEP_1	Ignored	1	UNION	LOAD_MST_STDNT_ CRSE_ATT_STEP_2
LOAD_MTT_ACCOU NT_DETAIL	OPERATING DATE	1	IGNORE COLUMN	Do not reconcile this column

ETL SLOT PACKAGE Parameter

The ETL Slot Package parameter is similar to the ETL Map Package parameter; it defines groups of related Slot Packages as one job. The difference is that the groups defined by the Slot Package parameter use the slot packages to load data into the slotted tables within Banner ODS. The groups of jobs defined by this parameter let you easily run one job that, for example, loads all of the Financial Aid slot slotted tables.

This parameter is delivered with one entry for each package that loads or updates data in a slotted table in Banner ODS. The actual program name for the slot package occupies the **Description** field and is associated with an ETL group name in the **Internal Code 1** field. For example, when you run the LOAD_FINANCIAL_AID job from the Schedule a Process option in the Administrative UI, the slot packages associated with each ETL SLOT PACKAGE entry that has an **Internal Code 1** of LOAD_FINANCIAL_AID is run.

The following table shows the entries for ETL Slot Package entries that have an **Internal Code 1** value of LOAD_FINANCIAL_AID. The table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: ETL SLOT PACKAGE

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
The ETL group to which the mapping is assigned.	This field is not used.	Order to run the mapping within job group.	Package.procedure	Slot Package name.
LOAD_FINANCIAL_AID		1	MRKBCMP.P_POPULATE('L')	MRT_FINAID_BUDGET_COMP_SLOT
LOAD_FINANCIAL_AID		2	MRKTREQ.P_POPULATE('L')	MRT_TRACKING_REQUIREMENT_SLOT

Set up the ETL SLOT PACKAGE Parameter

You should not change any delivered values for this parameter. If you want to define a new ETL group of slot packages, you can create new entries with a new ETL group name in the **Internal Code 1** field. Then specify the slot packages that you want to include in the group. Create one new entry for each package in the group.

ETL CONTROL GROUP Parameter

This parameter gives you the ability to load or refresh all the data in your Banner ODS by running one job. The parameter is used in conjunction with the ETL Map Package parameter to further combine groups of jobs into one job.

As delivered, the ETL Control Group parameter defines which groups of job mappings, defined by the ETL Map Package parameter, to run when you run the LOAD_ALL and REFRESH_ALL jobs.

This parameter is delivered with one entry for each ETL group defined by the ETL Map Package parameter. The actual ETL group name (e.g., LOAD_AR, LOAD_FINANCE, LOAD_GENERAL, etc.) occupies the Internal Code 2 field. Each entry is associated with either the LOAD_ALL or REFRESH_ALL control group job in the **Internal Code 1** field. The External Code field for each record has the value Y, which means that all jobs (mappings) defined by the group are run when you run the LOAD_ALL job.

The following table shows the entries for the ETL Control Group when the value of **Internal Code 1** is LOAD_ALL. The table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: ETL CONTROL GROUP

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Control Group to which the ETL group is assigned.	ETL Group Name Map to Internal Code 1 of the ETL MAP PACKAGE related to this ETL group.	Order to run the ETL group within the control group.	Controls whether to run the group. Y = run ETL group N = do not run ETL group	A description of the record. This value is not used in processing.
LOAD_ALL	LOAD_ADVANCEMENT	1	Y	Advancement Load ETL Control Record
LOAD_ALL	LOAD_AR	2	Y	AR Load ETL Control Record
LOAD_ALL	LOAD_FINANCIAL_AID	3	Y	FinAid Load ETL Control Record
LOAD_ALL	LOAD_FINANCE	4	Y	Finance Load ETL Control Record
LOAD_ALL	LOAD_GENERAL	5	Y	General Load ETL Control Record
LOAD_ALL	LOAD_HUMAN_RESOURCES	6	Y	HR Load ETL Control Record
LOAD_ALL	LOAD_STUDENT	7	Y	Student Load ETL Control Record

Set up the ETL CONTROL GROUP Parameter

Review all of the entries delivered for this parameter. If your institution doesn't maintain some of the areas of Banner ODS data, change the **External Code** value to *N* for those areas. For example, if your institution doesn't use Advancement and Human Resources, change the **External Code** value to *N* for entries that have **Internal Code 2** values of LOAD_ADVANCEMENT or LOAD_HUMAN_RESOURCES.

Create an ETL Control Group

You can define a new ETL Control Group by creating a new set of related ETL Control Group parameter entries. Create one new entry for each ETL Group you want to include in the Control Group using the following steps.

1. Create new entries with a new Control Group name in the **Internal Code 1** field.
2. Specify in the **Internal Code 2** field the ETL Groups that you want to include in the Control Group.

3. Specify that you want to run each ETL Group by entering a *Y* in the **External Code** field.
4. Specify the order in which to run the ETL Groups in the **Internal Code Sequence Number** field.
5. Enter a **description** for the new Control Group entry.
6. Add the new ETL Control Group to the list of subprocesses you can schedule by creating a new Subprocess parameter with the following values:
 - 6.1. **Internal Group**: Subprocess
 - 6.2. **Internal Code 1**: MAPGROUP
 - 6.3. **Internal Code 2**: blank
 - 6.4. **Internal Code Sequence Number**: Number indicating the order in which to run this subprocess.
 - 6.5. **External Code**: the new ETL Control Group name you created. This is the value in **Internal Code 1** in the ETL Control Group entries created above.
 - 6.6. **Description**: Name of the subprocess (ETL Control Group job) as it will appear on the Select a Subprocess administrative page.

PARAMETER Parameter

The Parameter parameter is a processing parameter named “Parameter.” This parameter defines the parameters that you must enter at runtime when you Schedule a Process. Basically, all values set up with the Internal Group of “Parameter” and the same Internal Code 2, display on the Schedule a Process page as the runtime parameters for the job defined by that Internal Code 2 value. The values of this parameter are stored in the MTVPARM table.

For example, when you freeze data in a Banner ODS table, you need to specify which table to freeze and the name you want to give the frozen table. Those two parameters are defined by the first two rows in the table below. When you run any of Banner EDW load jobs, you must supply runtime parameters. Which parameters you need to supply are defined here.

Example.

The Load Banner EDW Employee job uses five runtime parameters—Source Institution, Event, Calendar Year, Calendar MOnth and Replace Event. The last four rows in the table below define some of these parameters. The **Description** field supplies the actual prompt that appears for the parameter on the Schedule a Process page. The **Internal Code 2** defines the job with which the parameter is associated, in this case the

LOAD_EDW_EMPLOYEE job. The **Internal Code 1** defines the parent menu option (on the Select A Process menu) from which you chose the Load Banner EDW Employee job.

This parameter is delivered with one entry for every process parameter. The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: PARAMETER

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
External Code of the process that is parent to this subprocess.	External Code of subprocess for this parameter.	Order for entries with same Internal Code 2 .	Short description of parameter. This value is used in the processing code. Short description of parameter. This value is used in the processing code.	Actual parameter field prompt that appears on Schedule a Process administrative page.
ADHOC_FREEZE		1	TABLE_NAME	Enter Table to Freeze
ADHOC_FREEZE		2	TABLE_HISTORY	Enter Table Name to Freeze to
MAPGROUP-EDW	LOAD_EDW_EMPLOYEE	1	EVENT_IN	Event:
MAPGROUP-EDW	LOAD_EDW_EMPL OYEE	2	CALENDAR_YEAR _IN	Select the calendar year
MAPGROUP-EDW	LOAD_EDW_EMPL OYEE	3	CALENDAR_MONT H_IN	Select the calendar month
MAPGROUP-EDW	LOAD_EDW_EMPL OYEE	4	REPLACE_IND_IN	Replace Event (Check for 'Yes'):

 Note

If the Internal Code 2 field is left blank, the parameter appears for all subprocesses under the parent process in Internal Code 1. For example, the Enter Table to Freeze parameter does not have an entry for Internal Code 2. This parameter value appears for all subprocesses under the ADHOC_FREEZE (Internal Code 1) area

Set up the **PARAMETER** Parameter

The only existing values you should change for this parameter are the descriptions. If you want to change the name of a parameter that appears on the Schedule a Process page, change its description.

If you want to add a process to the Schedule a Process page and it requires input parameters, you need to define the parameters by adding new values for this Parameter parameter.

Create Runtime Parameters to Scheduled Processes

You may add new processes to the Administrative UI that require runtime parameters, or you may want to add runtime parameters to existing processes, for example, a defined Freeze Data list. Create a new record for this Parameter to define a runtime parameter.

The easiest way to understand how to create a new runtime parameter is to review the existing ones. In the previous table, there are two records whose Internal Code 1 = FREEZE_TABLE and the Internal Code 2 field is blank. Each of these records defines a runtime parameter that appears on the Schedule a Process page when Freeze Multiple Banner ODS Tables/Views is selected. The Internal Code 1 field of FREEZE_TABLE on the Parameter record here matches to the External Code of FREEZE_TABLE on the INSTALLED PROCESS parameter.

Example

If you add a runtime parameter to a freeze data list called TEST1, the following steps show the field values needed to create this new parameter.

1. Enter **Internal Group** = *PARAMETER*.
2. Enter **Internal Code 1** = *FREEZE_TABLE*. The parent process for the TEST1 freeze data list.
3. Enter **Internal Code 2** = *TEST1*. The actual name of the freeze data list to associate the parameter.
4. Enter **Internal Code Sequence Number** = 2. The order that parameters are listed at runtime. You can add up to two parameters to a freeze data list.
5. Enter **External Code** = *ACADEMIC_PERIOD*. The actual field value that you want the user to supply at runtime.
6. Enter **Description** = *Enter Term Code*. The prompt that a user needs to supply at runtime.
7. Choose **PARAMETER Type** = *SELECT*. Identifies how the user enters the runtime parameter. The field accepts four values:

- SELECT = User must supply a valid PL/SQL statement.
 - DATE = User must supply a valid date.
 - EDIT = User can supply a text string.
 - CHECKBOX = User must check or uncheck an option.
8. Enter **PARAMETER SQL**. This field is only required when the **PARAMETER Type** is *SELECT*. Enter a valid PL/SQL statement, which is used to populate the valid field values to display in the drop-down list of the runtime prompt.
 9. Enter **PARAMETER SQL Delimiter**. This field is only required when the **PARAMETER Type** is *SELECT* and you use a delimiter in the **PARAMETER SQL** field. Specify the delimiter used in the **PARAMETER SQL** field.

Cleansing (Banner EDW)

Data cleansing is the process of verifying Banner ODS code values and possibly translating them to standardized code values in Banner EDW. The ETL mappings initially load code values and descriptions from Banner ODS into Banner EDW cleansing tables. Using the Administrative UI, Banner EDW administrator can set up cleansing rules specific for the institution.

Some of the cleansing that can take place includes:

- Creating new Banner EDW values based on Banner ODS values
- Changing a Banner ODS description value to a new value in Banner EDW
- Removing duplicate code values
- Creating ranges of Banner ODS codes that become one code in Banner EDW
- Translating multiple Banner ODS values into one Banner EDW value and description
- Customizing the descriptions used in Banner EDW

Example

You might group student levels CE and PR for Continuing Education and Professional into one code called PR - Professional. Similarly, you could combine GR and LW for Graduate and Law into one GR - Graduate code.

Banner EDW Data Cleansing Values table (MGRCVL) stores code values from Banner ODS with the code values they translate to in Banner EDW. Banner EDW Data Cleansing Descriptions table (MGRCDL) stores the descriptions for every Banner EDW code value defined in the MGRCVL table. Values for these tables are loaded from Banner ODS during the Cleansing Load process, which is usually run during Banner EDW installation.

This process is run like all other processes (via the Administrative UI), and can be rerun whenever values in the source system are updated. Running the Cleansing Load process generates a Control Report that lists the number of cleansing values brought over into Banner EDW, as well as checking for any duplicate values/descriptions for any of the defined Data Elements.

You may need to manually add some code value translations. In addition, you may want to add or edit descriptions for some of the code values set up during the installation process. You can use the Administrative UI to add and edit records in the MGRCVAL and MGRCDDES tables. Note that records loaded via the Cleansing Load process are flagged with a “System Maintained” indicator in order to differentiate them from changes you might make, so that your changes are retained when the Cleansing Load process is rerun. Follow the steps below to set up and maintain cleansing processes at your institution.

 Note

To optimize the use of the Academic Period Type cube dimension attribute, you should define a User Short Description for all like academic periods (Fall, Spring, Summer or Semester 1, Semester 2) as appropriate for your institution. ■



Warning

You must set up all cleansing information before you run any jobs to load data into Banner EDW. ■

 Note

This is crucial to ensure that accurate, consistent information is loaded into Banner EDW. It is especially important to verify that the various Event codes and descriptions meet your institution's needs. ■

An Event is a logical point in time when you extract information from Banner ODS and load it into Banner EDW, or a point in time when you snapshot a set of Banner EDW operational star data to be used for reporting purposes essentially freezing the data and giving you a snapshot of the data at that point in time. A logical point in time refers to a conceptual time, not an actual calendar date. For example, a logical time to extract financial information may be at the end of each month or for student registration data on the census date for the academic period.

Before you run the processes that load data into Banner EDW, you need to define events that are relevant for your institution's business needs.

Several event data elements have been delivered with Banner EDW. Events defined within the Administrative UI appear as data elements starting with the word ‘EVENT’ when validating codes and descriptions (such as “EVENT_STUDENT”, “EVENT_HR”, etc.).

Verify MGRCVAl and MGRCDiES Load

When Banner EDW is installed, the Load Banner EDW Data Default Cleansing Values process is run. During that process, values are loaded into the MGRCVAl and MGRCDiES tables with information from Banner ODS tables. Some additional code descriptions are defined using translation, range, and effective date logic in the Load process.

Verify that the Load Banner EDW Data Default Cleansing Values process successfully loaded data into the MGRCVAl and MGRCDiES tables using the Administrative UI. To verify the information, see [“Edit an Existing Code Value Description” on page 3-109](#) and [“Edit Code Value Translation from Source Data” on page 3-112](#).

Set up Descriptions for Code Values

Maintaining code descriptions leaves the code value unchanged, but alters its short and long descriptions in Banner EDW.

1. Click **Maintain Descriptions for Code Values** from the Options menu. The Set Up Descriptions for Code Values page opens.
2. Select a data element from the drop-down list next to **Create**.
3. Click **Create**. The Create a New Description for Code Values page opens.
4. Fill in the required information.
5. Click **Save**.

Edit an Existing Code Value Description

You might want to edit code value descriptions to:

- Change or simplify some of the descriptions to make them more meaningful to the users who create reports against Banner EDW.
- Clean up short descriptions. Short descriptions are recommended to make the best use of the limited space on graphs and reports. Review short descriptions to make sure they are both concise and meaningful.
- Search the data elements to verify that MGRCDiES was populated, and to make institution-specific changes as necessary.

Follow the steps below to edit a code value description:

1. Click **Maintain Descriptions for Code Values** from the Options menu, The Set Up Descriptions for Code Values page opens.
2. Select your search criteria from the **Data Element** drop-down list, and also narrow down your search by entering information into Banner **EDW Prefix** and **Banner EDW Values** fields.
3. Click **Search**. The Select an Existing Descriptions for Code Values page opens.
4. Click **Long Description** for the code value description you want to edit. The Update an Existing Description for Code Values page opens.
5. Enter the new description into the **User Short Description** or **User Long Description** fields.

To enter a code value translation, click **Set Up Values**. The Select an Existing Code Value Translation page opens.

6. Click **Save**.

A description of each field appears below:

Field	Description
Data Element	Name of the field where this data is stored in Banner EDW.
Source	Originating source of data for Banner EDW.
Banner EDW Value	Code that identifies this data element in Banner EDW.
Short Description	Short description for this data in Banner EDW. This is the short description brought over from Banner ODS or supplied by the institution if the translation is newly created in Banner EDW. If the translation is system maintained, you cannot edit this field.
User Short Description	If the translation is system maintained, the institution can supply a short description to be used instead of the system description. The institution's short description is stored in this field and will be used instead of the system description when cleansing values.
Long Description	The long description for this data in Banner EDW. The long description is either brought over from Banner ODS or you supply it if you create the translation in Banner EDW. If the translation is system maintained, you cannot edit this field; it is updated when you run the job.

Field	Description
User Long Description	If the translation is system maintained, the institution can supply a long description to be used instead of the system description. The institution's long description is stored in this field and will be used instead of the system description when cleansing values.
System Maintained?	If <i>Yes</i> , this description was created by the Cleansing Load process based on value in Banner ODS. The code's Short and Long Descriptions reflect the descriptions in Banner ODS.

Create a New Code Value Translation from Source Data

A code value translation takes a code value in Banner ODS source data and converts it into a different value that is used in Banner EDW. You might want to create a translation to:

- Import related data from two systems that use different sets of codes. You can translate the codes from both systems so that they match one set of codes.
- Combine several codes to simplify data in Banner EDW. For example, your enterprise may use several different codes to indicate off-campus housing status. If you want to combine them all for Banner EDW reporting, you can translate all of them to a single new code.
- Take a quantifiable data element and convert it to a series of categories that can be used to group data. For example, you create a series of test score ranges for ACT Composite scores such as 0-10, 11-15, 16-20, 21-25, 26-30, and >30.
- Search data elements to verify that MGRCVAL was populated, and to make Institution-specific changes as necessary.

Note

When you create a new code value translation, you *must* create the descriptions first then associate them with the new code value translation when you add it. Be sure you have created all related code descriptions (in the previous step) before you attempt to create a new code value translation. ■

1. From the Options menu, click **Translate Code Values** from Source Data. The Set Up Code Values from Source Data page opens.
2. Choose the relevant data element from the drop-down list next to **Create** on the Set Up Code Values from Source Data page.
3. Click **Create**. The Create a Code Value Translation page opens.

To enter a code value description, click **Set Up Descriptions**. The Select an Existing Description for Code Values page opens.

If the description will be used to sort range values, consider what characters to use in the description text. Ranges may not sort correctly if there are alphabetic or special characters in the text.

Example

Insert a space character at the beginning of the description for <30.00 to ensure that this is the first entry in the sorted list. The column on the left is an example of a range set sorted using the <,>. The column on the right has the space at the beginning of the <30.00 to force it to the top.

30.00 - 69.99	<30.00
70.00 - 99.99	30.00 - 69.99
<30.00	70.00 - 99.99
> 100.00	> 100.00

4. Fill in the required information.

You can type a single Banner ODS source code value in the **Source From Value** field, or you can also fill in the **Source To Value** field to delineate a “from...to” range of values.

5. Click **Save**.

Edit Code Value Translation from Source Data

1. From the Options menu, click **Translate Code Values** from Source Data. The Set Up Code Values from Source Data page opens.
2. Select a data element from the drop-down list on the Set Up Code Values from Source Data page.
3. Click **Search**. The Select an Existing Code Value Translation page opens.
4. In the list of code value translations, under Banner **EDW Long Description** column, click the link to the existing code value translation you want to edit.
5. Change the information as needed. A description of each field appears below:

Field	Description
Data Element	The name of the field where this data is stored in Banner EDW.
Source	The source of the data (your default institution or appropriate MEP value)
Source Value	The code value in the source Banner ODS data.
Banner EDW Value	The code that identifies this data element in Banner EDW.
System Required?	If <i>Yes</i> , this translation record is maintained via the Cleansing Load process; you cannot delete it.

6. Click **Save**.

Change Multi_Source Records of the Cleansing Default Values Parameter

After the initial installation of the Banner EDW, you may find that you need to change the three MULTI_SOURCE records of the Cleansing Default Values parameter. If this is the case, you also need to change some parameter values for the CLEANSING SOURCES and the EDW EXTRACT PARAMETERS parameters to make all of the new parameter values match correctly. The following table shows the new parameter values that should match across the three different parameters.

Parameter	Internal Code 1	External Code	Description
CLEANSING DEFAULT VALUES	MULTI_SOURCE_CLEANSSE_LONG		<new institution long description>
	MULTI_SOURCE_CLEANSSE_SHORT		<new institution short description>
	MULTI_SOURCE_CLEANSSE_VALUE		<new institution code>
CLEANSING SOURCES	<new institution code>	<new institution long description>	<new institution short description>
EDW EXTRACT PARAMETERS	MULTI_SOURCE_GROUP	<new institution code>	<new institution long description>

There are other tasks you need to perform when you change the three MULTI_SOURCE records of the CLEANSING DEFAULT VALUES parameter. Perform the following steps to make the parameter changes complete in the Banner EDW.

1. Change the values for these CLEANSING DEFAULT VALUES parameter records:

- MULTI_SOURCE_CLEANSER_VALUE: Description = <new institution code>
- MULTI_SOURCE_CLEANSER_SHORT: Description = <new institution short description>
- MULTI_SOURCE_CLEANSER_LONG: Description = <new institution long description>

 Note

You can change the CLEANSING DEFAULT VALUES parameter by running an update script or using the Banner EDW Administrative User Interface (Admin UI). You should perform either step [1.1](#) or step [1.2](#). ■

1.1. Run an update script like the following in the IA_ADMIN schema:

```
UPDATE MTVPARM
  SET MTVPARM_DESC = '<new institution code>'
WHERE MTVPARM_INTERNAL_CODE_GROUP = 'CLEANSING DEFAULT VALUES'
  AND MTVPARM_INTERNAL_CODE = 'MULTI_SOURCE_CLEANSER_VALUE';
UPDATE MTVPARM
  SET MTVPARM_DESC = '<new institution short description>'
WHERE MTVPARM_INTERNAL_CODE_GROUP = 'CLEANSING DEFAULT VALUES'
  AND MTVPARM_INTERNAL_CODE = 'MULTI_SOURCE_CLEANSER_SHORT';
UPDATE MTVPARM
  SET MTVPARM_DESC = '<new institution long description>'
WHERE MTVPARM_INTERNAL_CODE_GROUP = 'CLEANSING DEFAULT VALUES'
  AND MTVPARM_INTERNAL_CODE = 'MULTI_SOURCE_CLEANSER_LONG';
COMMIT;
```

1.2. Use the Banner EDW Admin UI to change the CLEANSING DEFAULT VALUES parameter values.

 Note

If you already ran the script in step [1.1](#), you can skip to step [2](#). ■

1.2.1. In the Banner EDW Admin UI, select **Options**.

1.2.2. Select **Set Up Parameters**.

1.2.3. Choose **CLEANSING DEFAULT VALUES** from the Internal Groups list.

1.2.4. Click **Search**.

1.2.5. Find the record with an Internal Code 1 of MULTI_SOURCE_CLEANSER_VALUE and click its **Description**.

1.2.6. Change the **Description** to the value that your institution would like to use for the MULTI_SOURCE_CLEANSE_VALUE in the Banner EDW.

1.2.7. Click **Save**.

1.2.8. Return to the list of Cleansing Default Values and repeat steps [1.2.5](#) to [1.2.7](#) for both the MULTI_SOURCE_CLEANSE_SHORT, and MULTI_SOURCE_CLEANSE_LONG values.

2. Change these values of the CLEANSING SOURCES parameter:

- Internal Code 1 = <new institution code>
- Description = <new institution short description>
- External Code = <new institution long description>

 Note

You can change the CLEANSING SOURCES parameter by running an update script or using the Banner EDW Admin UI. You should perform either step [2.1](#) or step [2.2](#). If you are changing the Internal Code 1 value, you need to perform step [2.1](#) and use the script method. ■

2.1. Run an update script like the following in the IA_ADMIN schema:

```
UPDATE MTVPARM
SET MTVPARM_INTERNAL_CODE = '<new institution code>'
  MTVPARM_DESC = '<new institution short description>'
  MTVPARM_EXTERNAL_CODE = '<new institution long description>'
WHERE MTVPARM_INTERNAL_CODE_GROUP = 'CLEANSING SOURCES'
  AND MTVPARM_SYS_REQ_IND = 'Y';
COMMIT;
```

Make sure that the values you enter here, match the new institution code, short and long description values that you used for the related CLEANSING DEFAULT VALUES in step [1](#).

2.2. Use the Banner EDW Admin UI to change the CLEANSING SOURCES parameter values.

 Note

If you already ran the script in step [2.1](#), you can skip to step [3](#). ■

2.2.1. In the Banner EDW Admin UI, select **Options**.

2.2.2. Select **Set Up Parameters**.

2.2.3. Choose **CLEANSING SOURCES** from the Internal Groups list.

2.2.4. Click **Search**.

2.2.5. Click the **Description** for this value.

2.2.6. Change the values for the following fields of this parameter

- Internal Code 1 = <new institution code> You cannot change this value in the Banner EDW Admin UI. If you need to make a change to the Internal Code 1 value, perform step [2.1](#) and use the script method.
- Description = <new institution short description>
- External Code = <new institution long description>

Make sure that the values you enter here, match the new institution code, short and long description values that you used for the related CLEANSING DEFAULT VALUES in step [1](#).

3. Change these values of the MULTI_SOURCE_GROUP record for the EDW EXTRACT PARAMETERS parameter:

- External Code = <new institution code>
- Description = <new institution long description>
- Internal Code 2 = <new institution code>



Note

You can change the EDW EXTRACT PARAMETERS parameter by running an update script or using the Banner EDW Admin UI. You should perform either step [3.1](#) or step [3.2](#). ■

3.1. Run an update script like the following in the IA_ADMIN schema:

```
UPDATE MTVPARM
  SET MTVPARM_DESC = '<new institution long description>'
    MTVPARM_EXTERNAL_CODE = '<new institution code>'
    MTVPARM_INTERNAL_CODE_2 = '<new institution code>'
  WHERE MTVPARM_INTERNAL_CODE_GROUP = 'EDW_EXTRACT_PARAMETERS'
    AND MTVPARM_INTERNAL_CODE = 'MULTI_SOURCE_GROUP'
    AND MTVPARM_SYS_REQ_IND = 'Y';
COMMIT;
```

3.2. Use the Banner EDW Admin UI to change the EDW EXTRACT PARAMETERS parameter values.

3.2.1. In the Banner EDW Admin UI, select **Options**. Note: If you already ran the script in step [3.1](#), you can skip to step [4](#).

3.2.2. Select **Set Up Parameters**.

3.2.3. Choose **EDW EXTRACT PARAMETERS** from the Internal Groups list.

3.2.4. Click **Search**.

3.2.5. Find the record with an Internal Code 1 of MULTI_SOURCE_GROUP and click its **Description**.

3.2.6. Change the values for the following fields of this parameter

- External Code = <new institution code>
- Description = <new institution long description>
- Internal Code 2 = <new institution code>

Make sure that the values you enter here, match the new institution code and long description values that you used for the related CLEANSING DEFAULT VALUES in step [1](#).

3.2.7. Click **Save**.

4. Truncate the MGRCVAl table then truncate the MGRCDDES table. Be sure to truncate the MGRCVAl table first.

4.1. Truncate the MGRCVAl table using the following command
TRUNCATE TABLE “MGRCVAl”

4.1. Truncate the MGRCDDES table using the following command
TRUNCATE TABLE “MGRCDDES”

5. Execute the script mgrcdes_mgrcval_data_edw.sql located in the ia_admin/base/dbscripts directory.

6. Access the Banner EDW Admin UI and reload the default cleansing values.

 Note

This step updates a different set of cleansing values and descriptions than those updated by the mgrcdes_mgrcval_data_edw.sql script in the previous step. ■

6.1. In the Banner EDW Admin UI, select **Options**.

6.2. Select **Schedule a Process**.

6.3. Select **Banner EDW Utilities**.

6.4. Select **Load Banner EDW Data Default Cleansing Values**.

6.5. Keep the default value of *Load_All_Elements* in the **Cleansing Element to Load** field.

6.6. Enter *NOW* in the **Run Date** and **Run Time** fields or you can select another date and time for the process to run.

6.7. Click **Submit**.

- 7.** (Optional) Reset the sequence used for WDT_MULTI_SOURCE and delete the existing record from WDT_MULTI_SOURCE.
- 8.** Change the MULTI_SOURCE values in the WDT_MULTI_SOURCE dimension table to match the new institution code, short and long descriptions.

 Note

You can change the MULTI_SOURCE values by changing them directly in the WDT_MULTI_SOURCE table or by reloading the Banner EDW Operational and Snapshot stars. You should perform either step [8.1](#) or step [8.2](#). ■

8.1. Access the WDT_MULTI_SOURCE table and change the following values:

- MULTI_SOURCE = <new institution code>
- MULTI_SOURCE_SD = <new institution short description>
- MULTI_SOURCE_LD = <new institution long description>

8.2. Reload the Banner EDW operational stars and supporting dimensions. Perform the sub-steps of this step for each of these processes:

- Load/Refresh Calendar Date Dimension
- Load/Refresh Event Dimension
- Load/Refresh Indicator Dimension
- Load/Refresh All Banner EDW General
- Load/Refresh All Banner EDW Student

 Note

If you already made changes to the WDT_MULTI_SOURCE table in step [8.1](#), you are finished and can skip the remaining steps. If you choose to follow step [8.2](#) and reload the stars, the new MULTI_SOURCE values will only take effect in the reloaded stars. Any stars that you do not reload will use the previous MULTI_SOURCE values. ■

8.2.1. In the Banner EDW Admin UI, select **Options**.

8.2.2. Select **Schedule a Process**.

8.2.3. Select **Schedule Banner EDW Operational Mappings**.

8.2.4. Click one of the processes identified in the bulleted list of this step, for example, **Load/Refresh All Banner EDW General**.

8.2.5. Choose *L - (L)oad* in the **Process Indicator** field.

- 8.2.6.** Enter *NOW* in the **Run Date** and **Run Time** fields or you can select another date and time for the process to run.
- 8.2.7.** Click **Submit**.
- 8.2.8.** Repeat steps [8.2.1](#) through [8.2.7](#) for each mapping and dimension identified in the bulleted list of this step.

Cleansing Parameters

To set up cleansing rules, use the options Maintain Descriptions for Code Values and Translate Code Values From Source Data on the Options menu in the Administrative UI. These two options use the parameters in this section. You may need to add or change parameter values before you can successfully run one of the processes.

A parameter can include multiple values. The values for a single parameter all use the same **Internal Code**. Use the **Internal Code** to choose a parameter for editing on the Set Up a Parameter page. The parameters used for cleansing purposes and defined in this section include:

Parameter Name	Internal Group
Cleansing Data Elements	CLEANSING DATA ELEMENTS
Cleansing Default Link	CLEANSING DEFAULT LINK
Cleansing Default Values	CLEANSING DEFAULT VALUES
Cleansing Eff Date Elements	CLEANSING EFF_DATE ELEMENTS
Cleansing Prefix Elements	CLEANSING PREFIX ELEMENTS
Cleansing Range Elements	CLEANSING RANGE ELEMENTS
Cleansing Sources	CLEANSING SOURCES

CLEANSING DATA ELEMENTS Parameter

This parameter is used during the cleansing process when building the dimension tables for Banner EDW star schemas. This parameter defines the Data Elements that exist within each dimension. A Data Element is a piece of information that needs to be cleansed, for example, some data elements in the Finance area include Account, Fiscal Year, Fund, and Grant.

This parameter is delivered with one entry for every Data Element within a dimension table. The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: CLEANSING DATA ELEMENTS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Data warehouse dimension table.	Dimension table name in the star schema where this Data Element is stored.	N/A	Column name in the star schema dimension table where this Data Element is stored.	Data Element being defined.
GENERAL_LEDGER	WDT_ACCOUNT	1	ACCOUNT	ACCOUNT
GENERAL_LEDGER	WDT_ACCOUNT		ACCOUNT_TYPE	ACCOUNT_TYPE
GENERAL_LEDGER	WDT_FUND	1	FUND	FUND
GENERAL_LEDGER	WDT_FUND	1	FUND_TYPE	FUND_TYPE
GENERAL_LEDGER	WDT_TIME	1	FISCAL_YEAR	CALENDAR_YEAR

Set up the Parameter

This parameter is delivered with all of the values you need. You should not change any of the existing entries for this parameter.

If you add a new dimension table or add information to an existing dimension table in Banner EDW, then you need to add a value to this parameter defining the new data elements for that dimension.

CLEANSING DEFAULT LINK Parameter

Banner EDW uses this parameter to set up links between Data Elements and Banner ODS values which are used to load default cleansing translations and descriptions. If a Data Element has a concept in a Banner ODS table or view from which its default values and descriptions can be loaded, the specifics of that association or link is entered here.

The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: CLEANSING DEFAULT LINK

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
	N/A	N/A		Default value to be entered into related field.
ACADEMIC_PERIOD	MGT_VALIDATION	1	STVTERM	Cleansing link for ACADEMIC_PERIOD
ACADEMIC_PROGRAM	MGT_VALIDATION	1	SMRPRLE	Cleansing link for ACADEMIC_PROGRAM
ACADEMIC_YEAR	MGT_VALIDATION	1	STVACYR	Cleansing link for ACADEMIC_YEAR

CLEANSING DEFAULT VALUES Parameter

During the cleansing process, some values may not cleanse properly or may contain “null” values. This parameter defines the default values to put in the Long Description, Short Description, and Value fields in Banner EDW for any “bad” or “null” data.

This parameter is delivered with one entry for every field that gets populated with default data when there is a problem during cleansing. The second row gives a definition of each field.

Internal Group: CLEANSING DEFAULT VALUES

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
	N/A	N/A		Default value to be entered into related field.
BAD_CLEANSE_LONG		1	BAD_CLEANSE_LONG	***Warehouse Description Undefined***
BAD_CLEANSE_SHORT		1	BAD_CLEANSE_SHORT	Desc Undefined
BAD_CLEANSE_VALUE		1	BAD_CLEANSE_VALUE	#####
MULTI_SOURCE_CLEANSE_LONG	N/A	1	MULTI_SOURCE_CLEANSE_LONG	Insert a default long description for your institution.

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
MULTI_SOURCE_CLEANS_SHORT	N/A	1	MULTI_SOURCE_CLEANS_SHORT	Insert a default short description for your institution.
MULTI_SOURCE_CLEANS_VALUE	N/A	1	MULTI_SOURCE_INST	Multi-Source institution
NULL_CLEANS_LONG		1	NULL_CLEANS_LONG	***Data Not Available***
NULL_CLEANS_SHORT		1	NULL_CLEANS_SHORT	Data Not Avail
NULL_CLEANS_VALUE		1	NULL_CLEANS_VALU E	????????????????????

Set Up the Parameter

This parameter is delivered with one value for each field that gets loaded with a default message when the data is bad or “null.” If you would like to customize the default value that is entered in a “null” of bad data field, change the description for that field. However, be sure your custom value or descriptions are not “null”.

CLEANSING EFFECTIVE DATE ELEMENTS Parameter

Code descriptions can vary over time. For example, in Finance information, the description for an account code can change from month to month. This means you need to associate an effective date with the account to properly cleanse it and get the correct description.

This parameter determines whether the data being cleansed requires an effective date. This parameter defines which data elements within the system require an effective date.

This parameter is delivered with one entry for every data element within a system that requires an effective date as illustrated by the following table. The table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: CLEANSING EFF_DATE ELEMENTS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Source system of the Data Element.	N/A	N/A	Data Element that requires an Effective Date.	Can be used to describe the specific parameter. Not used in processing but is required.
SOURCE	N/A	N/A	COLUMN_NAME	Effective date cleansing element example: COLUMN_NAME Requires Effective Dates

Set Up the Parameter

This parameter is delivered with all of the values you need. You should *not* change any of the existing entries for this parameter.

CLEANSING PREFIX ELEMENTS Parameter

This parameter is used during the cleansing process to determine when to combine the values of one data element with the values of another data element as a prefix.

Defining a data element as a prefix data element sets up a relationship between two data elements that gives you all combinations of both elements' values as new values. This concept is most used in the area of finances where you want to look at all values of some data elements (fund, account, organization) across all values of your charts of accounts. Lets look at an example.

Example

In accounting business practices, you typically structure your funds and charts of accounts so that the same funds occur within every chart of accounts. In essence, you associate every chart of accounts value with every fund value to create a combination of values. Suppose you have the following chart of account and fund values:

Chart of Accounts Values	Fund Values
A	1000
B	2000
	3000

Ultimately, you want to be able to report on all combinations of chart of accounts values with fund values. The combined values would look like this:

Combined Chart of Accounts + Funds Values

A1000

A2000

A3000

B1000

B2000

B3000

The CLEANSING PREFIX ELEMENTS parameter is delivered with one entry for every data element that requires a prefix. The following table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: CLEANSING PREFIX ELEMENTS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Source system of the Data Element.	Data Element whose values will become the prefix for values of data element specified in the External Code .	N/A	Data Element whose values will combine with the values of prefix data element specified in the Internal Code 2 .	Can be used to describe the specific parameter. Not used in processing but is required.
O	CHART_OF_ACCOUNTS	1	ACCOUNT	ACCOUNT Requires Prefixes
O	CHART_OF_ACCOUNTS	1	ACCOUNT_TYPE	ACCOUNT TYPE Requires Prefixes
O	CHART_OF_ACCOUNTS	1	FUND	FUND Requires Prefixes
O	CHART_OF_ACCOUNTS	1	FUND_TYPE	FUND TYPE Requires Prefixes
O	CHART_OF_ACCOUNTS	1	LOCATION	LOCATION Requires Prefixes

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
O	CHART_OF_ACCOUNTS	1	ORGANIZATION_CODE	ORGANIZATION_CODE Requires Prefixes
O	CHART_OF_ACCOUNTS	1	PROGRAM	PROGRAM Requires Prefixes

Set Up the Parameter

This parameter is delivered with all of the values used by Banner EDW during cleansing. You should not change any of the existing entries for this parameter.

You can add new values for this parameter if there are other data elements that you want to define with a prefix.

CLEANSING RANGE ELEMENTS Parameter

Sometimes distinct values from the source system get combined into a range of values in the Banner EDW. For example, you can create a series of test score ranges for ACT Composite scores such as 0-10, 11-15, 16-20, 21-25, 26-30, and >30. You can then use these ranges to group students according to their test score. If a student has an ACT Composite score of 28, the score would be cleansed and stored in the 26-30 test score range.

This parameter determines whether the information being cleansed belongs to one of the data elements that uses a range of values.

This parameter is delivered with one entry for every Data Element that uses a range of values as illustrated by the following table. The table illustrates a sample of the values as delivered. This is just a sample. The second row gives a definition of each field.

Internal Group: CLEANSING RANGE ELEMENTS

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
Source system of the Data Element.	N/A	N/A	Data Element that requires Range Values.	Can be used to describe the specific parameter. Not used in processing but is required.
O		1	ACADEMIC_PERCENTILE_RANGE	ACADEMIC_PERCENTILE_RANGE Requires Range Values

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
O		1	ANNUAL_SALARY_RANGE	ANNUAL_SALARY_RANGE Requires Range Values
O		1	BILL_DATE_AGING	BILL_DATE_AGING Requires Range Values
O		1	EFFECTIVE_DATE_AGING	EFFECTIVE_DATE_AGING Requires Range Values
			PLEDGE_RANGE	PLEDGE_RANGE Requires Range Values
			TEST_SCORE_RANGE	TEST_SCORE_RANGE Requires Range Values
			YEARS_OF_SERVICE_RANGE	YEARS_OF_SERVICE_RANGE Requires Range Values

Set Up the Parameter

This parameter is delivered with all of the values you need. You should not change any of the existing entries for this parameter.

If you add information that is cleansed by a range to an existing dimension table in Banner EDW, then you need to add a value to this parameter defining the new Data Element for that dimension.

CLEANSING SOURCES Parameter

Use this parameter to find the cleansing rules for a specific source system. It defines the data sources to Banner EDW. Use the External Code values of this parameter in the **Source** field when you are setting up code value translations and descriptions.

This parameter is delivered with one default entry. The table below illustrates a sample of the values as delivered. The second row gives a definition of each field.

Internal Group: CLEANSING SOURCES

Internal Code 1	Internal Code 2	Internal Code Seq.	External Code	Description
The source code actually used in extract and cleansing jobs.	N/A	N/A	The data source.	
MULTI_SOURCE_INST	N/A	1	Multi-Source Institution Description	Banner ODS Default Source

Set Up the Parameter

Note

The value for INTERNAL_CODE_1 must match the MULTI_SOURCE values loaded from Banner ODS. Therefore, the INTERNAL_CODE_1 for the delivered CLEANSING SOURCE should match the EXTERNAL_CODE for the CLEANSING_DEFAULT_VALUES that should have an INTERNAL_CODE_1 of MULTI_SOURCE_CLEANSING_VALUE.

List Events for a Banner EDW Star (Banner EDW)

Use this option to view a list of events that were loaded for each Banner EDW Star. All the time dimension information displays for job events which have been run.

The EDW_EVENT_LISTING parameter determines which columns you want to display on the List Events for a Banner EDW Star page.

1. Click **Options** from the Administrative UI menu. The Options menu opens.
2. Click **List Events for a Banner EDW Star**. The List Events for a Banner EDW Star page opens.
1. Choose the star you want to review from Banner **EDW Star** drop-down list on the List Events for a Banner EDW Star page.
2. Click **List Events**.

Utilities (Banner ODS and Banner EDW)

The Utilities process contains utility jobs/processes that perform various administrative tasks, and provide on-going maintenance of Banner ODS and Banner EDW. For example, the Utilities option enables you to compare the number of rows in one table or multiple tables in the source system with the number of rows in the composite tables in Banner ODS. You can also check for potential problems that may cause performance issues.

Once a job is completed, a control report is created. When discrepancies are found, the control report indicates the number of records found in each object, as well as the key values for the records that are not synchronized.

Each sub-process is described in the sections below.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Report Banner ODS Source Change Table Counts

The Report Banner ODS Source Change Table Counts produces a control report that calculates how many rows are in each of the source system Change tables for each Banner ODS Composite table. This enables you to monitor the accumulation of Change records for a particular Composite table.

Depending on how many rows are in a Change table for a given Banner ODS Composite table, it may be more efficient to run a Load process instead of the Refresh process. Determining which process to run is a matter of individual experience with Load/Refresh times for various Composite Tables.

Change Tables and Control Reports

The row count totals that are reported in a Control Report for a given mapping reflect all rows that OWB accesses during the processing of that mapping. So, for a given DELETE mapping, OWB may SELECT 500 records, and then DELETE 500 records. Alternatively, if there is a filter condition applied in the mapping, the number SELECTED and DELETED (and/or UPDATED) may vary, based on the filter condition. Typically, these filter conditions occur to “filter” out change records associated with other processes. As an example, the SPRPCHG table processes many PIDM based tables, including SPRIDEN, SPBPERS, SPRADDR and SPRTELE. If the DELETE and UPDATE mappings for the Address process were running, and the SPRPCHG table had 100 records in it for different processes, the DELETE_MST_ADDRESS mapping would “select” all 100 records, but then it would only filter out and pass along those records where the field “SPRPCHG_TABLE_NAME” was equal to “ADDRESS”. Therefore, the delete would only “delete” those records, which would be the subset of the overall “selected” count.

The Change Tables contain the identifying data (sometimes the primary key value) about the records that are modified in the Banner system. Hence, if a record in a Banner table is edited 5 times, only one record will appear in the Change Table for it, which the Refresh process uses to know to bring the entire row of data over to the ODS for that record. Further, some of the Change Tables are used by multiple mappings, so the mappings will typically apply a filter when accessing the Change Table. This means that the row count totals in the Control Reports will usually not match up directly with the Change Table counts, though there are some cases of Changes Tables that are used only by a single mapping and that mapping also doesn't apply filter conditions.

Example

Addresses are managed through the ETL process by PIDM. If a person has 10 addresses and 3 of them change, then there is one record in the SPRPCHG table with the PIDM of the changed record, it has in it the most recent date/time of the last DML activity, and it also reflects the most recent DML action (C- change, D- Delete, or U- update). The delete mapping deletes all 10 addresses for that PIDM from the ODS even though there is only one record in the change table. The update mapping adds all the address records using the AS_ADDRESS composite view where the PERSON_UID field in the view matches the PIDM in the SPRPCHG table (ultimately re-adding all 10 addresses). Thus, a single change table entry results in 10 records being deleted and 10 records being inserted. The Change Table Counter process attempts to handle the change tables that are used by multiple mappings. That is, for a given DELETE mapping, it parses the mapping (PL/SQL) code for the default value of the second parameter (P_TABLE) which it then uses to construct the following SQL: code:

```
= 'SELECT COUNT(*) FROM ' || parm1Value || '@' || linkName || ' WHERE ' ||  
parm1Value || '_TABLE_NAME=' || parm2Value || '''; where parm1Value is the  
CHG_TABLE value and parm2Value is the P_TABLE value.
```

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Synchronize Comments for a Single Reporting View

Run this process to generate comments on a reporting view. The meta data Business Definition for the reporting view and the meta data business definition for each of the columns is copied from the meta data into the database **Comments** field.

This process is scheduled from Banner ODS Utilities menu. (See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule a process.) The same functionality is also available by selecting the **Sync Comments** link on the View Target Report page. (See [“Synchronize Meta Data Comments with Reporting Views” on page 3-169](#) for instructions.)

Synchronize Comments for Multiple Reporting Views

Run this process to generate comments on multiple reporting views. The meta data Business Definitions for each reporting view and the meta data business definitions for each of the columns is copied from the meta data into the database **Comments** field.

This process is scheduled from Banner ODS Utilities menu. (See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule a process.) The same functionality is available by selecting the **Sync Comments** link on the View Target Report page. (See [“Synchronize Meta Data Comments with Reporting Views” on page 3-169](#) for instructions.)

Banner ODS Checks and Balances

Banner ODS Checks and Balances utility processes can be run after an upgrade or intermittently to verify the following:

- **Check Mappings and Parameters**
Verifies that all Banner ODS Mapping packages have been created in the database and are valid. This process also confirms that all ETL MAP PACKAGE parameters have a corresponding DELETE*, LOAD* and UPDATE* package (for example, LOAD_MAT_GIFT, UPDATE_MAT_GIFT, DELETE_MAT_GIFT).
- **Check Meta data**
Compares the defined total of Banner ODS baseline delivered meta data records to a count of the records in Banner ODS to determine if the meta data records have loaded successfully
- **Miscellaneous Checks**
Verifies that the database link to the source system exists and is working.
- **Check Indexes**
Confirms that all Banner ODS baseline indexes exist. Any missing baseline or local indexes are reported. If there are local indexes you would like verified by this process, insert the appropriate data into the MGBINDX table.
- **Freeze Table Changes**
As new versions of Banner ODS are released, Reporting views may have new columns added and, in some cases, existing column names changed. Therefore, if you have created freeze table data in earlier versions of Banner ODS, those table structures may become out of sync with newer versions of Reporting views, causing subsequent freeze processes to fail.

This process compares the table structure of any existing freeze table data against the current Reporting view, and any column discrepancies are reported. In addition,

the appropriate Oracle 'ALTER TABLE' statement is also provided in the control report so you can resynchronize your freeze tables with the Reporting views.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Reconcile Multiple Banner ODS Tables

Reconcile Multiple Banner ODS Tables compares the number of records for all Banner ODS composite tables (by subject area) with the corresponding Banner source composite views.

You can run this process at any time to verify that the source system and Banner ODS are synchronized. However, it is recommended that it is run directly after a LOAD or REFRESH, otherwise the counts will be off by the number of records in the change tables. You could also run the process during evening or non-processing hours to ensure that processing on the source system is not producing discrepancies in the reconciliation process.

The reconciliation process checks the source and Banner ODS objects dynamically. The process pulls SQL from the load mappings that are created and deployed from Oracle Warehouse Builder. Occasionally, Banner ODS tables are omitted from the reconciliation process because of the complexity of multiple sources of the mappings. These exceptions can be found in the Administrative UI, Set Up Parameters, under the Internal Group parameter [“ETL MAP PACKAGE RECONCILE LOGIC Parameter” on page 3-100](#). The search displays a list of mappings that have been identified to ignore, or mappings that have multiple sources composite views.

1. From the main menu, click **Options**.
2. Click **Schedule a Process**.
3. Click **Banner ODS or Banner EDW Utilities**.
4. Click **Reconcile Multiple Tables**.
5. To display the .sql statement used in the process, check the **Show SQL** check box.
6. Select the **Reconciliation Type** drop-down list to choose whether to run the reconcile process by row counts or data.

Rowcounts

Data is compared between the Banner ODS composite table and Banner composite view by counting the number of rows in each, based on the primary keys (which are determined from the indexes on the composite views). If the row counts do not agree, a warning message displays in the Control Report indicating the row counts in both systems and the primary key values.

Data

Every value in every column is compared between the two systems based on the primary key. Discrepancies and primary key information are displayed in the Control Report. The data reconcile process can require a lot more processing power and hence can run longer than rowcount mode.

7. Enter the remaining required fields.
8. Click **Submit** to schedule the process to run.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Reconcile a Single Banner ODS Table

Reconcile a Single Banner ODS Table compares the number of records in a single Banner ODS composite table with the corresponding composite view in the source database. To display the .sql statement used in the process, check the **Show SQL** check box.

You can run this process at any time to verify that the source system and Banner ODS are synchronized. However, it is recommended that it is run directly after a LOAD or REFRESH, otherwise the counts will be off by the number of records in the change tables. You could also run the process during evening or non-processing hours to ensure that processing on the source system is not producing discrepancies in the reconciliation process.

The reconciliation process checks the source and Banner ODS objects dynamically. The process pulls SQL from the load mappings that are created and deployed from Oracle Warehouse Builder. Occasionally, Banner ODS tables were omitted from the reconciliation process because of the complexity of multiple sources of the mappings. These exceptions can be found in the Administrative UI, Set Up Parameters, under the Internal Group parameter ETL MAP PACKAGE RECONCILE LOGIC. The search displays a list of mappings that have been identified to ignore, or mappings that have multiple sources composite views.

1. Click **Options**.
2. Click **Schedule a Process**.
3. Click **Banner ODS or Banner EDW Utilities**.
4. Click **Reconcile Single Tables**.
5. To display the .sql statement used in the process, check the **Show SQL** check box.
6. Select the **Reconciliation Type** drop-down list to choose whether to run the reconcile process by row counts or data.

Rowcounts

Data is compared between the Banner ODS composite table and Banner composite view by counting the number of rows in each, based on the primary keys (which are determined from the indexes on the composite views). If the row counts do not agree, a warning message displays in the Control Report indicating the row counts in both systems and the primary key values.

Data

Every value in every column is compared between the two systems based on the primary key. Discrepancies and primary key information are displayed in the Control Report. The data reconcile process can require a lot more processing power and hence can run longer than row count.

7. Check the **Retain Output Table** check box to keep the temporary output table.

The data option uses a temporary output table to store results. This table is normally deleted when the process completes, but it can be retained (primarily for troubleshooting).

8. Enter the remaining required fields.
9. Click **Submit** to schedule the process to run.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Transfer Banner Fine-Grained Access

Use Transfer Banner Fine-Grained Access to transfer data for Banner Finance Fund, Fund Type, and Organizations, and for Banner Human Resources Organizations and Employee Class from Banner to Banner ODS.

Prerequisites

- [“Set up and Maintain Organizational Areas” on page 3-17](#)
- [“Banner User ID Translations” on page 3-19](#)
- [“Set up Business Profiles” on page 3-22](#)
- [“Set up and Maintain Security Rules” on page 3-25](#)
- [“Policy Management” on page 3-48](#)
- [“Transfer Banner Fine-Grained Access” on page 3-133](#)

1. Click **Options**.
2. Click **Schedule a Process**.

3. Click **Banner ODS or Banner EDW Utilities**.

4. Click **Transfer Banner Fine-Grained Access**.

Schedule a Process

To submit this subprocess to the job queue, fill in the information below, then click Submit.

* - indicates a required field.

Process to Schedule	
Banner ODS Utilities	
Transfer Banner Fine-Grained Access	

Process Parameters	
Finance: Transfer Fund/Organization FGA? *	☒
HR: Transfer Organization FGA? *	☒
HR: Transfer Employee Class FGA? *	☒

5. Check the boxes that correspond to the fine-grained access security permissions you want to transfer.

6. Click **Submit** to schedule the process to run.

The transfer checks GUBINST to see if Banner Finance or Banner Human Resources is installed. If it is not, then a warning message displays.

Also, if Banner Finance is not installed, then the Banner Finance Fund/Organization transfer is bypassed. If Banner Human Resources is not installed, then both the Human Resources Organizations and Employee Class transfers are bypassed.

The data is transferred using the ODSMGR XXXX@SOURCE_DB database link. Whether the data transfers to Banner ODS or not is based on whether security is turned on in Banner in the following areas:

- Finance: FOBSYSC_FUND_ORG_SECURITY_IND
- Human Resources Organization: PTRINST_ORGN_SECURITY_IND
- Human Resources Employee Class: PTRINST_ECLS_SECURITY_IND

In the Banner ODS Administrative UI (**Options** tab, **Set up Parameters** link) there are three process/job parameters under the Internal Group of BANNER TO ODS FGA TRANSFER which indicate whether or not Banner security settings should affect the job. By default, all three parameters are set to *N* (maintained on the Update a Parameter Administrative UI web page).

In Banner, FOBSYSC_FUND_ORG_SECURITY_IND, from the Banner FOBSYSC table, indicates whether or not Banner Finance Fund and Organizations security is active. For the Banner Finance Fund and Organizations transfer, the BANNER TO ODS FGA

TRANSFER parameter with a value for Internal Code 1 of FINANCE FUND/ORG SECURITY ACTIVE determines whether not to consider the value of FOBSYSC_FUND_ORG_SECURITY_IND. If the job parameter has an external Code of Y, then this indicates that Banner Finance Fund and Organizations security must be turned on for the Fund/Org transfer to occur. If it is not tuned on, a warning message is displayed and the Banner Finance Fund and Organizations transfer is bypassed. If the external Code is N, then this indicates to go ahead and run the Finance Fund/Org transfer, regardless of whether Banner Fund/Org security is active.

The BANNER TO ODS FGA TRANSFER parameters with internal Codes of HR ORG SECURITY MUST BE ACTIVE and HR ECLS SECURITY MUST BE ACTIVE perform the same function against PTRINST_ORGN_SECURITY_IND and PTRINST_ECLS_SECURITY_IND respectively. After these parameters have been evaluated, the transfer begins.

At this point the data transfer begins and MGBXWLK is checked. The way that MGBXWLK has been configured, i.e., which of the four set up options you have chosen, determines how value-level data is written to MGBFGAV and column-level data is written to MGBFGAE.

The Finance Fund/Org transfer reads data from FORUSFN and FORUSOR and transfers user permissions for individual Funds and Organizations to IA_ADMIN.MGBFGAV based on the fine-grained access rules in IA_ADMIN.MGBFGAR. For users who have access to either all Finance Funds or all Finance Organizations, data is read from FOBPROF and is written to IA_ADMIN.MGBFGAE. For users who have Fund Type permissions on FORUSFN, the fund numbers associated with each Fund permission, as listed by fund in the Banner ODS Fund Hierarchy table MFT_FUND_HIERACHY, are also written to MGBFGAV.

The Banner Human Resources Organizations transfer reads data from PSRORG and transfers user permissions for individual Organizations to IA_ADMIN.MGBFGAV based on the fine-grained access rules in IA_ADMIN.MGBFGAR. For users who have access to all Banner Human Resources Organizations, data is read from PTRUSER and written to IA_ADMIN.MGBFGAE.

The Banner Human Resources Employee Class transfer reads data from PSRECLS and transfers user permissions for individual Employee Classes to IA_ADMIN.MGBFGAV based on the fine-grained access rules in IA_ADMIN.MGBFGAR. For users who have access to all Banner Human Resources Organizations, data is read from PTRUSER and written to IA_ADMIN.MGBFGAE.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Banner EDW Checks and Balances

Banner EDW Checks and Balances reports on the state of Banner EDW. This process could be run after an upgrade or intermittently if you suspect an error. Options are available to ensure the following:

- Mapping packages exist and are valid in the database
- Mapping parameters exist for each mapping package
- Delivered indexes exist on Banner EDW dimension and fact tables
- Meta data records have been created

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

Load Banner EDW Data Default Cleansing Values

Load Banner EDW Data Default Cleansing Values must be run before loading the stars. You can load a single data element’s default cleansing values, or load all data elements’ default cleansing values.

See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule processes.

View Control Reports (Banner ODS and Banner EDW)

When a process is run, it creates a control report that details the progress, status, and errors in the process. Each control report highlights run time errors, record counts, job status, etc. for the process submitted.

Follow the steps below to review these control reports to determine whether a process ran successfully, and to view errors.

1. From the Administrative menu, click **Options**.
2. Click **View Control Reports**. The Select a Control Report page opens.
3. On the Select a Control Report page, find the process you want to review in the list. Check the Status column to see if the process ran successfully. If the status is ERROR, there was a problem with the process.

Click **Refresh Jobs Status Codes** to obtain the most current job status. Often a job status will change from Running to Completed.

The Refresh Status Codes button is helpful with jobs that have been terminated in the database (due to a shutdown, or other error, etc.). If a job is terminated in the database, it locks the status as Running on the View Control Reports page. Therefore, if you click this button you not only refresh all status codes, but also ensure that any Terminated status codes display correctly.

To delete a control report, select the corresponding checkbox in the Delete column. To select or clear all the control reports, click **Select All** or **Deselect All**.

4. To review additional information on how a process ran, click the link for that process from the Process column. The Display a Control Report page opens.

4.1. Click **View error message(s)** to view the first error message.

4.2. Click **Next error** to browse all errors for the job.

A description of each button on the Display a Control Report page appears below:

Button	Description
Filter Report	To view only selected lines of a report. The Select Report Filters window opens. Check the box next to the filter phrases that you want to see in the report. (Select All and Deselect All links select or clear all lines on the report.) Click Filter Report. To redisplay the information, click Show Detail. To filter the report for certain leading words/phrases, enter one or more delimiter characters and click Scan. (The default delimiter is a colon.) The page then displays all the unique occurrences of text up to the first occurrence of that delimiter, which you can use to filter the Control Report.

Button	Description
CSV Summary	Click to save a control report to a .csv (comma separated values) file that you can open and review in a spreadsheet application like Microsoft Excel. This option may be especially helpful for viewing large control reports. Note: This option is primarily intended to use with output from LOAD and REFRESH jobs, reporting the number of rows processed for each mapping. There are also CSV outputs specific to the Reconcile utilities, as well as the Change Table Counts utility process.
Reschedule Process	Click to open the Schedule a Process page and reschedule a process.

Error Messages

This section lists some of the error messages you may encounter on the control report for any process. Not all error messages are documented, so this is not a complete list.

Some error messages identify data cleansing Warning messages and they show the number of rows written to the WTT_<star schema name>_ERROR table. The line under the Warning identifies the DATA_ELEMENT and data value that caused the cleansing error. Correct the cleansing error and run the FIX EDW <star name>.

Banner ODS Checks and Balances Process

Warning: Obsolete sequence numbers in MGBPSQL

Reason: Each row in the IA_ADMIN.MGBPSQL table should have a corresponding row in the IA_ADMIN.MTVPARM table matching on the sequence number. Any unmatched rows in MGBPSQL are reported

Action: Sequence numbers that exist in MGBPSQL but not in MTVPARM should be deleted from the table

Error: <mapname> is INVALID in the database

Reason: A delivered ETL mapping (PL/SQL) package currently has an INVALID status, and will not run during any of the LOAD/REFRESH jobs.

Action: Recreate the mapping package in the ODSMGR schema of the database.

Warning: <mapname> parameter does not have corresponding MAPPING

Reason: Baseline ETL mapping packages, that have been created with Oracle Warehouse Builder, exist in the ODSMGR schema with a name starting with “LOAD_”, “DELETE_”, “UPDATE_”. Each package has a corresponding Parameter record with the same name. This warning indicates that a parameter exists for the specified mapping, but the actual package does not exist in the ODSMGR schema of the database.

Action: For baseline packages, create the ETL mapping package in the ODSMGR schema. If the mapping package does not exist in the database, use the Administrative UI to remove the parameter.

Warning: <mapname> mapping package does not have corresponding parameter record

Reason: The baseline Banner ODS ETL mapping packages, that have been created with Oracle Warehouse Builder, exist in the ODSMGR schema with a name starting with “LOAD_”, “DELETE_”, “UPDATE_”. Each package has a corresponding parameter with the same name. Without this parameter record, the mapping will not be run during any of the LOAD/REFRESH jobs.

Action: Create the parameter record for the <mapname> package, similar to the other ETL MAP PACKAGE parameter records. Note: If the mapping is a locally developed package, consider using a different naming standard (ex: 'MY_LOAD_%', 'MY_DELETE_%'), OR create a different schema for local modifications.

ERROR: Parameters not loaded for Banner ODS mappings (ETL MAP PACKAGE)

Reason: The mapping parameters for Banner ODS have not been created in MTVPARM.

Action: Check with technical staff to create the missing entries.

Warning: ---> <view name> is documented but does not exist

Reason: This check will verify that all reporting views documented in the metadata actually exist in the database. The warning message reports views that do not exist in the database.

Action: Check with technical staff to create the missing view in the ODSMGR schema of the database.

Warning for REPORTING View: <view name> WARNING: ---> MetaData column missing in view: <column name>

Reason: Baseline reporting views are delivered with corresponding metadata for each view column. The column that is documented does not exist within the view.

Action: Check with technical staff to determine why the column is missing from the view, and recreate the view if necessary.

 Note

Client developed reporting views can be imported into the metadata using the Administrative User Interface. If the column should not be documented for a locally developed view, use the Administrative UI to remove the metadata. ■

Warning for REPORTING View: <view name> WARNING: ---> View column missing in MetaData: <column name>

Reason: Baseline reporting views are delivered with corresponding metadata for each view column. The column exists in the view, but is not documented in the metadata

Action: Check with technical staff to determine why the column is not documented in the metadata. Document the missing column with the Administrative UI.

 Note

Client developed reporting views can be imported into the metadata using the Administrative User Interface. If the column should not be documented for a locally developed view, use the Administrative UI to create the metadata. ■

Baseline index <index_name> is missing from table

Reason: Delivered index names are stored in the IA_ADMIN.MGBINDX table. Any missing indexes may impact Banner ODS performance and are reported

Action: Create the missing index to ensure optimum system performance.

Additional index (index_name) found for table

Reason: Local indexes that do not exist in the IA_ADMIN.MGBINDX table are reported.

Action: To eliminate the warning message from the control report, insert the index information into MGBINDX with local = YES.

Warning: More than one database link found as source location for OWB

Reason: Verify that only one source database is identified for the OWB.

Action: Remove or rename incorrect database links from Banner ODS database. (Search DBA_DB_LINKS where LINK_NAME like '%SOURCE_DB%' to identify these).

WARNING: Use the Freeze Data Maintenance page to remove these columns from the freeze table <freeze_table>

Reason: It is possible to select columns to include in the freeze data. If a column that has been used in a freeze table is no longer valid in the source, a warning message is provided

Action: Use the Freeze Data Maintenance page in the Administrative UI to locate the freeze table and review the selected columns. Remove the obsolete columns from the selected columns list.

Freeze Table <freeze_table> does not exist. Used in Freeze Data List <freeze_data_list>

Reason: Freeze data lists are created to freeze multiple tables

Action: Review tables in the Freeze Data Lists reported to determine why the freeze data has not been generated.

ERROR: AR dblink test failed

Reason: A query from AT_AR_DEPOSIT view in Banner database failed.

Action: If the database link is valid, verify that the listed view exists in Banner database

ERROR: ADVANCEMENT dblink test failed

Reason: A query from a single Advancement view in Banner database (AA_CONSTITUENT) is done as a check that the system configuration is correct for Advancement ETL mapping packages to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that Advancement views have been created in Banner database

ERROR: FINANCE dblink test failed

Reason: A query from a single Finance view in Banner database (AF_PURCHASE_ORDER_ACCOUNTING) is done as a check that the system configuration is correct for Finance ETL mappings to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that Finance views have been created in Banner database.

FINANCIAL AID dblink test failed

Reason: A query from a single Financial Aid view in Banner database (AR_AWARD_BY_PERSON) is done as a check that the system configuration is correct for Financial Aid ETL mappings to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that Financial Aid views have been created in Banner database.

ERROR: COMMON dblink test failed

Reason: A query from a single view in Banner database (AS_PERSON) is done as a check that the system configuration is correct for Common ETL mappings to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that this view and other General views have been created in Banner database.

ERROR: HR dblink test failed

Reason: A query from a single Human Resources view in Banner database (AP_REVIEW) is done as a check that the system configuration is correct for Human Resources ETL mappings to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that Human Resources views have been created in Banner database.

ERROR: STUDENT dblink test failed

Reason: A query from a single Student view in Banner database (AS_COURSE_CATALOG) is done as a check that the system configuration is correct for Student ETL mappings to execute. The error message would indicate that the database link is incorrect or the view is not valid.

Action: Verify that Student views have been created in Banner database.

Banner EDW Checks and Balances Process

Error: mapname is INVALID in the database

Recreate the mapping package in the database.

Warning: mapname parameter does not have corresponding MAPPING

If the parameter is valid, create the missing mapping package in the database. If the mapping package does not exist in the database, use the Administrative UI to remove the parameter.

View column missing in MetaData

The column name from the error message does not have meta data in Banner EDW. Choose the menu options Meta Data and Maintain Banner EDW Meta Data to add the missing information.

MetaData column missing in table

The table name from the error message has meta data in Banner EDW, but does not exist in the actual table. Verify that the table exists, and that the column is spelled accurately in the meta data. Use the Meta Data and Maintain Banner EDW Meta Data menu options.

Index indexname missing from tablename

The table name from the error message should have an index that does not exist. The name of the index is listed in the error message. Recreate the index, or remove the entry from the MGBINDX table.

Additional Index indexname found on tablename

The Banner EDW table listed in the error message had an index that is not expected. The index name is listed in the error message. If this is a valid index that your institution has added to the table, add the index to MGBINDX table.

Cleansing

Warning: Duplicate rule for Element [xxx_xxx] with Value: xx

If the data element requires a prefix element (CHART_OF_ACCOUNTS, for example) to determine its uniqueness, then verify that a parameter exists for the Internal Group in the Administrative UI. See [“Set up Parameters \(Banner ODS and Banner EDW\)” on page 3-64](#).

Example

“INTERNAL_ACCOUNT_TYPE indicates a Value: 95 for Source: ODU - duplicate count: 2”

This message indicates that based upon the values in Banner and Banner ODS, there are multiple descriptions for the code of 95. This is a data element related to the chart of accounts qualifiers which needs to be specified in the cleansing rules. See [“Set up Descriptions for Code Values” on page 3-109](#).

Data Element [xxx_xxx] needs a rule defined for value [xx]

There is a value in the data that does not have a cleansing value translation defined for it. You need to update the cleansing rules to reflect the identified values listed in the control reports. See [“Set up Descriptions for Code Values” on page 3-109](#) or [“Create a New Code Value Translation from Source Data” on page 3-111](#) to either update the ranges on the existing cleansing rule definitions to include that value, or set up a new value to code and a translation to handle it.

Example

“Data Element STATE_PROVINCE needs a rule defined for value....”

Freeze Process

Process failed, no mgbfrez records for this list

The selected freeze table list does not have entries in MGBFREZ table. Click the **Freeze Data Maintenance** menu to review the tables included in the freeze list.

Multiple owners for inputted table/view to freeze. Please precede table name with owner.

The original table or view name exists in more than one schema. Verify which table the data should be selected from, and precede the table name with the owner name.

Source table not found

The original table was not found in the database.

Warning, no data found to Freeze

There are no rows in the original table, or the where condition caused no rows to be selected.

****Warning--Replace parameter is N and EVENT exists!!!- did not replace data*

Data has been previously frozen to the new table with the same event code. If the data should truly be replaced, submit the process with the **Replace parameter** checkbox checked. If the existing data should remain intact, use a different event name to freeze additional data into the new table.

Publish Meta Data (PUBLISH_META_DATA)

Configuration error: No script found for COPY_SCRIPT parameter

The location of the ftp script used to transfer the html files was not found in the MTVPARM table. Click the menu options of **Options** and **Set Up Parameters**, with the internal group = METADATA and the internal code = PUBLISH, to store the copy script.

P_MakeAllTarget - E_NoTablesFound

There were entries found in metadata tables

P_MakeAllTarget - E_NoMetafileLoc

The parameter record in MTVPARM does not exist. To create this records, click the menu options of **Options** and **Set Up Parameters** with the internal group = METADATA and the internal code2 = PUBLISH_LOCATION.

P_MakeAllTarget - E_NoUTLfileLoc

The file location supplied in the parameter is not valid. Click the menu options **Options** and **Set Up Parameters** with the internal group = METADATA and the internal code2 = PUBLISH_LOCATION to verify the correct location for the creation of the meta data files.

Reconcile (RECONCILE_JOB, RECONCILE_SINGLE_JOB)

If there are zero discrepancies, the number of rows in the source view match the number of rows extracted to Banner ODS table. Run a refresh (or load) for the mapping that has the discrepancies, then rerun the reconcile job.

mapName has 'n' discrepancies

There are 'n' differences between Banner and Banner ODS. (The message below provides additional details.)

Banner ODS has 'n' rows while the source has 'n' rows. Key values are:

'n' rows while Banner has 'n' rows. Key values are:

This indicates the key values for the rows in either Banner ODS or Banner that do not match to the other system. Use these key values to further diagnose the discrepancy.

Note

If you run this reconcile process after the refresh process is run, records that have been updated (with changes noted in the change tables) may have caused the discrepancies - you can use the key values to confirm this. ■

Mapping processes (DELETE_mapping, UPDATE_mapping, LOAD_mapping, REFRESH_mapping)

OWB Runtime not running - waited for 'n' minutes...

ETL Mapping Package record not found for mapping: <map name>

Run Banner ODS Utilities - 'Checks and Balances' job to ensure that all parameter records exist and mapping packages are valid.

Mapping not found - Please check the mapping name and location.

Run Banner ODS Utilities - 'Checks and Balances' job to ensure that all parameter records exist and mapping packages are valid.

No ETL CONTROL GROUP or ETL MAP PACKAGES found for this job.

Check that records exist in MTVPARM table where mtvparm_internal_code_group = 'ETL MAP PACKAGE'

No ETL SLOT PACKAGE entry found for this table: <table name>

Check that records exist in MTVPARM table where mtvparm_internal_code_group = 'ETL SLOT PACKAGE'.

Oracle Warehouse Builder Runtime Audit Browser Integration

Oracle Warehouse Builder (OWB) provides a utility called the Runtime Audit Browser (RAB) that displays status information for mappings that have been run. You can use RAB to view in depth statistics and job analysis. (For more information on setting up RAB, refer to the OWB Installation documentation).

Integration Setup

The Administrative UI can be configured to automatically link to the RAB for mappings that have been run. All you'll need to do is click a hyperlink from the control report to view RAB mapping information. A new browser window opens displaying the RAB information for that mapping. Follow the steps below to set up a parameter RAB_URL:

1. Click **Options** from the Administrative UI menu. The Options page opens.
2. Click **Set Up Parameters**. The Set Up a Parameter page opens.
3. Select Internal Group *METADATA* and Internal Code *RAB_URL* from the drop-down lists on the Set Up a Parameter page.

Note

(If Internal Code *RAB_URL* does not appear in the drop-down list, then click **Create** to create the parameter. See [“Set up Parameters \(Banner ODS and Banner EDW\)” on page 3-64](#) for instruction on how to create this optional parameter.) ■

4. Click **Search**. The Select an Existing Parameter page opens.

The External Code on the Select an Existing Parameter page can be any value. (It is required, but ignored. You can enter a hyphen, for example.) The key is the **Description** column. It must be the URL for the RAB that you have installed and set up. It will be similar to the URL below:

```
http://<machine_name>/owbb/  
RABMapExecution.uix?event=navigate&p_type=PLSQLMap&repos=RUNREP
```

To access your URL, continue to the next step.

5. Open the RAB in another browser window. Copy your URL from the address bar in that window, and paste it into the **Description** column on the Select an Existing Parameter page.

 Note

The particular RAB address (“RABMapExecution.uix”) and the associated parameters need to match the above address, with the exception of the “repos” parameter, which should reflect the repository owner in your system (if it isn’t the default RUNREP schema/user). ■

RAB Authentication

The integration is not complete in the sense of typical web-based “single-signon.” You must first sign into the RAB in that separate browser window before you can browse any of the mapping execution information. Once signed in, your RAB credentials are stored locally (in a cookie) in your browser so you can close the RAB window (after logging in).

 Note

Those cookie credentials are persistent, so future attempts to view RAB reports will succeed until you Log Out of your RAB session explicitly (via the Log Out link in the RAB window). ■

Subsequent links from the control report should take you directly to the mapping information for that report. Click the link after the OWB Audit Execution ID on the control report. The Runtime Repository page opens.

Set up E-mail Notification (Banner ODS and Banner EDW)

You can configure the Administrative UI to send an e-mail when a process (job) is completed. To do this, set up the following system parameters (MTVPARM records):
Select a Parameter

Click a Description in the table below to select the Parameter you want to update or delete, or change the search criteria and click Search.

JOB NOTIFICATION

-Show All Internal Codes-

Search

Internal Group	Internal Code 1	Internal Code 2	Internal Code Sequence	External Code	Description
JOB NOTIFICATION	EMAIL_ADMIN_URL		1	URL	<web server URL here>
JOB NOTIFICATION	EMAIL_FROM_ADDRESS		1	IAD5@SCT.COM	IAD5 Admin System
JOB NOTIFICATION	EMAIL_SERVER		1	MAILHOST.SCT.COM	Email Server

 Note

These parameters are not delivered. (You must create them. See the [“Set up Parameters \(Banner ODS and Banner EDW\)” on page 3-64.](#)) E-mails are only sent if all parameters (except the Administration URL) are set up. No e-mail notification takes place until you set these parameters. Below are the parameter defaults: ■

Column	Description
EMAIL_ADMIN_URL	The complete URL to connect to the Administration system. If this parameter is defined, the URL is included in the e-mail message which makes it easier for the recipient to log into the system. The message contents are: Subject: <Job Name> Job Completion <with Errors> (where the Job Name is the job that ran, and "with Errors" is appended only for jobs that had errors.) Message: This job has completed. Check the Administrative UI for more details. Job Name: <Job Name> Job User: <Admin Username of account that ran the job> Job Number: <job number> <For jobs that run mappings:> Job Execution Time: Start of Mapping at (start time) Process completed at (end time) <If any errors occurred during the job, they are listed next as follows:> Error Details: Error
EMAIL_FROM_ADDRESS	E-mail address in the From section of the e-mail. This is typically a server address. Required.
EMAIL_LIST	E-mail address to receive a job notification message for all Administration jobs that complete. Create one parameter for each recipient address. By default, you only receive e-mail notification for jobs submitted by that account. If the Administrative UI user name that ran the job matches (not case sensitive) the name in the Description field for this parameter. Or, you can set up an email address to receive notifications for all jobs that are run by setting the INTERNAL_CODE_2 field to <i>GET_ALL_JOBS</i>. Required
EMAIL_SERVER	The machine name of your SMTP server machine. Required

Freeze Data Maintenance (Banner ODS and Banner EDW)

Freezing data enables you to take snapshots of related data at any point in time and keep a static copy of that data. You may want to run data comparison reports at the same point-in-time (example: each month, semester, or year) To do this you will need to ‘freeze’ the data at each point-in-time. As you save these data slices over time, you will create a history (freeze) of the data on which to report. You can also associate that point-in-time with an event name (example: YearEnd, MonthEnd, SummerSession, etc).

Banner ODS freezes data from a single table/view or from multiple tables/views. When the freeze data has been defined, the freeze process must be scheduled to run (refer to [“Freeze a Single Banner ODS Table/View” on page 3-154](#) and [“Freeze Multiple Banner ODS Tables/Views at the Same Time” on page 3-155](#)).

Banner EDW freezes data for all appropriate stars within a Banner EDW business concept. When the freeze data has been defined, the freeze process must be scheduled to run (refer to ‘Freeze a Banner EDW Business Concept’). Use the Freeze Data Maintenance Option to:

- Set up Freeze Data list for Banner ODS tables/views
- Add additional Banner ODS tables to existing freeze lists
- Review events in existing Banner ODS freeze tables

Set up Banner ODS Freeze Data Lists

A Freeze List is what Banner ODS calls for one or more tables/views that have related data to be frozen at the same time. The freeze process selects data from the source table/view, creates a table with the ‘history’ name supplied, and copies (freeze) the selected source data into the history table. By default, all the columns from the source table are copied to the freeze table. Click **Select Columns** to specify if only specific columns are required for the freeze.

Example

During a student registration cycle it may be important to capture student courses weekly. First, you would create a freeze list called STUDENT_COURSE_REGDATA. The source data would then be selected from STUDENT_COURSE.

The data from the source is stored in a freeze table which could be named STUDENT_COURSE_STATIC, for example. The new table is created the first time the freeze is run. Any successive freezes for this freeze list reuses the static table.



Note

It is recommended that your institution have a naming convention in place for freeze lists and freeze tables ■

There is an optional WHERE condition that allows you to qualify the data to be frozen from each source table. The condition is ACADEMIC_PERIOD = ‘200510’).



Note

Do *not* include the actual word WHERE in the condition. It is assumed. ■

- 1. Click **Options**.
- 2. Click **Freeze Data Maintenance**. The Set Up Freeze Data Lists page opens.
- 1. Click **Create** from the Set Up Freeze Data Lists page. The Create a Freeze Data Table page opens.

The links on this page are described below:

Link	Description
View Current Lists	Opens a window of the current freeze lists.

Link	Description
Copy Table Name	Copies the source name to the Freeze Table Name field. Note: The freeze table name must be different than the source name. The data is frozen with this table.
Select Columns	Opens a window of existing freeze columns. Choose the column(s) to freeze or not freeze, then click the corresponding arrows to move them to the appropriate box. - Click a single arrow to move one column. - Click a multi-arrow to move all columns. - Hold down the Ctrl key while selecting to move a few columns. The number of columns selected out of the total number of columns appears on the page and in the window. For example, (178/181) indicates that 178 columns out of 181 will be frozen.

- Enter the new list name, source name and freeze table name.
- (Optional)* Enter a valid PL/SQL WHERE condition. Use fields from the table or view being frozen and exclude the word “where”, which is added by the system.

Example

ACADEMIC_PERIOD= '200510' and COURSE_LEVEL = '01'

- Click **Save**.

Add a Table/View to a Banner ODS Freeze Data List

Maintaining freeze lists may require that additional tables be included in specific freeze lists, that a freeze list be deleted, that a freeze list be renamed or duplicated. It is also useful to review which events exist in which freeze tables.

In the example above, it is decided to capture data from STUDENT_COHORT_SLOT and so an additional table should be added to the STUDENT_COURSE_REGDATA freeze list.

- Click the freeze list called **STUDENT_COURSE_REGDATA** from the drop down list.
- Click **Add another Table**.
- Click **STUDENT_COHORT_SLOT** as the source table.
- For this example, the freeze table will be **STUDENT_COHORT_SLOT_STATIC**

There is an optional WHERE condition that will allow you to qualify the data to be frozen from each source table (ACADEMIC_PERIOD = '200510'). NOTE: Do *not* include the actual word WHERE in the condition. It is assumed.

1. Click **Options**.
2. Click **Freeze Data Maintenance**. The Set Up Freeze Data Lists page opens.
3. Choose the freeze list you want to modify from the drop-down list on the Set Up Freeze Data Lists page.
4. Click **Search**. The Select a Freeze Data Table page opens displaying the freeze tables associated with the displayed freeze list.
5. Click the link in the **Source Name** column for the tables/views you want to add. The Update an Existing Freeze Data Table page opens.
6. Click **Add Another Table**. The Create a Freeze Data Table page opens.

The links on this page are described below:

Link	Description
Select Another Lists	Returns to the Select a Freeze Data Table page.

Link	Description
Add Another Table	Opens the Create a Freeze Data Table page where you can enter freeze tables to add.
Select Columns	Opens a window of existing freeze columns. Click the column(s) to freeze or not freeze, then click the corresponding arrows to move them to the appropriate box. - Click a single arrow to move one column. - Click a multi-arrow to move all columns. - Hold down the Ctrl key while selecting/deselecting to move a multiple columns. The number of columns selected out of the total number of columns appears on the page and in the window. For example, (178/181) indicates that 178 columns out of 181 will be frozen.

- Enter the new list name, source name and freeze table name.
- (Optional) Enter a valid PL/SQL **Where Condition**. Use fields from the table or view being frozen and exclude the word “where”, which is added by the system.

For example: *academic_period* = '200510'.
- Click **Save**.
- Click **Add Another Table** to add another table to your list.

Delete, Rename or Duplicate Banner ODS Freeze Data

Follow the steps below to delete, rename, or duplicate freeze data list.

- Click **Options** from the Administrative menu.
- Click **Freeze Data Maintenance**. The Set Up Freeze Data Lists page opens.
- Choose the Freeze List you want to modify from the drop-down list on the Set Up Freeze Data Lists page.

4. Click **Search**. The Select a Freeze Data Table page opens. The list of tables currently included in the list displays.

Use the links on this page to delete, rename or duplicate a freeze list. Each link is described below:

Link	Description
Delete Freeze List	Confirms that you want to delete the displayed freeze list. Tables of frozen data will not be deleted.
Rename Freeze List	Displays the Rename a Freeze List window. Enter the new freeze list name, then click Rename . Tables of frozen data will not be renamed.
Duplicate Freeze List	Displays the Duplicate a Freeze List window. Enter the new name, then click Duplicate . None of the history tables are duplicated.

5. (Optional) Check the **Show Event Names** checkbox to indicate whether to display the event within each table. An extra column of names displays.

 Note

You choose how these events are handled when scheduling a job by choosing to either to insert, delete or replace the events from the **Event Handling** field on the Schedule a Process page. ■

Freeze a Single Banner ODS Table/View

You can freeze a single table using the Schedule a Process>Freeze a Single Banner ODS Table option. Follow the steps below:

1. From the Administrative menu, click **Options**.
2. Click **Schedule a Process**. The Select a Process page opens.
3. Click **Freeze A Single Banner ODS Table/View** from the Select a Process page.
4. Enter the required process parameters.
 - 4.1. Type the name of a table/view into the **Enter Table to Freeze** field.
 - 4.2. Type the new (history) table name into the **Enter Table Name to Freeze to** field. (Follow your history table naming conventions.)

5. Enter the required scheduling parameters.
 - 5.1. Enter a **Run Date** (format dd-mon-yyyy) and **Runtime** (format hh24:mi:ss).
 - 5.2. If you want to run the process on a recurring basis, enter an **Interval**. For example, to run a process every day at the same time enter *SYSDATE+1* in the **Interval** scheduling parameter.

See [“Update or Freeze Recurring Banner ODS Data” on page 3-156](#) for more details on setting the **Interval**.
6. Click **Save** to save the information about this freeze job. The job is entered into the job queue to run at the specified day and time.

Freeze Multiple Banner ODS Tables/Views at the Same Time

If the freeze is going to occur repeatedly, it may be useful to create a Freeze List. The Freeze List is a name/label/title for one or more tables/views with data to be frozen at the same time. See [“Freeze Data Maintenance \(Banner ODS and Banner EDW\)” on page 3-149](#) for instructions on how to define a list of freeze tables.

Follow the steps below to freeze multiple tables/views:

1. From the Administrative menu, click **Options**.
2. Click **Schedule a Process**. The Select a Subprocess page opens.
3. Click **Freeze Multiple Banner ODS Tables/Views** from the Select a Process page.

All freeze data lists defined within Freeze Data Maintenance display.
4. Click the freeze data list. The Schedule a Process page opens.
5. From the **Event Handling** drop-down list, indicate whether you want to replace, insert (add), or delete existing events from the tables in the freeze data list.
6. Choose an event to capture. The system tags the information extracted during this process with the event code you choose.

Note

You have to choose an event name when you submit the freeze job to run (refer to the “System Parameters” section). Once that freeze job is run, the data exists in the freeze tables with an 'event' name attached. There could be multiple event names in a single freeze table. ■

7. Enter the **Run Date** (format dd-mon-yyyy) and **Runtime** (format hh24:mi:ss).

If you want to run the process on a recurring basis, enter an Interval. For example, to run a process every day at the same time enter *SYSDATE+1* in the Interval scheduling parameter. See [“Update or Freeze Recurring Banner ODS Data” on page 3-156](#) for more details on setting the Interval.

8. Click **Save** to save the information about this freeze job. The job is entered into the job queue to run at the specified day and time.

Update or Freeze Recurring Banner ODS Data

You'll need to refresh the data in your Banner ODS on a regular basis to keep it synchronized with data in your administrative system. You may also want to freeze portions of Banner ODS data on a regular basis so that your users can create data comparison reports.

To automate the refresh or freeze processes, use the **Schedule a Process** option to define processes that run on a recurring basis. Specify that a job run on a recurring basis by entering a valid PL/SQL value in the **Interval** field. This field accepts a data expression value, which defines the length of time between processing runs. The key to setting the interval correctly is determining whether you need to run a job so that:

- Each execution of the job follows the previous run by a specific time interval.
- or**
- The job executes on specific dates and times.

The first thing you need to do is determine when and/or how often your institution needs to update Banner ODS data.

Update Banner ODS Daily

It is recommended that Banner ODS is updated daily. Use the **Schedule a Process** option to define processes that run on a recurring basis. Specify that a job run on a recurring basis by entering a valid PL/SQL value in the **Interval** field. This field accepts a data expression value, which defines the length of time between processing runs. The key to setting the interval correctly is determining whether you need to run a job so that:

- Each execution of the job follows the previous run by a specific time interval.
- or**
- The job executes on specific dates and times.

The first thing you need to do is determine when and/or how often your institution needs to update Banner ODS data.

In this case, the interval value is a date arithmetic expression like *SYSDATE+N*, where *N* represents the time interval expressed in days. So, an interval of *SYSDATE+1* runs the job on a daily basis.

Job intervals set using date expressions do not guarantee that the next execution happens at a specific day or time, only that the spacing between executions is at least what was specified.

Example

If a job is first executed at 12:00 p.m. with an interval of *SYSDATE + 1*, it will be scheduled to execute the next day at 12:00 p.m. However, the job is executed manually at 4:00 p.m. using *DBMS_JOB.RUN*, then it is rescheduled for execution at 4:00 p.m. the next day. Another example is when the database is down or the job queue is so busy that the job cannot be executed exactly at the time scheduled. In this case, the job runs as soon as it can, but the execution time then moves away from the original submission time due to the later execution.

Update Banner ODS on Specific Dates and Times

You can set the Interval to execute jobs on a specific date and time. This type of interval involves more complex interval date expressions. Specifying intervals like these can get tricky, so be sure that your date arithmetic expression is correct. The following table provides samples of both simple and more complex types of job intervals.

Note

Refer to your Oracle documentation for more information on setting job intervals. ■

Run job	Interval Value
Daily	<i>SYSDATE+1</i>
Hourly	<i>SYSDATE + 1/24</i>
Weekly (every 7 days)	<i>SYSDATE + 7</i>
Every day at 12:00 midnight	<i>TRUNC(SYSDATE + 1)</i>
Every day at 8:00 a.m.	<i>TRUNC(SYSDATE + 1) + 8/24</i>
Every Tuesday at 12:00 noon	<i>NEXT_DAY(TRUNC(SYSDATE), TUESDAY) + 12/24</i>
First day of the month at midnight	<i>TRUNC(LAST_DAY(SYSDATE) + 1)</i>

Run job	Interval Value
Last day of the quarter at 11:00 P.M.	<i>TRUNC(ADD_MONTHS(SYSDATE + 2/24, 3), 'Q') - 1/24</i>
Every Monday, Wednesday, and Friday at 9:00 a.m.	<i>TRUNC(LEAST(NEXT_DAY(SYSDATE, MONDAY), NEXT_DAY(SYSDATE, WEDNESDAY), NEXT_DAY(SYSDATE, FRIDAY))) + 9/24</i>

Freeze or Snapshot Banner EDW Business Concept

All the stars within a Banner EDW Business Concept can be frozen.

1. From the Administrative menu, click **Options**.

2. Click **Schedule a Process**.

The Select a Process page opens.

3. Click **Schedule Banner EDW Operational Mappings**.

4. Enter the required process parameters.

- 4.1. Select the time period for which you want to freeze the data (example: Academic Period).

- 4.2. Select the Event that corresponds to the frozen data.

For additional Event choices, go to Options> Set up Parameters > EVENT-EDW and set up additional Event Categories, Event Types and Event Descriptions.

- 4.3. Indicate whether to replace the event, if it already exists.

5. Enter the required scheduling parameters.

- 5.1. Enter a Run Date (format dd-mon-yyyy) and Runtime (format hh24:mi:ss).

- 5.2. If you want to run the process on a recurring basis, enter an Interval.

For example, to run a process every day at the same time enter *SYSDATE+1* in the **Interval** scheduling parameter.

6. Click **Save** to save the information about this freeze job.

The job is entered into the job queue to run at the specified day and time.

Meta Data (Banner ODS and Banner EDW)

Meta data is ‘data about data’ or information, or characteristics, about data entities such as a column name, description, format, length, origin and destination.

Meta data in Banner ODS and Banner EDW tell what data columns are in Banner ODS and Banner EDW, a definition of their business use, the type of data (number, character, date, etc.), how long they are, where they come from (in the source system) and their destination (in the target system.)

The Administrative UI meta data pages include reports that show the relationship between the data stored in Banner ODS and Banner EDW (target) and the source from which it is extracted.

Note

The meta data includes Banner ODS reporting views and source composite views, both with the original source tables and source column names. Banner ODS recreated Object:Access views are *not* delivered in the meta data. They are additional reporting views to be used for clients migrating from Datamart 1.0, or clients who used the source Object:Access views for custom reporting. Newly developed Banner ODS reporting should *not* use the Object:Access views. ■

Banner EDW meta data includes fact tables, dimension tables, and stars.

The following navigation links and buttons display throughout the Administrative UI meta data pages:

This Link/Button ...	Does this ...
<-	Moves through the subject areas in alphabetical order.
->	Moves alphabetically through the views within a subject area.
	Moves through the columns within a view in column ID order.
Select	From the Subject Area: Opens the Select A Subject Area window. Click the Target or Source radio group, and click Reporting View or Composite View radio group to indicate the report type with which you want to work. Choose the new subject area with which you want to work. The window closes automatically. From the Reporting or Composite View: Opens the Select A Target window. Choose the reporting or composite view with which you wish to work. The window closes automatically. From the EDW star Target report List Opens the Select a Report Type and a Star window. Choose the target or source view and select the star. The window closes automatically. From the Reporting or Composite View Column: Opens the Select a Target Column or Select a Source Column window. To have the columns listed alphabetically, click the Sort By: Column Name radio group. To have the columns listed in column order, click the Sort By: Column Order radio group. Click the column with which you wish to work. The window closes automatically.
Add Target	Adds a target view or table. The Target window opens.
Add Source	Adds a source view. The Source window opens.

This Link/Button ...	Does this ...
Add Target Column	Add a target column. The Add a New Column window opens
Add Source Column	Add a source column. The Add a New Column window opens
List Composite Views	Displays the composite views for the selected subject area.
List Banner ODS Reporting Views	Displays the reporting views for the selected subject area.
Preview	Save, then click Preview to review your changes. Do not click this link then click the back button. Or, click Preview to review the list of: • all reporting or composite views within a subject area • a list of all source, or target columns within a view • a list of fact/dimension tables within a star
Properties	Works in conjunction with the Columns link to toggle between the Edit Target Columns and the Edit Target Properties pages.
Columns	Works in conjunction with the Properties link to toggle between the Edit Target Properties and the Edit Target Columns pages.
Preferences	Opens the Institutional Preferences window.
Publish	Publishes the meta data.
CSV Export	Exports meta data into a .csv file that you can open in Microsoft Excel.
Import	Enables you to choose a view to import into the meta data. The view must exist in the ODSMGR schema. All the columns in the view are created as LOCAL meta data. Click the button to display a list of views that do not exist in the meta data for that subject area.
Show Baseline/Hide	Toggles between displaying baseline information versus local information.

This Link/Button ...	Does this ...
Save Changes	Records your changes.
Select Another Maintenance Function	Returns to the Maintain Banner ODS and Banner EDW Meta Data page.

Baseline and Local Meta Data

Baseline meta data is the meta data delivered with your solution. When you change the baseline meta data, a local copy is created and the edited version becomes your local meta data. Local meta data appears on the Administrative UI page in the color specified in your Institutional Preferences. The **Local Record** field on the Edit Target (or Source) Columns pages indicates whether the displayed meta data is the baseline or local version.

If both local and baseline meta data exist for the column meta data, only the local meta data displays and can be edited. Only local meta data can be changed or deleted.

Create Meta Data

When Banner ODS and Banner EDW are installed, the baseline meta data is installed as well. The sections “Set Up Meta Data Publish Preferences” and “Meta Data Parameter Set Up for Publishing Reports,” describe procedures that were completed during installation. They are included here for completeness, but you do not have to perform them to create meta data. The maintaining target or source meta data sections describe how to update the meta data repository with your own meta data.

Set up Institutional Meta Data Publish Preferences

The Meta Data Publish Preferences option controls which pieces of meta data can be previewed on the screen and saved (published) in a report. Meta data is considered ‘published’ after you save the selected source or target information as an HTML file using the Administrative UI. Before you publish meta data, follow the steps below to set the preferences.

1. Click **Preferences & Security** from the Administrative menu. The Preferences & Security menu opens.
2. Click **Institutional Preferences**. The Set Up Banner ODS or Banner EDW Publishing Options menu opens.
3. Click **Banner ODS or Banner EDW Publishing Preferences**. The Set Up Meta Data Publish Preference page opens.

4. In the Banner ODS or Banner EDW Meta Data Target Report Preferences area on the Set Up Meta Data Publish Preference page, check the checkbox to indicate the meta data you want to display in your meta data target or source reports. Your solution is delivered with the default check boxes selected.
5. Choose the color in which you want your report rows and local meta data information to appear.

**Note**

Colors appear institution-wide. They are not personal colors. ■

6. Indicate whether reports should appear in column or name order.
7. Click **Save** to keep your changes.

Meta Data Parameter Set up for Publishing Reports

The meta data reports are created as static HTML pages from the Administrative UI or from the command line. This process is called ‘publishing’. (See [“Publish Meta Data from the Administrative UI” on page 3-179](#) for additional information on publishing meta data reports from the command line.)

There are system parameters that must be configured when Banner ODS and Banner EDW are installed. The PUBLISH_LOCATION parameter provides the directory location on the database server where the HTML pages are written when using the Publish buttons from the Administrative UI, or by running the PUBLISH.BAT script in batch mode.

There are two supported techniques for specifying the location on the file system where the HTML pages are created:

- Use an Oracle DIRECTORY object

This is the preferred method as it does not require you to restart the database for changes to take effect, and also offers greater control over security. DIRECTORY objects are like any other objects in the Oracle database and offer the same levels of security control (grants by schema/user) while the UTL_FILE_DIR parameter setting is a global resource that does not offer tighter security control.

- Use the Oracle initialization UTL_FILE_DIR parameter

This technique has been replaced by the DIRECTORY usage but will be supported for backward compatibility.

When using an Oracle DIRECTORY, use the following syntax to create the directory object in the IA_ADMIN schema:

```
CREATE DIRECTORY <DIRNAM> FOR '<PATH>';
```

where <DIRNAME> is a string, like *METADATA_DIR* and <PATH> is the actual path to the folder/directory location where the files are created.

The DIRECTORY object should be created and owned by the IA_ADMIN schema. The value of the PUBLISH_LOCATION parameter would then be set to the DIRECTORY name (in the above example, the value: *METADATA_DIR*).

You need to specify the initialization parameter UTL_FILE_DIR within the init.ora file for Banner ODS and Banner EDW instance. This UTL_FILE_DIR parameter must contain the name of the directory where the Admin pl/sql package (MGKPUBL) generates the meta data files on the database server.

Once this directory is known and the UTL_FILE_DIR parameter is set, then configure the PUBLISH_LOCATION parameter through the Administrative UI. (Follow the “Configuring Publishing Parameters” section later in this chapter.)

The VIEW_URL parameter provides the Web server location where the published files are hosted. SunGard Higher Education recommends using the delivered /meta data folder to store the generated reports for viewing. This is a subdirectory beneath the “document root” for the Web server instance.

- Specify the VIEW_URL parameter as a relative path to the document root.
- If the Oracle http server (Web server) is on a different computer from Banner ODS and Banner EDW database server, then newly published reports must be copied from the PUBLISH_LOCATION to the /metadata subdirectory before they can be viewed from the Operational Data Store Meta Data Reports page.

The COPY_SCRIPT parameter allows you to specify a script to accomplish the moving HTML files from the application server to the web server.

The sample script delivered (ia_admin\dbscripts\utility_scripts\copyMetaData.sh) demonstrates how to do this using FTP, but the script can be replaced with any technique (such as SFTP, copying files directly using a mapped drive, even just copying them from one directory to another if the application server and web server are on the same machine, etc.). It is recommended that you examine and customize this script as needed to comply with your institutional security requirements and policies.

Configure Publishing Parameters and Create Meta Data Web Directory

1. Login to the Administrative UI.

Example

```
http://machine.sct.com:port/pls/ods/  
twbkwbis.P_GenMenu?name=bmenu.P_MainMnu
```

2. Click **Options** from the Administrative UI menu.

3. Click **Set Up Parameters**.
4. From the **Show All Internal Groups** drop-down list, select *METADATA*.
5. Click **Search**.
6. Look for the PUBLISH_LOCATION, VIEW_URL, or COPY_SCRIPT parameter in the **Internal Code 2** column.
7. Click the corresponding link in the **Description** column.
8. Each link for the selected parameter appears in the **Description** field of the Update a Parameter page.

For parameter ...	Change this Directory or Server Location ...
PUBLISH_LOCATION	UTL_FILE_DIR location or DIRECTORY name. Select this parameter to set up the location to which the meta data is published. If the Web server is running on a Banner ODS and Banner EDW machine, set up the UTL_FILE_DIR location (for output of generated pages) to be the same as the meta data subdirectory path under the Web server document root. PUBLISH_LOCATION would be set to the same thing. <i>Example:</i> D:\ORACLE\UTL_FILE PUBLISH_LOCATION may be case sensitive. The directory name on the Banner ODS database server should be in the same case as the UTL_FILE_DIR entry. If the case does not match, you may receive the error “Unknown Status: ERR_UTL_FILE” when attempting to Publish. The description should correspond to the UTL_FILE_DIRECTORY setting. <i>Example</i> In the initSID.ora file may contain this line: utl_file_dir = D:\ORACLE\UTL_FILE The database init parameter file (initSID.ora) typically resides in the Oracle Home\database directory (Windows) or the Oracle Home/dba directory (Unix).
VIEW_URL	The VIEW_URL parameter is set to the meta data subdirectory of the document root. This saves you from copying files each time they are published. <i>Example:</i> \metadata If the Oracle http server (Web server) is on a different computer from the ODS database server, then newly published reports must be copied from the PUBLISH_LOCATION to the /metadata subdirectory before they can be viewed from the Banner Operational Data Store Meta Data Reports page.
COPY_SCRIPT	Script used to move HTML pages from the database server to the application Web server.



Tip

On the Update a Parameter page, you can only change the **External Code** and **Description** fields. But, if you click **Duplicate** you can change any of the fields. For example, to update the Internal Code you could duplicate the current one and change the Internal Code. Then, go back and delete the original parameter (to clean up). Click the back button (twice), then click **Delete**. ■

9. Click **Save** from the Update a Parameter page to save the new settings.
10. Return to the Select a Parameter page to set up a different parameter.

Edit Target Meta Data Properties

Follow the steps below to change the properties of your target meta data.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data** or **Banner EDW Meta Data**. The View Target Report List page opens.



Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.



Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click the reporting or composite view whose properties you want to change. The View Target Report page opens.
7. Click **Properties** located to the right of the reporting/composite view name. The Edit Target Properties page opens.
8. Make your changes.

9. Click **Save Changes** at the bottom of the page to keep your new information. The page refreshes automatically.

After the page refreshes, the **Local Record** field changes from *No* to *Yes* to indicate that this is now local meta data. The field names also display in the color that was set up in your Institutional Preferences page to indicate local meta data.

The **Show Baseline** and **Delete Local** links appear to the right of the **Local Record** field after you save.

Add Target Views and Target Columns

Follow the steps below to add target reporting or composite views and target columns to a subject area.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

5. Click **Add Target**. The Add Target window opens.
6. Enter the new target name.
7. Click **Add Target** to save the new view. The View Target Report page opens displaying the new target reporting or composite name.
8. Click **Add Target Column** to add columns to the view. The Add a New Column window opens.

9. Enter the new information, then click **Add Column** to save. The View Target Report page refreshes and displays the new target column information.

Edit Target Views and Target Columns

Follow the steps below to change the information for target and reporting or composite views.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click the reporting or composite view you want to change. The View Target Report page opens.
7. Click the Target Column you want to change. Banner EDW users can select the dimension or fact table you want to change.

The Edit Target Columns page opens.

8. Enter your changes. Click **Save Changes** to keep your changes.

Synchronize Meta Data Comments with Reporting Views

Use this option to generate multiple comments on a reporting view. The meta data business definitions for the reporting view and the meta data business definitions for each

of the columns is copied from the meta data into the database **Comments** field. Any existing comment will be overwritten.

This process (for a single or for multiple business definitions) can also be scheduled from Banner ODS Utilities menu. (See [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) for instructions on how to schedule a process.)

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data**. The View Target Report List page opens.
3. Click **Select** to choose the subject area, or click <- or -> to move through the subject areas in alphabetical order.

 Note

If you click **Select**, which opens the Select a Subject Area window, keep the default Reporting View and Target radio groups. The window closes automatically after you select a subject area. ■

4. Click the reporting view to which you want to add comments.
5. Click the **Sync Comments** link.

The business definitions are copied to the database comments.

Delete Local Target Properties

Follow the steps below to delete local target properties:

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

 Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.

5. Click the subject area you want to view. The window closes automatically.

 Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click the reporting or composite view whose target properties you want to delete. The View Target Report page opens.
7. Click **Delete**. A message window appears.
8. Click **OK** to delete the target, or **Cancel** to keep the target. If you delete the target, the View Target Report List page opens. If you keep the target, you remain on the View Target Report page.

Delete Local Target Columns

Follow the steps below to delete local target columns.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

 Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

 Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click the reporting or composite view whose columns you want to delete. The View Target Report page opens.
7. Click the target column you want to delete. The Edit Target Column page opens.

8. Click **Delete Local**. A message window appears.
9. Click **OK** to delete the target, or **Cancel** to keep the target. If you delete the target, you return to the View Target Report page. If you keep the target, you remain on the Edit Definitions page.

Edit Source Meta Data Properties

Follow the steps below to change the properties of your source meta data.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified sources only** checkbox to display local target views only. ■

6. Click the Source Name whose properties you want to change. The View Source Report page opens.
7. Click **Properties** located to the right of the source name. The Edit Source Properties page opens.
8. Make your changes.
9. Click **Save Changes** at the bottom of the page to keep your new information. The page refreshes automatically.

After the page refreshes, the **Local Record** field changes from *NO* to *YES* to indicate that this is now local meta data. The field names also display in the color that was set up in your Institutional Preferences page to indicate local meta data.

The **Show Baseline** and **Delete Local** links appear to the right of the **Local Record** field after you save.

Add Source Names and Source Columns

Follow the steps below to add source names and source columns to a subject area for reporting and composite views

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click **Add Source**. The Add Source window opens.
7. Enter the new source name. Click **Add Source** to save the new name. The View Source Report page opens displaying the new source name.
8. Click **Add Source Column** to add columns to the source. The Add a New Column window opens.
9. Enter the new column information, then click **Add Column** to save. The Edit Source Columns page opens and displays the new source column information.

Edit Source Names and Source Columns

Follow the steps below to change the properties of your source meta data for reporting and composite views.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default.

To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified Sources only** checkbox to display local source views only. ■

6. Click the source name you want to change. The View Source Report page opens.
7. Choose the source column you want to change. The Edit Source Columns page opens.
8. Enter your changes. Click **Save Changes** to keep your changes.

Delete Local Source Properties

Follow the steps below to delete local source properties:

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

 Note

Check the **Show locally modified sources only** checkbox to display local target views only. ■

6. Click the source name whose source properties you want to delete. The View Source Report page opens.
7. Click the **Delete**. A message window appears.
8. Click **OK** to delete the source, or **Cancel** to keep the source. If you delete the source, the View Source Report List page opens. If you keep the source, you remain on the View Source Report page.

Delete Local Source Columns

Follow the steps below to change the properties of your source meta data.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

 Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

 Note

Check the **Show locally modified sources only** checkbox to display local target views only. ■

6. Click the source name whose columns you want to delete. The View Source Report page opens.
7. Click the source column you want to delete. The Edit Source Column page opens.
8. Click the **Delete Local**. A message window appears.
9. Click **OK** to delete the source, or **Cancel** to keep the source. If you delete the source, you return to the Edit Source Column page. If you keep the source, you remain on the Edit Source Column page.

Add and Delete Source to Target Meta Data Local Mappings

Meta data contains information about which source column in the source system contained the information that is in the target column. You can create your own local source to target meta data mappings.

Follow the steps below to add or delete local source to target mappings to the meta data:

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. Click the reporting view to map. The View Target Report page opens.
7. Click the target column you want to map. The Edit Target Columns page opens.

8. *To Add:*

Click **Add Local Mapping** at the bottom of the web page. The Add a Source Mapping window opens. (Continue to the next step below.)

To Delete:

Click the **Delete Local Mapping** link at the bottom of the web page.

Click **OK** to delete the local mapping.

9. Enter the source subject area, table and column (required fields). Or, search for them using the corresponding links. Choose the table or column from the drop-down list associated with that link.

10. Click **Add Mapping** to save the newly mapped meta data.

Import Target and Source Meta Data

The Import option enables you to import an entire view into the meta data. The view must exist in the ODSMGR schema. All the columns in the view are created as local meta data.

Follow the steps below to change the properties of your source meta data.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

 Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Click the subject area you want to view. The window closes automatically.

 Note

Check the **Show locally modified targets (or sources) only** checkbox to display local target (or source) views only. ■

6. Click **Import** located at the top right side of the web page. The Select a View window opens.
7. Click one or more views to import.

To choose more than one view, click the first view, then hold down the Ctrl key while selecting the remaining views.

8. Click **Import**.

CSV Export

The Export option enables you to export target and source meta data into a .csv file that you can open in Microsoft Excel, or similar application.

Follow the steps below to change the properties of your source meta data.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS Meta Data or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

3. Click **Select** on the View Target Report List page to choose the target subject area you want to edit. The Select A Subject Area (Banner ODS) or Select a Star (Banner EDW) window opens.
4. Click either the **Reporting View(s)** or **Composite View(s)** radio group (Banner ODS) or Target or Source (Banner EDW). Then, click the **Target(s)** radio group.
5. Choose the subject area you want to view. The window closes automatically.

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

6. To export all reporting or composite views in a subject area, click **CSV Export** located at the top right side of the View Target (or Source) Report List page.
7. A window opens either to warn you that the operation will take a long time, or to indicate whether you want to save or open the file. Click **Cancel** to stop.

Publish Meta Data from the Administrative UI

Meta data is considered ‘published’ after the selected source or target information is saved as an HTML file and a meta data report is created. And, it can be published for some or all sources and targets. Meta data enables users to easily view the relationships between Banner ODS and Banner EDW columns and their sources. Meta data can be published from the Administrative UI, or from the command line outside the Administrative UI. Once a meta data report is published, it can be stored on a server that is accessible to reporting users.

Note

If the Web server is not on the Banner ODS and Banner EDW machine, the files need to be copied to the Web server after publishing. ■

Publish Meta Data for an Entire Subject Area

Follow the steps below to publish meta data for an entire subject area (Student, Finance, etc.).

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->. ■

Note

Check the **Show locally modified targets only** checkbox to display local target views only. ■

3. Click **Select** on the View Target Report List page. The Select A Subject Area window opens.
4. Click the **Target(s)** radio group.
5. Click the subject you want to view. The window closes automatically.
6. Click **Publish** located at the top right side of the web page.
7. Click **Ok** to confirm that you want to publish all reports for the subject area.

Publish Meta Data for One Source or Target

Follow the steps below to preview and publish the meta data for one source or target.

1. Click **Meta Data** from the Administrative UI menu.
2. Click **Maintain Banner ODS or Banner EDW Meta Data**. The View Target Report List page opens.

Note

All subject areas on the View Target Report List page display in alphabetical order by default. To move through the subject areas in alphabetical order, click <- or ->.

Note

Check the **Show locally modified targets only** checkbox to display local target views only.

3. Click **Select** on the View Target Report List page. The Select A Subject Area window opens.
4. Click the **Target(s)** radio group.
5. Click the subject you want to view. The window closes automatically.
6. Click the reporting view whose meta data you want to preview or publish.
7. Click **Preview** to open the View Target Report List page, and preview the report. The meta data is not permanently published until you complete the following step.
8. Click **Publish** at the top of the web page. An HTML file is published (saved as a report). The file is saved to the location specified by the parameters with an internal group *METADATA* and internal_code_2= *PUBLISH_LOCATION*.

Publish Meta Data Reports

Meta data can be published using three methods.

- Publish all meta data by scheduling a process. See [“Publish Meta Data by Scheduling a Process” on page 3-181](#)
- Publish for an entire subject area. See [“Publish Meta Data for an Entire Subject Area” on page 3-179](#)

- Publish for one source or target. See [“Publish Meta Data for One Source or Target” on page 3-180](#)



Note

Baseline meta data reports are provided when your solution is installed. Therefore, you should *not* need to perform the publishing step initially. ■

Publish Meta Data by Scheduling a Process

You can schedule meta data to publish at a predetermined day and time. Follow the steps in the [“Schedule a Process \(Banner ODS and Banner EDW\)” on page 3-70](#) section. You should click the **Publish Meta Data** process.

Publish Meta Data from the Command Line

You can publish all meta data reports using the MGKPUBL.P_MakeAllReports procedure. A sample script, PUBLISH.SQL, is provided in the dbscripts/utility_scripts for publish.sql. To generate all the meta data reports, use the following command:

```
SQLPLUS IA_ADMIN/<password> @PUBLISH.SQL
```

The following PUBLISH.BAT script (in the web_files/metadata directory) can be customized to perform the entire process (generating the files, and then using FTP to put them on a remote server):

```
if "%1" == "move" goto movem
echo Publishing...
echo SET SERVEROUTPUT ON SIZE 500000 > doit.sql
echo EXEC MGKPUBL.P_MakeAllReports >> doit.sql
echo QUIT >> doit.sql
type doit.sql
sqlplus ia_admin/<password>@<Oracle database> @doit.sql
:movem
echo Moving...
if exist *.html del *.html
ftp -n -s:getfiles.dat <ODS machine>
ftp -n -s:putfiles.dat <web server machine>
```

View Published Meta Data

Meta data is considered ‘published’ after the selected source or target information is saved as an HTML file and, as a result, a meta data report is created. There are two kinds of

reports for reporting view and composite view meta data. They are target reports and source reports.

Target Reports:

Show the relationship between the columns in Banner ODS or Banner EDW reporting views (or composite views) and the columns to which they are mapped in the source system tables.

Source Reports:

Show the relationship between columns in the source system tables and the columns to which they are mapped in Banner ODS or Banner EDW reporting view (or composite view).

Reporting View Meta Data

Use the following steps to view a published reporting view meta data report.

1. Click **Meta Data** from the Administrative menu.
2. Click Banner Operational Data Store or Banner Enterprise Data Warehouse. Banner Operational Data Store or Banner Enterprise Data Warehouse Reporting View Meta Data Reports page opens.
3. Choose a subject area from Banner Operational Data Store or Banner Enterprise Data Warehouse Reporting View Meta Data Reports page. The Reporting View Meta Data Reports page opens.
4. Choose a reporting view. The selected report displays.

 Note

Sometimes the number of targets in the source report can exceed a 30,000 character limit. If this happens the output for the source is cut off, and a message “(More Targets...)” displays. ■

Composite View Meta Data

Banner ODS composite view meta data is also available as published meta data. Use the following steps to view published composite view meta data reports.

1. Click **Meta Data** from the Administrative menu.
2. Click **Banner Operational Data Store**. The Reporting View Meta Data Reports page opens.
3. Click **Banner ODS Composite View Meta Data Reports** located in the top right-hand corner of Banner Operational Data Store Reporting View Meta Data Reports

page. The Banner Operational Data Store Composite View Meta Data Reports page opens.

4. Choose the subject area. The Composite View Meta Data Reports page opens listing the view name and description.
5. To view the column details associated with the selected composite view, choose one of the composite views. A report opens listing the Local Target, Target Column, Business Definition, Database Data Type, Source Name and Source Column.

Metamodel

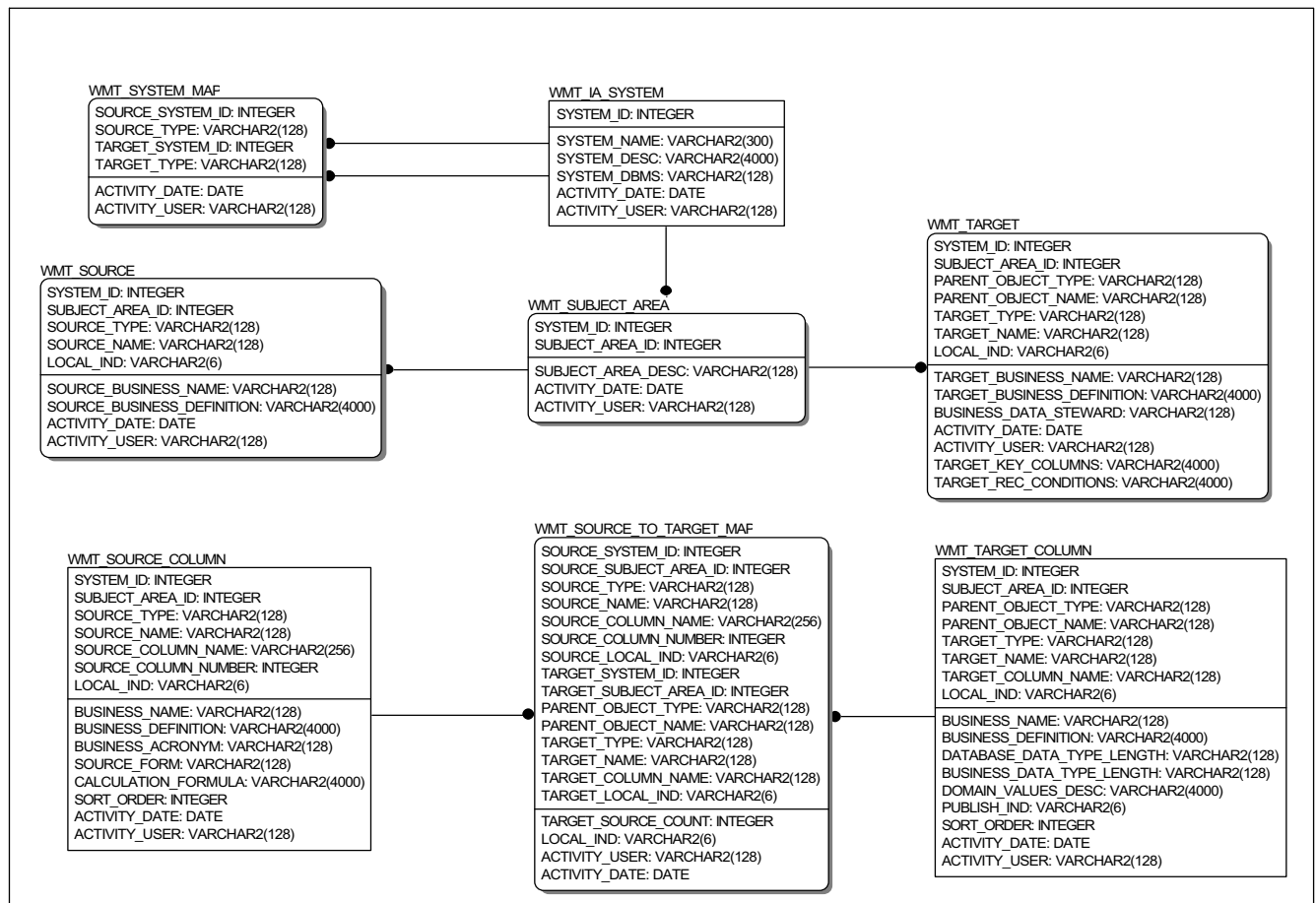
The SunGuard Higher Education metamodel is the physical relational data model that stores the meta data. This should not be confused with the meta data repository, which refers to the physical database tables that contain the meta data.

Meta data tables are stored in a repository that is owned by the user - IA_ADMIN. Each table in the meta data repository begins with a “WMT_” prefix to identify it as a Banner ODS/Banner EDW “Warehouse Meta Data Table.” In addition, there is a public synonym for each table that simply removes the “WMT_” prefix.

The meta data tables and views that make up the metamodel illustrate the different pieces of meta data available, and how they relate to each object type. The object types are the reporting views and the source tables.

Meta Data Table Name	Synonym
WMT_IA_SYSTEM	IA_SYSTEM
WMT_SOURCE	SOURCE
WMT_SOURCE_COLUMN	SOURCE_COLUMN
WMT_SOURCE_TO_TARGET_MAP	SOURCE_TO_TARGET_MAP
WMT_SUBJECT_AREA	SUBJECT_AREA
WMT_SYSTEM_MAP	SYSTEM_MAP
WMT_TARGET	TARGET
WMT_TARGET_COLUMN	TARGET_COLUMN

A diagram of the metamodel follows:



These meta data tables that store information about the meta data are further described in the next section.

Banner ODS Meta Data Object Types

Information exists in the meta data layer for the following types of objects:

Object	Description
Target View	Banner ODS reporting views that join related information from Banner ODS tables. Use these views to build reports. <i>Example:</i> CONSTITUENT reporting view is the Advancement constituent data.
Source Table	Database tables in your source system used as the source for the data in Banner ODS. <i>Example</i> APBCONS is the Constituent Base Table.
Source Function	Functions that use data from the source system's source tables to create new data to be stored in Banner ODS and Banner EDW.

Banner EDW Meta Data Object Types

Meta data information exists for the following types of objects:

Object	Description
Target Table	Banner EDW fact and dimension tables that represent the data from Banner ODS reformatted into star schema.
Source View	Reporting views in Banner ODS

Source Meta Data Tables

The following meta data tables store information about the source of Banner ODS and Banner EDW data. In Banner ODS and Banner EDW, this is meta data about the source systems.

Source Table (WMT_SOURCE)

Column	Description
SYSTEM_ID	Unique ID for the source system.
SUBJECT_AREA_ID	Unique ID for the subject area.

Column	Description
SOURCE_TYPE	Identifies whether the source is a table, view, or function. Sample source types are TABLE, REPORTING VIEW and FUNCTION.
SOURCE_NAME	Source table, view, or function name.
SOURCE_BUSINESS_NAME	Source table, view, or function descriptive name.
SOURCE_BUSINESS_DEFINITION	Table or view business purpose.
LOCAL_IND	Indicates whether the row is a local or baseline version.
ACTIVITY_DATE	Date the meta data was changed.
ACTIVITY_USER	User who changed the meta data.

Source Column Table (WMT_SOURCE_COLUMN)

Column	Description
SYSTEM_ID	Unique ID for the source system.
SUBJECT_AREA_ID	Unique ID for the subject area.
SOURCE_TYPE	Identifies whether the source is a table, view or function. Sample source types are TABLE, REPORTING VIEW, and FUNCTION.
SOURCE_NAME	Source table, view or function name.
SOURCE_COLUMN_NAME	Source table/view column name. If the source name is FUNCTION, the function name is entered. If the source name is CONSTANT, the value of the constant is entered. If the source name is CALCULATION, the calculation is entered.
SOURCE_COLUMN_NUMBER	Distinguishes between source columns that have the same names.
LOCAL_IND	Indicates whether the row is a local or baseline version.
BUSINESS_NAME	Descriptive name for the column in the source.

Column	Description
BUSINESS _DEFINITION	Source column defined in business terms.
BUSINESS _ACRONYM	Acronym for the source column, if it has one.
SOURCE_FORM	Source system form name from which the data was captured.
CALCULATION_ FORMULA	Any calculations that are applied to create the data in the target column.
SORT_ORDER	Column order in the table or view. It is determined by numbering the columns in alphabetical order.
ACTIVITY DATE	Date the meta data was changed.
ACTIVITY USER	User who changed the meta data.

Target Meta Data Tables

The following meta data tables store information about the target of Banner ODS and Banner EDW data, Banner ODS reporting views or Banner EDW stars, fact, and fact or dimension tables.

Target Table (WMT_TARGET)

Column	Description
SYSTEM_ID	Unique ID for Banner ODS and Banner EDW.
SUBJECT_AREA _ID	Unique ID for the subject area.
PARENT_OBJEC T_TYPE	This column is used in Banner EDW only. In the case of Banner EDW, the parent object type is STAR. Not used in Banner ODS.
PARENT_OBJEC T_NAME	This column is used in Banner EDW only. In Banner EDW, this identifies the star to which the target belongs.

Column	Description
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently, reporting and composite view information is available. Sample values for Banner ODS are REPORTING VIEW and COMPOSITE VIEW. Sample values for the EDW are DIMENSION TABLE, FACT TABLE, and STAR.
TARGET_NAME	Table or view name.
TARGET_BUSINESS_NAME	Target descriptive name.
TARGET_BUSINESS_DEFINITION	Target business purpose.
BUSINESS_DATA_STEWARD	Person or department responsible for the data in the target.
LOCAL_IND	Indicates whether the row is a local or baseline versions.
ACTIVITY_DATE	Date the meta data was changed.
ACTIVITY_USER	User who changed the meta data.
TARGET_KEY_COLUMN	Describes how the data is to be returned when extracted, with any information and/or comments specific to this particular set of data.
TARGET_RECONDITIONS	Columns used in report filters and queries that return the best performance for the specified reporting view. These conditions are not mandatory, but recommended for performance. You may retrieve data from the reporting views using different criteria.

Target Column Table (WMT_TARGET_COLUMN)

Column	Description
SYSTEM_ID	Unique ID for Banner ODS and Banner EDW.
SUBJECT_AREA_ID	Unique ID for the subject area.

Column	Description
PARENT_OBJECT_TYPE	This column is used in Banner EDW only. In Banner EDW, the parent object type is STAR.
PARENT_OBJECT_NAME	This column is used in Banner EDW only. In Banner EDW, this identifies the star to which the target belongs.
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently, reporting view information is available. Sample values for Banner ODS are REPORTING VIEW and COMPOSITE VIEW. Sample values for Banner EDW are DIMENSION TABLE, FACT TABLE and STAR.
TARGET_NAME	Table or view name.
TARGET_COLUMN_NAME	Target column name.
LOCAL_IND	Indicates whether the row is a local or baseline version.
BUSINESS_NAME	Descriptive name for the column in the target.
BUSINESS_DEFINITION	Defines the target column in business terms. This is the comment on column in the relational database data dictionary in your target system.
DATABASE_DATA_TYPE_LENGTH	Comes from the relational database data dictionary in Banner ODS and Banner EDW. This is stored in the meta data tables, not just the relational database data dictionary, so that it is easily available in one place with the rest of the meta data.
BUSINESS_DATA_TYPE_LENGTH	Used when writing reports for formatting purposes. The business data type may be character, integer, float, etc. It also contains the length of the data.

Example

The relational database data type and length for the internal ID may be varchar(63), but the business data type and length is 8-digits. Even though the database allows for a width up to 63 characters, the column will never be more than eight.

DOMAIN_VALUES_DESC	Description of the valid values that a column can contain. It could be a list of codes and code descriptions.

Column	Description
PUBLISH_IND	Indicates whether to publish the column information to meta data reports so users can use the meta data for reporting purposes. It may not be published because the column contains sensitive information. The column may also contain technical information like a key that would not be used in a report.
SORT_ORDER	Physical order of the columns in the table or view from the relational database data dictionary.
ACTIVITY_DATE	Date the meta data was changed.
ACTIVITY_USER	User who changed the meta data.

Source and Target Meta Data Tables

The following meta data tables store information about the source and target of the data. This includes meta data about the source systems and Banner ODS and Banner EDW.

System Table (WMT_IA_SYSTEM)

Column	Description
SYSTEM_ID	Unique ID for a system.
SYSTEM_NAME	Administrative source or Banner ODS/Banner EDW solution system name.
SYSTEM_DESC	Administrative source or Banner ODS/Banner EDW solution system description.
SYSTEM_DBMS	Database management system software, Oracle for example, used to implement the source or target system.
ACTIVITY_DATE	Date the meta data was changed.
ACTIVITY_USER	User who changed the meta data.

Subject Area Table (WMT_SUBJECT_AREA)

Column	Description
SYSTEM_ID	Unique ID for the system.
SUBJECT_AREA_ID	Unique ID for the subject area.
SUBJECT_AREA_DESC	Advancement, Student or Human Resources, for example.

System Map Table (WMT_SYSTEM_MAP)

Column	Description
SOURCE_SYSTEM_ID	Source system unique ID.
SOURCE_TYPE	Identifies whether the source is a table, view, or function. Sample source types are TABLE, REPORTING VIEW, and FUNCTION.
TARGET_SYSTEM_ID	Banner ODS and Banner EDW unique ID.
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently, reporting and composite view information is available. Sample values for Banner ODS are REPORTING VIEW and COMPOSITE VIEW. Sample values for Banner EDW are DIMENSION TABLE, FACT TABLE, and STAR.
ACTIVITY_DATE	Date the meta data was changed.
ACTIVITY_USER	User who changed the meta data.

Source to Target Map Table (WMT_SOURCE_TO_TARGET_MAP)

Column	Description
SOURCE_SYSTEM_ID	Source system unique ID.
SOURCE_SUBJECT_AREA_ID	Subject area unique ID.

Column	Description
SOURCE_TYPE	Identifies whether the source is a table, view or function. Sample source types are TABLE, REPORTING VIEW and FUNCTION.
SOURCE_NAME	Source table, view or PL/SQL function name.
SOURCE_COLUMN_NAME	Source column name from the source table or view, if the source is a table or view. If the source name is FUNCTION, the function name is entered. If the source name is CONSTANT, the value of the constant is entered. If the source name is CALCULATION, the calculation is entered.
SOURCE_COLUMN_NUMBER	Distinguishes between source columns that have the same names.
SOURCE_LOCAL_IND	Indicates whether the row is a local or baseline version.
TARGET_SYSTEM_ID	Banner ODS and Banner EDW unique ID.
TARGET_SUBJECT_AREA_ID	Subject area unique ID.
PARENT_OBJECT_TYPE	This column is used in Banner EDW only. In Banner EDW, the parent object type is STAR.
PARENT_OBJECT_NAME	This column is used in Banner EDW only. In Banner EDW, this identifies the star to which the target belongs.
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently, reporting and composite view information is available. Sample values for Banner ODS are REPORTING VIEW and COMPOSITE VIEW. Sample values for Banner EDW are DIMENSION TABLE, FACT TABLE, and STAR
TARGET_NAME	Table or view name.
TARGET_COLUMN_NAME	Column name in the target reporting view.

Column	Description
TARGET_LOCAL_IND	Indicates whether the row is a local or baseline version.
TARGET_SOURCE_COUNT	Count indicates how many sources there are for a target.
LOCAL_IND	Indicates whether the row is a local or baseline version.
ACTIVITY_USER	User who changed the meta data.
ACTIVITY_DATE	Date the meta data was changed.

Reporting Meta Data Views

The following views exist in the meta data repository, and are owned by the user IA_ADMIN.

View	Description
WMV_SOURCE	Lists all information associated with sources and source columns.
WMV_SOURCE_TO_TARGET_MAP	Lists all information associated with sources, targets, and source and target columns.
WMV_TARGET	Lists all information associated with targets and target columns.

Each view joins a specific combination of the data stored within the meta data tables. You can use these views to query and report the meta data information. They provide easier access to the meta data in the same way that Banner ODS reporting views provide access to the data in Banner ODS and Banner EDW tables.

Source Meta Data View (WMV_SOURCE)

View	Description
SYSTEM_NAME	Administrative source or Banner ODS/Banner EDW solution system name.
SYSTEM_DESC	Administrative source or Banner ODS/Banner EDW solution system description.
SUBJECT_AREA_DESC	Advancement, Student or Human Resources, for example.

View	Description
SOURCE_TYPE	Identifies whether the source is a table, view or function. Sample source types are TABLE, REPORTING VIEW and FUNCTION.
SOURCE_NAME	Source table, view or PL/SQL function name.
SOURCE_BUSINESS_NAME	Source descriptive name.
SOURCE_BUSINESS_DEFINITION	Source business purpose description.
SOURCE_COLUMN_NAME	Source column name from the source, if the source is a table or view. Function name if the source is a function.
BUSINESS_DEFINITION	Target column description in business terms.
CALCULATION_FORMULA	Any calculations that are applied to create the data in the target column.
SORT_ORDER	Column order in the table or view. It is determined by numbering the columns in alphabetical order.
BUSINESS_NAME	Column name in the source.
BUSINESS_ACRONYM	Source column acronym, if it has one.
SOURCE_FORM	Source system form name from which the data was captured.
LOCAL_IND	Indicates whether the row is a local or baseline version.

Source to Target Map Meta Data View (WMV_SOURCE_TO_TARGET_MAP)

View	Description
TARGET_SYSTEM_NAME	Solution system name.
TARGET_SYSTEM_DESC	Solution system description.
TARGET_SUBJECT_AREA_DESC	Advancement, Student or Human Resources, for example.

View	Description
PARENT_OBJECT_TYPE	This column is used in Banner EDW only. In the case of Banner EDW, the parent object type is STAR.
PARENT_OBJECT_NAME	This column is used in Banner EDW only. In the case of Banner EDW this identifies the star to which the target belongs.
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently Reporting Views information is available. A sample value for Banner ODS is REPORTING VIEW. Sample values for Banner EDW are DIMENSION TABLE, FACT TABLE and STAR.
TARGET_NAME	Table or view name.
TARGET_BUSINESS_NAME	Target descriptive name.
TARGET_BUSINESS_DEFINITION	Target business purpose.
BUSINESS_DATA_STEWARD	Person or department responsible for the data in the target.
TARGET_COLUMN_NAME	Target column name.
TARGET_COLUMN_BUSINESS_NAME	Target column descriptive name.
TARGET_COLUMN_BUSINESS_DEF	Target column description in business terms. This is the comment on column in the relational database data dictionary in your target system.
DATABASE_DATA_TYPE_LENGTH	Comes from the relational database data dictionary in Banner ODS and Banner EDW. This is stored in the meta data tables, not just the relational database data dictionary, so that it is easily available, in one place with the rest of the meta data, for meta data users.

View	Description
BUSINESS_DATA_TYPE_LENGTH	Used when writing reports for formatting purposes. The business data type may be character, integer, float, etc. It also contains the length of the data.
Example: The relational database data type and length for an internal ID may be varchar(63), but the business data type and length is eight digits. Even though the database allows for a width up to 63-characters, the column will never be more than eight.	
DOMAIN_VALUES_DESCRIPTION	Description of the valid values that a column can contain. It could be a list of codes and code descriptions.
PUBLISH_IND	A flag that indicates whether to publish the column information to meta data reports so users can use the meta data for reporting purposes. It may not be published because the column contains sensitive information. The column may also contain technical information like a key that would not be used in a report.
TARGET_SORT_ORDER	Columns physical order in the table or view from the relational database data dictionary.
TARGET_LOCAL_IND	Indicates whether the row is a local or baseline version.
SOURCE_SYSTEM_NAME	Solution system name.
SOURCE_SYSTEM_DESCRIPTION	Solution system description.
SOURCE_SUBJECT_AREA_DESCRIPTION	Advancement, Student or Human Resources, for example.
SOURCE_TYPE	Identifies whether the source is a table, view or function. Sample source types are TABLE, REPORTING VIEW and FUNCTION.
SOURCE_NAME	Source table, view or function name.
SOURCE_BUSINESS_NAME	Source descriptive name.
SOURCE_BUSINESS_DEFINITION	Business purpose of the source.

View	Description
SOURCE_COLUMN_NAME	Source column name from the source, if the source is a table or view. Function name if the source is a function.
SOURCE_COLUMN_BUSINESS_NAME	Column in the source descriptive name.
SOURCE_COLUMN_BUSINESS_DEF	Source column described in business terms.
BUSINESS_ACRONYM	Source column acronym, if it has one.
CALCULATION_FORMULA	Any calculations that are applied to create the data in the target column.
SOURCE_SORT_ORDER	Column order in the table or view. It is determined by numbering the columns in alphabetic order.
SOURCE_FORM	Source system form name from which the data was captured.
SOURCE_LOCAL_IND	Indicates whether the row is a local or baseline version.

Target Meta Data View (WMV_TARGET)

View	Description
SYSTEM_NAME	Administrative source or Banner ODS/Banner EDW solution system name.
SYSTEM_DESC	Administrative source or Banner ODS/Banner EDW solution system description.
SUBJECT_AREA_DESC	Advancement, Student or Human Resources, for example.
PARENT_OBJECT_TYPE	This column is used in Banner EDW only. In the case of Banner EDW, the parent object type is STAR.
PARENT_OBJECT_NAME	This column is used in Banner EDW only. In the case of Banner EDW this identifies the star to which the target belongs.

View	Description
TARGET_TYPE	Stores whether this is a Banner ODS and Banner EDW table or view. Currently, Reporting and Composite View information is available. Sample values for Banner ODS are REPORTING VIEW and COMPOSITE VIEW. Sample values for Banner EDW are DIMENSION TABLE, FACT TABLE, and STAR.
TARGET_NAME	Table or view name.
TARGET_BUSINESS_NAME	Target descriptive name.
TARGET_BUSINESS_DEFINITION	Target business purpose.
BUSINESS_DATA_STEWARD	Person or department responsible for the data in the target.
TARGET_COLUMN_NAME	Column name in the target.
BUSINESS_NAME	Descriptive name for the column in the target.
BUSINESS_DEFINITION	Target column in business terms. This is the comment on column in the relational database data dictionary in your target system.
DATABASE_DATA_TYPE_LENGTH	Comes from the relational database data dictionary in Banner ODS and Banner EDW. This is stored in the meta data tables, not just the relational database data dictionary, so that it is easily available in one place with the rest of the meta data, for meta data users.

View	Description
BUSINESS_DATA_TYPE_LENGTH	Used when writing reports for formatting purposes. The business data type may be character, integer, float, etc. It also contains the length of the data.
Example: The relational database data type and length for an internal ID may be varchar(63), but the business data type and length is 8-digits. Even though the database allows for a width up to 63 characters, the column can never be more than 8.	
DOMAIN_VALUES_DESCRIPTION	Description of the valid values that a column can contain. It could be a list of codes and code descriptions.
PUBLISH_IND	Indicates whether to publish the column information to meta data reports so users can use the meta data for reporting purposes. It may not be published because the column contains sensitive information. The column may also contain technical information like a key that would not be used in a report.
SORT_ORDER	Columns physical order in the table or view from the relational database data dictionary.
LOCAL_IND	Indicates whether the row is a local or baseline version.

Web Tailor Administration

The Enterprise Administrative application uses SunGard Higher Education's Web Tailor application to build its look and feel. Web Tailor delivers customizable global Web rule definitions and procedures, customizable menus, menu items, graphics and text definitions.

From the Administrative Tool, use the Web Tailor Administration menu item to access the Web Tailor options. The tasks under this menu item allow you to customize various aspects of the Administrative Tool. Other sections of this chapter include references to the various Web Tailor options that you may want to customize. To learn more about Web Tailor, refer to the "*Web Tailor User Guide*."

Functions

Web Tailor lets you build the look, feel, and unique personality of all your institution's web applications, so you can personalize your institution's interface to the world. Web

Tailor delivers customizable global web rule definitions and procedures, customizable menus, menu items, graphics and text definitions.

The Web Tailor functions are available from the Web Tailor Menu, except for Change Security Question and Change your PIN, which are found on the Personal Information menu. A list of the remaining functions appears below:

- Web Menus and Procedures
- Menu Items
- Information Text
- User Roles
- Web Rules
- Web Modules
- Global User Interface Settings
- Web Tailor Parameters
- Graphic Elements
- Login Return Location
- Web Tailor Overrides
- LDAP Administration

A brief description of each function appears below:

Web Menus and Procedures

This function allows you to define the menus that will appear on your institution's web pages for the different self-service applications, and specify the procedures behind them.

Menu Items

This function allows you to define the items that will appear on the menus on your institution's web pages.

Information Text

This function allows you to add or customize Information Text (Info Text). Info Text can be:

- Instructions on how to use a page
- Help for the page
- Error messages

User Roles

This function allows you to change the role or roles to which a person has been assigned.

Web Rules

This function allows you to define certain rules for your institution's web pages. For example, you can identify the number of minutes a person can be inactive before they are timed out, or specify the format for the date and time information that appears on your pages.

Web Modules

This function allows you to modify a specific self-service application, such as Accounts Receivable, Student Self-Service, Web Tailor Administration, etc.

Global User Interface Settings

This function allows you to set up rules that will apply to your institution's web pages as a whole. You can specify:

- Header information
- The location URL of CSS that control the pages' look-and-feel
- The location URL of CSS that control the look-and-feel of your Help text
- The location URL of where your Help text files are stored

Note

SunGard Higher Education recommends that you use Info Text as your Help text. ■

- Images that represent errors and warnings
- An image that indicates that a field is required

Web Tailor Parameters

This function allows you to customize parameters used in Web Tailor processing, such as the maximum length of PINs. You must exercise great care when modifying these parameters.

Graphic Elements

This function allows you to specify the images that will be available to be used on your web pages. For each image, you can specify its name, the directory where it is located, its height and width, etc.

Login Return Location

Use this function to specify the page you would like to be displayed when a user is timed out, then logs back in.

Web Tailor Overrides

This page allows you to replace certain procedures and functions with your own under certain circumstances. This is necessary because you may have a stand-alone product you would like to use with the self-service products, and you need to use some of the procedures and functions in the other system. If an override is defined, that code will be run instead of the Web Tailor code.

LDAP Administration

This function allows you to override the settings on the Enterprise PIN Preferences Form (GUAPPRF) in Banner General and use an LDAP server to authenticate user logons instead of the Web Tailor logic.

Changing the Security Question

This function allows your end users to change the security question and answer that they can use to access their account if they forget their user ID and PIN.

Changing a PIN

This function enables users to update their PINs.

4 Data Models (Banner ODS)



A typical data model indicates what information is in a database, how the information can be used, and how the items in the database relate to each other.

Banner Operational Data Store (Banner ODS) is comprised of over 300 reporting views containing data across seven subject areas applicable to higher education; Accounts Receivable, Advancement, Common, Finance, Financial Aid, Human Resources and Student.

Because of the size and scope of the Banner ODS data model, reporting views are grouped into logical “business concepts” to better illustrate the various business uses or reporting opportunities within the Banner ODS. These data models depict the reporting views contained in each business concept and how the reporting views, and the data within these reporting views, is related to each other.

The data models (Entity Relationship Diagrams or ERDs) in this chapter incorporate most of the reporting views available in the Banner ODS, and illustrate business concepts within and across all Banner ODS subject areas. However, this is not an inclusive representation as additional business concepts could be conceived and supported by the Banner ODS. There may also be alternative associations between the reporting views within any given data model depending on the type of report you are running.

Entity Relationship Diagrams (ERD)

The most widely used method for representing a data model is the Entity Relationship Diagram (ERD). This chapter uses ERDs to represent the logical relationships between the reporting views within a given Banner ODS business concept. Each ERD represents a business concept. The entities within each ERD correspond to the reporting views associated with that business concept. They don't include all the columns in the reporting views. They only display the primary key columns.

The following legend explains the relationships used in the business concept ERDs.

ERD Relationship Legend

The legend contains three categories:

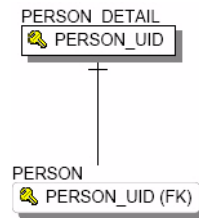
- Identifying Relationships
- Optional Non-Identifying Relationships
- Special Relationships

An example and description of each category is displayed below:

Identifying Relationships

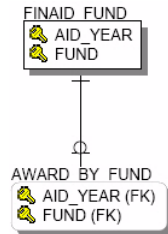
Most relationships in the business concept ERDs are identifying relationships. Identifying relationships are represented by a solid line. An identifying relationship is a relationship between two entities in which an instance of a child entity is identified through its association with a parent entity, which means the child entity is dependent on the parent entity for its identity and cannot exist without it. The primary key attributes migrate from a parent entity to a child entity, so the primary key of the child has attributes from the parent entity primary key in it. These are called foreign keys, and they are marked with the characters (FK) beside them.

One to Exactly One



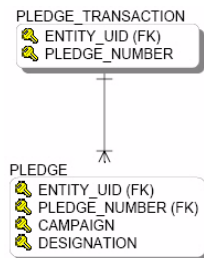
Each Person Detail has exactly one Person.

One to Zero or One



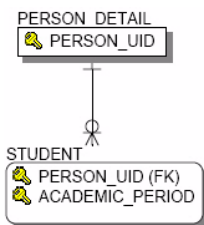
Each Finaid Fund has zero or one Award by Fund.

One to One or More



Each Pledge Transaction has one or more Pledges.

One to Zero, One or More



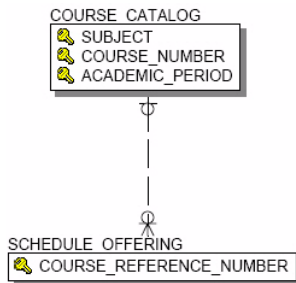
Each Person has zero, one, or more Students. This makes sense because a Student really represents a student for each academic period.

Optional Non-Identifying Relationship

Non-identifying relationships are represented by a dashed line. A non-identifying relationship is a relationship between two entities in which an instance of the child entity is not identified through its association with a parent entity. This means the child entity is not dependent on the parent entity for its identity and can exist without it. In an optional non-identifying relationship, the attributes that are migrated into the non-key area of the child entity are not required in the child entity. Therefore, nulls are allowed in the foreign key.

Zero or One to Zero, One, or More

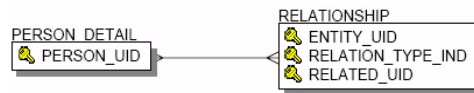
Each Course Catalog entry has zero, one or more Schedule Offerings. There may be a Schedule Offering without a Course Catalog entry.



Special Relationships

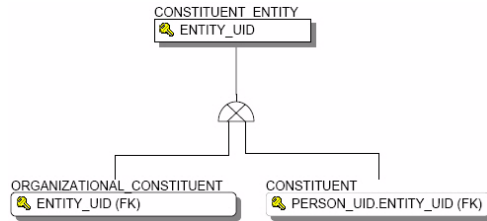
Special relationships are logical relationships that don't use foreign keys.

Many to Many



A relationship between two entities where instances in one entity have zero, one, or more related instances in the other entity. In the example ERD relationship, each Person can have many Relationships, and each Relationship can be related to many (actually two) Persons.

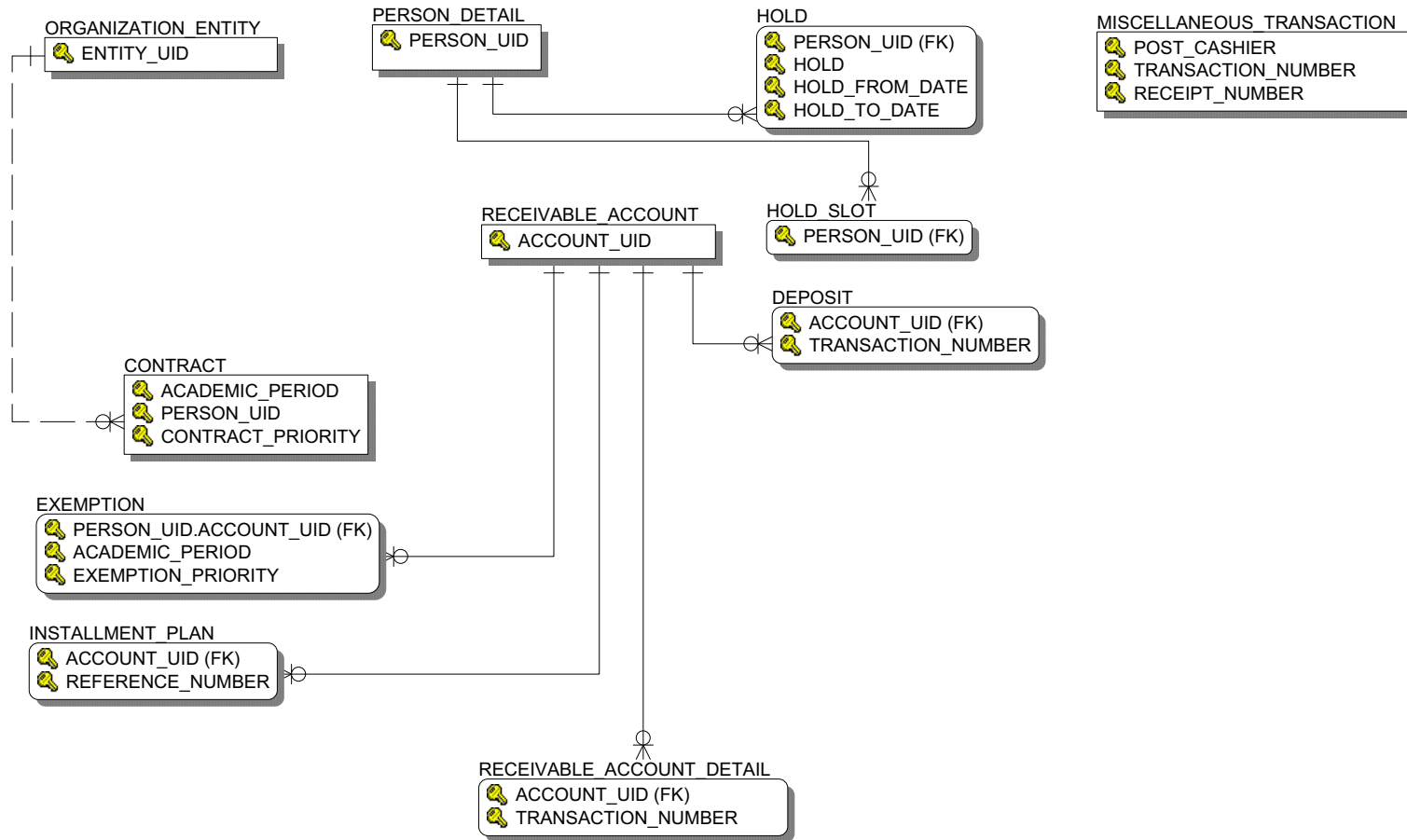
Subtype Relationships



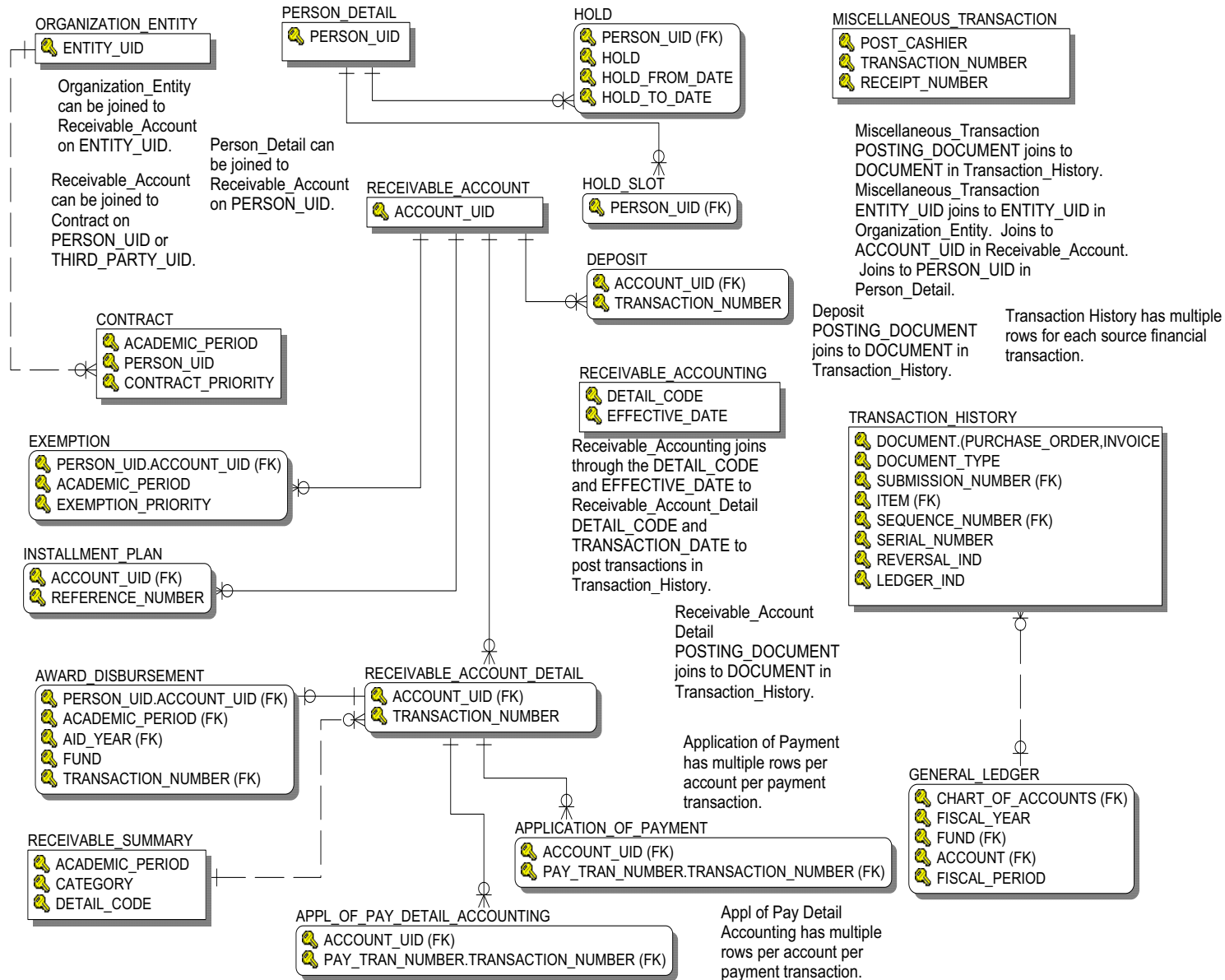
In an ERD, you can show that organizational constituents and constituents are part of a larger category, Constituent Entity, by creating a subtype relationship. A subtype relationship connects an entity that defines the category and two or more additional entities that define each of the elements of the category. The parent entity of the category is considered the supertype and each child entity is considered a subtype.

Accounts Receivable

Receivable Customer

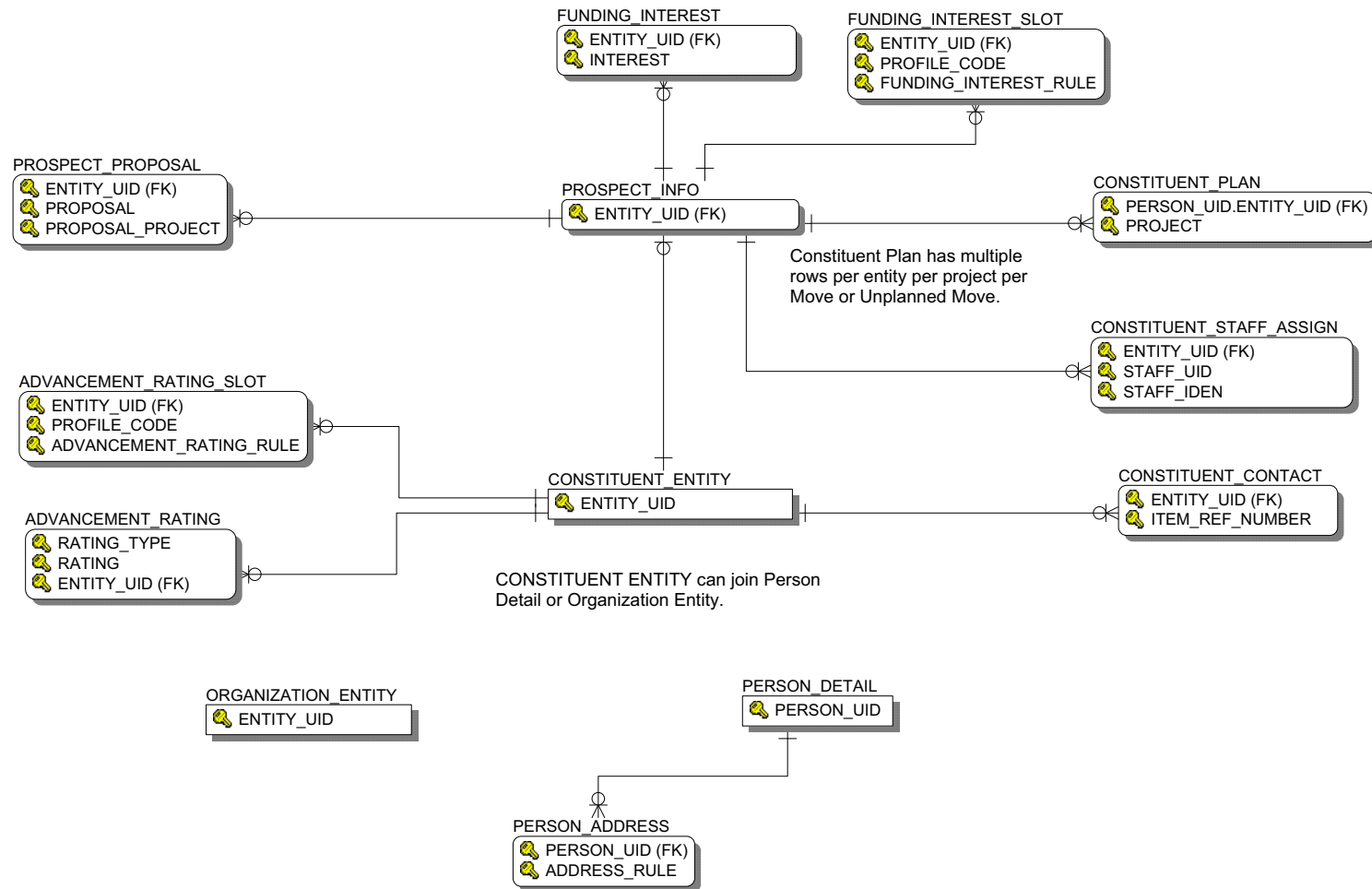


Receivable Revenue

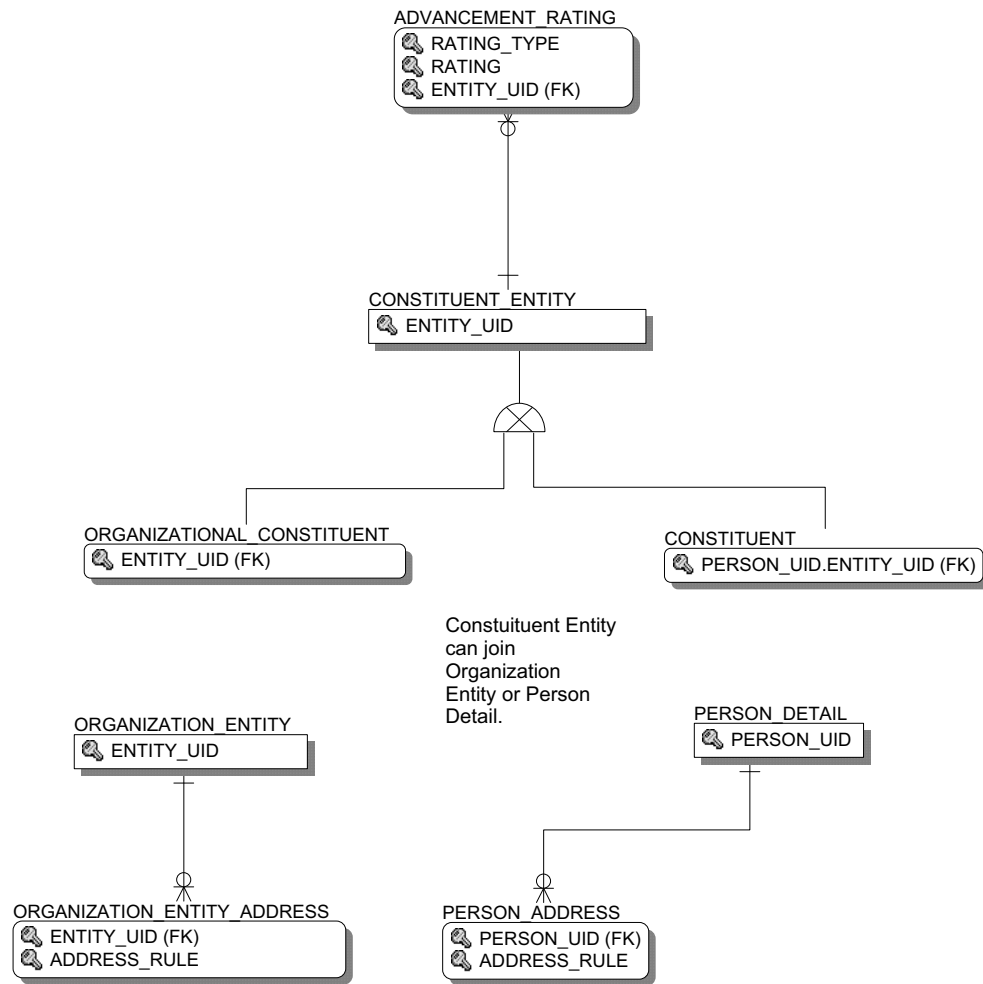


Advancement

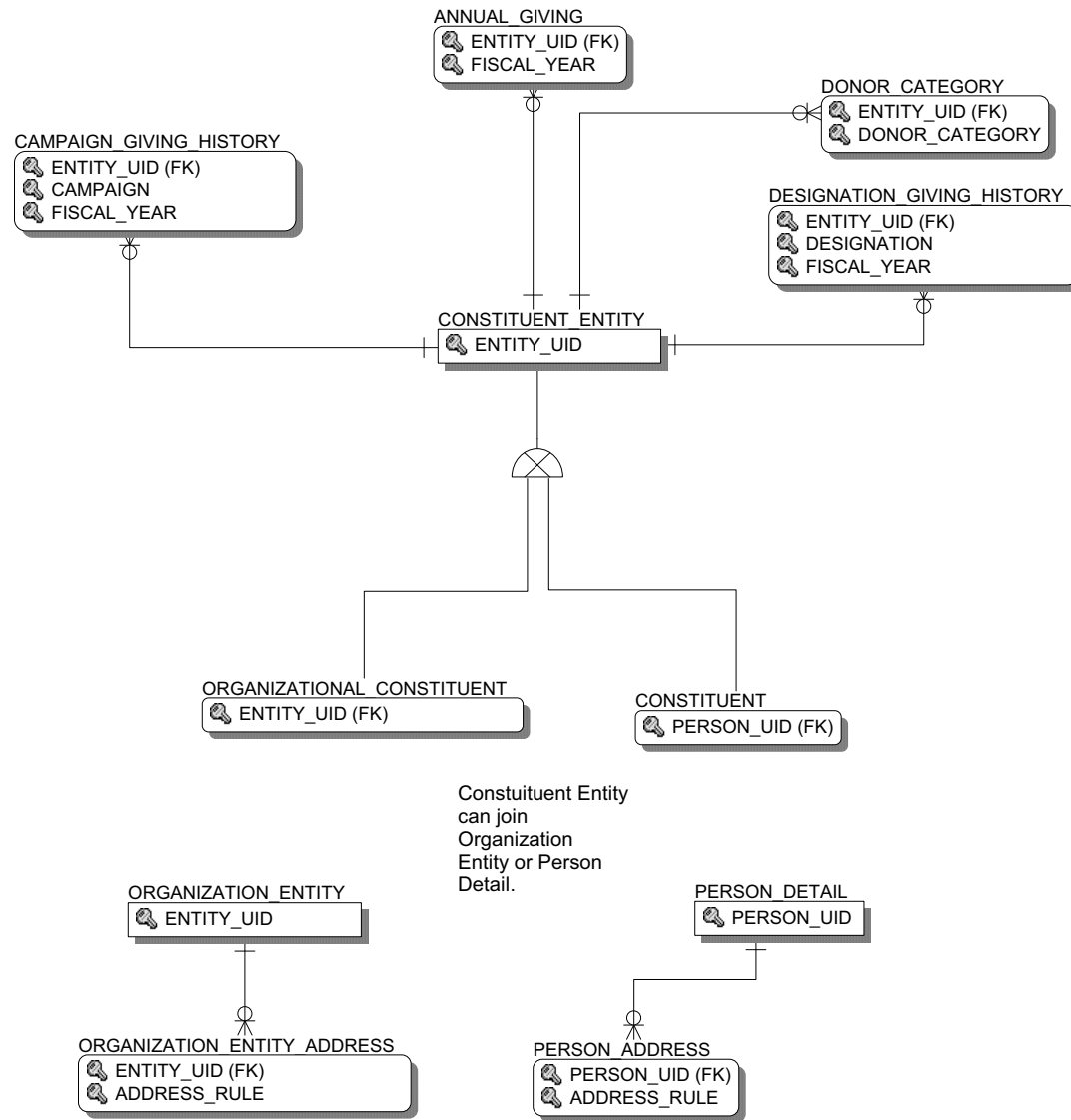
Advancement Prospect



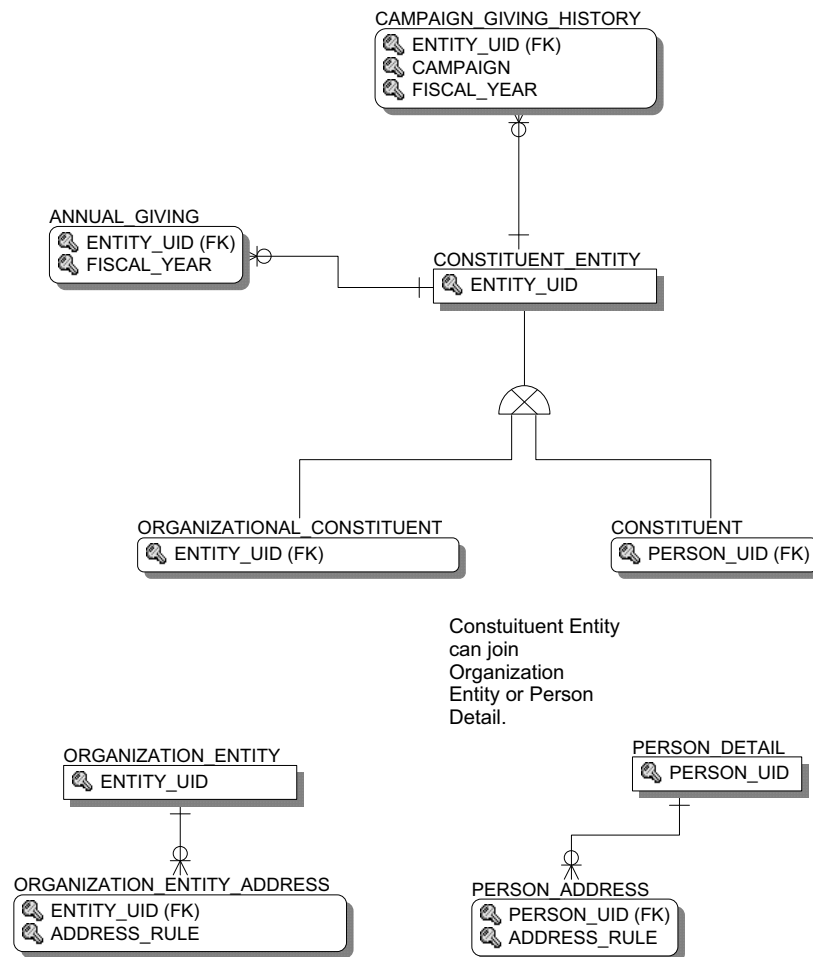
Advancement Rating



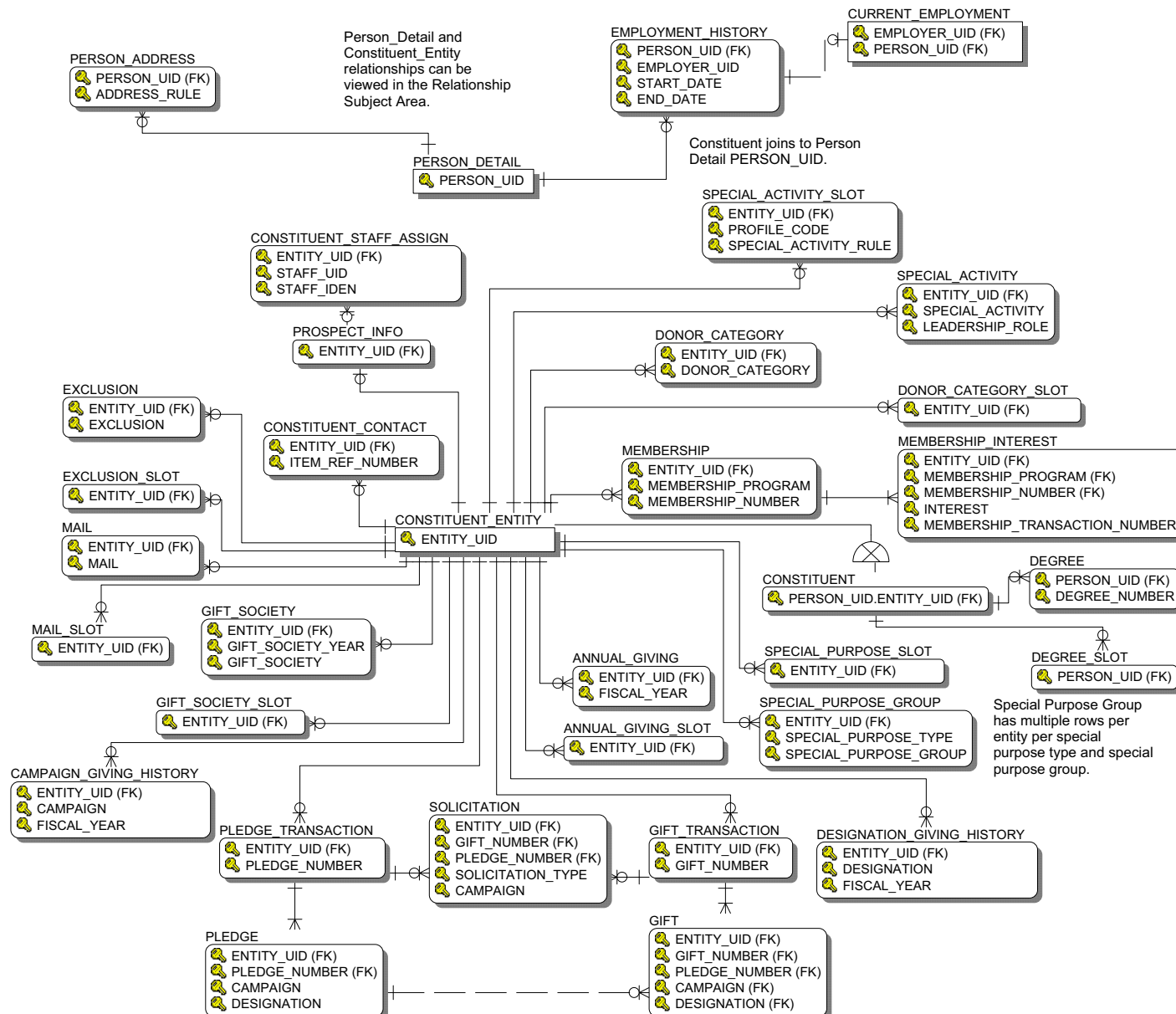
Annual Giving



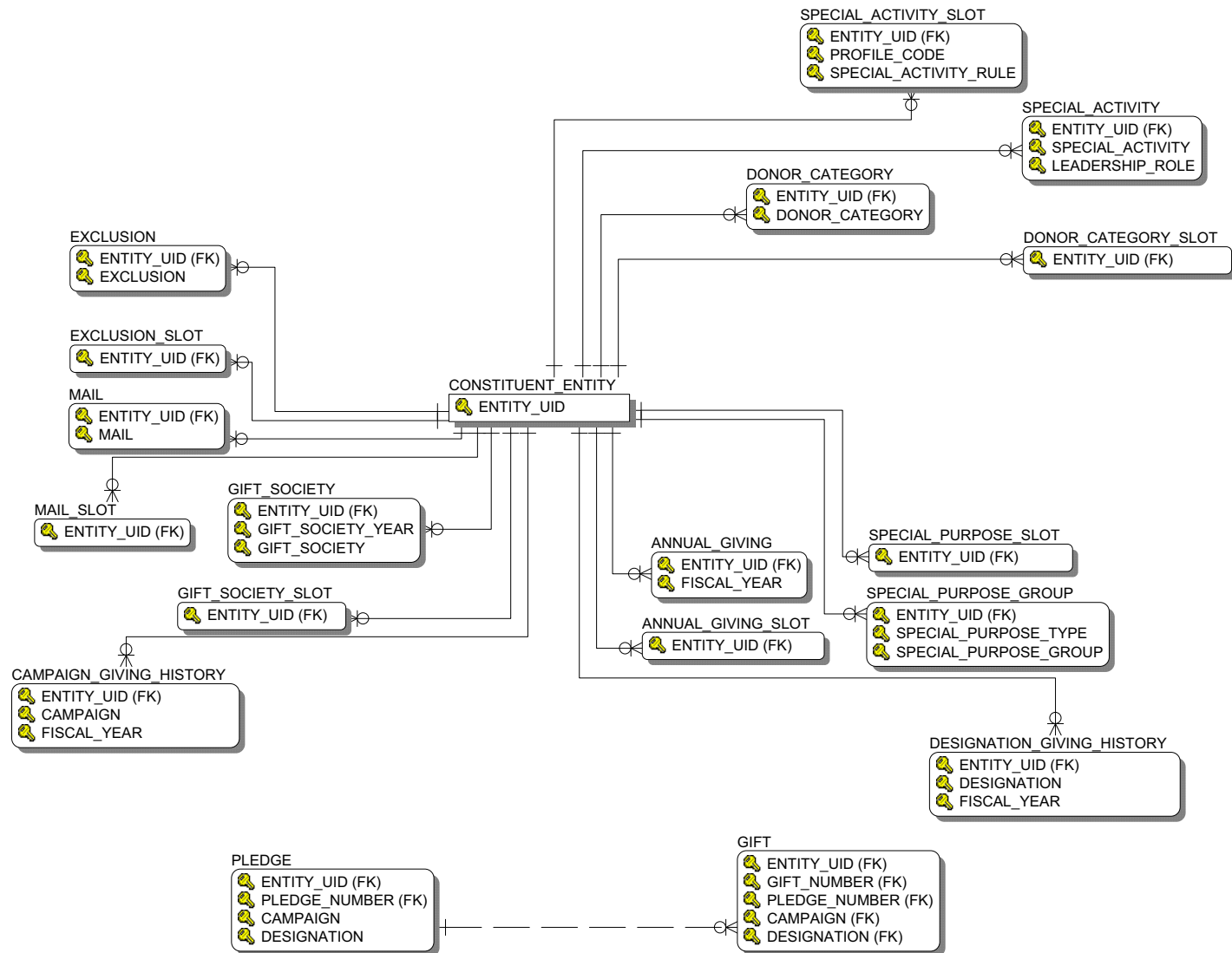
Campaign Giving History



Constituent

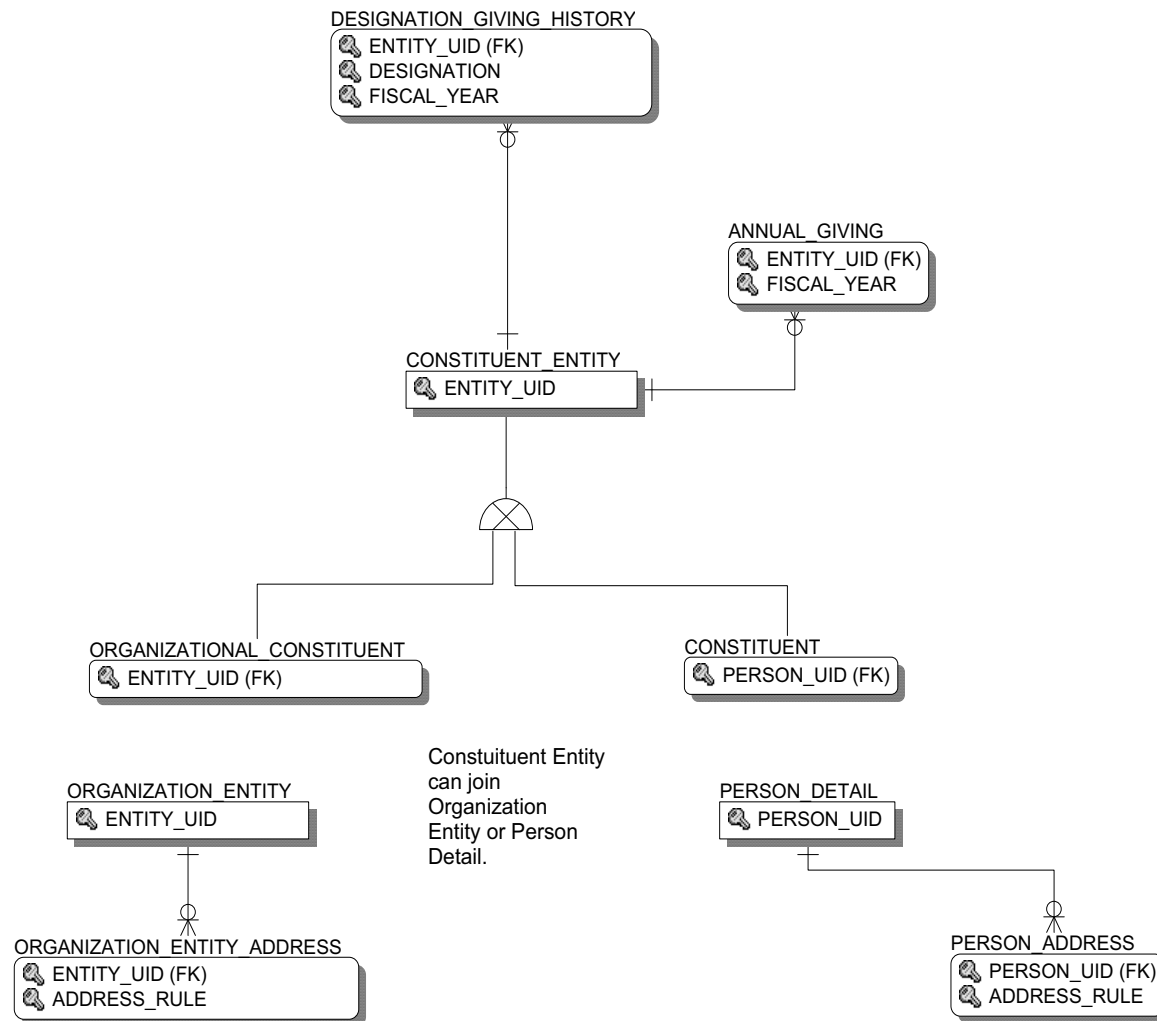


Constituent Entity

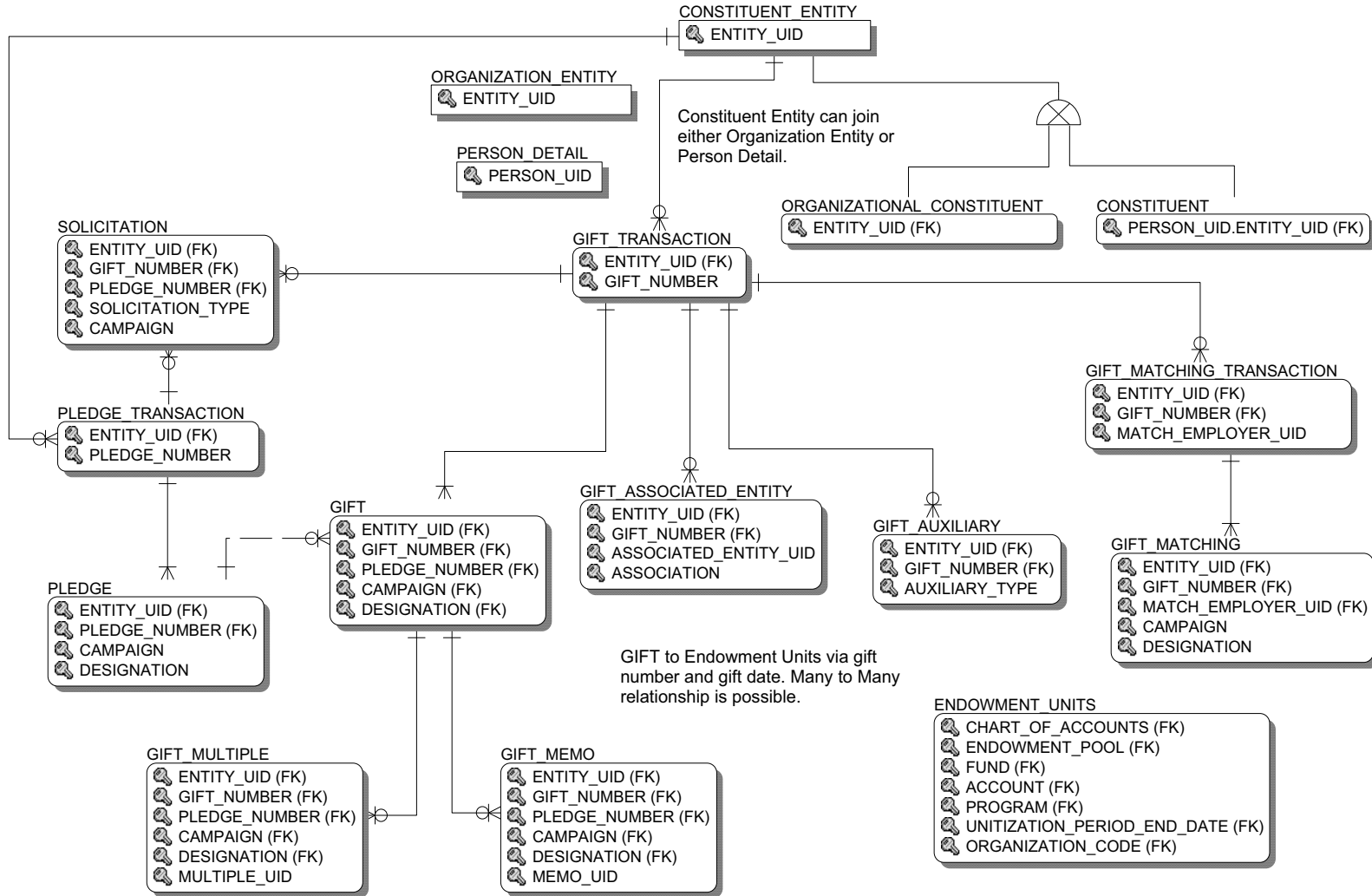


4/1/2009 10:10:51 AM 4/1/2009

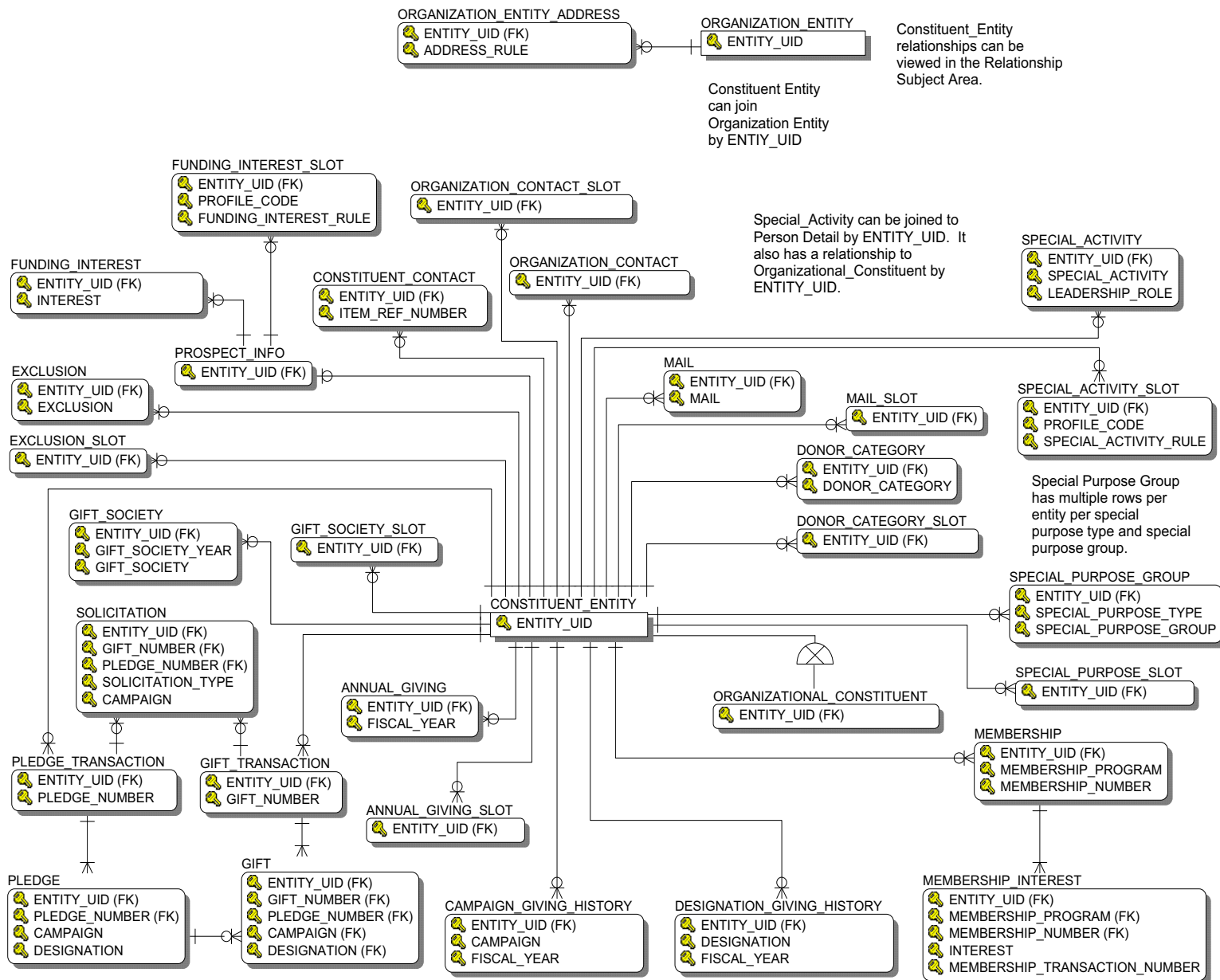
Designation Giving History



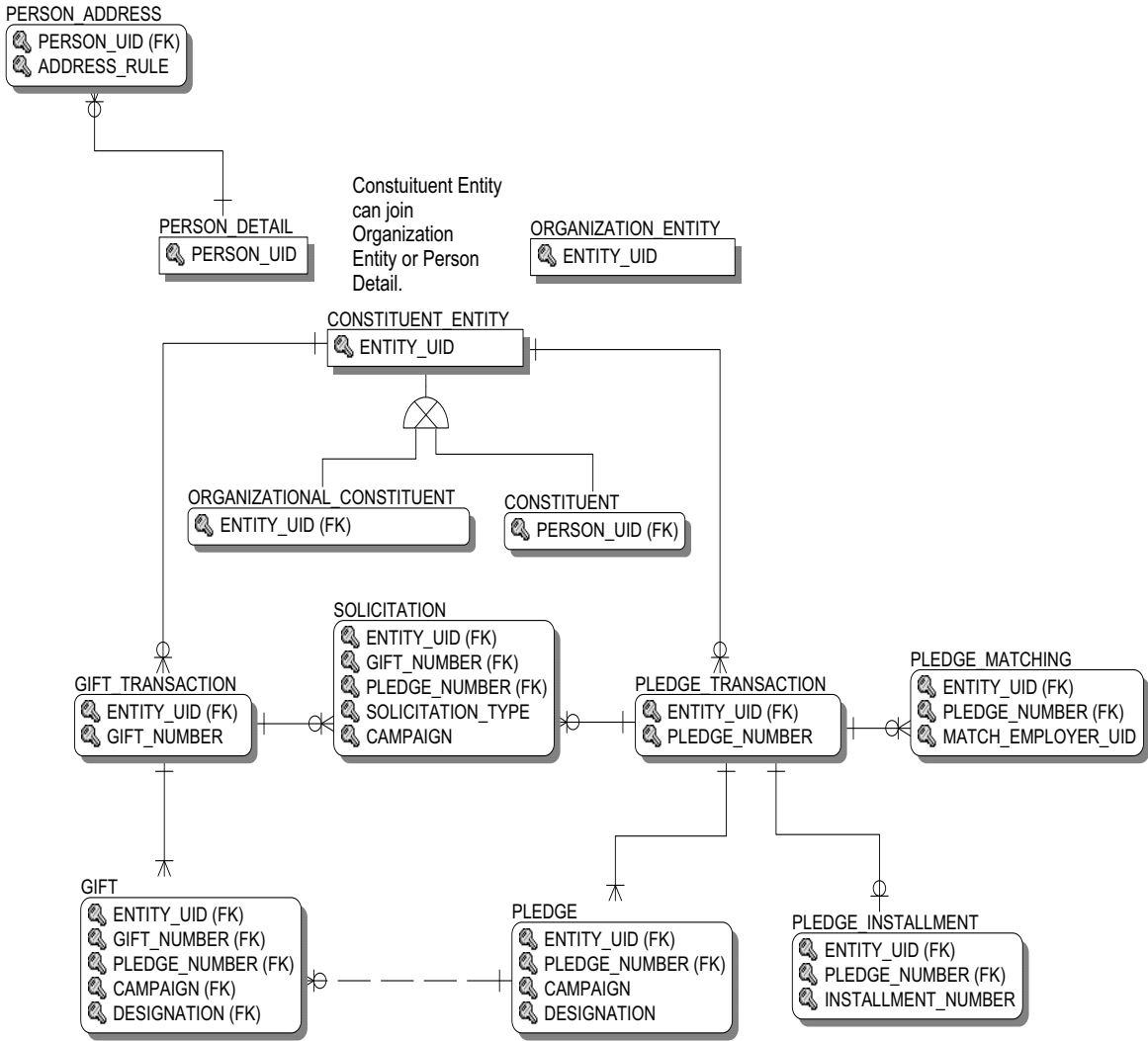
Gift



Organizational Constituent

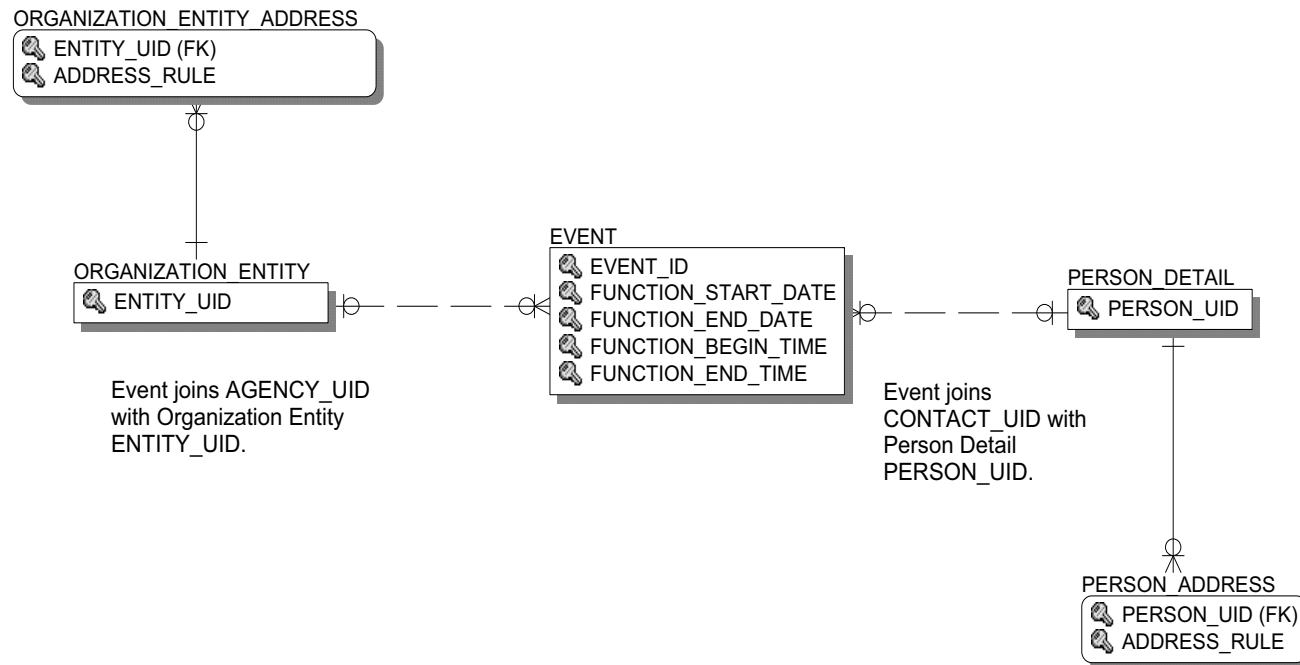


Pledge

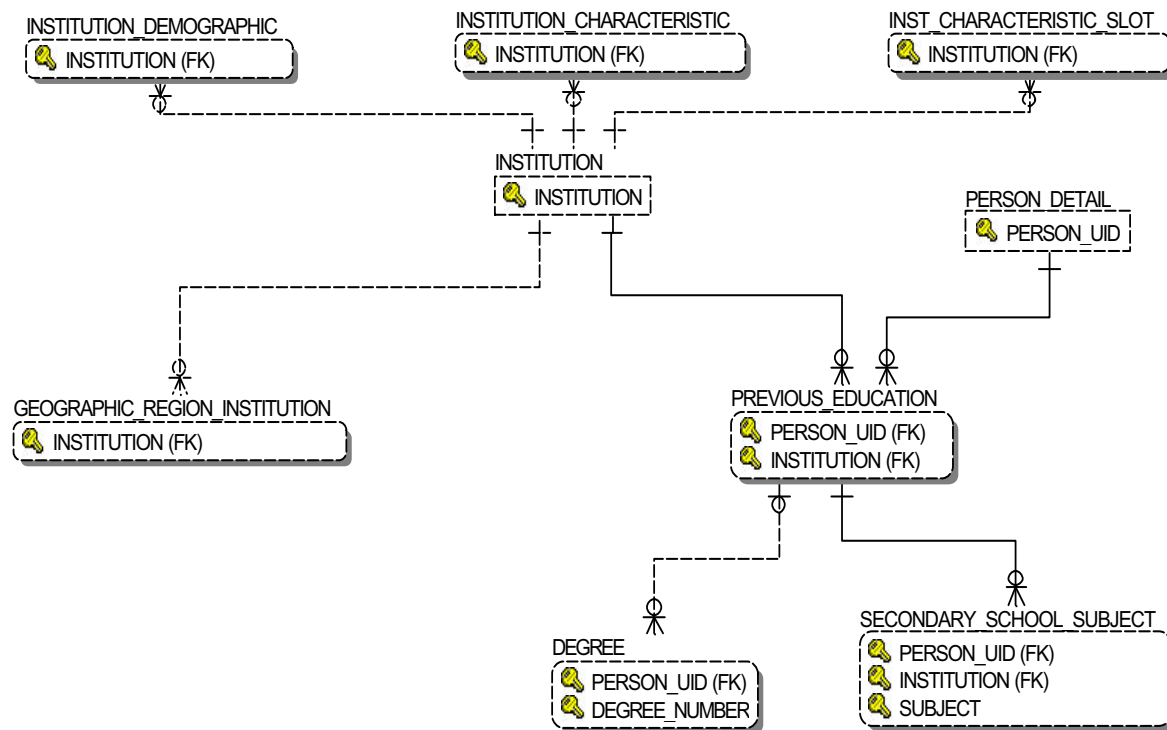


Common

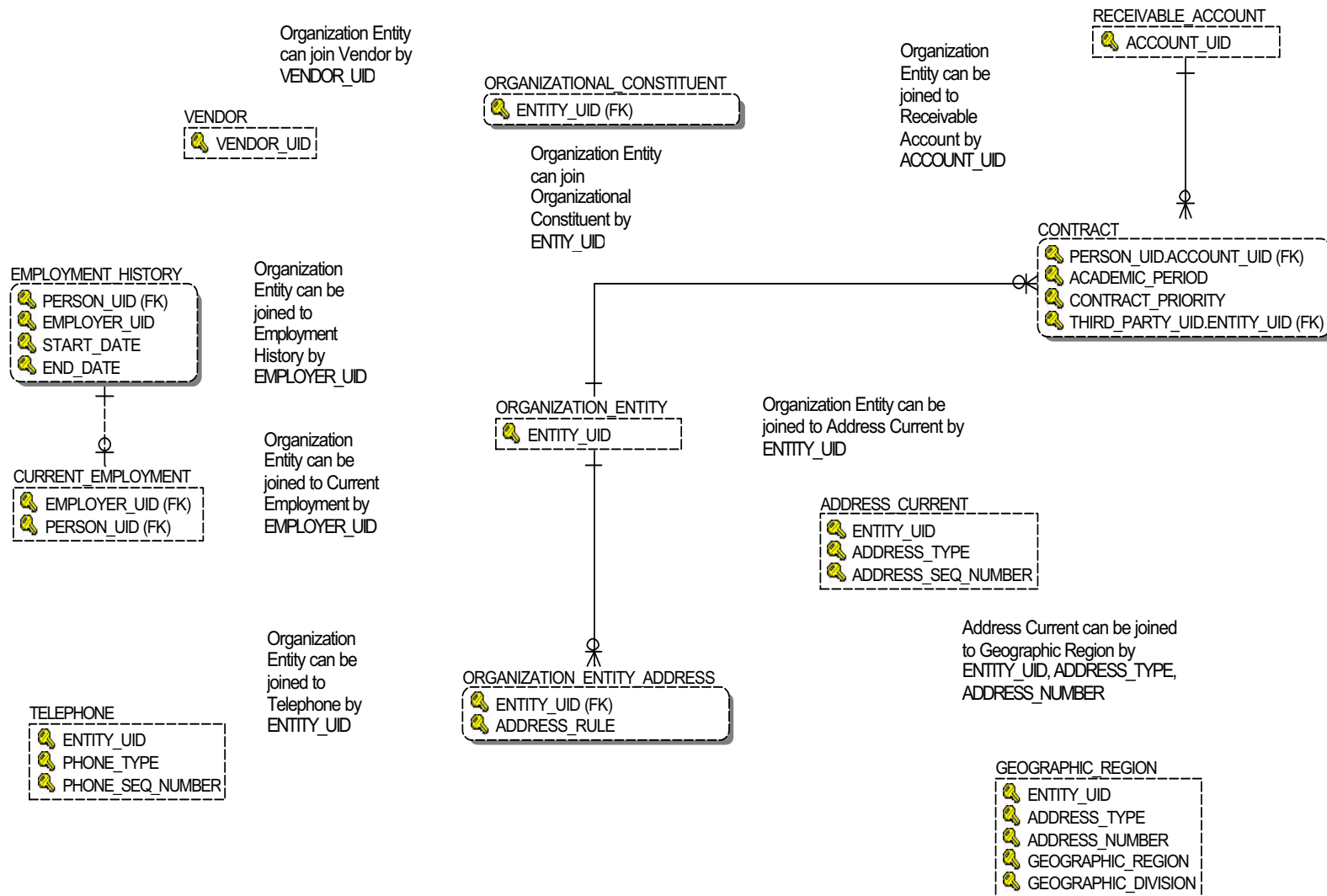
Event



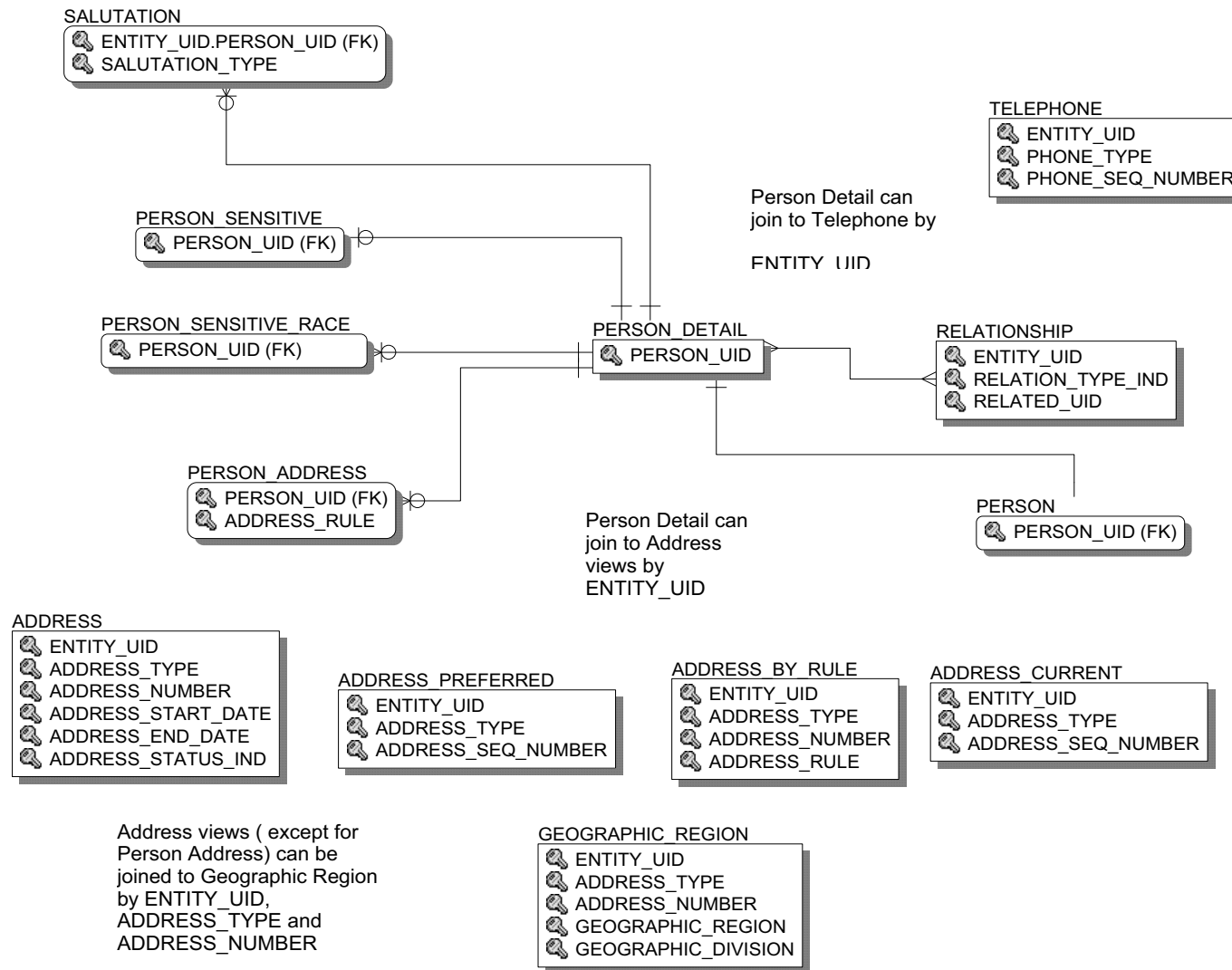
Institution



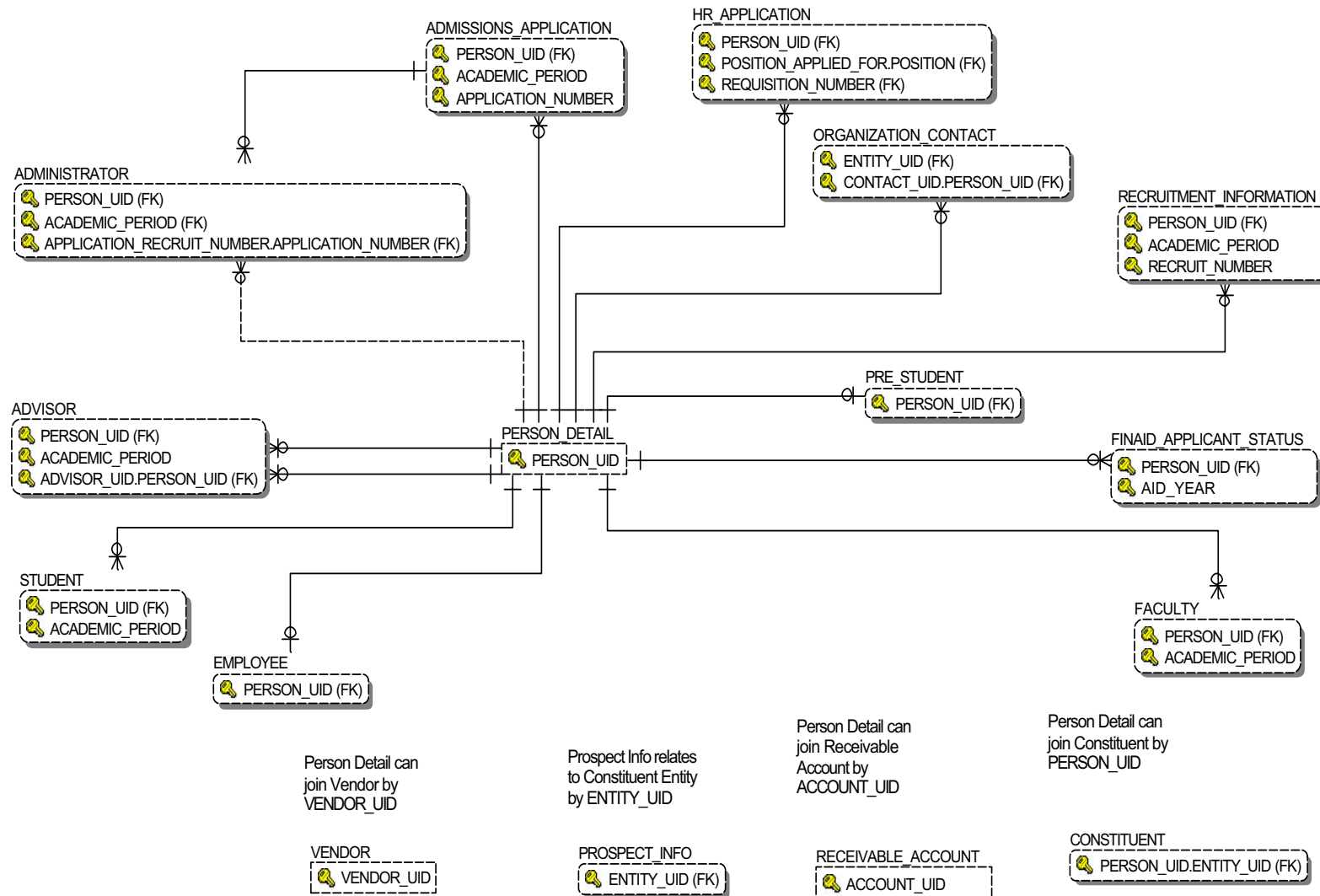
Organization Entity



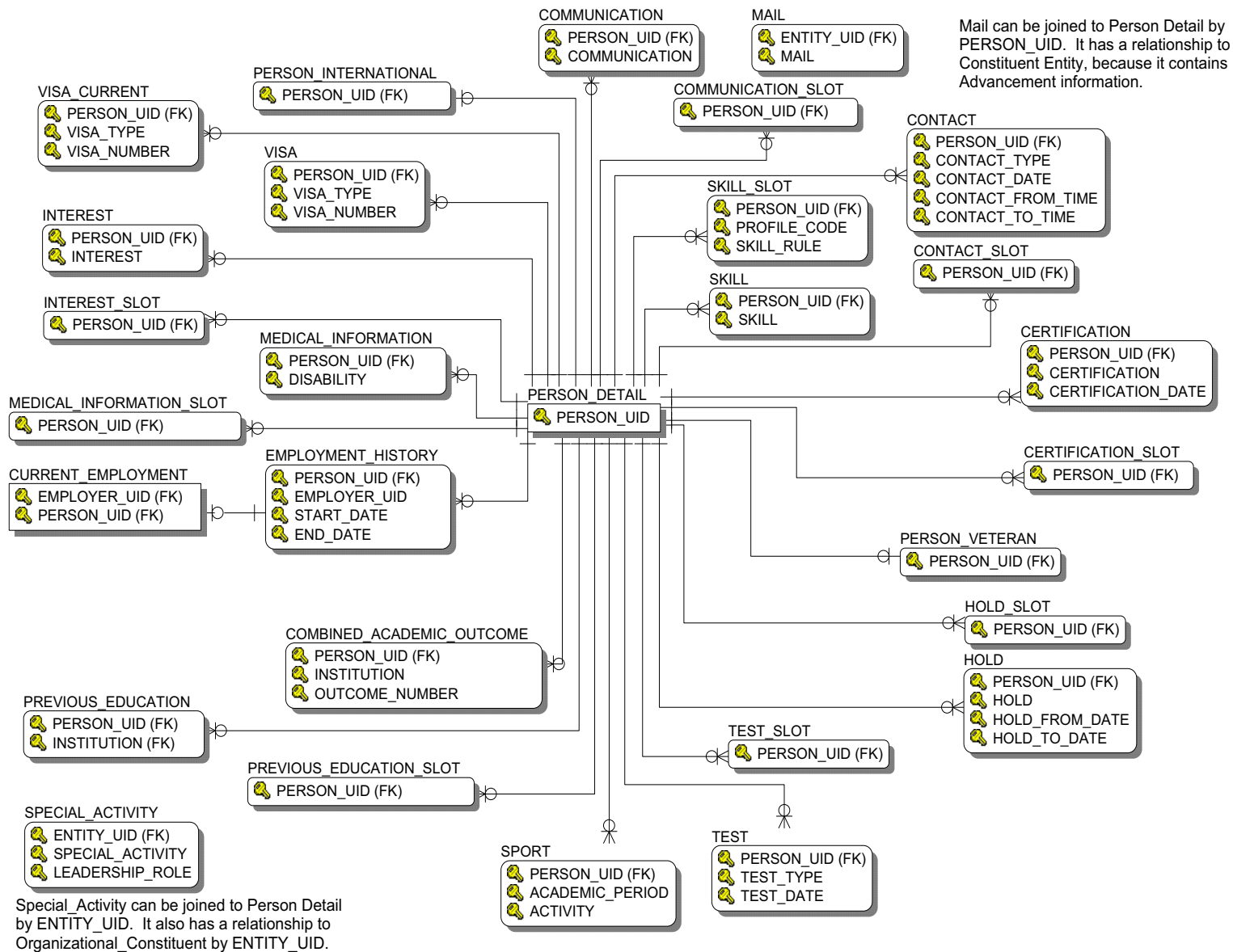
Person Demographic



Person Role

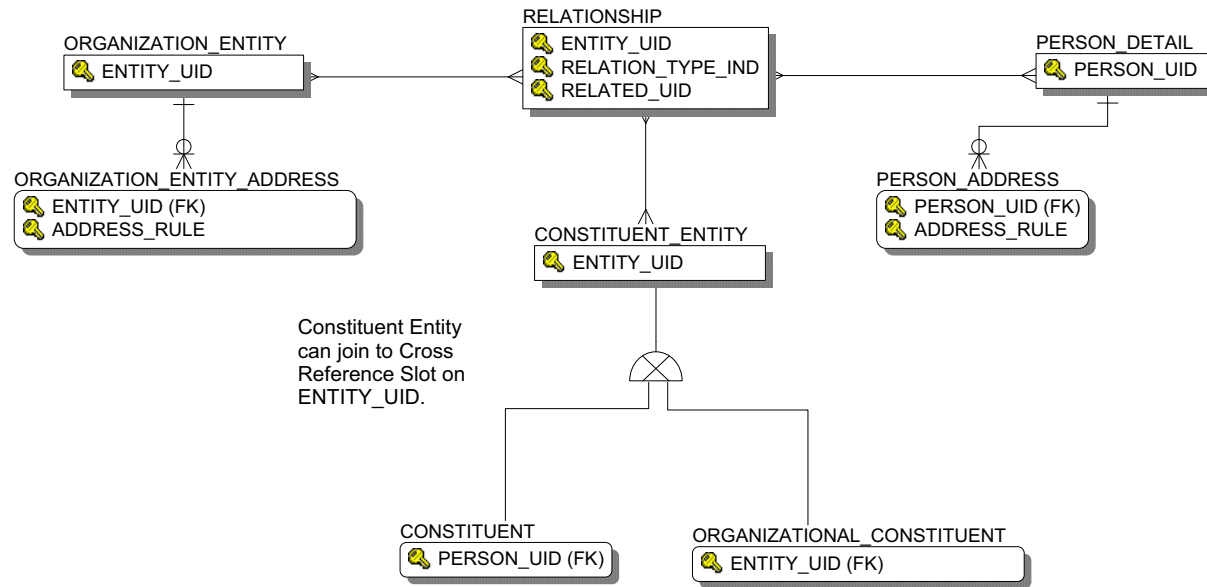


Person Supplemental



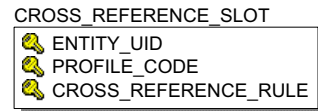
Relationship

Relationships using a Relationship Type



Relationships using a Slotted View

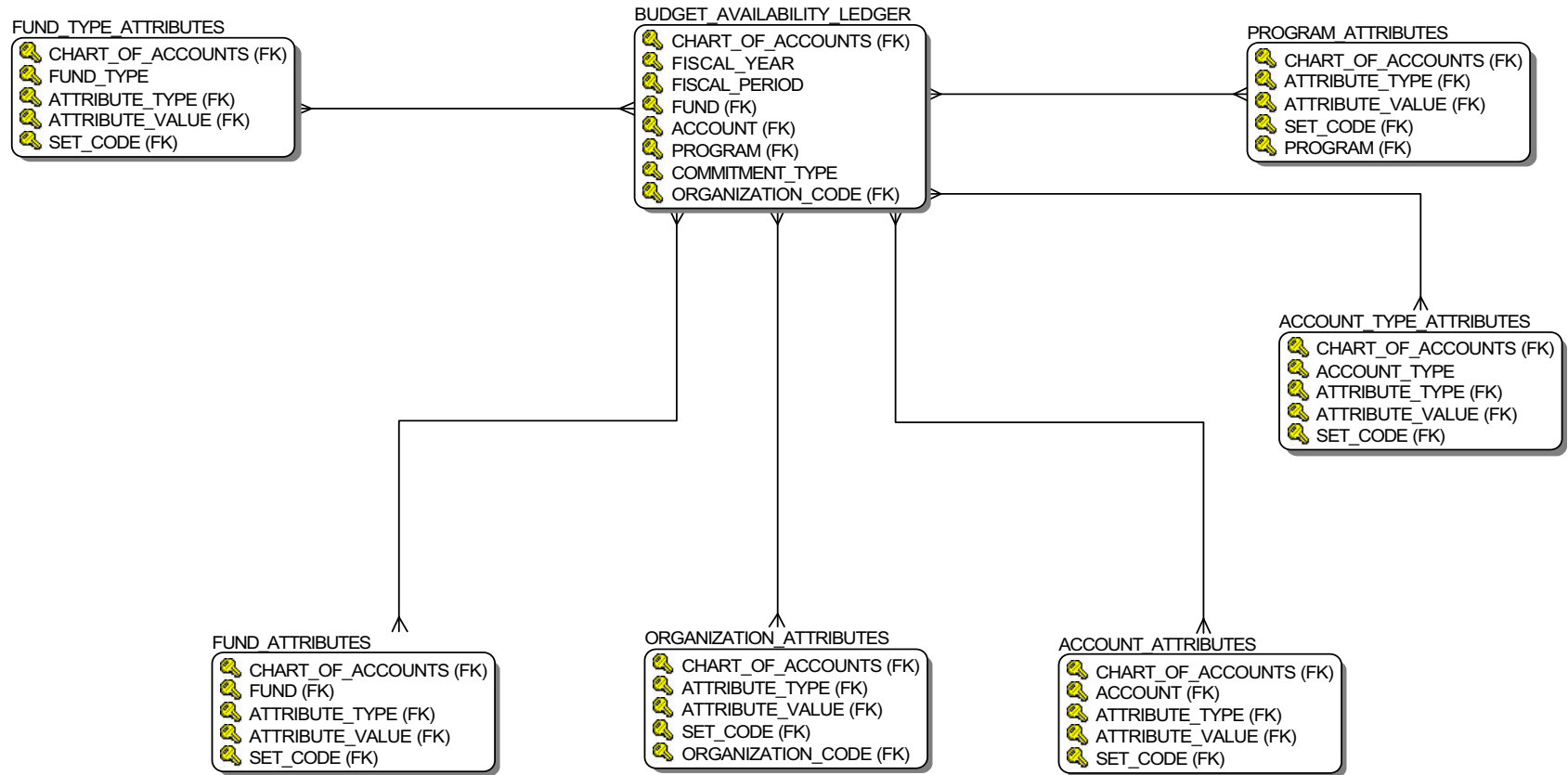
Organization Entity can join to Cross Reference Slot on ENTITY_UID.



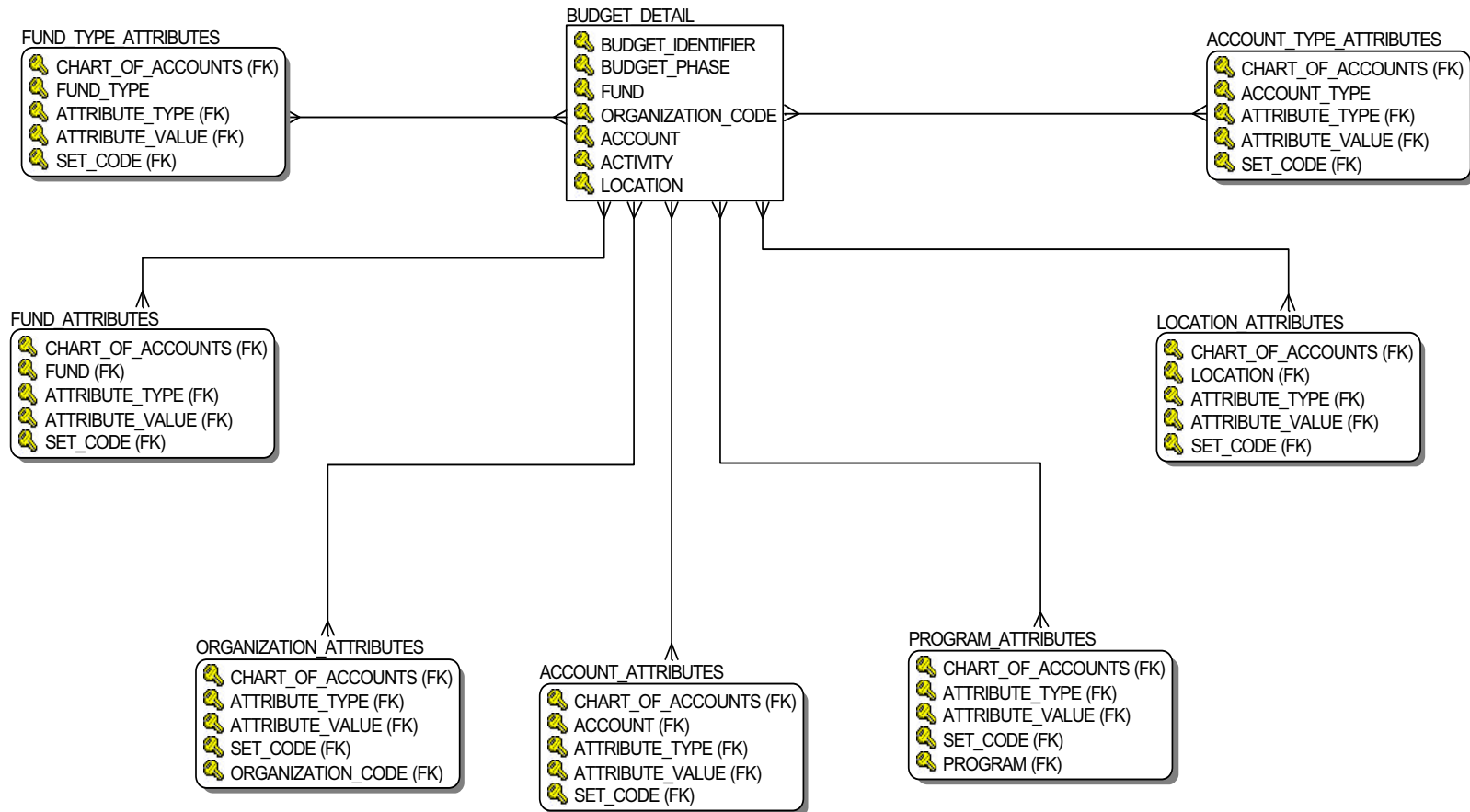
Person Detail can join to Cross Reference Slot on PERSON_UID.

Finance

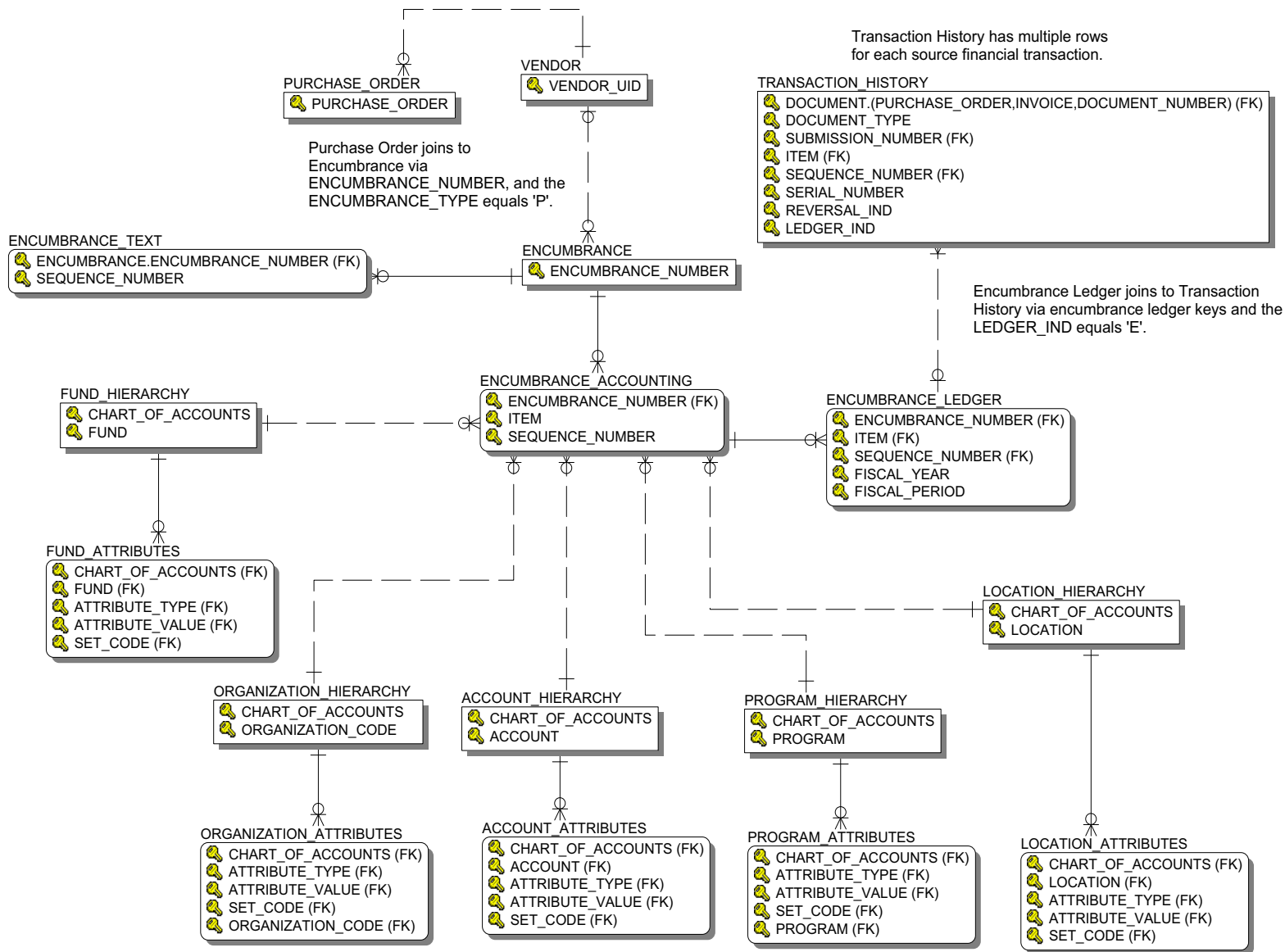
Budget Availability Ledger



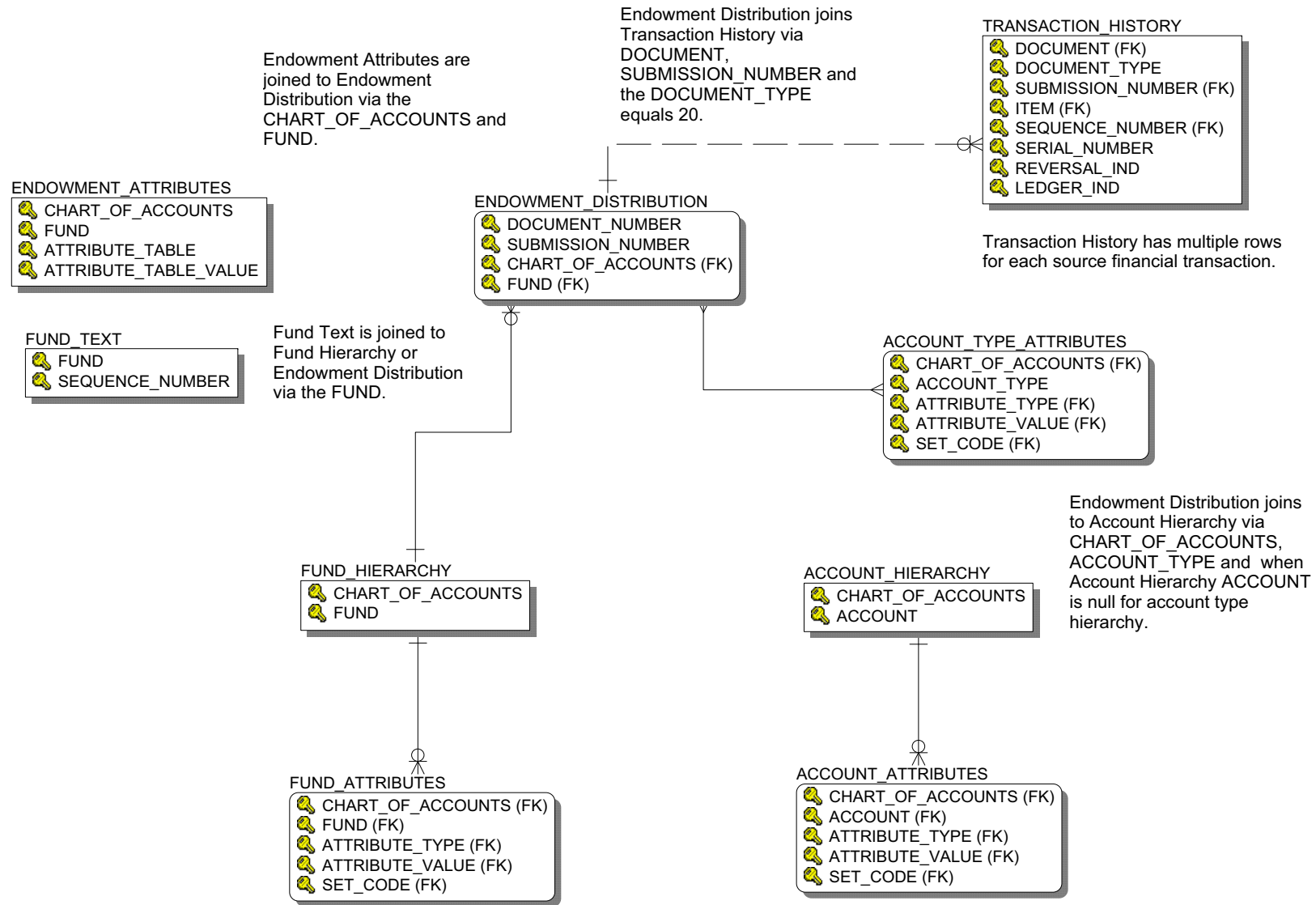
Budget Detail



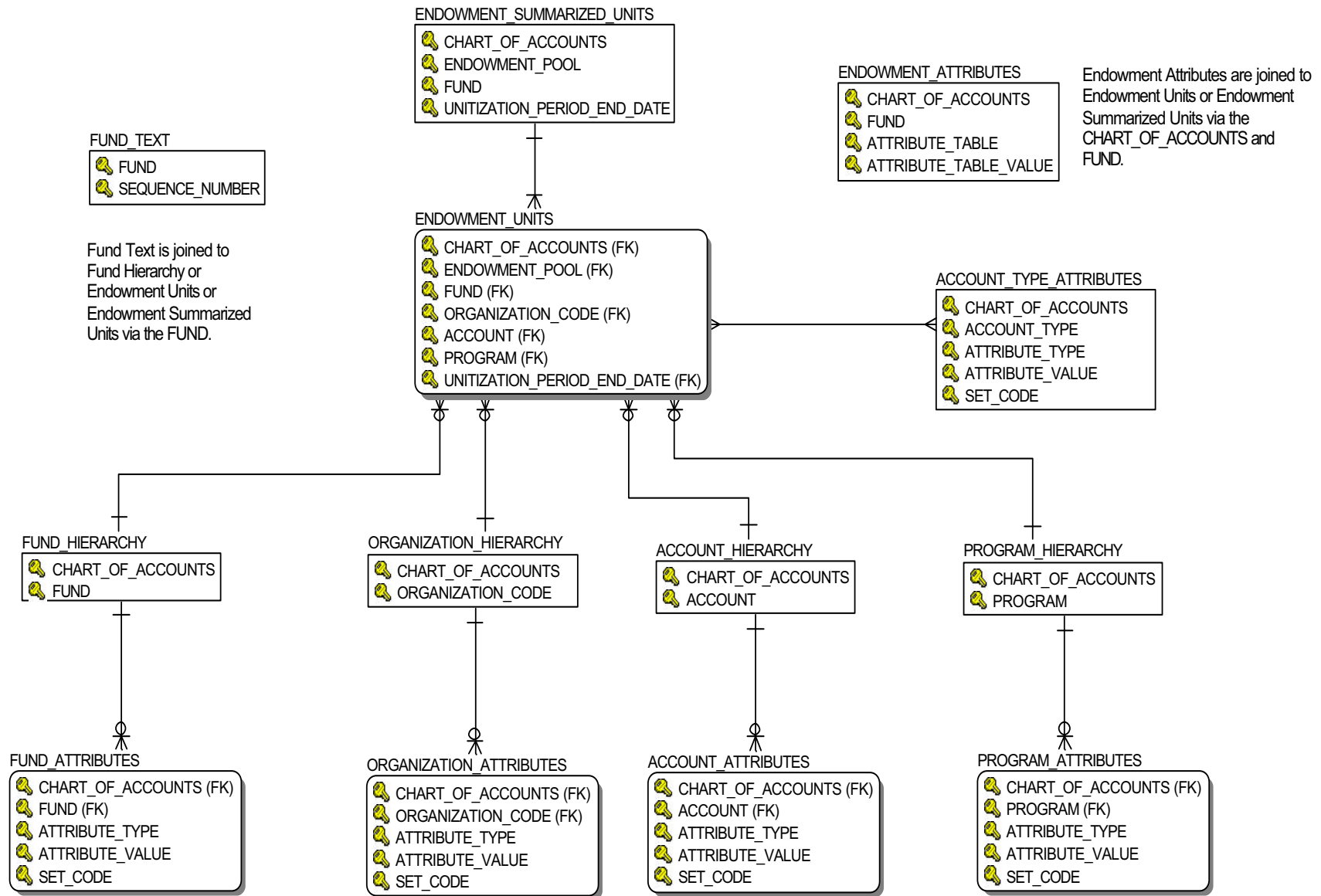
Encumbrance



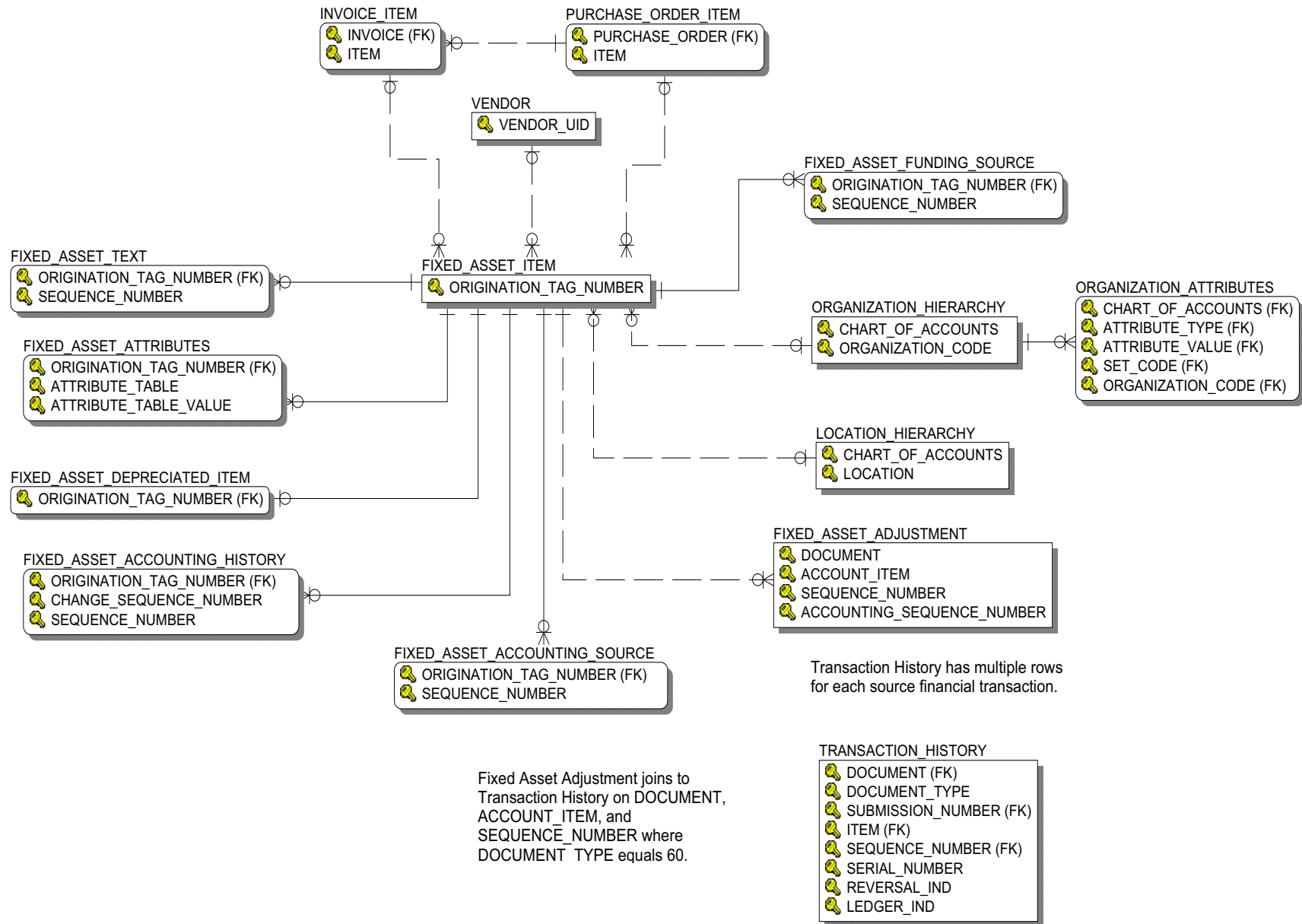
Endowment Distribution



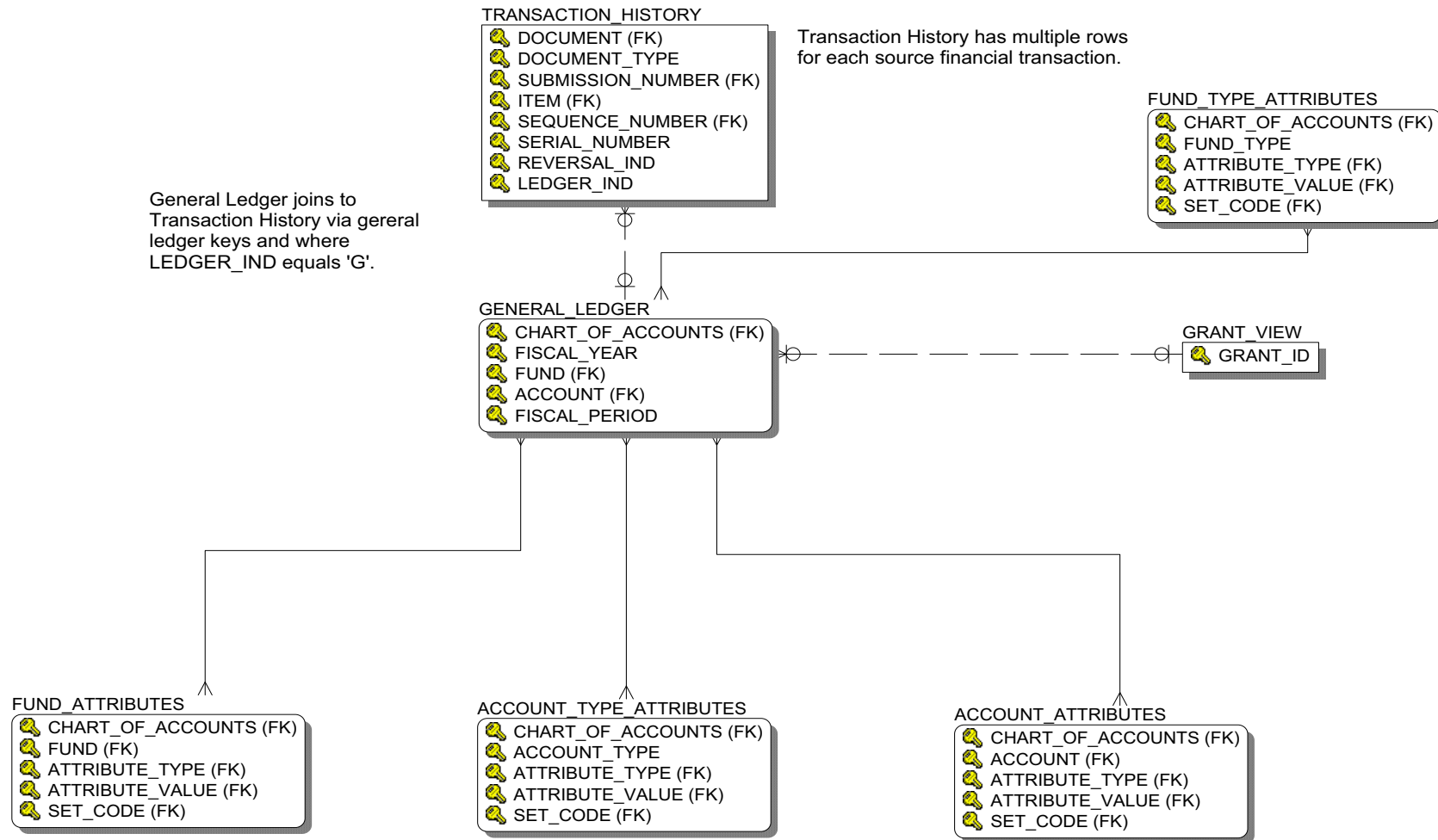
Endowment Units



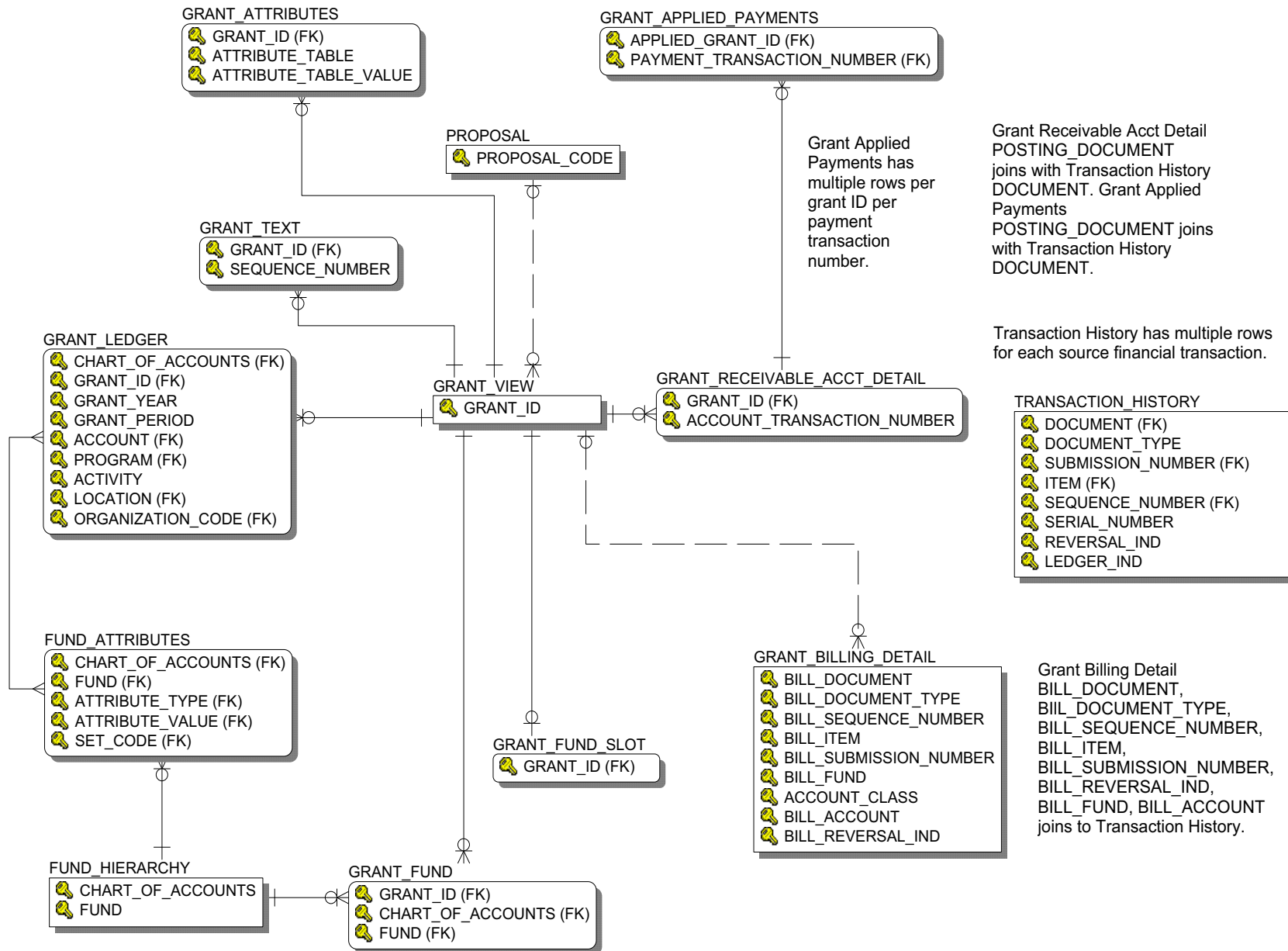
Fixed Asset



General Ledger

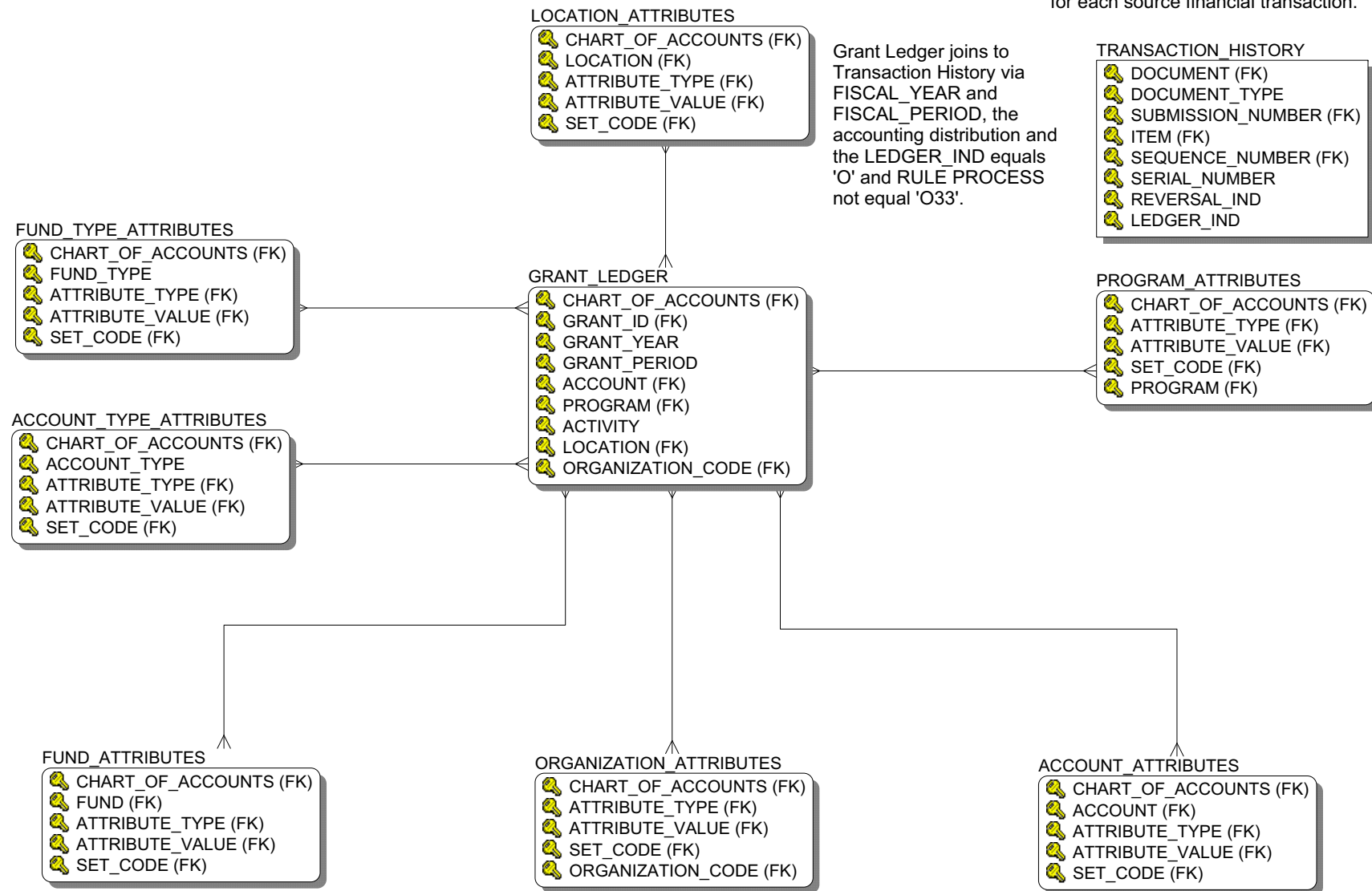


Grant and Project

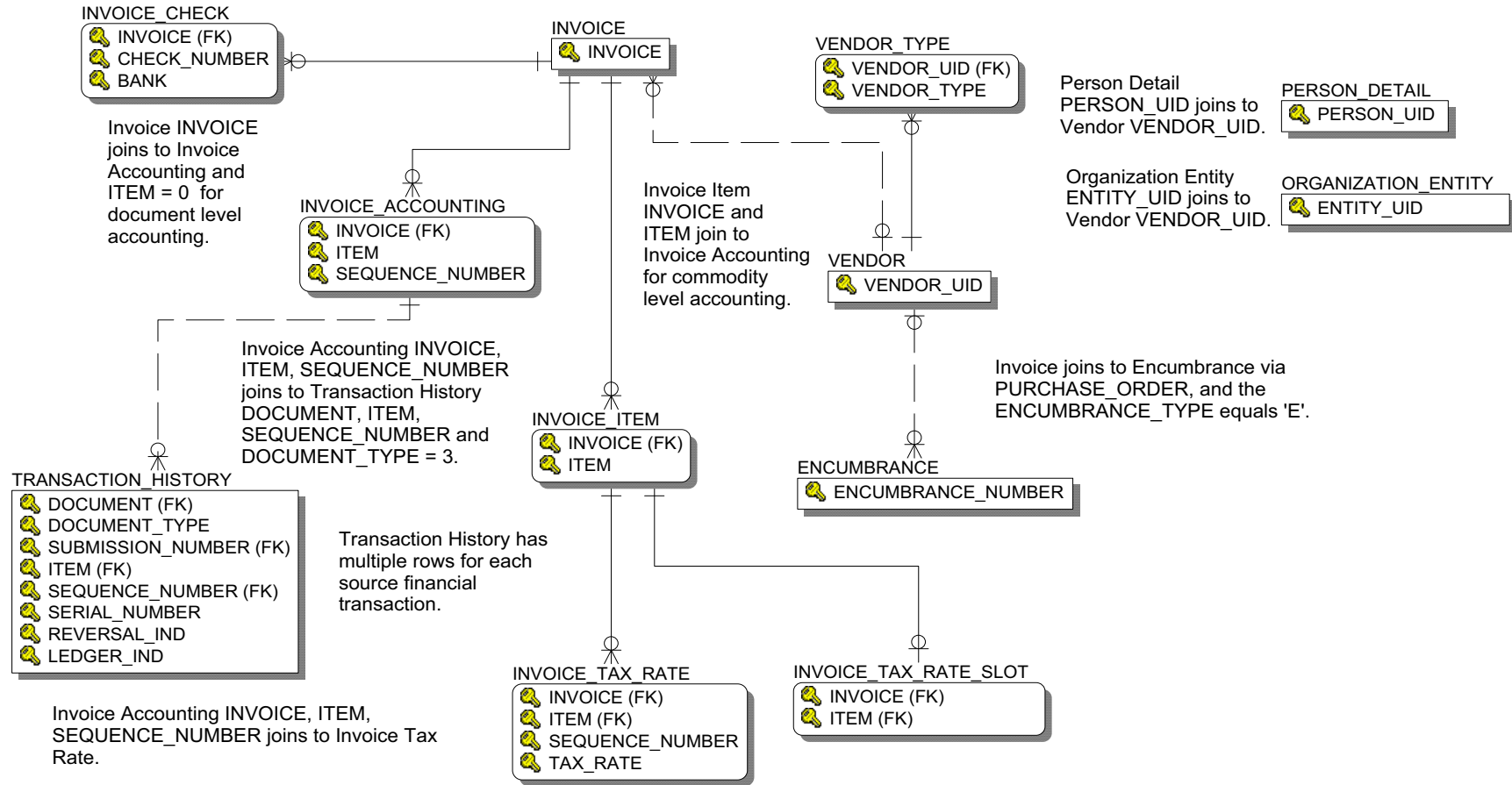


Grant Ledger

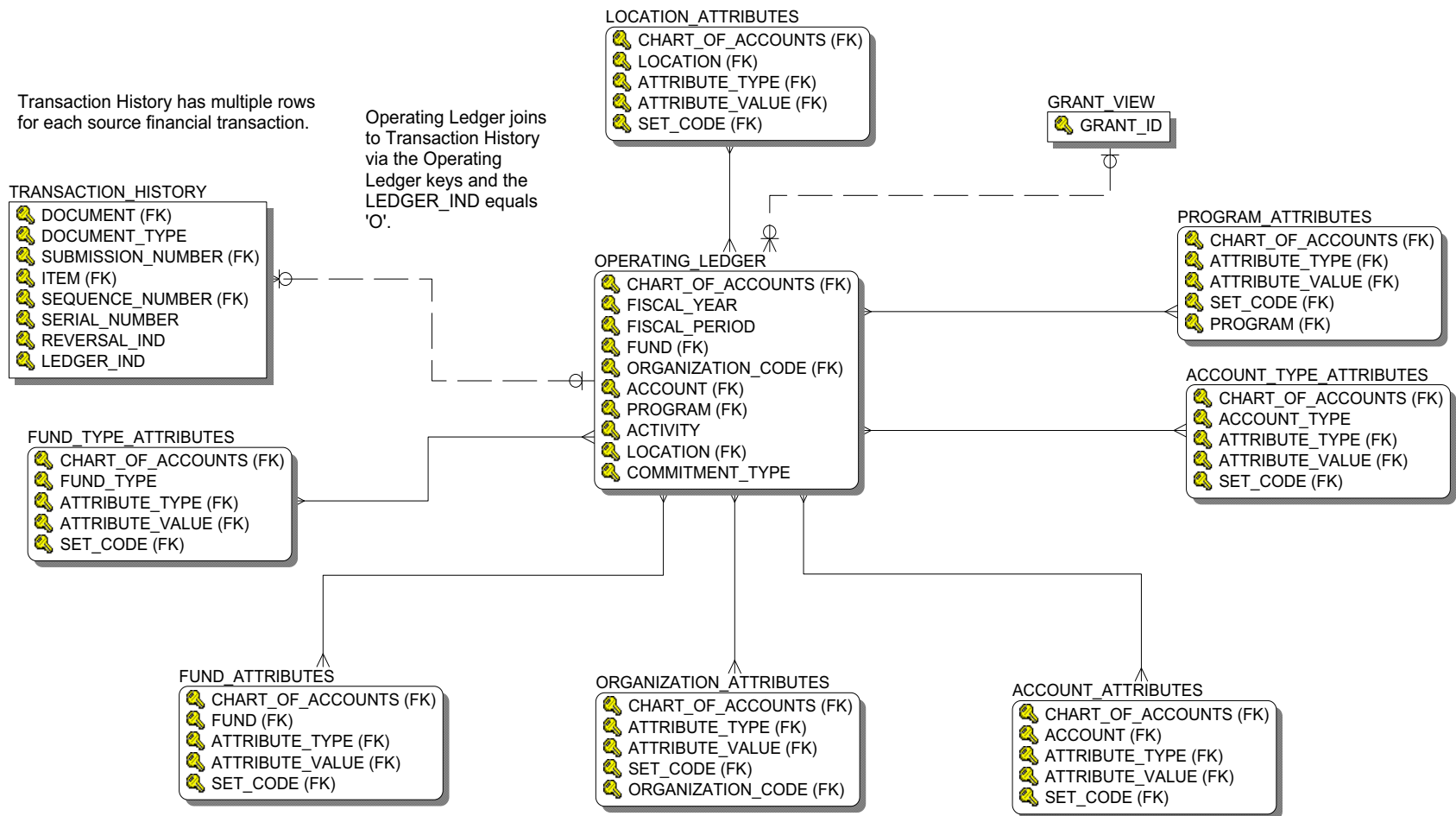
Transaction History has multiple rows for each source financial transaction.



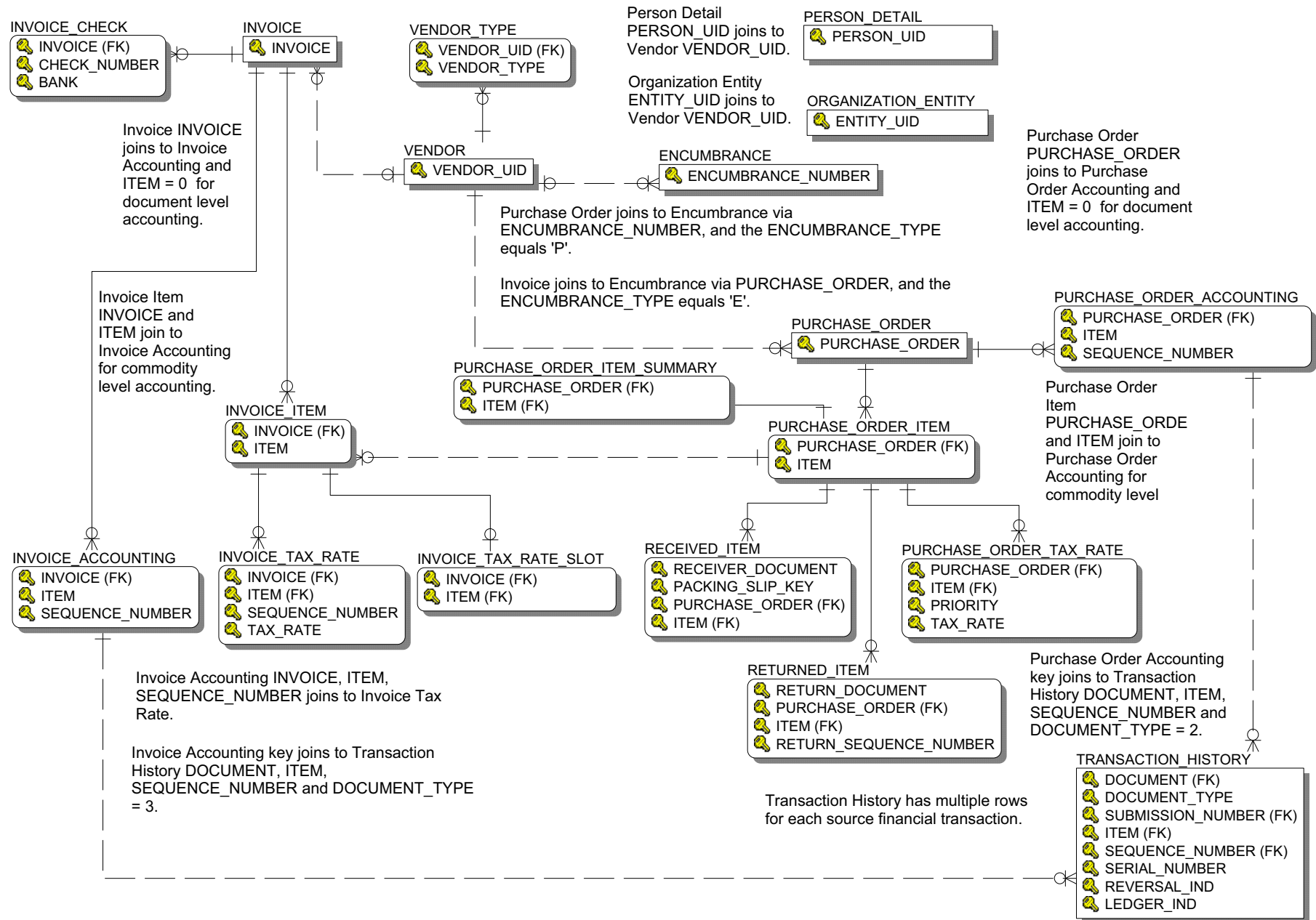
Invoice Payable



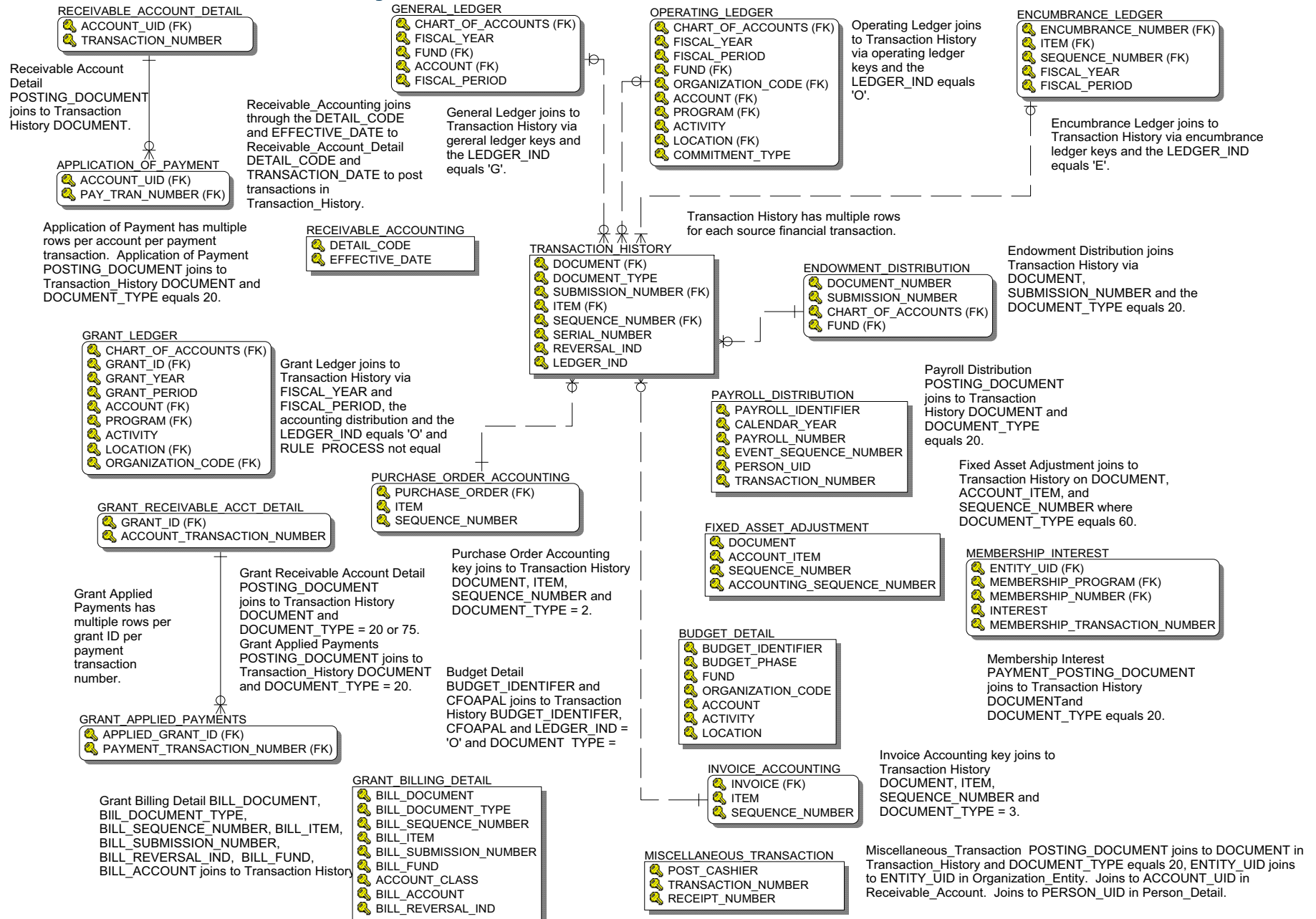
Operating Ledger



Purchasing Payable

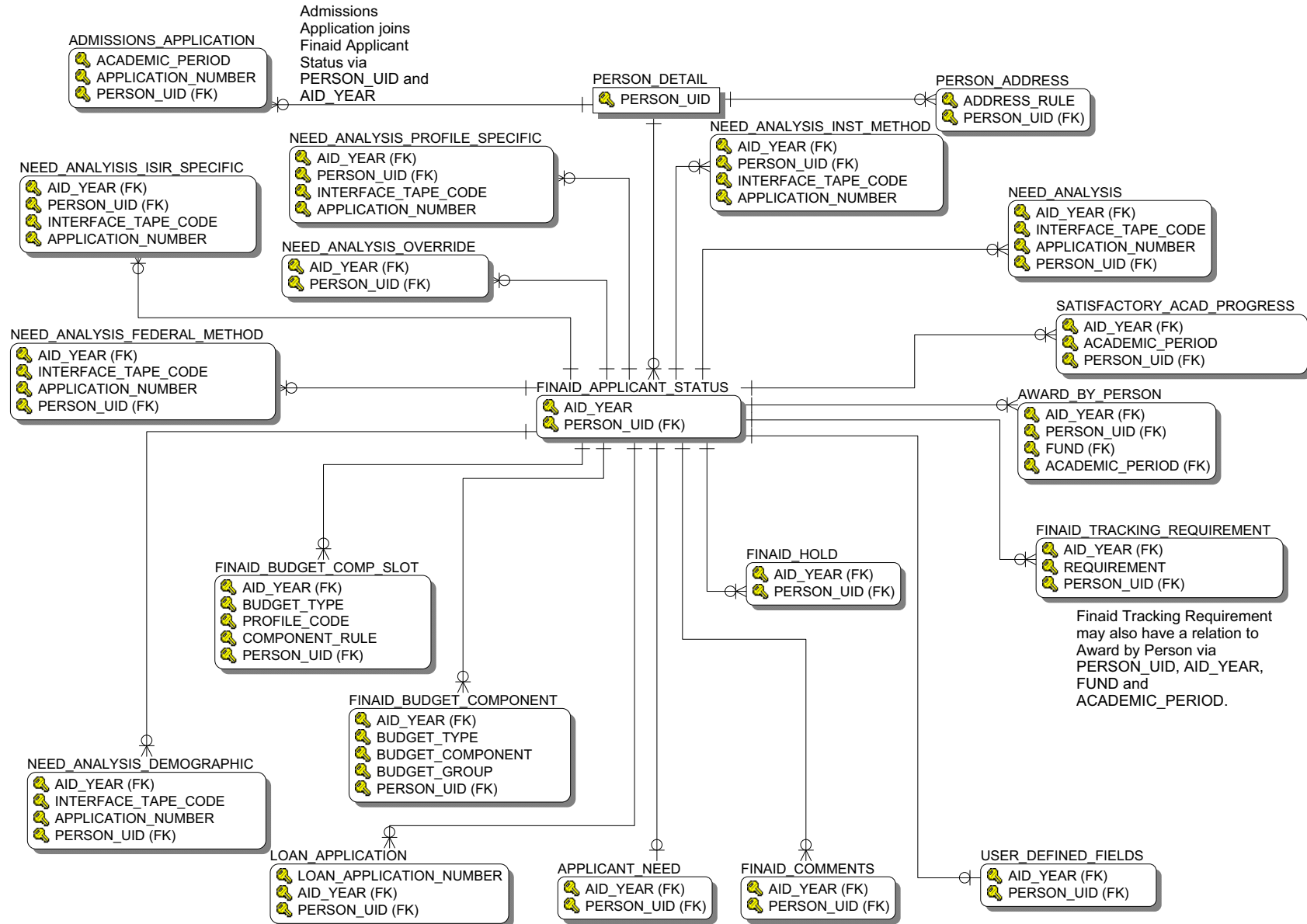


Transaction History

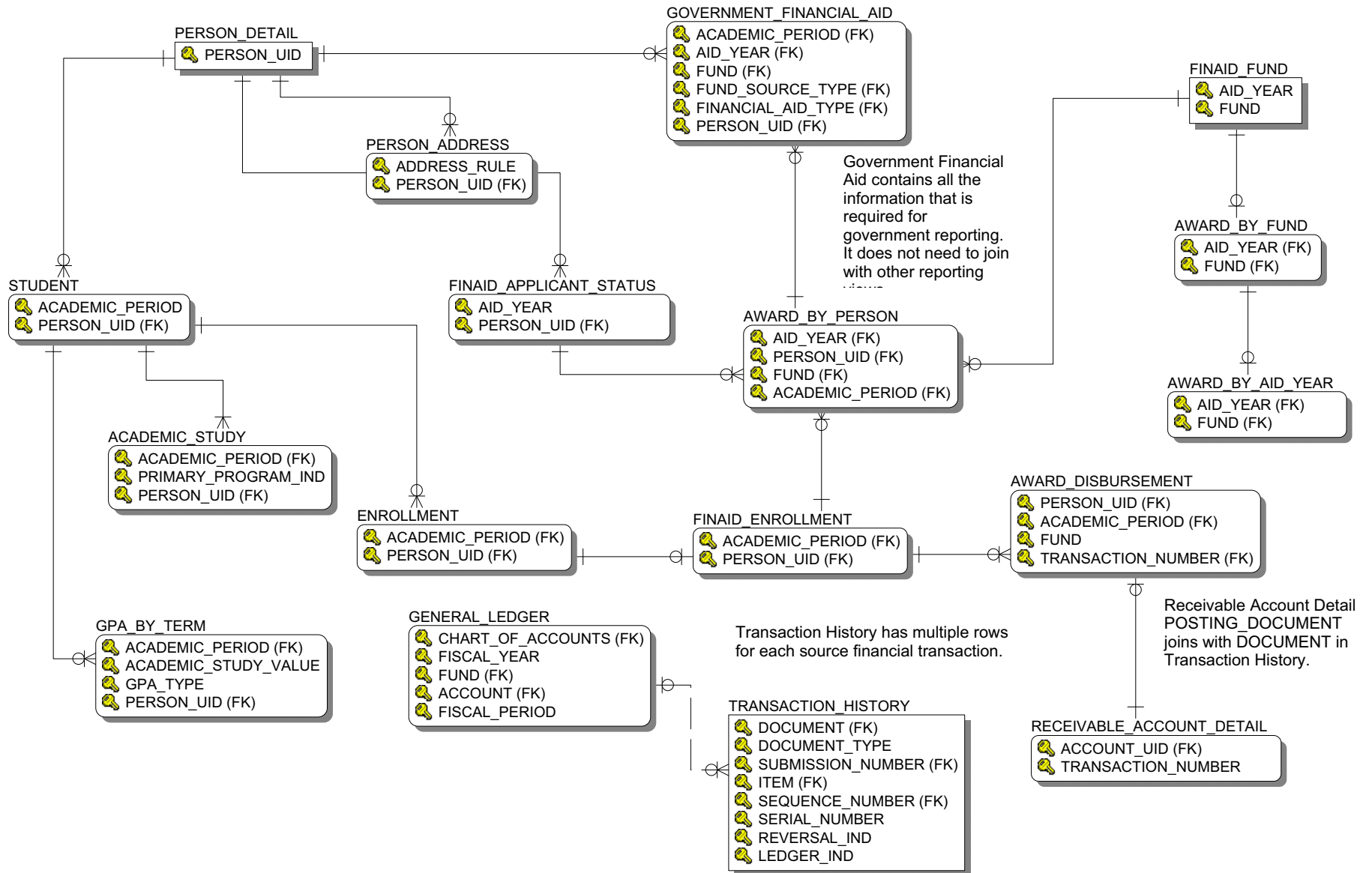


Financial Aid

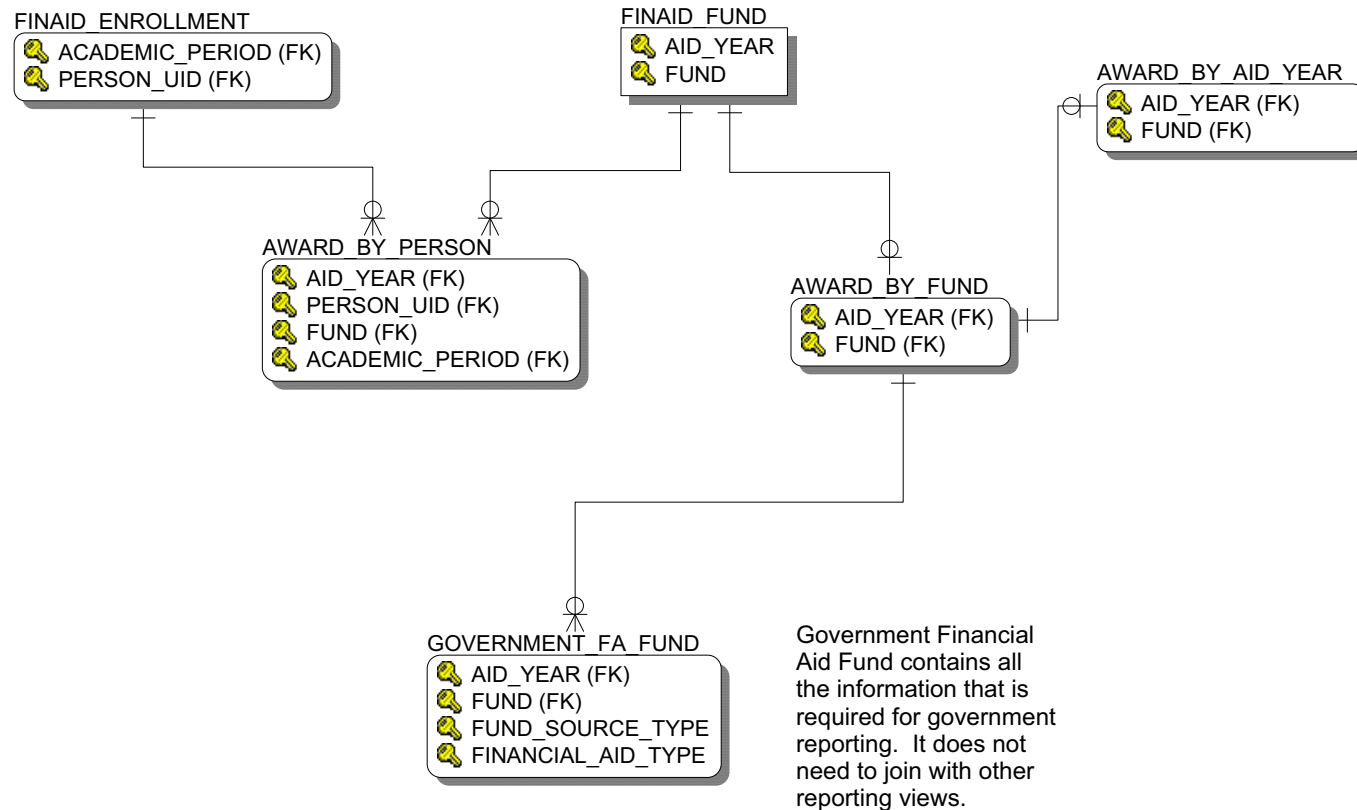
Financial Aid Application



Financial Aid Award and Disbursement

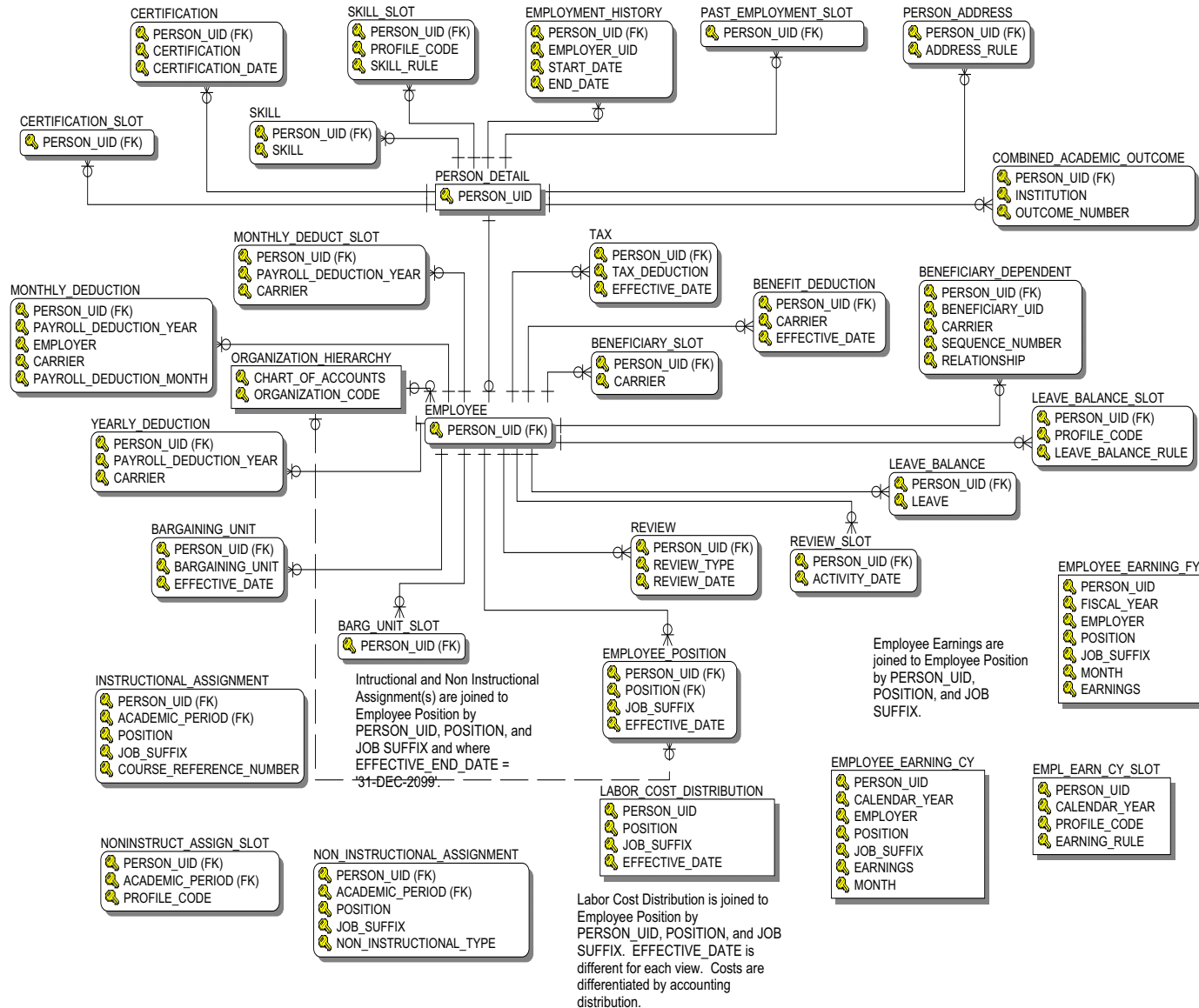


Financial Aid Fund

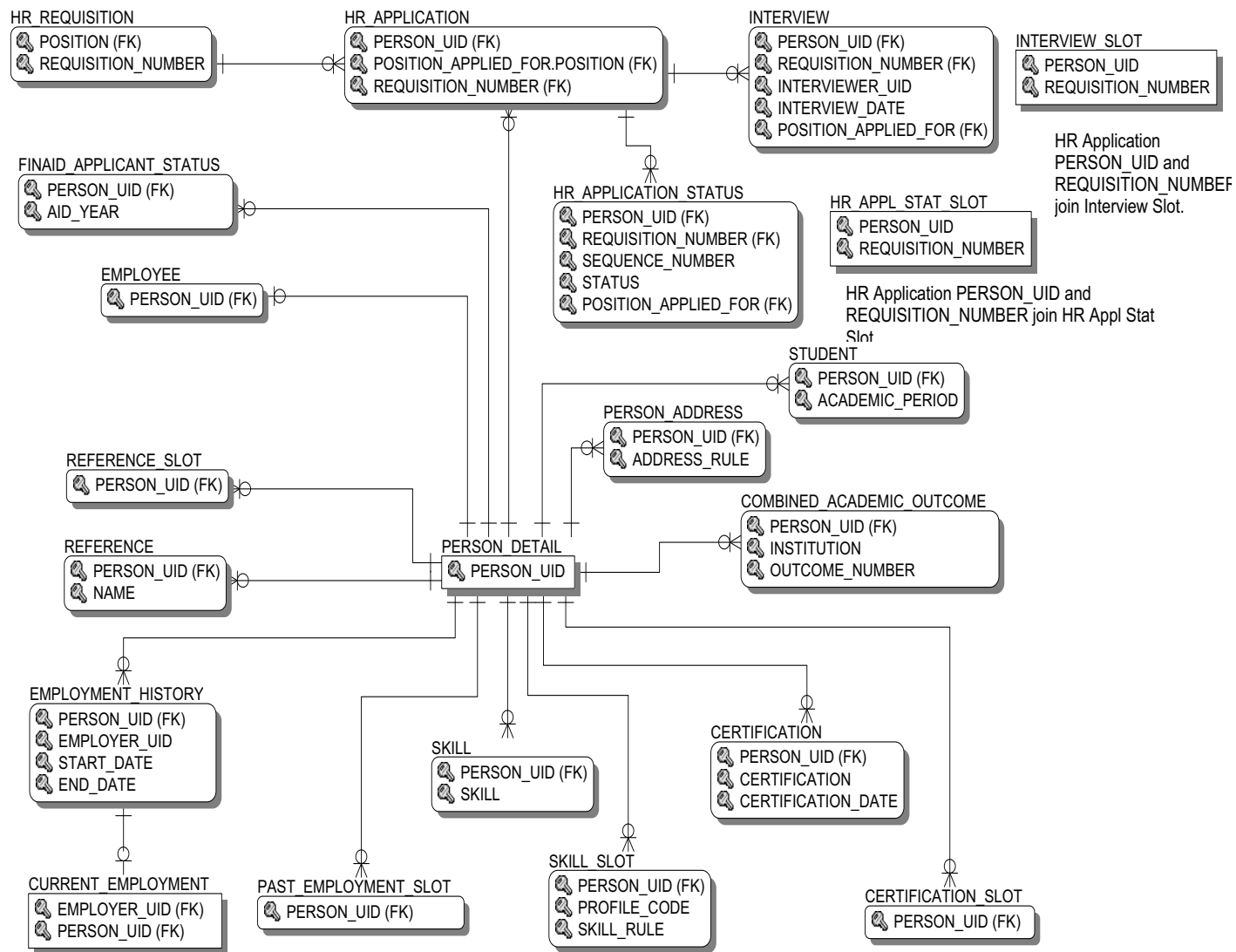


Human Resources

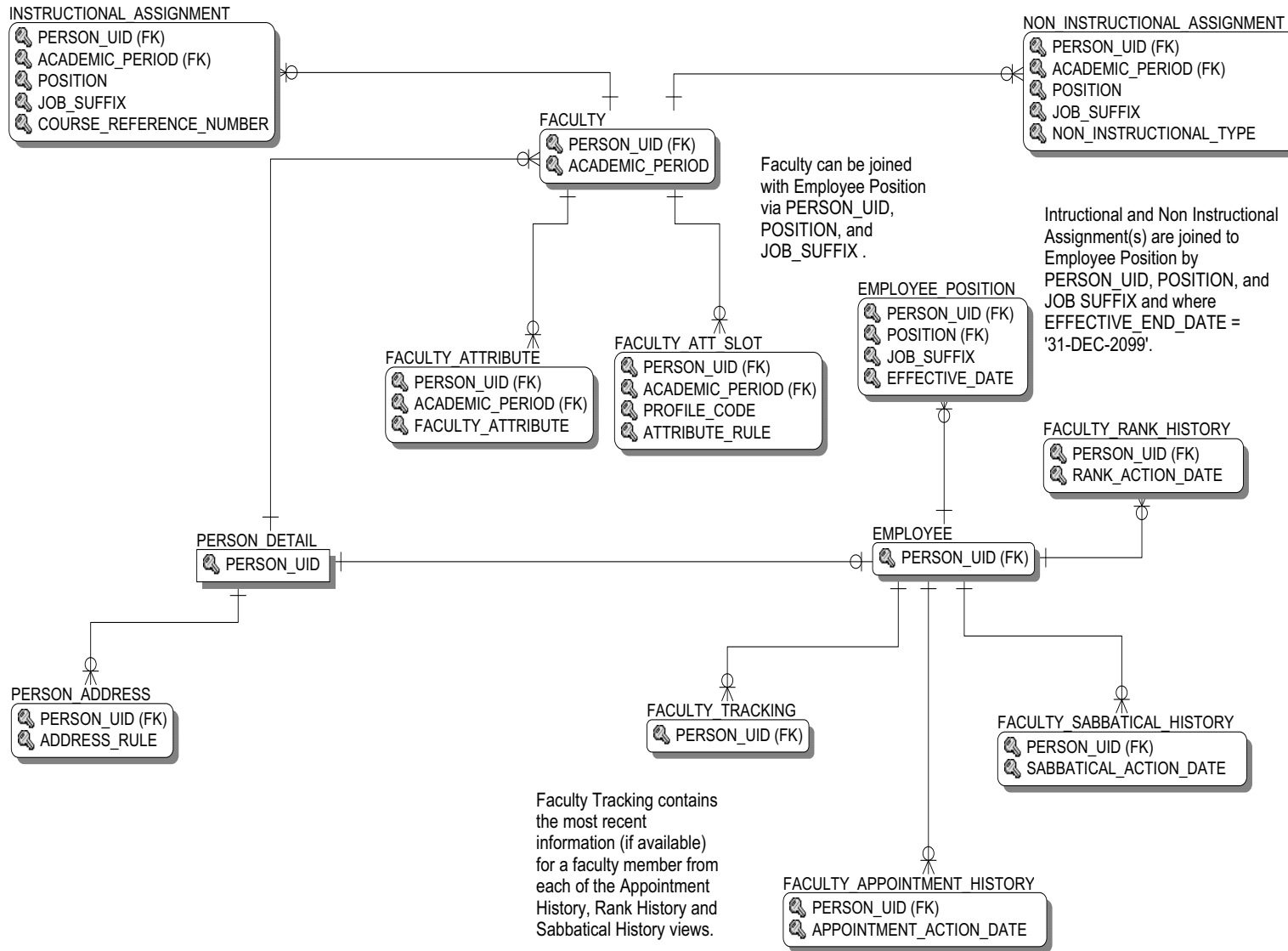
Employee



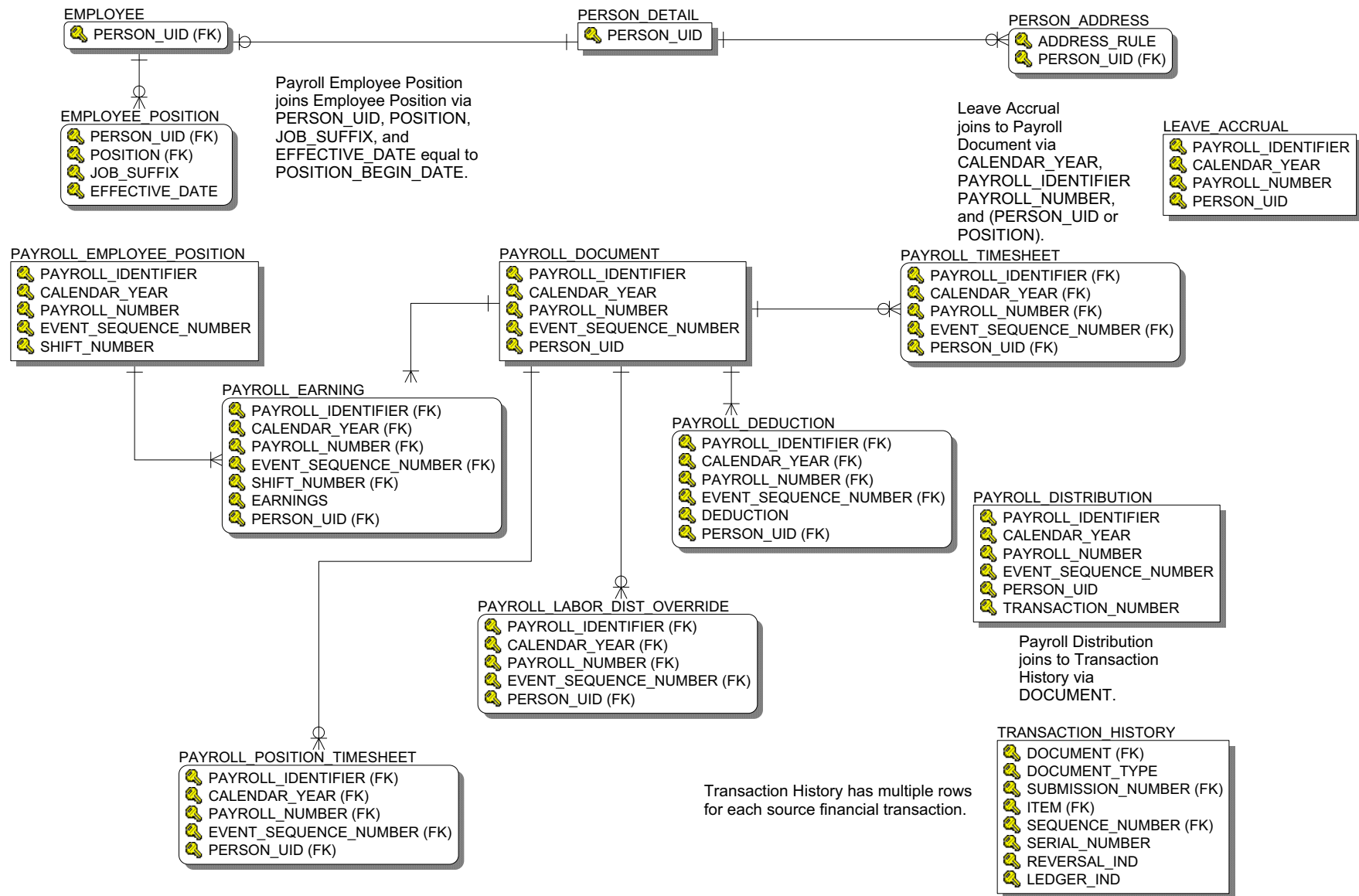
Human Resource Application



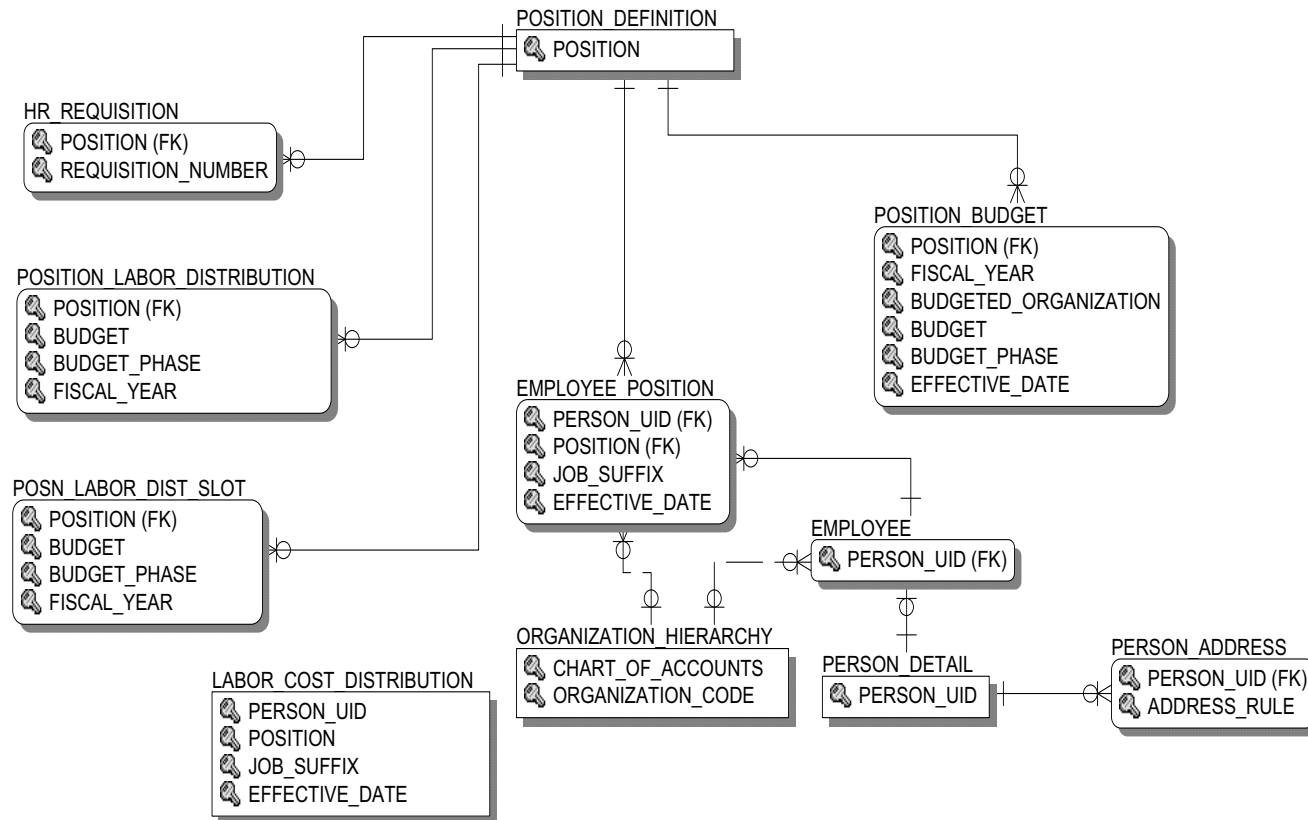
Human Resource Faculty



Payroll



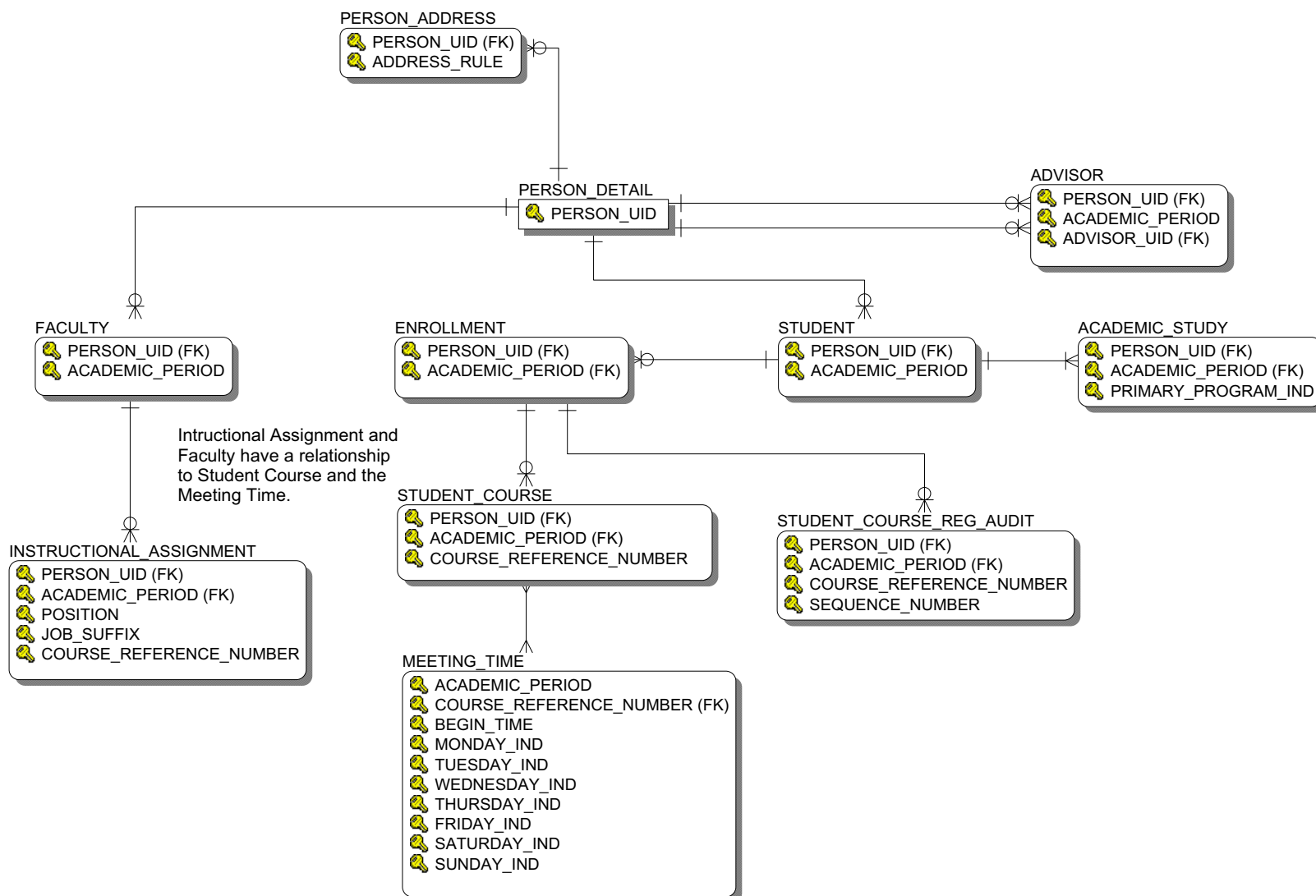
Position



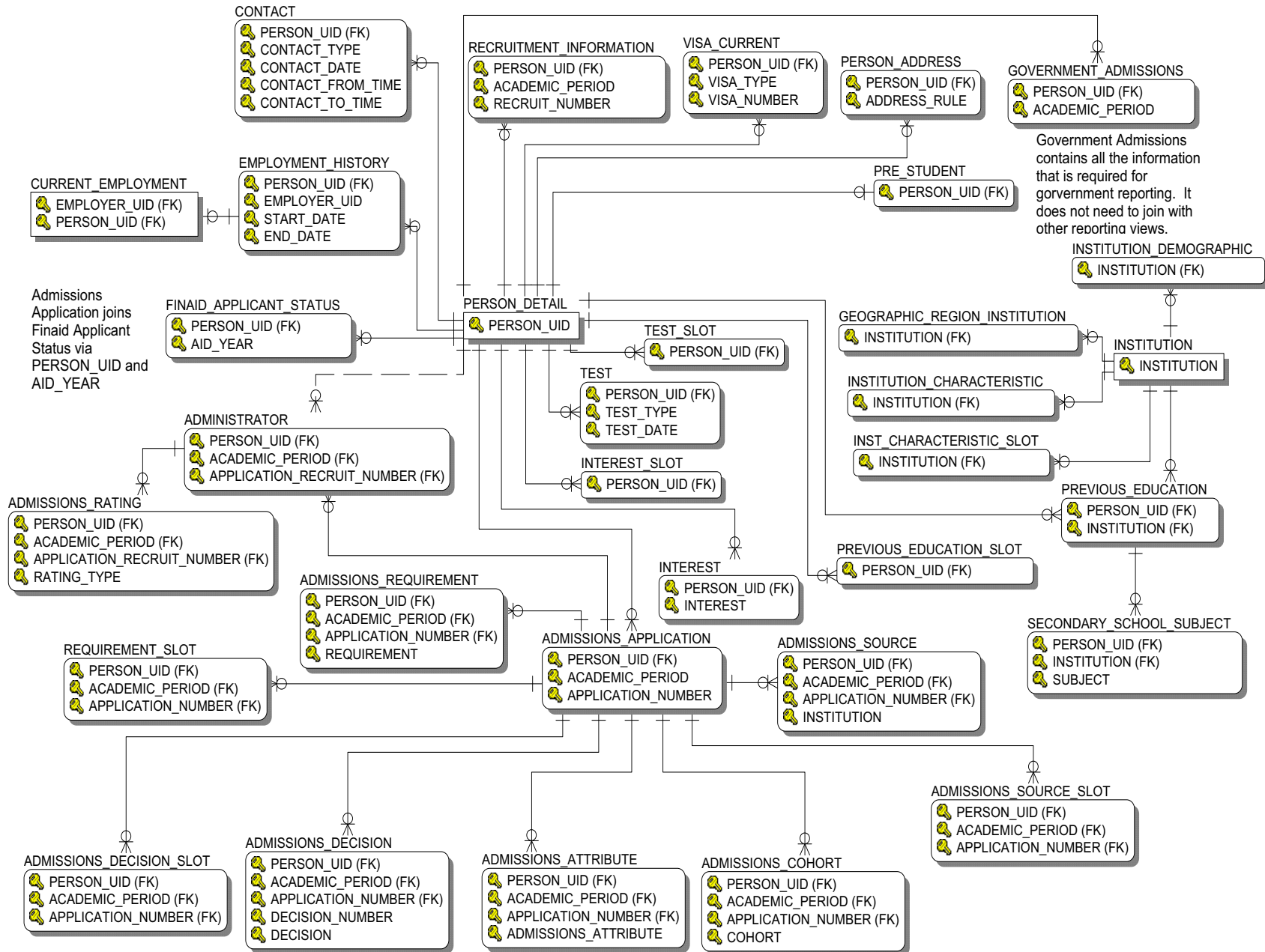
Labor Cost Distribution is joined to Employee Position by PERSON_UID, POSITION, and JOB SUFFIX. EFFECTIVE_DATE is different for each view. Costs are differentiated by accounting distribution.

Student

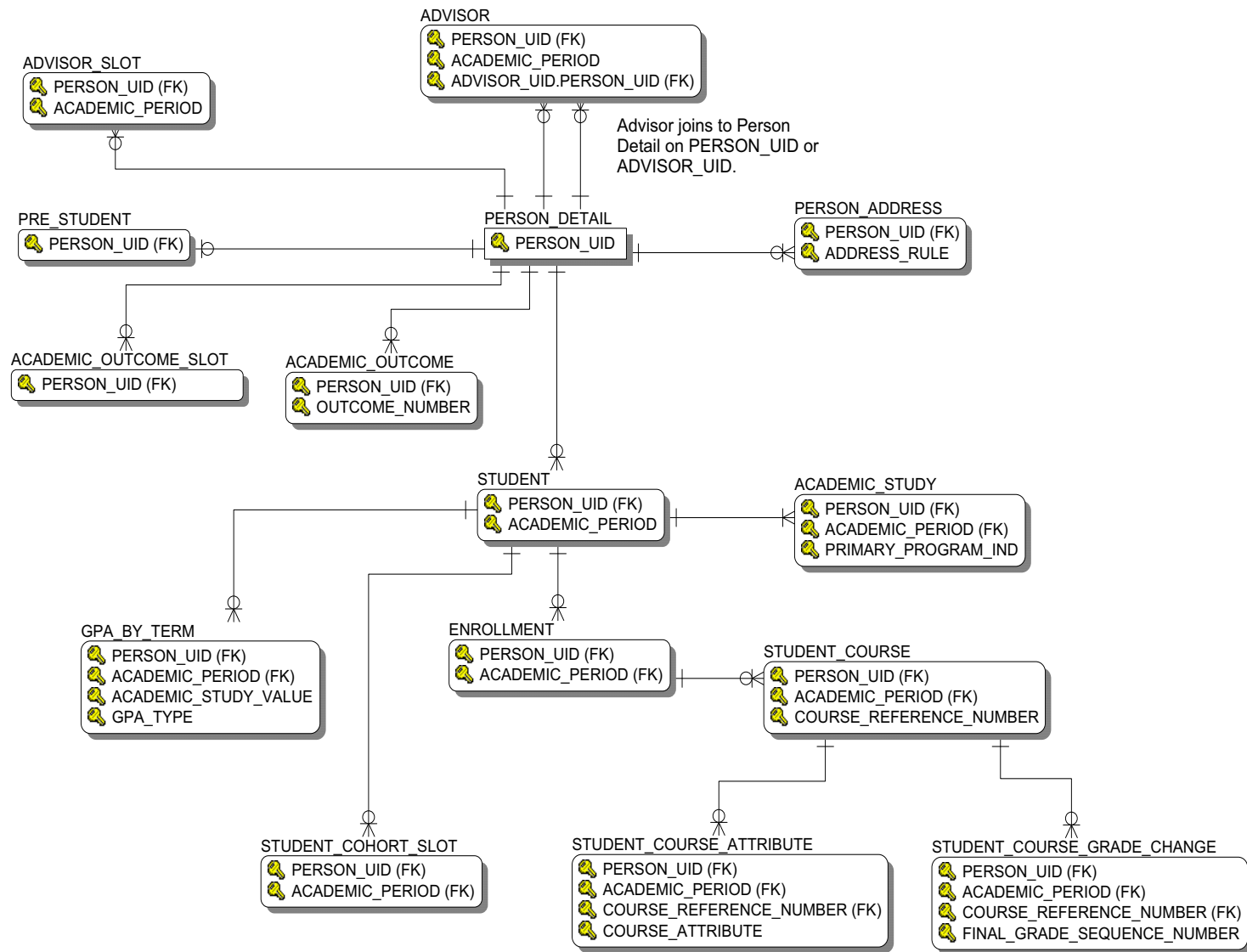
Active Registration



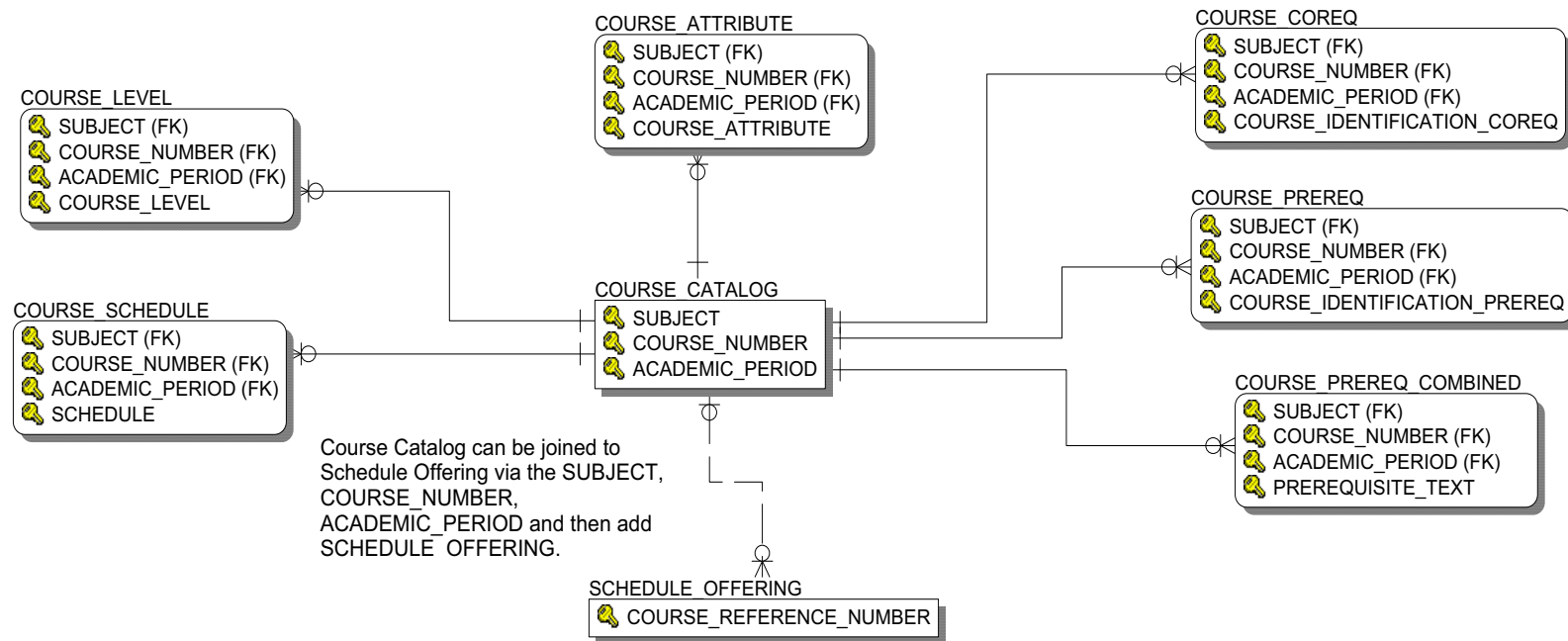
Admissions Application



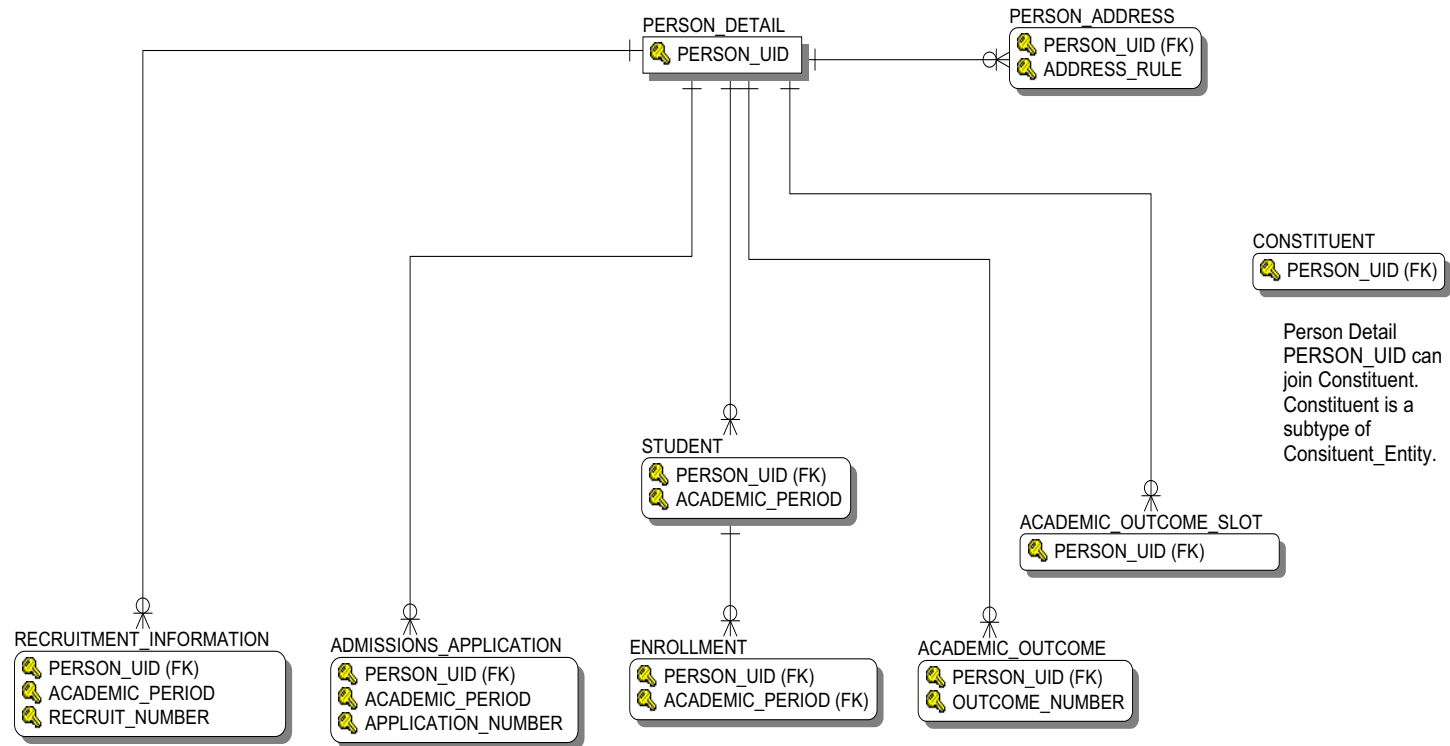
Advisor Student List



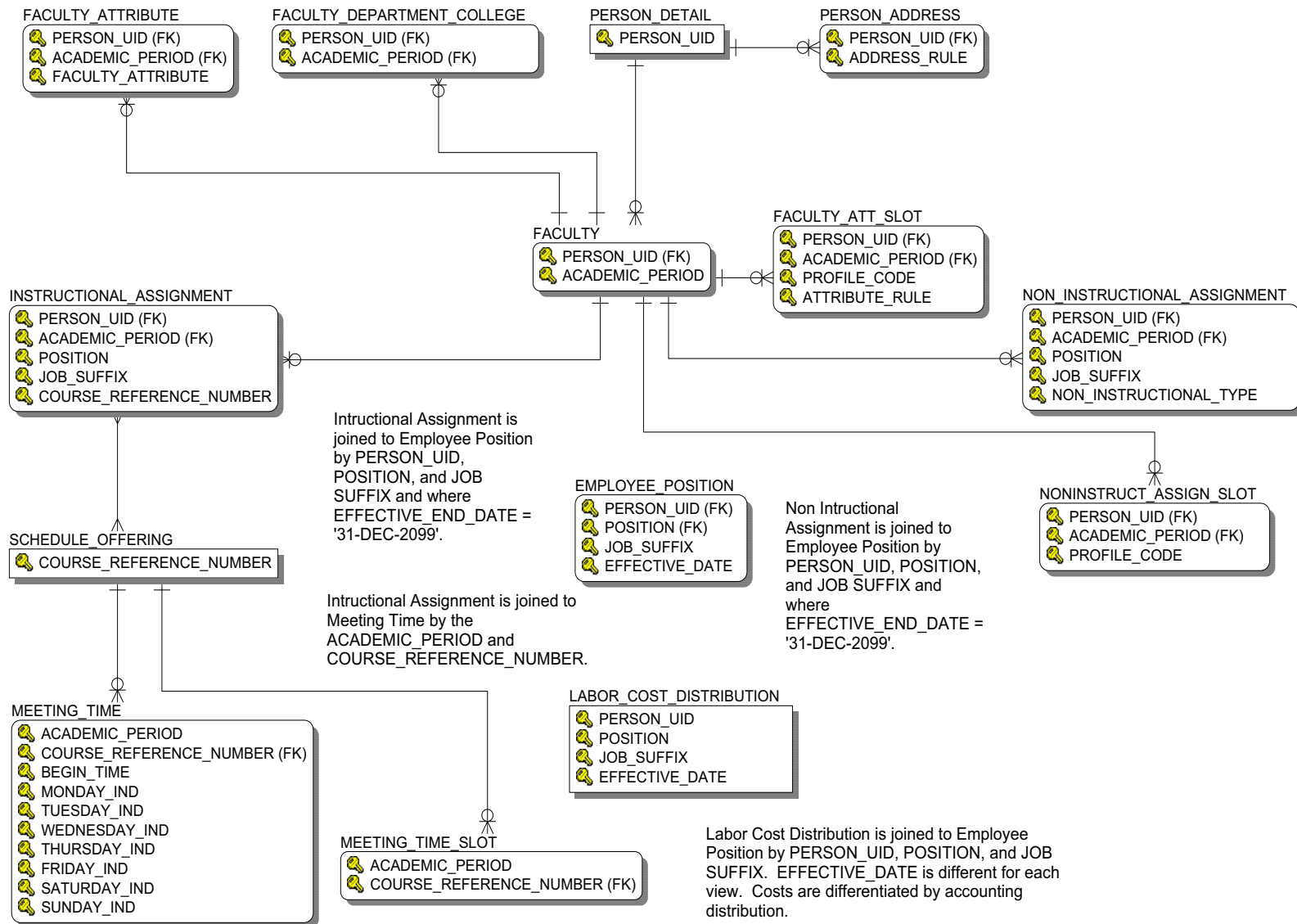
Course Catalog



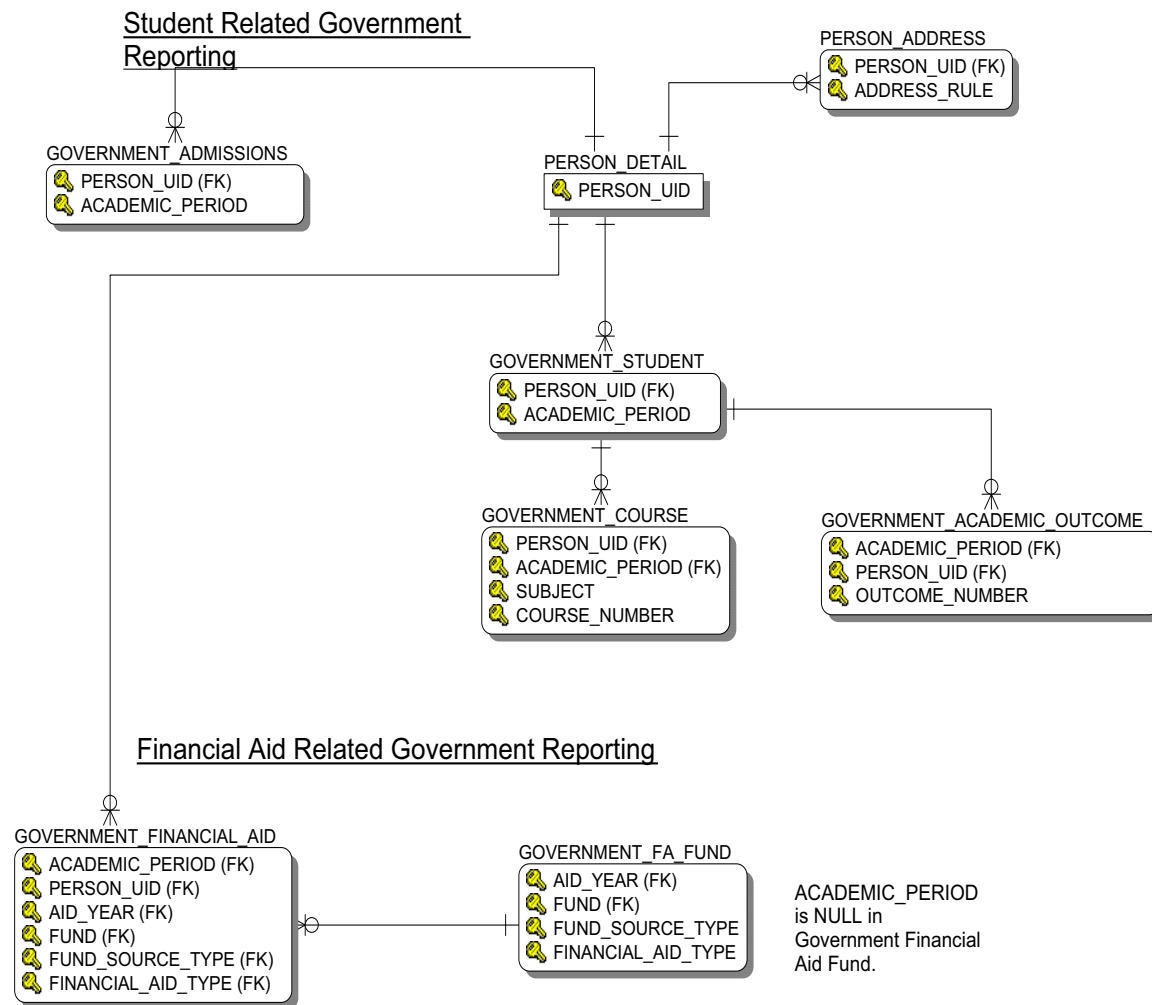
Enrollment Management



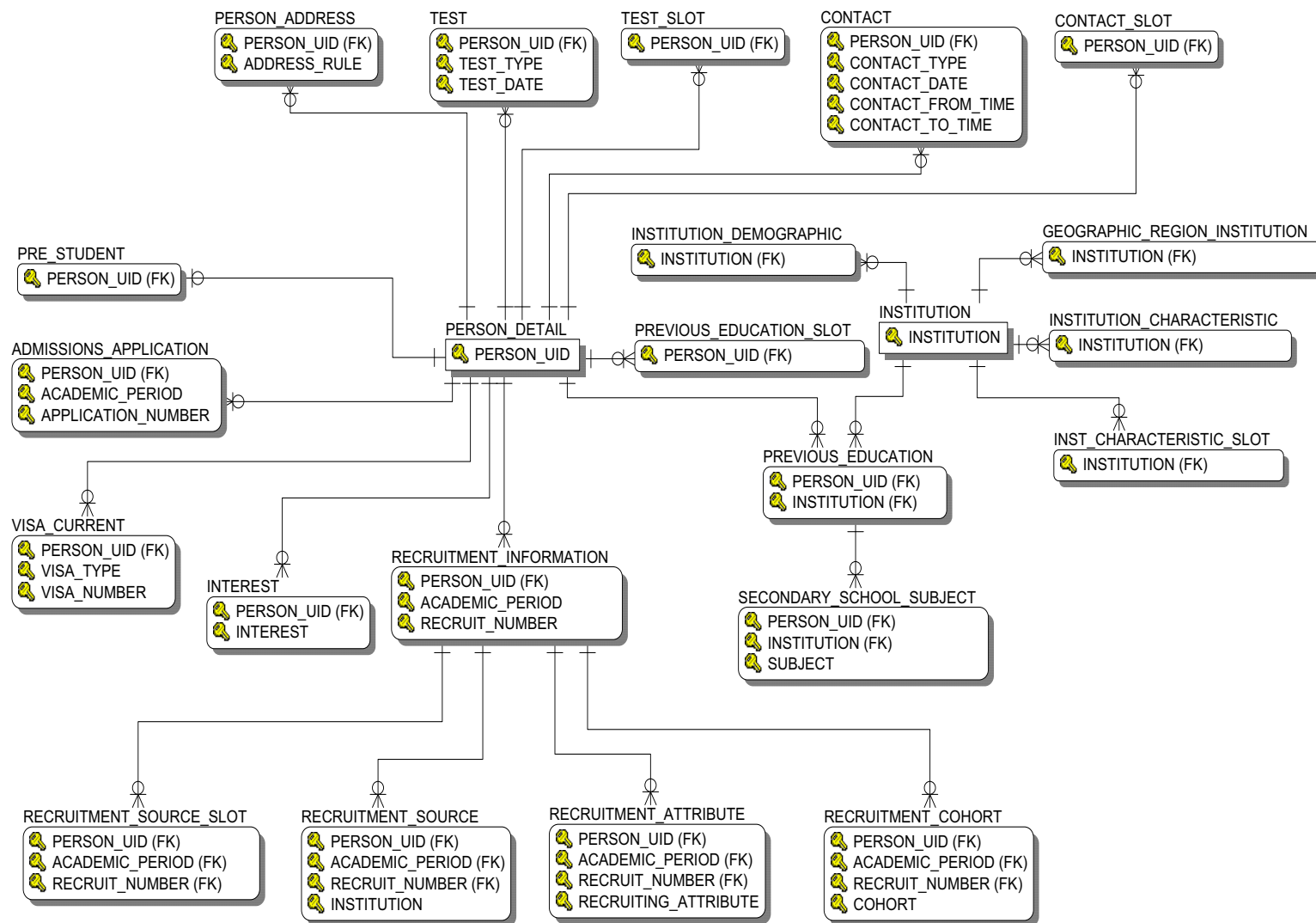
Faculty Assignment



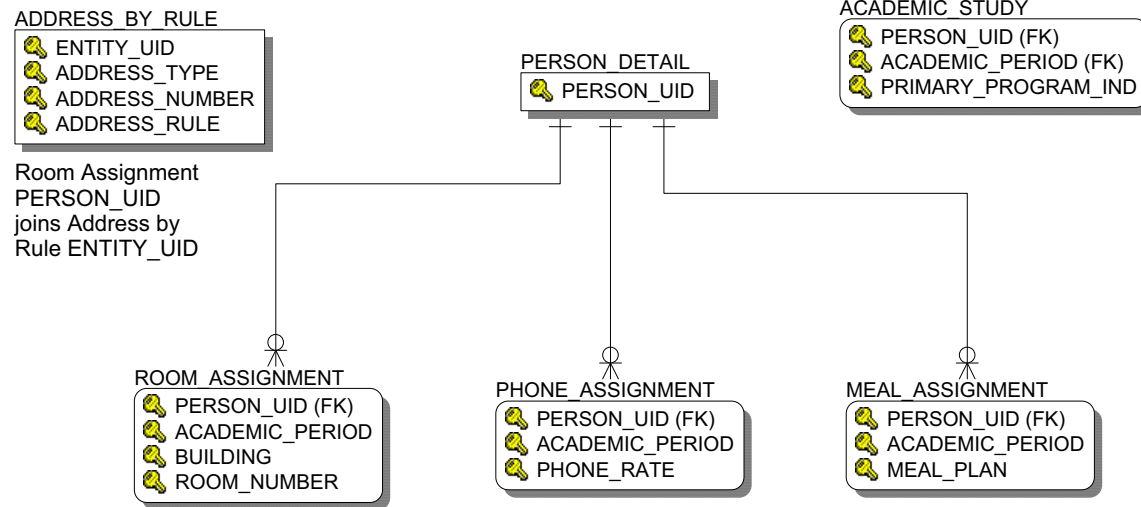
Government Reporting



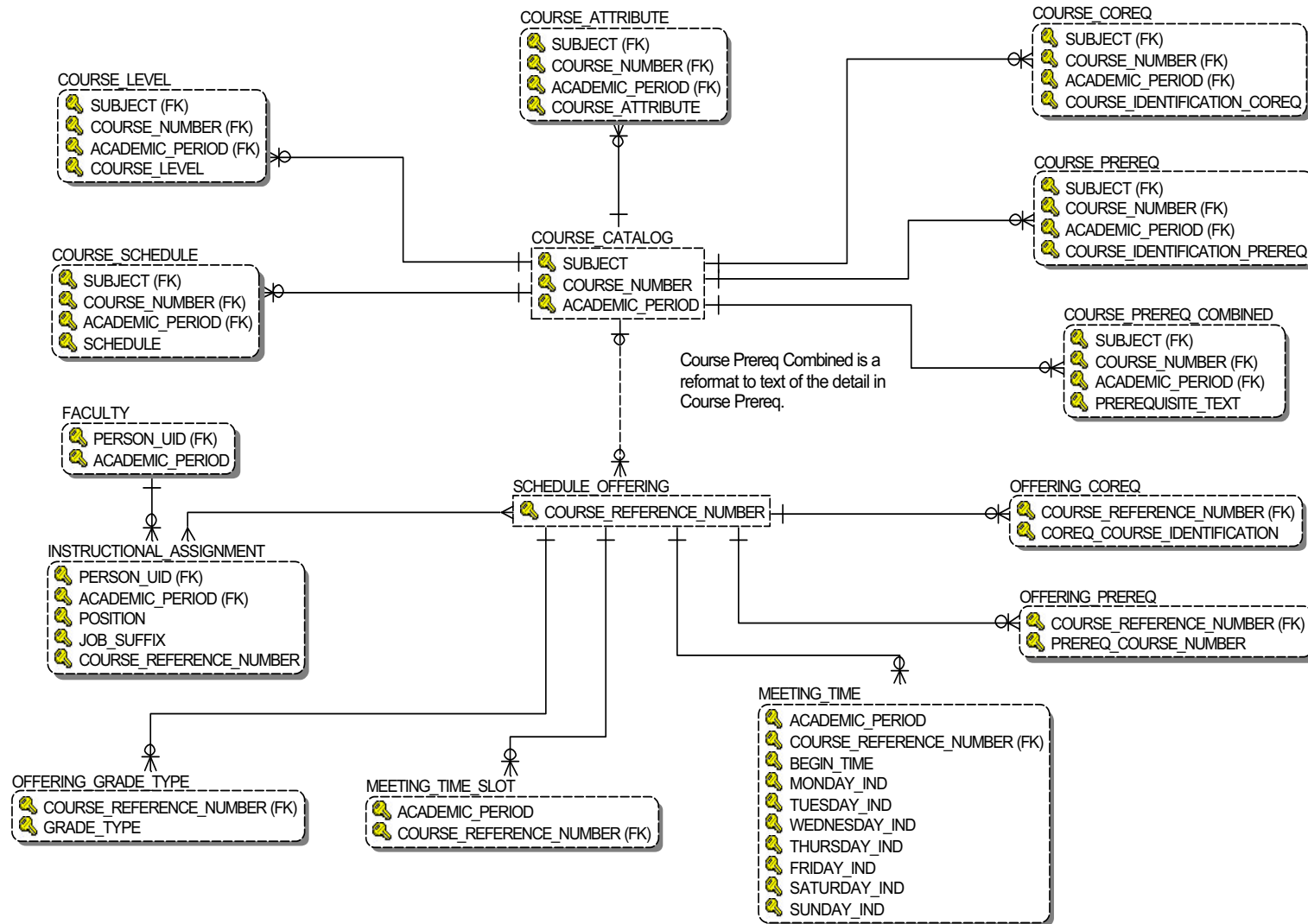
Recruitment Information



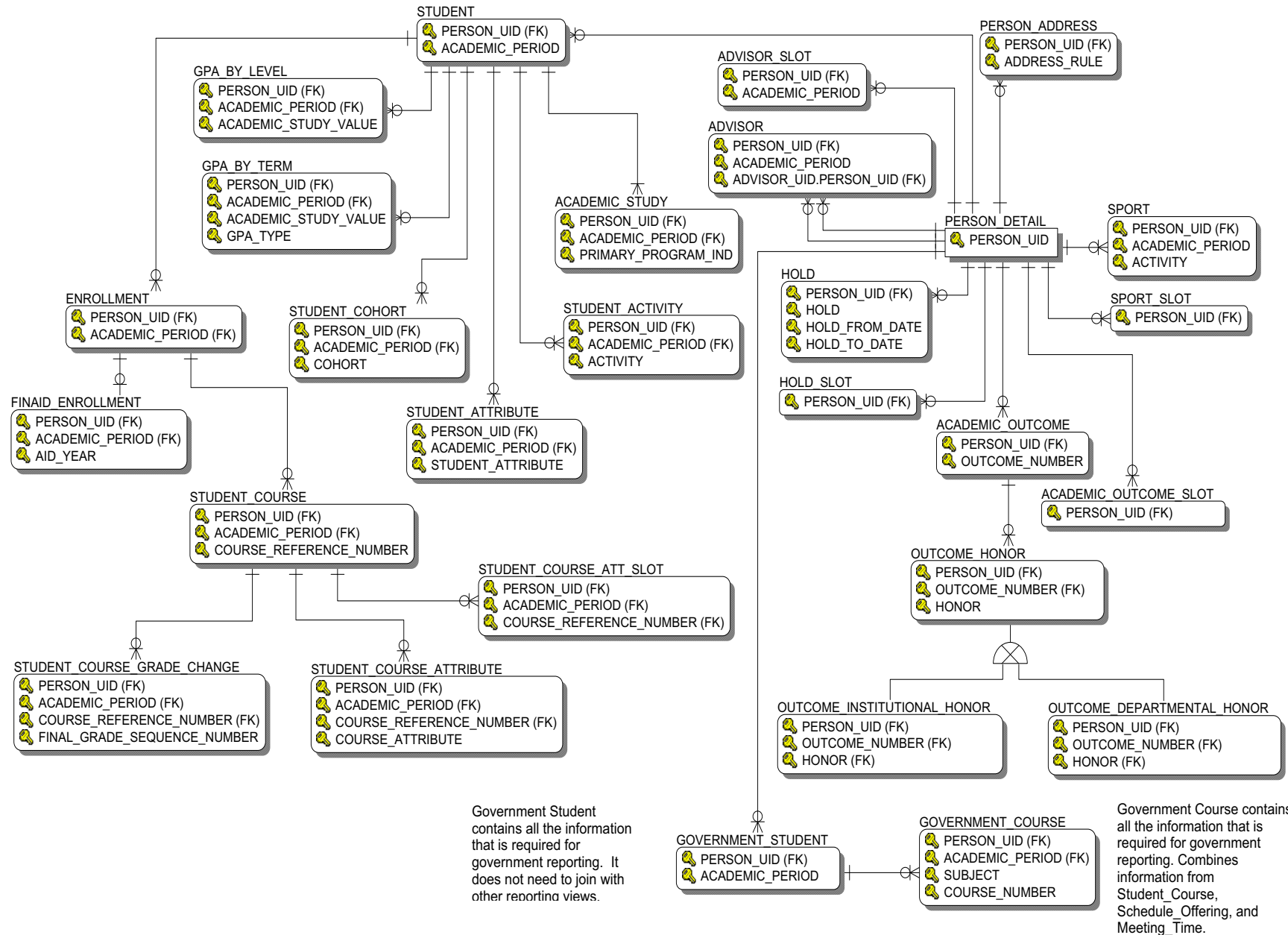
Residential Life



Schedule Offering



Student Detail



Reporting Views

Data from your source system database (for example, Student, Human Resources, Finance, etc.) is used to populate Banner ODS composite tables, and can be retrieved in reports using the Banner ODS reporting views. Use the Administrative UI to maintain and view meta data reports for each composite view (data on the source system used as an intermediate step to produce the composite tables and reporting views) and reporting view. The meta data reports enable you to look at the information about the composite or reporting view definition, and the column business definitions by either target, composite or reporting view, or by source administrative system sources.

For additional information on how to view meta data for the composite views or reporting views, refer to the Administrative User Interface chapter, [“Composite View Meta Data” on page 3-182](#) section. For additional information on how to maintain meta data for the composite or reporting views, and to maintain sources and source columns, refer to the chapter on Administrative User Interface, [“Meta Data \(Banner ODS and Banner EDW\)” on page 3-159](#).

List of Value Views

A list of values (LOV) contains a list of predefined values for a reporting view column in a report. For example, a list of values for Academic Period might contain the values Fall 2006, Spring 2007, and Summer 2007. You use lists of values in parameters or conditions for a report. When used in parameters or conditions, lists of values enable you to select predefined values rather than enter arbitrary values in a text field.

The Banner ODS has a database schema called ODSLOV that owns the list of value views. Most, but not all, of the views are based on the MGT_VALIDATION composite table. (At least one view is based on an MGRSDAX rule.) MGT_VALIDATION is loaded using Oracle Warehouse Builder (OWB) from validation tables (or in some cases static lists of values) in Banner. Validation tables loaded into MGT_VALIDATION from Banner have been identified as lists of values that have views assigned to them. (Not all the MGT_VALIDATION validation tables have been created as LOV views.) Each view has the columns TABLE_NAME, VALUE, and VALUE_DESC. TABLE_NAME is the name of Banner validation table. VALUE and VALUE_DESC are values, or codes, and descriptions for the values. Some of the views also have QUALIFIER, and QUALIFIER_DESC. QUALIFIER is used to group values by a common attribute. For example, it can be Chart of Accounts, Academic Period or a Banner PIDM. QUALIFIER_DESC is a description for the QUALIFIER. Qualifier description is only populated when the qualifier is an Academic Period. For example, it can be Chart of Accounts, Academic Period or a Banner PIDM. QUALIFIER_DESC is a description for the QUALIFIER.

The list of value view provides one place to define the predefined values for a column in reporting views. For example, the LOV_ACADEMIC_PERIOD view contains a list of values that is used by Academic Period columns in many reporting views - such as ACADEMIC_OUTCOME, ACADEMIC_STUDY, etc. By creating the predefined list in one view and using it for all the columns in the reporting views that require a predefined list of Academic Periods, the Banner ODS provides a simple to understand and use mechanism for creating parameters and conditions. If there were a different list of Academic Periods for every Academic Period column in every reporting view in the Banner ODS, there would be hundreds of different predefined lists of values that would be difficult for end users to understand and information technology departments to maintain.

The list of value view also provides fast access when producing the predefined values. If lists of values were created by selecting distinct values from the reporting views, more rows would be read to produce the list. This can result in unacceptable query times in reports when generating lists for parameter prompts and conditions.

ODSLOV list of value views are used in Self Service Reporting (SSR), the Banner ODS Cognos ReportNet model and Oracle Discoverer End User Layer. How these views are used is described in the SSR and Third Party Reporting Tools chapters.

The following table provides information about the list of value views in the ODSLOV schema.

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_DATE logic	Uses PIDM as Value
LOV_ACADEMIC_PERIOD	STVTERM	STVTERM					
LOV_ACADEMIC_STANDING	STVASTD	STVASTD					
LOV_ACADEMIC_TITLE	ACADEMIC_TITLE	PERBFAC					
LOV_ACADEMIC_YEAR	STVACYR	STVACYR					
LOV_ACCOUNT_ATTRIBUTE_SET	ACCOUNT_SET_CODE	FTVATTS, FTRACTA	x				
LOV_ACCOUNT_ATTRIBUTE_TYPE	ACCOUNT_ATTRIBUTE_TYPE	FTVATT, FTRACTA	x				
LOV_ACCOUNT_ATTRIBUTE_VALUE	ACCOUNT_ATTRIBUTE_VALUE	FTRATT, FTRACTA	x				

List of Value	View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_ DATE and NEXT_ CHANGE_D ATE logic	Uses PIDM as Value
LOV_ACCOUNT_CLASS		ACCOUNT_CLASS	FTVSDAT	X			X	
LOV_ACCOUNT_LEVEL_1		ACCOUNT_LEVEL_1	FTVACCT	X				
LOV_ACCOUNT_LEVEL_2		ACCOUNT_LEVEL_2	FTVACCT	X				
LOV_ACCOUNT_LEVEL_3		ACCOUNT_LEVEL_3	FTVACCT	X				
LOV_ACCOUNT_LEVEL_4		ACCOUNT_LEVEL_4	FTVACCT	X				
LOV_ACCOUNT_POOL		ACCOUNT_POOL	FTVACCT	X				
LOV_ACCOUNT_TYPE_ATTR_SET		ACCOUNT_TYPE_SET_CODE	FTRATYA, FTVATTS	X				
LOV_ACCOUNT_TYPE_ATTR_TYPE		ACCOUNT_TYPE_ATTR_TYPE	FTVATTT, FTRATYA	X				
LOV_ACCOUNT_TYPE_ATTR_VALU E		ACCOUNT_TYPE_ATTR_VALUE	FTRATTV, FTRATYA	X				
LOV_ACCOUNT_TYPE_LEVEL_1		ACCOUNT_TYPE_LEVEL_1	FTVATYP	X				
LOV_ACCOUNT_TYPE_LEVEL_2		ACCOUNT_TYPE_LEVEL_2	FTVATYP	X				
LOV_ACTIVITY		STVACTC	STVACTC					
LOV_ACTIVITY_CATEGORY		STVACCG	STVACCG					
LOV_ACTIVITY_TYPE		STVACTP	STVACTP					
LOV_ADDRESS_TYPE		STVATYP	STVATYP					
LOV_ADMISSIONS_ATTRIBUTE		STVATTS	STVATTS					
LOV_ADMISSIONS_POPULATION		STVADMT	STVADMT					
LOV_ADMISSIONS_RATING_TYPE		STVRATP	STVRATP					
LOV_ADVANCEMENT_FUND		ATVFUND	ATVFUND					
LOV_ADVISOR_NAME_LFMI		ADVISOR_NAME_LFMI	SGRADVR					X
LOV_ADVISOR_TYPE		STVADVR	STVADVR					
LOV_AID_FUND		RFRBASE	RFRBASE					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_AID_YEAR	ROBINST	ROBINST					
LOV_APPLICATION_DECISION	STVAPDC	STVAPDC					
LOV_APPLICATION_STATUS	STVAPST	STVAPST					
LOV_ASSIGNMENT_GRADE	ASSIGNMENT_GRADE	NBBPOSN					
LOV_ASSIGNMENT_PAY_ID	PTRPICT	PTRPICT					
LOV_ASSIGNMENT_SALARY_GROUP	NTRSGRP	NTRSGRP					
LOV_AWARD_CATEGORY	STVACAT	STVACAT					
LOV_BENEFIT_CATEGORY	PTRBCAT	PTRBCAT					
LOV_BENEFIT_DEDUCTION	PTRBDCA	PTRBDCA					
LOV_BLOCK_SCHEDULE	STVBLCK	STVBLCK					
LOV_BUDGET	FTVOBUD	FTVOBUD	x				
LOV_BUDGET_GROUP	RTVBGRP	RTVBGRP					
LOV_BUDGET_PHASE	FTVOBPH	FTVOBPH	x				
LOV_BUILDING	STVBLDG	STVBLDG					
LOV_CALENDAR_MONTH	CALENDAR_MONTH	STATIC (01,02,03,04,05, 06,07,08,09,10,11,12))					
LOV_CAMPAIN	AFBCAMP	AFBCAMP					
LOV_CAMPAIN_TYPE	ATVCMTP	ATVCMTP					
LOV_CAMPUS	STVCAMP	STVCAMP					
LOV_CERTIFICATION	PTRCERT	PTRCERT					
LOV_CHART_OF_ACCOUNTS	FTVCOAS	FTVCOAS				x	
LOV_COHORT	STVCHRT	STVCHRT					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_ DATE and NEXT_ CHANGE_D ATE logic	Uses PIDM as Value
LOV_COLLECTION_AGENCY_NAME	COLLECTION_AGENCY_NAME	TBRCOLC					x
LOV_COLLEGE	STVCOLL	STVCOLL					
LOV_COMMODITY	FTVCOMM	FTVCOMM				start date term date	
LOV_CONTRACT_NUMBER	CONTRACT_NUMBER	NBRJOBS					
LOV_CONTRACT_TYPE	CONTRACT_TYPE	STATIC (P,S,O)					
LOV_COUNTY	STVCNTY	STVCNTY					
LOV_COURSE_ATTRIBUTE	STVATTR	STVATTR					
LOV_COURSE_IDENTIFICATION	COURSE_IDENTIFICATION	STVTERM, SCBCRSE			x		
LOV_COURSE_REFERENCE_NUMBER	COURSE_REFERENCE_NUMBER	STVTERM, SSBSECT			x		
LOV_CURRENT_TIME_STATUS	STVTMST	STVTMST					
LOV_DEPARTMENT	STVDEPT	STVDEPT					
LOV_DESIGNATION	ADBDESG	ADBDESG					
LOV_DISTRICT_DIVISION	GTVDICD	GTVDICD					
LOV_DIVISION	STVDIVS	STVDIVS					
LOV_DONOR	ATVDONR	ATVDONR					
LOV_EARNINGS	PTREARN	PTREARN					
LOV_EDUCATIONAL_GOAL	STVEGOL	STVEGOL					
LOV_EDUCATIONAL_LEVEL	STVEDLV	STVEDLV					
LOV_EEO_SKILL	PTVESKL	PTVESKL					
LOV_EMPLOYEE_CLASS	PTRECLS	PTRECLS					
LOV_EMPLOYEE_GROUP	PTVEGRP	PTVEGRP					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_EMPLOYEE_STATUS	EMPLOYEE_STATUS	STATIC (A,B,L, E,P,T)					
LOV_EMPLOYER	PTREMPR	PTREMPR					
LOV_EMPLOYER_CATEGORY	ATVJOBC	ATVJOBC					
LOV_EMPLOYER_INDUSTRIAL_TYPE	ATVSICC	ATVSICC					
LOV_EMPLOYMENT_STATUS	ATVEMPS	ATVEMPS					
LOV_ENROLLMENT_STATUS	STVESTS	STVESTS					
LOV_ETHNICITY	STVETHN	STVETHN					
LOV_FINANCE_ACCOUNT	FTVACCT	FTVACCT	X			X	
LOV_FINANCE_ACCOUNT_TYPE	FTVATYP	FTVATYP	X			X	
LOV_FINANCE_ACTIVITY	FTVACTV	FTVACTV	X			X	
LOV_FINANCE_FUND	FTVFUND	FTVFUND	X			X	
LOV_FINANCE_FUND_TYPE	FTVFITYP	FTVFITYP	X			X	
LOV_FINANCE_LOCATION	FTVLOCN	FTVLOCN	X			X	
LOV_FINANCE_ORGANIZATION	FTVORGN	FTVORGN	X			X	
LOV_FINANCE_PROGRAM	FTVPROG	FTVPROG	X			X	
LOV_FINANCIAL_MANAGER	FINANCIAL_MANAGER	FTVFUND		X			
LOV_FISCAL_PERIOD	FTVFSPD	FTVFSPD	X			start date	
LOV_FISCAL_YEAR	FTVFSYR	FTVFSYR	X			start date	
LOV_FOREIGN_CURRENCY	GIVCURR	GIVCURR				X	
LOV_FUND_ATTRIBUTE_SET	FUND_SET_CODE	FTVATTS, FTRFNDA	X				
LOV_FUND_ATTRIBUTE_TYPE	FUND_ATTRIBUTE_TYPE	FTVATTT, FTRFNDA	X				

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_FUND_ATTRIBUTE_VALUE	FUND_ATTRIBUTE_VALUE	FTRATTV, FTRFNDA	X				
LOV_FUND_LEVEL_1	FUND_LEVEL_1	FTVFUND	X				
LOV_FUND_LEVEL_2	FUND_LEVEL_2	FTVFUND	X				
LOV_FUND_LEVEL_3	FUND_LEVEL_3	FTVFUND	X				
LOV_FUND_LEVEL_4	FUND_LEVEL_4	FTVFUND	X				
LOV_FUND_LEVEL_5	FUND_LEVEL_5	FTVFUND	X				
LOV_FUND_POOL	FUND_POOL	FTVFUND	X				
LOV_FUND_SOURCE	RTVFSRC	RTVFSRC					
LOV_FUND_TYPE	RTVFTYP	RTVFTYP					
LOV_FUND_TYPE_ATTR_SET	FUND_TYPE_SET_CODE	FTVATTS, FTRFTYA	X				
LOV_FUND_TYPE_ATTR_TYPE	FUND_TYPE_ATTR_TYPE	FTVATTI, FTRFTYA	X				
LOV_FUND_TYPE_ATTR_VALUE	FUND_TYPE_ATTR_VALUE	FTRATTV,FTRFTYA	X				
LOV_FUND_TYPE_LEVEL_1	FUND_TYPE_LEVEL_1	FTVATYP	X				
LOV_FUND_TYPE_LEVEL_2	FUND_TYPE_LEVEL_2	FTVATYP	X				
LOV_GENDER	GENDER	STATIC (M,F,N)					
LOV_GEOGRAPHIC_AREA	STVGEOR	STVGEOR					
LOV_GRADE_TYPE	STVGMOD	STVGMOD					
LOV_GRANT	FRBGRNT	FRBGRNT	X			term date	
LOV_HOLD	STVHLDD	STVHLDD					
LOV_HR_APPLICATION_STATUS	PTRAPPS	PTRAPPS					
LOV_INCOME_LEVEL	ATVINCM	ATVINCM					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_INSTALLMENT_PLAN	INSTALLMENT_PLAN	TBBISTC					
LOV_INSTRUCTIONAL_METHOD	GTVINSM	GTVINSM					
LOV_INSTRUCTOR_NAME	INSTRUCTOR_NAME	STVTERM, SPRIDEN, SIRASGN		X		X	
LOV_INTERNAL_ACCOUNT_TYPE	INTERNAL_ACCOUNT_TYPE	FTVSDAT	X			X	
LOV_INTERNAL_FUND_TYPE	INTERNAL_FUND_TYPE	FTVSDAT	X			X	
LOV_INTERVIEW_STATUS	STVINTV	STVINTV					
LOV_JOB_LEAVE_CATEGORY	PTRLEAV	PTRLEAV					
LOV_JOB_SUFFIX	JOB_SUFFIX	STATIC (0,00,01,02,03)					
LOV_LEADERSHIP_ROLE	STVLEAD	STVLEAD					
LOV_LEAVE_OF_ABSENCE_REASON	PTRLREA	PTRLREA					
LOV_LEGACY	STVLGCY	STVLGCY					
LOV_LEVEL	STVLEVL	STVLEVL					
LOV_LOCATION_LEVEL_1	LOCATION_LEVEL_1	FTVLOCN	X				
LOV_LOCATION_LEVEL_2	LOCATION_LEVEL_2	FTVLOCN	X				
LOV_LOCATION_LEVEL_3	LOCATION_LEVEL_3	FTVLOCN	X				
LOV_LOCATION_LEVEL_4	LOCATION_LEVEL_4	FTVLOCN	X				
LOV_MAIL	GTVMAIL	GTVMAIL					
LOV_MAJOR	STVMAJR	STVMAJR					
LOV_MARITAL_STATUS	STVMRTL	STVMRTL					
LOV_MEAL_PLAN	STVMRCD	STVMRCD					
LOV_MEETING_TYPE	GTVMTYP	GTVMTYP					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_NATION	STVNATN	STVNATN					
LOV_NATIVE_LANGUAGE	STVLANG	STVLANG					
LOV_ORGANIZATION_ATTR_SET	ORGANIZATION_SET_CODE	FTVATTS, FTRORGA	X				
LOV_ORGANIZATION_ATTR_TYPE	ORGANIZATION_ATTR_TYPE	FTVATTT, FTRORGA	X				
LOV_ORGANIZATION_ATTR_VALUE	ORGANIZATION_ATTR_VALUE	FTRATTV, FTRORGA	X				
LOV_ORGANIZATION_LEVEL_1	ORGANIZATION_LEVEL_1	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_2	ORGANIZATION_LEVEL_2	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_3	ORGANIZATION_LEVEL_3	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_4	ORGANIZATION_LEVEL_4	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_5	ORGANIZATION_LEVEL_5	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_6	ORGANIZATION_LEVEL_6	FTVORGN	X				
LOV_ORGANIZATION_LEVEL_7	ORGANIZATION_LEVEL_7	FTVORGN	X				
LOV_ORGANIZATION_POOL	ORGANIZATION_POOL	FTVORGN	X				
LOV_ORG_FINANCIAL_MANAGER	ORG_FINANCIAL_MANAGER	SPRIDEN, FTVORGN			X		
LOV_OUTCOME	STVDEGC	STVDEGC					
LOV_OUTCOME_STATUS	STVDEGS	STVDEGS					
LOV_PACKAGING_GROUP	RTVPGRP	RTVPGRP					
LOV_POSITION	NBBPOSN	NBBPOSN					
LOV_POSITION_CHANGE_REASON	PTRJCRE	PTRJCRE					
LOV_POSITION_CLASS	NTRPCLS	NTRPCLS					
LOV_POSITION_DEFERRED_PAY	PTRDFPR	PTRDFPR					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_POSITION_LOCATION	PTRJBLN	PTRJBLN					
LOV_POSITION_STATUS	POSITION_STATUS	STATIC (A,C,F,I)					
LOV_POST_CODE	GTVZIPC	GTVZIPC					
LOV_POST_SECONDARY_SCHOOL	POST_SECONDARY_SCHOOL	STVSBGI					
LOV_PREF_CLASS	PREF_CLAS	APBCONS					
LOV_PRIM_DISABILITY	STVDISA	STVDISA					
LOV_PRINCIPAL_INVESTIGATOR	PRINCIPAL_INVESTIGATOR	FRBGRNT		X			
LOV_PROGRAM	SMRPRLE	SMRPRLE					
LOV_PROGRAM_ATTR_SET	PROGRAM_SET_CODE	FTVATTS, FTRPRGA	X				
LOV_PROGRAM_ATTR_TYPE	PROGRAM_ATTR_TYPE	FTVATTR, FTRPRGA	X				
LOV_PROGRAM_ATTR_VALUE	PROGRAM_ATTR_VALUE	FTRATTV, FTRPRGA	X				
LOV_PROGRAM_CLASSIFICATION	STVCIPC	STVCIPC					
LOV_PROGRAM_LEVEL_1	PROGRAM_LEVEL_1	FTVPROG	X				
LOV_PROGRAM_LEVEL_2	PROGRAM_LEVEL_2	FTVPROG	X				
LOV_PROGRAM_LEVEL_3	PROGRAM_LEVEL_3	FTVPROG	X				
LOV_PROGRAM_LEVEL_4	PROGRAM_LEVEL_4	FTVPROG	X				
LOV_PROGRESS_EVALUATION	STVPREV	STVPREV					
LOV_PROJECT	ATVPROJ	ATVPROJ					
LOV_PROSPECT_STATUS	ATVPRST	ATVPRST					
LOV_RATING	ATVRATE	ATVRATE					
LOV_RATING_TYPE	ATVRTGT	ATVRTGT					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_DATE and NEXT_CHANGE_D ATE logic	Uses PIDM as Value
LOV_RECEIVABLE_CATEGORY	TTVDCAT	TTVDCAT					
LOV_RECEIVABLE_CONTRACT	RECEIVABLE_CONTRACT	STVTERM, TBBCONT			X		
LOV_RECEIVABLE_DELINQUENCY	TTVDELI	TTVDELI, TBBACCT					
LOV_RECEIVABLE_DETAIL_CODE	TBBDETC	TBBDETC					
LOV_RECEIVABLE_EXEMPTION	RECEIVABLE_EXEMPTION	STVTERM, TBBEXPT			X		
LOV_RECEIVABLE_SOURCE	TTVSRCE	TTVSRCE					
LOV_RECRUITER	STVRECR	STVRECR					
LOV_REGISTRATION_REASON	STVRGRE	STVRGRE					
LOV_REGISTRATION_STATUS	STVRSTS	STVRSTS					
LOV_RESIDENCY	STVRES	STVRES					
LOV_REVIEW_TYPE	PTVREVT	PTVREVT					
LOV_SCHEDULE_TYPE	STVSCHD	STVSCHD					
LOV_SECONDARY_SCHOOL	SECONDARY_SCHOOL	STVSBGI					
LOV_SITE	STVSITE	STVSITE					
LOV_SOLICITATION_TYPE	ATVSOLC	ATVSOLC					
LOV_SOLICITOR_TYPE	ATVSOLT	ATVSOLT					
LOV_SOURCE_BACKGROUND	STVSBGI	STVSBGI					
LOV_STATE_PROVINCE	STVSTAT	STVSTAT					
LOV_STUDENT_CLASS	STVCLAS	STVCLAS					
LOV_STUDENT_POPULATION	STVSTYP	STVSTYP					
LOV_STUDENT_STATUS	STVSTST	STVSTST					
LOV_SUBJECT	STVSUBJ	STVSUBJ					

List of Value View Name	Table Name	Table Name	Has Chart of Accounts Qualifier	Has PIDM Qualifier	Has Academic Period Qualifier	Uses EFFECTIVE_ DATE and NEXT_ CHANGE_D ATE logic	Uses PIDM as Value
LOV_SUB_ACADEMIC_PERIOD	STVPTRM	STVPTRM					
LOV_TERMINATION_REASON	PTRTREA	PTRTREA					
LOV_TEST	STVTESC	STVTESC					
LOV_TEST_RULE	TEST	MGRSDAX_ INTERNAL_ CODE_GROUP					
LOV_TRACKING_GROUP	RTVTGRP	RTVTGRP					
LOV_VENDOR_TYPE	FTVVVYP	FTVVVYP				start date term date	
LOV_VETERAN_CATEGORY	STVVETC	STVVETC					
LOV_VISA	STVVVYP	STVVVYP					
LOV_WITHDRAW_REASON	STVWRSN	STVWRSN					
LOV_WORKER_COMPENSATION_ CLASS	PTVWKCP	PTVWKCP					

Third Party Reporting Tools (Banner ODS and Banner EDW)



A critical factor in determining the success of a reporting solution is the existence of a well defined and useful meta data layer. The meta data layer enables relationships to be defined between objects in the database, and enables additional filtering or formatting that would be useful to the average end user.

Cognos 8 Business Intelligence and Oracle Business Intelligence Discoverer meta data layers are delivered as part of the Banner Operational Data Store (Banner ODS). Cognos 8 Business Intelligence meta data layers are delivered as part of the Banner Enterprise Data Warehouse (Banner EDW). Relationships between the reporting views in the Banner ODS or between the dimension and fact tables in the Banner EDW are included in these meta data layers for the supported reporting tools. The meta data layer, therefore, provides the joins used by the database to connect the views or database tables, and the end user does not need to define that relationship when creating queries or reports when using these tools.

The Banner ODS defined reporting meta data contains reporting view and column definitions within the reporting views and manages columns that are number data type (whether to aggregate them or to treat them as identifiers). It can contain hierarchies for drilling into aggregate number columns at different levels, and lists of values (LOV's) for which you can create drop-down lists in prompts and filters for queries on the reporting views. The Banner EDW reporting meta data defines not only the database column definitions and how to aggregate measures, but it also provides a presentation view of the data to facilitate end-user reporting.

In Cognos 8 Business Intelligence, the reporting meta data is called the Cognos 8 Business Intelligence Framework Manager Model. In Oracle Business Intelligence Discoverer, the reporting meta data is called the End User Layer (EUL).

Cognos 8 Business Intelligence

Both the Banner ODS and the Banner EDW include Cognos 8 Business Intelligence meta data layers. The following sections describe the meta data components for the Banner ODS and the Banner EDW.

Cognos 8 Business Intelligence (Banner ODS)

Framework Manager models

Databases are typically designed to store data captured through business processes. Therefore, the stored data is usually not easily accessible for reporting and making enterprise decisions in business terms. Because of this, data requires metadata, the ‘data about data’, so that it can be effectively retrieved for analysis and reporting. The Cognos Framework Manager tool allows the data in the database to be redefined to answer business questions.

Cognos is designed to deliver centralized metadata via the Framework Manager model. The Framework Manager model provides a common definition in business terms that adds value across an organization. The database is redefined so that the metadata can be published in a package made available through the Cognos Connection to the Cognos BI reporting tools (Report Studio, Query Studio, and Analysis Studio) to answer business questions.

The Framework Manager model presents the data using business terms and definitions. This enables you to use, build, and modify your own reports and enables consistent understanding and use of data and metrics across the institution. The logical relationships between data are defined within the model to enable complete data integration so that you spend less time gathering and organizing data.

Metadata Layers

When changes to an existing model are required, Framework Manager (FM) is able to identify the impact to existing reports. This enables an institution to implement system improvements to manage model changes proactively without having to rewrite reports. Framework Manager provides the ability to ‘layer’ metadata as a means to insulate end users from changes made to the underlying data sources and/or relationships.

The FM model delivered as part of the Banner ODS solution seeks to exercise this flexibility most effectively by utilizing two layers to manage the metadata content. The delivered content is organized into a database view and business view. Details of each are as follows:

Database View

The database view is the layer into which Framework Manager imports all database objects. There is no difference in the database view and the database itself. It contains all of the Banner ODS Reporting Views including all List of Value Views coming from the ODSLOV schema.

Business View

The business view layer is used to organize content around a specific business process or processes. Objects from the database view are referenced and relationships among all of

them are defined to support the associated business process. The content defined within the business view is as follows:

- 51 Business Concepts with relationships between the various Reporting Views are defined. These joins define the SQL generated behind the scenes by the various Cognos BI Reporting Tools.
- A link back to the Data View Reporting views which can be used to create custom sql and queries outside of the Business Concepts. If a particular Business Concept cannot be used to efficiently produce a query to answer your business question, the Database View could be used to create reports and custom queries.

Packages

A package is a subset of data designed to support a specific group of users' reporting needs. Packages may contain content designed within Framework Manager. They are the means by which Query Studio, Report Studio, and Analysis Studio are able to access data within Cognos. They are essentially the data sources used for reporting and analysis.

Lists of Values

A list of values (LOV) is a set of valid values for a column in an Banner ODS reporting view. List of value views are contained within the ODSLOV schema within the Banner ODS. The LOV views obtain their information from the Banner ODS composite table called MGT_VALIDATION. The meta data layers are shipped containing lists of values to be used for drop-down lists or filters in queries and reports. The views contained within the ODSLOV schema provide the data which populates these lists of values. See the ODSLOV List of Values section in [Chapter 4, "Data Models \(Banner ODS\)"](#) for the complete list of ODSLOV list of value views. The values exist in Cognos 8 Business Intelligence with the exact same names as the LOV views, but without the underscores.

There is a Business view in Cognos 8 Business Intelligence that contains a model query subject for each of the ODSLOV views. The business view and area are called "List of Values".

Prompts

Lists of values query subjects in Cognos 8 Business Intelligence that can be used to create lists for prompts in the report writing component of Cognos 8 Business Intelligence Report Studio. There is an additional list of values query subject in the Cognos 8 Business Intelligence model called All Values LOV. This query subject contains all the lists of values in the MGT_VALIDATION table. If there is a list of values in the MGT_VALIDATION table for which there is no ODSLOV view, you can use this query subject to create a list for a prompt in Report Studio.

Filters

You can filter information from reporting views in the Banner ODS using objects in the reporting tool meta data. In Cognos 8 Business Intelligence these objects are called filters.

The tables on the following pages identify which filters are set up in the Cognos 8 Business Intelligence model. There are two tables because there are two different kinds of filters used in Cognos 8 Business Intelligence – embedded and stand-alone. Embedded filters only use one query subject. Stand-alone filters are created in Framework Manager independent of a specific query subject. A section on each type of filter appears in this chapter.

Each column heading used in the tables is described below:

Cognos 8 Business Intelligence Object	Definition
Filter Name	Cognos 8 Business Intelligence filter name for the filter on the reporting view.
Business View	logical grouping of Banner ODS Reporting Views.
Filter Expression	Expression used to generate a WHERE clause when querying the reporting view.

Embedded Filters

The Cognos 8 Business Intelligence model uses embedded filters when you use a filter with only one query subject. They are created in our model query subjects.

Filter Name	Business View	Filter Expression
Invoice Document Type	Purchasing Payable	Transaction History.DOCUMENT_TYPE = 3
Purchasing Document Type	Purchasing Payable	Transaction History.DOCUMENT_TYPE = 2
Endowment Distribution Document Type	Endowment Distribution	Transaction History.DOCUMENT_TYPE = 20
Fixed Asset Adjustment Document Type	Fixed Asset	Transaction History.DOCUMENT_TYPE = 60
Encumbrance Ledger Indicator	Encumbrance	Transaction History.LEDGER_IND = 'E'
General Ledger Indicator	General Ledger	Transaction History.LEDGER_IND = 'G'
	Receivable Revenue	Transaction History.LEDGER_IND = 'G'
Operating Ledger Indicator	Grant Ledger	Transaction History.LEDGER_IND = 'O'

Filter Name	Business View	Filter Expression
	Operating Ledger	Transaction History.LEDGER_IND = 'O'
Constituent Spouse	Constituent	RELATIONSHIP.SPOUSE_STATUS = 'A'
Supervisor	Employee	Employee.PERSON_UID = Employee Position.SUPERVISOR_UID and Person Detail.PERSON_UID = Employee Position.SUPERVISOR_UID

Stand-alone Filters

Stand-alone filters are created in Framework Manager independent of a specific query subject. They are included in Banner ODS packages along with the query subjects for the reporting views to make them available to your users. They can then be used in reports to filter a query subject one way or another, depending on whether or not they are dragged into the report.

Business View	Filter Name	Filter Expression
Invoice Payable	Commodity Level Accounting Record	Invoice Accounting.ITEM = Invoice Item.ITEM
Invoice Payable	Document Level Accounting Record	Invoice Accounting.ITEM = 0
Invoice Payable	Invoice Check Bank = Invoice Accounting Bank	Invoice Check.BANK=Invoice Accounting.BANK
Invoice Payable	Not Cancelled Check	Invoice Check.CANCEL_IND IS NULL
Purchasing Payable	Invoice Check Bank = Invoice Accounting Bank	Invoice Check.BANK=Invoice Accounting.BANK
Purchasing Payable	Invoice Commodity Level Accounting Record	Invoice Accounting.ITEM = Invoice Item.ITEM
Purchasing Payable	Invoice Document Level Accounting Record	Invoice Accounting.ITEM = 0
Purchasing Payable	Not Cancelled Check	Invoice Check.CANCEL_IND IS NULL
Purchasing Payable	PO Commodity Level Accounting Record	Purchase Order Accounting.ITEM = Purchase Order Item.ITEM
Purchasing Payable	PO Document Level Accounting Record	Purchase Order Accounting.ITEM = 0
Transaction History	Endowment Distribution Document Type	Transaction History.DOCUMENT_TYPE = 20
Transaction History	Fixed Asset Adjustment Document Type	Transaction History.DOCUMENT_TYPE = 60
Transaction History	Invoice Document Type	Transaction History.DOCUMENT_TYPE = 3
Transaction History	Purchasing Document Type	Transaction History.DOCUMENT_TYPE = 2
Transaction History	Encumbrance Ledger Indicator	Transaction History.LEDGER_IND ='E'

Business View	Filter Name	Filter Expression
Transaction History	General Ledger Indicator	Transaction History.LEDGER_IND ='G'
Transaction History	Operating Ledger Indicator	Transaction History.LEDGER_IND ='O'

Cognos 8 Business Intelligence (Banner EDW)

Framework Manager Models

Databases are typically designed to store data captured through business processes. Therefore, the stored data is usually not easily accessible for reporting and to support making enterprise decisions in business terms. Because of this, data requires metadata, the ‘data about data’, so that it can be effectively retrieved for analysis and reporting. The Cognos Framework Manager tool allows the data in the database to be redefined to answer business questions.

Cognos is designed to deliver centralized enterprise metadata via the Framework Manager model. The Framework Manager model provides a common definition in business terms that adds value across an organization. The database is redefined so that the metadata can be published in a package made available through the Cognos Connection to the Cognos BI reporting tools (Report Studio, Query Studio, and Analysis Studio) to answer business questions.

The Enrollment Management Performance products utilize Framework Manager’s ability to separate the database representation of data from the business perspective to provide for an intuitive user experience across all knowledge levels.

The Framework Manager model presents the data using business terms and definitions. This enables you to use, build, and modify your own reports and enables consistent understanding and use of data and metrics across the institution. The logical relationships between data are defined within the model to enable complete data integration so that you spend less time gathering and organizing data.

Metadata Layers

When changes to an existing model are required, Framework Manager (FM) is able to identify the impact to existing reports. This enables an institution to implement system improvements to manage model changes proactively without having to rewrite reports. Framework Manager provides the ability to ‘layer’ metadata as a means to insulate end users from changes made to the underlying data sources and/or relationships.

The FM model delivered as part of the Recruiting and Admissions Performance solution seeks to exercise this flexibility most effectively by utilizing three layers to manage the metadata content. The delivered content is organized into a database view, business view, and presentation view. Each layer is designed to build upon the next to ‘transform’ data from a set of database tables to an intuitive business-centric reporting layer. Each of the

three layers serves a specific purpose and employs specific Cognos concepts. Details of each are as follows:

Database View

The database view is the layer into which Framework Manager imports all database objects. There is very little different in the database view and the database itself, except for:

- Object names for columns that are eventually published from subsequent layers include a business name using mixed-case nomenclature and no underscores.
- Some calculated columns make commonly used functions more readily available. They generate a unique key for specific fact tables, and provide the flexibility to configure institution-specific descriptions for certain concepts using parameter maps.

Business View

The business view layer is used to organize content around a specific business process or processes. Objects from the database view are referenced and relationships among all of them are defined to support the associated business process. The content defined within the business view is as follows:

- The Banner EDW business concepts define the relationships between the fact and dimension tables. These joins define the SQL generated behind the scenes by the various Cognos BI Reporting Tools.
- Determinants are defined for the various dimensions to ensure that the proper cardinality is preserved with multi-fact queries that have a conformed, or shared, dimension.
- Role-based, or ‘alias’, query subjects are defined for those objects that serve multiple business purposes. An example of one such object would be ‘Application Date’ which is a copy of the ‘Calendar Date’ query subject. These role-based query subjects allow an object to be utilized multiple times within the same query for different purposes.

Presentation View

The presentation view is the layer in which information is reorganized into useful logical groups of data that may be used together for reporting. The query subjects contain data elements and folders of data elements that ideally present the data in an intuitive fashion so it is easy for the report writer to locate desired data for any report. In creating the presentation layer the following standards were applied:

- Related data or query items are put into the same query subject.
- Subsets of the data that will commonly be used together are organized into folders.

- Commonly used filters have been defined to enhance functionality. Examples of delivered filters include Student Level Undergraduate, Student Level Graduate, and Student Level Professional.
- Commonly used calculations have been added to make reporting easier.
- Additional range and aging concepts have been added that work in conjunction with parameter maps. Each has an accompanying 'order' concept to ensure they appear in proper order when they are utilized.

Packages of information can be published to target specific types of analysis and users. This enables you to use dashboards, run reports, build ad-hoc reports, and analyze trends without having to sift through large amounts of irrelevant information.

Functionality

Preselected Records of Interest

For some business areas, it is useful to represent certain records of interest along with the entirety of records. Concepts such as 'First Contact', 'Latest Contact', and 'Highest Test Score' are typically of interest. It, therefore, is desirable to make such items easily available within the presentation view. To support this functionality, such concepts have been included in various query subjects where deemed to be useful.

An example of this can be found within the Contact query subject. Information relative to all contacts is included as well as content associated with the first contact and the latest contact.

Indicators

Some query subjects within the presentation layer include indicator fields. Dependent upon the database source for a given data element, the indicator is translated to a meaningful 'Yes' or 'No' representation. For those data elements drawn from dimension tables within the Banner EDW, indicator fields are translated via cleansing during ETL processing. For those data elements drawn from fact tables, however, the values remain as either a 1 or 0. The Framework Manager model has been designed to utilize a parameter map for these elements. Additionally, a description field and associated parameter map has been included for each to allow for a customizable representation of what a Yes or No means for that data element.

An example of this can be found within the Combined Admissions Record query subject. The Application Complete Ind and its associated description may be found. The contents of both are driven by a parameter map that ties to a value of 1 or 0.

Derived Concepts

In some business cases it is important to associate certain values together for reporting purposes that may not otherwise have an association in the database. To address this need

derived concepts have been created that utilize parameter maps to define how values translate to the new data element.

An example of this functionality can be seen in the Demographic query subject. The Minority Ind data element references a parameter map to determine which ethnicity categories should be classified as ‘Minority’ and which should be classified as ‘Non Minority’.

A second example is the Traditional Student Ind which is based on the prospective student being under a specified age or over the specified age defined within a parameter map.

Predefined Value Concepts

There are specific data elements that are commonly used but may have different codes from client to client. For these situations, you should have a predefined element that could be driven off a parameter map to provide a standardized structure within the presentation layer. Elements such as this have been added to the presentation layer.

An example of this is the Test query subject. Analysis of undergraduate applicants typically centers on test scores such as the ACT Composite and the SAT Combined. The codes within the database, however, may vary from institution to institution. A parameter has been defined to allow these codes to be translated so that they are standardized and meaningful.

Distinct Counts

One measure often used for analysis within higher education is unduplicated headcount. This concept, as well as other unduplicated counts, can be a bit complex to create in a report because one needs to have a true understanding of what the uniqueness of a record truly is. Various counts have been added throughout the presentation layer to eliminate any such confusion and to ensure a “single version of the truth” for these measures.

Headcount is a primary example of this concept which is included in the presentation layer. An additional example would be counts based upon the set of financial aid steps a person may have completed within the Financial Aid Status query subject. A distinct count is calculated for each indicator based upon whether they have a “Yes” value.

Special Calculations

Special calculations are frequently required based upon various measures already represented in the presentation layer. Some of these useful calculations have been included in their own folders seen at the bottom of available components in the presentation layer. Examples of such calculations would be the various calculations provided with the Analyze Enrollment Funnel business concept which return rates, yields, and percentages for associated funnel history data.

Internal Keys

Unique identifiers for people or records may be required in certain situations within Cognos when performing more complex analysis. For this reason, an additional query subject has been included within each business concept to house these unique identifiers. These values are useful when joining queries within Report Studio and when identifying distinct headcounts or applications counts within a cube model.

Filters

Filters may also be defined in the presentation view. Filters are used to limit information selected from the database tables based on defined selection criteria.

There are two different types of filters used within the FM Model:

- Embedded filters are defined and used within a query subject.
- Stand-alone filters are created in Framework Manager independent of a specific query subject. They are included separate from the query subjects and made available to the report writers. The filters can then be used to filter a query subject when they are dragged onto the report.

Filter Type	Example
Embedded	Secondary School Post Secondary School
Stand-alone	Student Undergraduate Level Student Level Graduate Student Level Professional Highest Test Score Latest Test Score

Filter	Data Elements
ACT Composite Test (filter)	ACT Composite Test
SAT Combined Test (filter)	SAT Combined Test
Student Level Undergraduate (filter)	Student Level Undergraduate
Student Level Graduate (filter)	Student Level Graduate
Student Level Professional (filter)	Student Level Professional

Packages

A package is a subset of data designed to support a specific group of users' reporting needs. Packages may contain content designed within Framework Manager or cubes generated from Transformer. They are the means by which Query Studio, Report Studio, and Analysis Studio are able to access data within Cognos. They are essentially the data sources used for reporting and analysis.

For information about data modeling, see the “Framework Manager User Guide” or “Metric Designer User Guide”.

Selecting the Right Data Package

Within the Cognos studios, you may only report against one package at a time. It is, therefore, important to use the correct package for the intended business purpose.

When beginning a new report or analysis, you are prompted to select which package to use. There is a list of recently used packages followed by a list of all available data packages. The standard set of packages delivered with Recruiting and Admissions Performance have been configured to publish in the following directory within the Cognos Connection:

Cognos > Public Folders > Performance Management Packages

Cognos 8 Security Integration

Cognos Authorization and Fine-Grained Access

In a security context, authorization refers to permissions or defining “who can see what.” Cognos provides a complete infrastructure to define rules regarding “object” permissions (the ability to see folders or reports) as well as “data” permissions (which rows or columns of data individual users or groups are permitted to see). Cognos picks up its list of users and groups from the authentication providers defined at a given site, and maintains its own list of data permissions internally.

Data permissions can also be defined within the Banner Performance Reporting and Analytics (BPRA) database using the Fine-Grained Access (FGA) facility which allows for centralized maintenance of those rules for any non-Cognos based access as well. A typical Cognos configuration uses a single database connection (using a single Oracle username and password) for the BPRA database which does not allow for use of the BPRA FGA feature. However, it is also possible to configure Cognos to use multiple database connections, which then use the BPRA Fine-Grained Access rules.

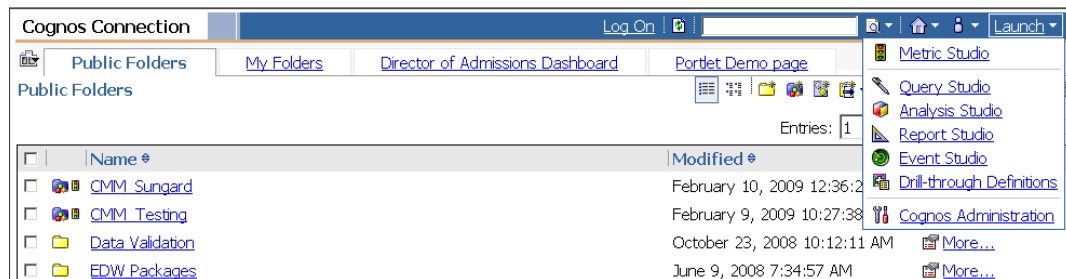
Cognos and BPRA Authorization

Authorization enables you to create logins so that each user can access the same data source while still allowing them to use the fine-grained access rules already defined for

them in the Administrative User Interface. Authorization could be used to set up more general Oracle users whose associated fine-grained access rules might apply to a type of report writer as opposed to a single person. Multiple Cognos users or roles could then be set up to secure the actual Cognos content (reports, dashboards, etc.), and then matched with data source signons which would provide the means to secure the actual data contained in the database.

For existing users, you would remove or disable the extra users so that as each user performs a query, their fine-grained access rules would be used. This should be done because their signon would be using their actual Oracle username to access the database.

1. Open Cognos Connection.
2. Click **Launch**.



3. Click **Cognos Administration**.
4. Click the **Configuration** tab.

The named data source connections display. The connections provide detailed connectivity information as to where to retrieve data.

5. Click one of the data sources to view the possible servers on which source data may reside.

In the screen samples, we have chosen the Banner EDW data source. By default, the defined server connection has the same name as the data source connection. (See the navigation bread crumbs at the top of the screen.)



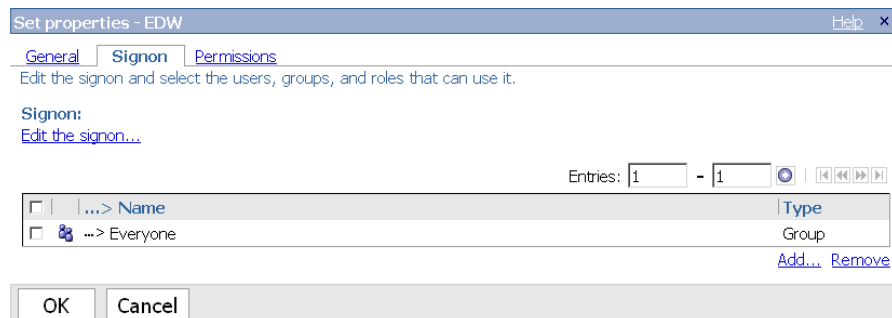
6. Navigate to the next layer of detail to define what users connect to this data source.

Again, as with the server connection name, the user connection name is inherited by the data source connection unless otherwise specified.

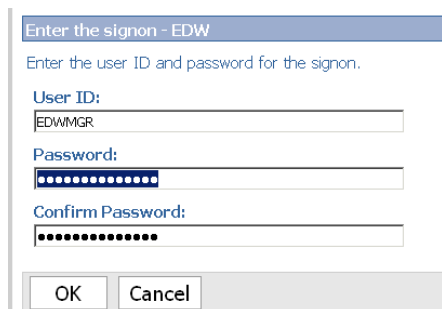
7. Click the **Set Properties** icon in the Actions column.



8. Click the **Signon** tab.



9. Click the **Edit the signon...** link to view or change the Oracle username and password for this connection.



In this case you'll see the Banner EDW data source connection defined with a username of EDWMGR, which would have access to all data.

Let's say, for example, that your institution has two Cognos users: John Doe and Bob Smith. You would like to make use of the Oracle fine-grained access (FGA) rules that are already defined for these two users in your Administrative User Interface. Accomplishing this is a simple matter of defining two different logins to the Banner EDW data source that is proprietary to each user.

10. To create a new connection for the Banner EDW data source, return to the user connection screen within the Cognos Administration.
11. Click the **New Signon** icon.



12. Create a signon for John Doe and call the signon “JDOE”.

13. Click **Next**.

You are prompted for the Oracle username and password that will be used for this signon.

Specify a signon - New Signon wizard

Enter the user ID and password for the new signon.

User ID:

Password:

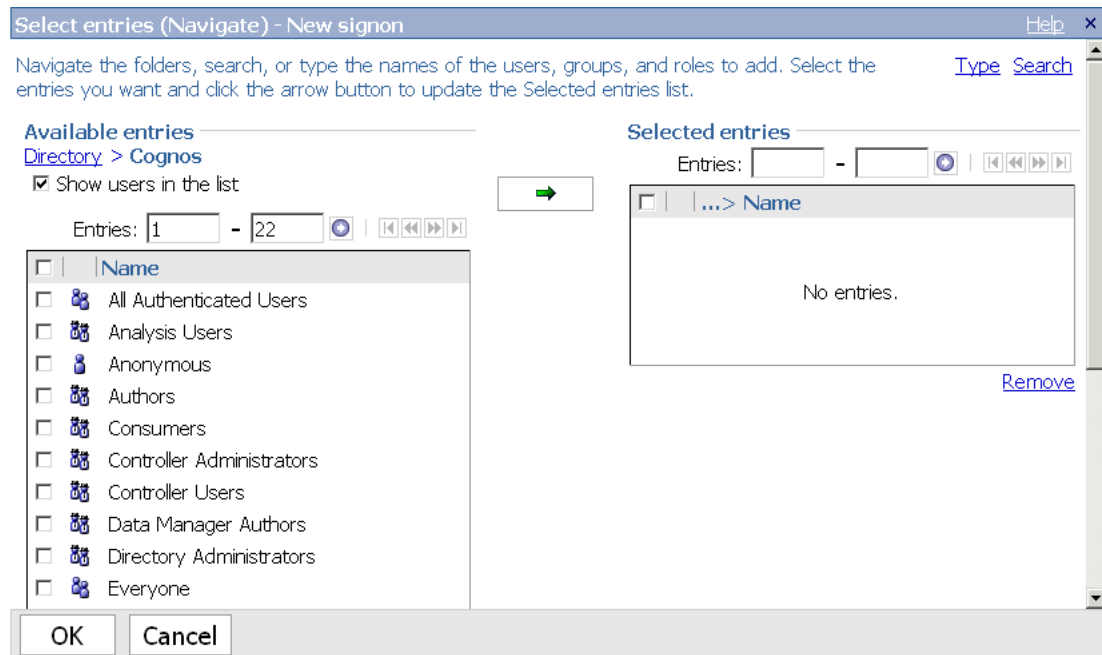
Confirm Password:

14. Enter the information, then click **Next**.

You are prompted for which Cognos users can access this signon.

15. Add JDOE to the list of users able to use this signon.

16. Click **OK**.



17. Click Finish.

You'll see that now there is a second signon for the Banner EDW data source.

18. Repeat the above steps for Bob Smith.

You'll end up with three distinct signons for Banner EDW.

☐ Name	Modified	Actions
☐ BSMITH	February 13, 2009 11:46:07 AM	More...
☐ EDW	August 8, 2008 12:02:46 PM	More...
☐ JDOE	February 13, 2009 11:44:14 AM	More...

Last refresh time: February 13, 2009 11:46:07 AM

At this point, if you logged in as John Doe, and ran a query within Cognos, you would be prompted for what signon to use. (John or Bob) This would not be an ideal situation, because you would be prompted for which connection to use each time you accessed Cognos, and the Banner EDW signon is not FGA secured. You, therefore, would want to remove John or Bob's access to the Banner EDW signon, delete the signon, or disable it.

How to view or change what users have access to a signon was detailed previously. Deleting a signon is a straight forward activity. You select a signon and delete it. Disabling a signon is most likely the preferred method so that the overall Banner EDW signon is retained, but simply not active. This is a simple matter of checking the **Disable this entry** check box within the general properties of the signon.

Set properties - JDOE

General | Signon | Permissions

Specify the properties for this entry.

Type: Signon

Owner: Anonymous

☒ Disable this entry

Location: Directory
>
Cognos
> EDW
> EDW

[View the search path, ID and URL](#)

Created: February 13, 2009 11:44:14 AM

Modified: February 13, 2009 11:44:14 AM

Icon: Standard [Edit...](#)

The name, screen tip and description are shown for the selected language.

Language:
English (United States)

Name: JDOE

Description:

Screen tip:

Once this signon is disabled, the signons John and Bob will be the only two active signons. Therefore, if John Doe now signs into Cognos and performs a query, he will no longer be prompted to choose a signon (because he does not have permission to use the Bob signon) and his FGA rules would be enforced on his query because his signon is using his actual Oracle username of JDOE to access the database. Likewise, if Bob Smith signs into Cognos and performs a query, his FGA rules will be enforced because his signon is using his Oracle username of BSMITH.

To put this into more practical application, one might set up more general Oracle users within the data warehouse whose associated FGA rules might apply more broadly to a type of report writer as opposed to a single person. Multiple Cognos users or roles could then be set up to secure the actual Cognos content (reports, dashboards, etc.), and matched with data source signons which would provide the means to secure the actual data contained in the database.

For additional detailed information on Cognos security, see the [Cognos Administration and Security Guide](#), “Data Management” chapter, Create a Data Source section.

Luminis Authentication (Single Signon)

Authentication is the process of logging into a secured application. This section describes integrating Authentication considerations when using Cognos 8 BI with BPRA solutions using the Sungard Higher Education Luminis portal.

Usually Luminis and Cognos are configured to require users to enter a username and password to access their content. And usually, these credentials are stored and maintained separately. This requires users to log in once for Luminis and then again for Cognos every

time you use Cognos within the Luminis Portal. However, this dual log-in problem can be avoided by configuring Luminis to perform Single Signon (SSO) into Cognos. Luminis provides various techniques to accomplish SSO with external applications, but the simplest is their Generic Connector Framework (GCF). (This is documented extensively in the Luminis SDK / Generic Connector Framework Implementation Guide), but basically what happens after setting up a GCF is this:

- The user sees a Cognos 8 BI link in a Luminis page and clicks it.
- The first time a user clicks a Cognos link within Luminis they are prompted for their Cognos username/password.
- Luminis passes that through to Cognos. If it authenticates, Luminis redirects that link to the appropriate Cognos page.
- Luminis also stores that Cognos username/password, so that for future attempts, the user doesn't have to enter anything. Luminis automatically passes through the username/password and authenticates the user for them.

An important consideration regarding Cognos security is that, unlike other applications, Cognos does not have its own security infrastructure. That is, it does not have its own "user store" (where it stores usernames/passwords). Instead, it interfaces with standard security providers (such as LDAP, NTLM, Windows Active Directory, etc.) so that users can re-use existing security setups without having to duplicate them. This is fully documented in the Cognos Setup/Install documentation, as well as various other Cognos extensibility documents. So this provides an opportunity to re-use an existing user store, so that clients only have to enter/remember a single username/password.

Combining reusing an existing user store for Cognos authentication with the Luminis GCF construct simplifies SSO because users can re-use existing usernames/passwords and (after an initial Luminis session) not have to re-enter credentials to access Cognos from Luminis. The only exception to this is when their password changes. They will have to re-enter it in Luminis once.

Luminis also supports different user stores as well. By default, Luminis uses its default LDAP implementation (the SunOne Directory server) as the location where it stores security credentials, but it can also be configured to use other external systems (such as Windows Domain, or other LDAP implementations). This flexibility regarding authentication storage between Luminis and Cognos provides the client the ability to centralize their authentication processes, which can further help with the SSO process.

Determining where to store security credentials is a client-specific choice, but for SSO illustration purposes, this documentation describes how to implement that using the default Luminis LDAP implementation. Some of the concepts are applicable to other configurations as well and are noted.

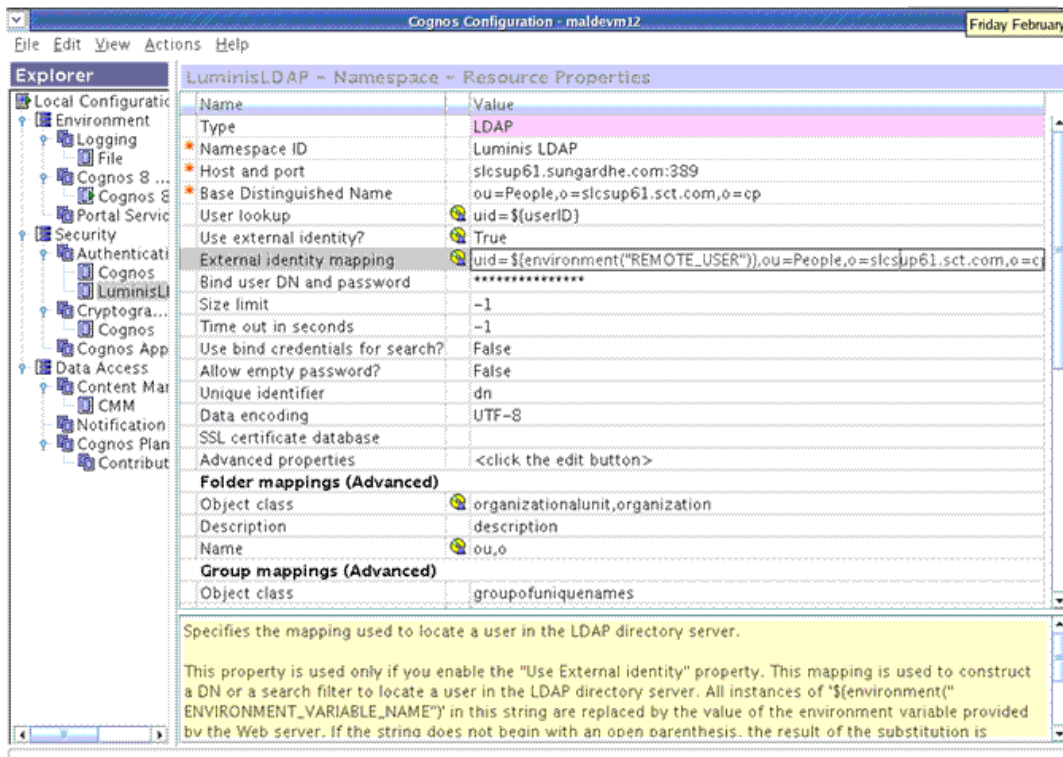
Setting up Luminis Single Signon to Cognos using Luminis LDAP Authentication

These steps were written for Cognos Business Intelligence 8.3 and Luminis 4.0.2. Later releases may follow the same steps. Refer to the release-specific versions of each product's associated documentation for more details.

All sample configuration files referenced can be found in the `luminis_sso` folder, under the `ods\reports\cognos_8` folder in the ODS source tree.

In Cognos:

1. Configure an LDAP authentication namespace in Cognos to point to the Luminis LDAP instance. The properties page for the new namespace should look similar to the screen capture:



The majority of the default settings for an LDAP namespace can be retained with the following exceptions (as noted in the screen above, either with a red asterisk or a yellow circle icon):

NameValue

Property Name	Property Value
Namespace ID	A unique name for the namespace - can be whatever you choose
Host and port	Needs to point to the Luminis machine and LDAP listener port
Base Distinguished Name	Ou=People, o=<machine>,o=cp
User lookup	uid=\$(userID)
Use external identity?	True
External identity mapping	uid=\${environment("REMOTE_USER")},ou=People, o=<machine>,o=cp
Bind user DN and password	user="cn=Directory Manager" password=<Luminis LDAP pw>

Under Folder mappings(advanced):

Property Names	Property Value
Object Class	organizationalunit, organization
Name	ou,o

2. Once configured, disable the Anonymous Login property in the default Cognos namespace. (Your Cognos content now requires login.)
3. Place a copy of the Luminis `pickup.html` file in the document root location of the Cognos web/application server, where it can be accessed from the Luminis machine.

In Luminis:

1. Place a copy of the `cognos.xml`, `cognos.properties` and `cognos.config` files from the distribution in the GCF connector configuration folder, specifically:

Luminis IV

`$CP_ROOT/webapps/cpipconnector/WEB-INF/config`

Luminis III

`$CP_ROOT/products/sso(or_gcf)/config`

2. Edit the `cognos.properties` file and update the values of the following fields to represent your Cognos installation:

Field	Description
cognos.externalSystemURL	Point to the main URL for your Cognos environment.
cognos.pickup.remoteurl	Point to the copy of the file you placed in the Cognos environment in step 3 of the previous section.

3. Edit the `cognos.properties` file only if Cognos and Luminis are not authenticating to the same LDAP to allow the credentials to be entered the first time a person selects the link:

```
cognos.cpipconnector.getconfig.createonlogin      = 0
cognos.cpipconnector.getconfig.usePDSCredentials = false
```

4. Edit the `cognos.config` file and make sure the property:

```
es.cognos.configURL
```

points to your Luminis installation.

5. Edit the `cpipconnector.properties` file and append `cognos.properties` to the end of the `property.files` line toward the top of the file.
6. Perform the following configuration. Import the configuration parameters within `cognos.config` into the Luminis configuration:

```
configman -i cognos.config
```

7. Alter the `es.systems` parameter to include the cognos connector:

```
configman -g es.systems This gets the current list of connectors
```

```
configman -s es.systems "<current list> cognos"
```

8. Restart Luminis to reload the cache with the new configuration values.

9. Build a channel using a portal admin account and the following URL:

```
http://<Site Luminis Server>/cp/ip/login?sys=cognos&url=${urlPass}
```

or

refer to the next section [“Setting up Cognos Channels in Luminis”](#) on page 5-21.

10. Once these changes have been made, restart Luminis, or at least the `cpipconnector` service.

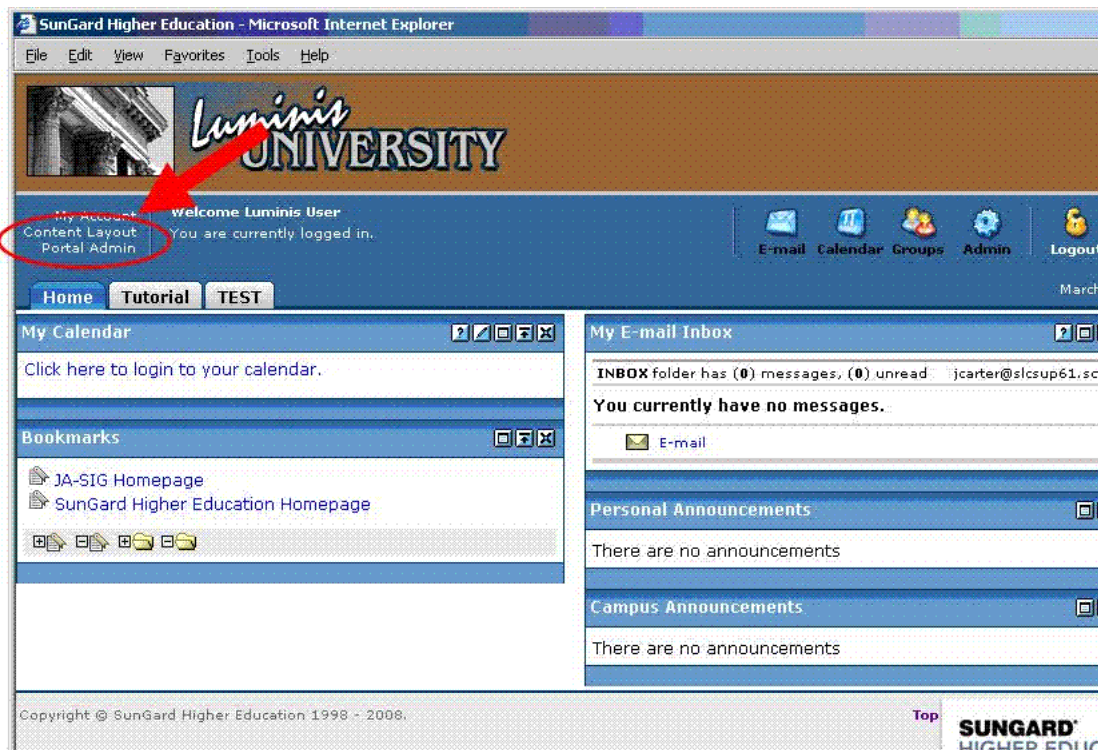
This explains how to configure Luminis and Cognos to share a username/password using Luminis's LDAP implementation. However, both Luminis and Cognos can be configured to use other authentication sources, even potentially different ones. When they are configured to use the same source, then the password information can be maintained in a single place. If they point to different sources, Luminis can store the username/password information and then it can be configured to prompt the user to re-enter the password whenever it changes.

For more information on configuring a Luminis GCF implementation, refer to the Luminis SDK / Generic Connector Framework Implementation Guide.

Further information about configuring Cognos security can be found in the Cognos Configuration and Installation Guide (chapter 11: "Configuring Cognos 8 Components to Use an Authentication Provider").

Setting up Cognos Channels in Luminis

Once SSO has been established, you can create links to Cognos within Luminis. Typically, this is accomplished using channels within the Luminis tabs. This process is documented in the "Luminis SDK/Channel Developer Guide". The end result is to be able to display Cognos content within Luminis, such as in the example screen below:



The simplest way to set up the links is using CPIP Inline Frames, which can then be defined for an entire tab, or as a column (portion) of a specific tab. These tabs can then be associated with a Luminis fragment definition, which can then be rolled out to specific

Luminis users, or audiences (based on Luminis role). The key is to define which Cognos content should be displayed within a channel. That is done by capturing the actual URL used to access the Cognos content, and defining that in the `cognos.xml` file as a variable, which can then be referenced in the Luminis channel definition URL.

For example, consider the following URL definition that is delivered in the `cognos.xml` file delivered (in the `luminis_sso` folder in the Banner ODS source tree):

```
<SET a:symbol="urlPass" a:value= "${properties.externalSystemURL}/  
${properties.cognosSystemID}/cgi-bin/  
cognos.cgi?b_action=xts.run&m=portal/cc.xts&gohome=&ui=" /  
>
```

This defines a CPIP variable called `urlPass` which points to the base Cognos URL for Congos Connection viewer.

Note

Notice the use of the `es.externalSystemURL` and `es.cognosSystemID` variables, which are defined in the properties file for the cognos CPIP definition. This convention allows you to parameterize commonly used portions of URL definitions.

Also notice the conversion of all ampersand characters to the URL-encoding equivalent. This is required for proper parsing of the URL in the XML syntax. ■

This variable “`urlPass`” can now be used when referencing Cognos via a Luminis channel definition, as per:

```
http://<Site Luminis Server>/cp/ip/login?sys=cognos&url=${urlPass}
```

which points to the Cognos Connection viewer (based on the definition of `urlPass`). By defining CPIP variables in the XML file to point to the desired Cognos reports/pages you wish to expose in Luminis, you can then create Luminis channels using those variables.

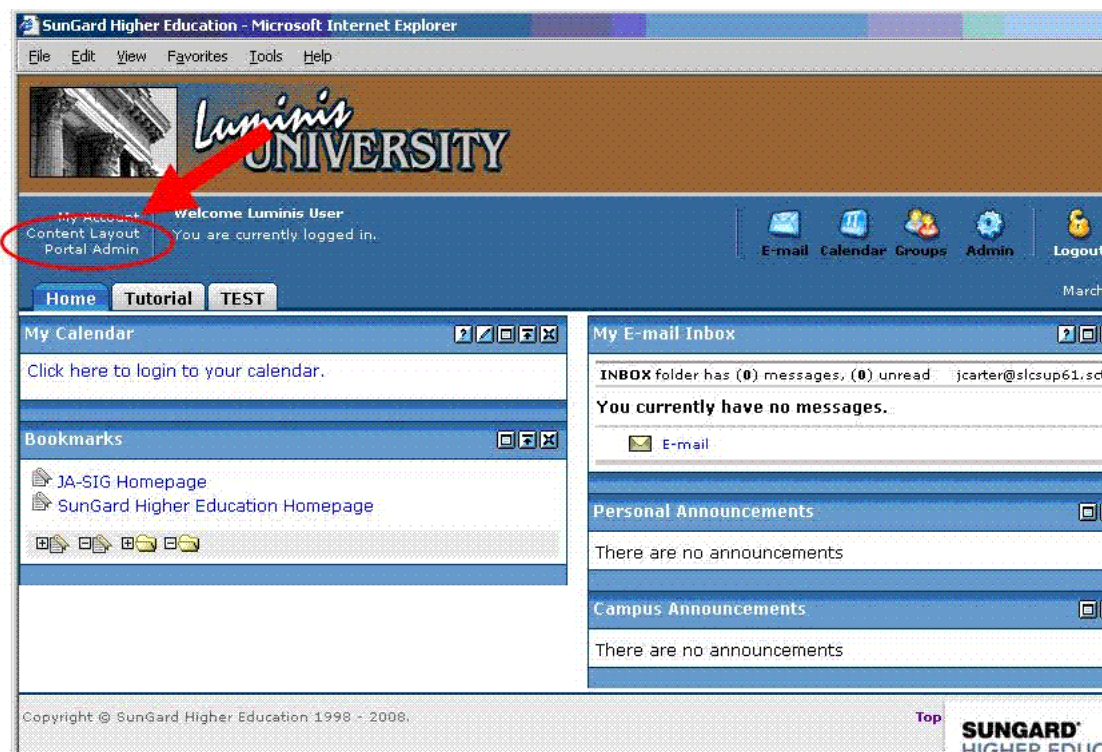
A series of example Cognos URLs are delivered as variables in the `cognos.xml` file (`urlPass`, `cogURL1`, `cogURL2`, `cogDash1` - `cogDash4`). These demonstrate the ability to define various Cognos content (reports) that can be viewed specifically using a Luminis channel, and these can be modified/updated/deleted as needed. Note that these URL values need to be URL-encoded when they are stored in the XML file for proper parsing by Luminis.

Putting This All Together

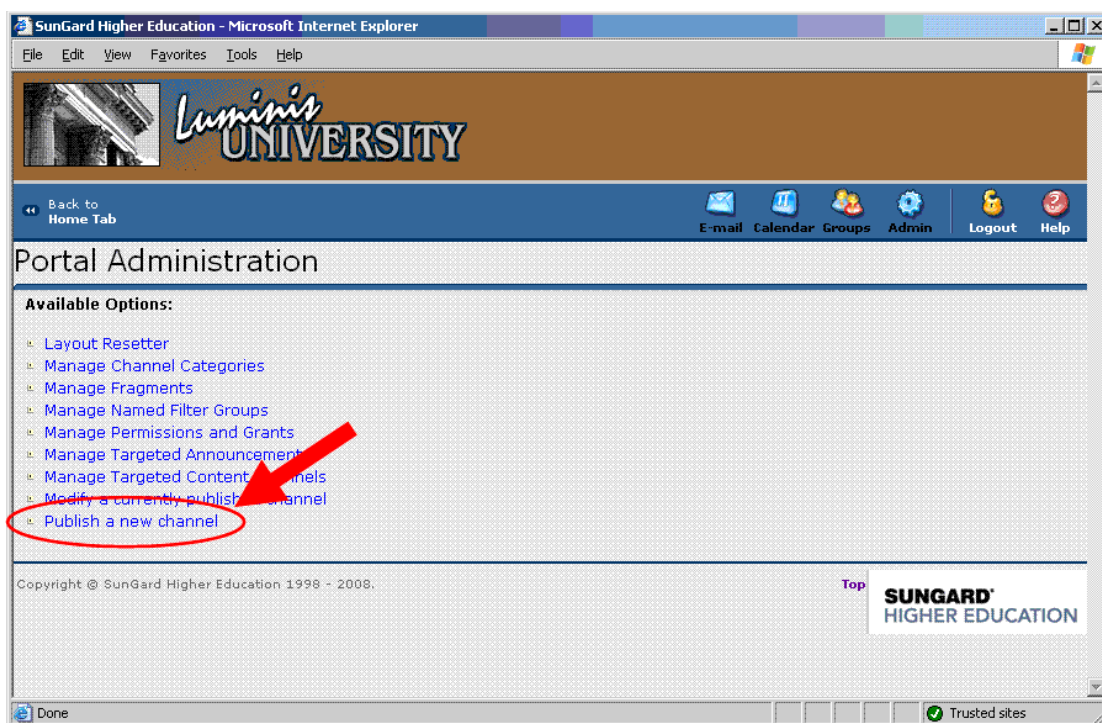
Now we will use all the pieces of what we have defined so far to create a basic Luminis channel to display the standard Cognos Connection viewer application. To start, assume a

new user is defined in Luminis (who has Luminis Administrative privileges, in order to administer the portal and content layout).

1. Click the **Portal Admin** link to define the channel.



2. Select **Publish a new channel**.



3. Select **Inline Frame** as the Channel type.

Sungard Higher Education - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back to Home Tab

E-mail Calendar Groups Admin Logout Help

Channel Manager

Workflow: Channel Type General Settings Channel Controls Categories Audience Review

Channel Type: Select the type of channel to add by clicking a radio button in the option column

Option	Channel Type	Description
☐	Custom	This channel type allows the publication of channels with no accompanying CPD (Channel Publishing Document). It is typically used to publish channels with only one corresponding channel definition.
☐	Applet	Displays a java applet.
☐	CPIP Inline Frame	The Inline Frame channel can be used to render a CPIP enabled HTML page within a frame. This channel does not work correctly in browsers older than Internet Explorer 5 and Netscape 6.
☐	CPIP Web Proxy	This is a channel for incorporating dynamic HTML or XML application via CPIP Single Sign On. Web Proxied applications have many limitations on their content. The application should ideally produce XHTML.
☐	Image	Displays an image with optional caption and subcaption.
☒	Inline Frame	Renders an HTML page within an internal frame. Not supported in browsers older than Internet Explorer 5 and Netscape 6.
☐	JSP Model II	This is a channel for presenting content generated using Java Server Pages.
☐	Portlet	Adapter for JSR-168 Portlets
☐	RSS (Rich Site Summary)	Renders content provided in the popular RSS (Rich Site Summary) format.
☐	Universal RSS	Enhanced RSS channel. Uses the ROME library for generating and publishing RSS and Atom feeds.
☐	Web Proxy	Incorporates a dynamic HTML or XML application.
☐	XML Transformation	Transforms an XML document into a fragment of markup language given a set of XSLT stylesheets specified in a uPortal stylesheet list (SSL) file.

Next > Review Cancel

Done Trusted sites

4. Click **Next**

5. Enter the title, names, and description information for the channel.

Sungard Higher Education - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Channel Manager

Workflow: Channel Type → General Settings → Inline frame parameters → Channel Controls → Categories → Audience → Review

Settings: Complete the Settings form below

Options	General Settings
☐	Channel Title: [example - StockCharts] CognosConnection
☐	Channel Name: [example - StockCharts] Cognos Connection
☐	Channel Functional Name: [example - stock-charts] Cognos Connection Channel
☐	Channel Functional Name Accessible Only: ☐
☐	Channel Description: The basic Cognos connection window.
☐	Channel Timeout: 5000 milliseconds (1000 = 1 second)
☐	Channel Secure: ☐

< Back Next > Review Cancel

Trusted sites

6. Click **Next**.

7. Enter the URL for this channel, which is the CPIP definition described earlier:
- ```
http://<Site Luminis Server>/cp/ip/login?sys=cognos&url=${urlPass}
```
- Include the CPIP variable “urlPass” which points to the desired Cognos content.

**Channel Manager**

Workflow: Channel Type → General Settings → Inline frame parameters → Channel Controls → Categories → Audience → Review

**Inline frame parameters:** Enter the URL of the page you want to render in an inline frame. Be aware that inline frames are not supported in some browsers, in which case this channel will render a link to open the page in a new window.

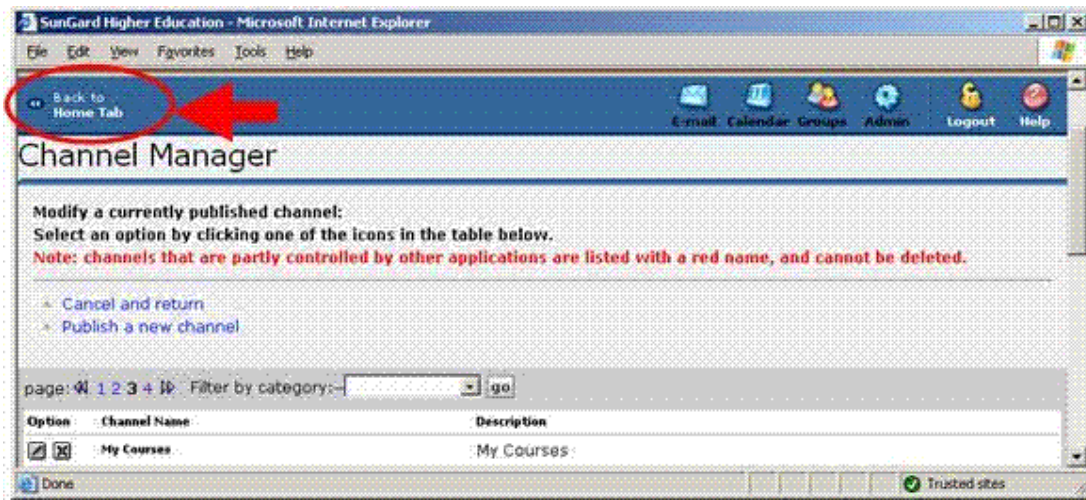
| Options                  | User can Modify?                    | General Settings                                                                      |
|--------------------------|-------------------------------------|---------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | URL: [example -http://www.udel.edu/uPortal]<br>http://slcsup61.sct.com/cp/ip/login?sy |
| <input type="checkbox"/> | <input type="checkbox"/>            | Frame Height (pixels):<br>600                                                         |

< Back   Next >   Review   Cancel

Trusted sites

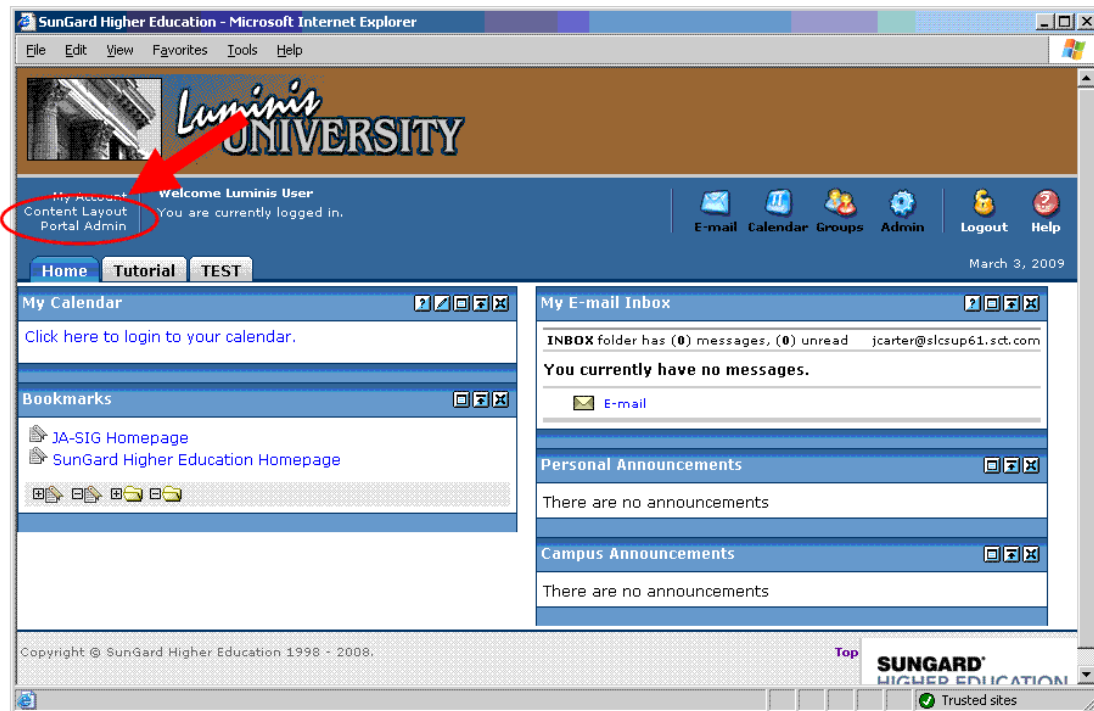
8. Click **Next**.
9. Click **Next** to accept the default values for Channel Controls.
10. Select a category (or categories) for the channel to be associated with.
11. Click **Next**.
- (The category is used to locate channels when searching for them later)
12. Click **Next** to accept the default values for Audience.
13. Click **Finished** to publish this channel.

14. Click the **Back to Home Tab** link in the upper left-hand side of the screen to return to the main Luminis page.



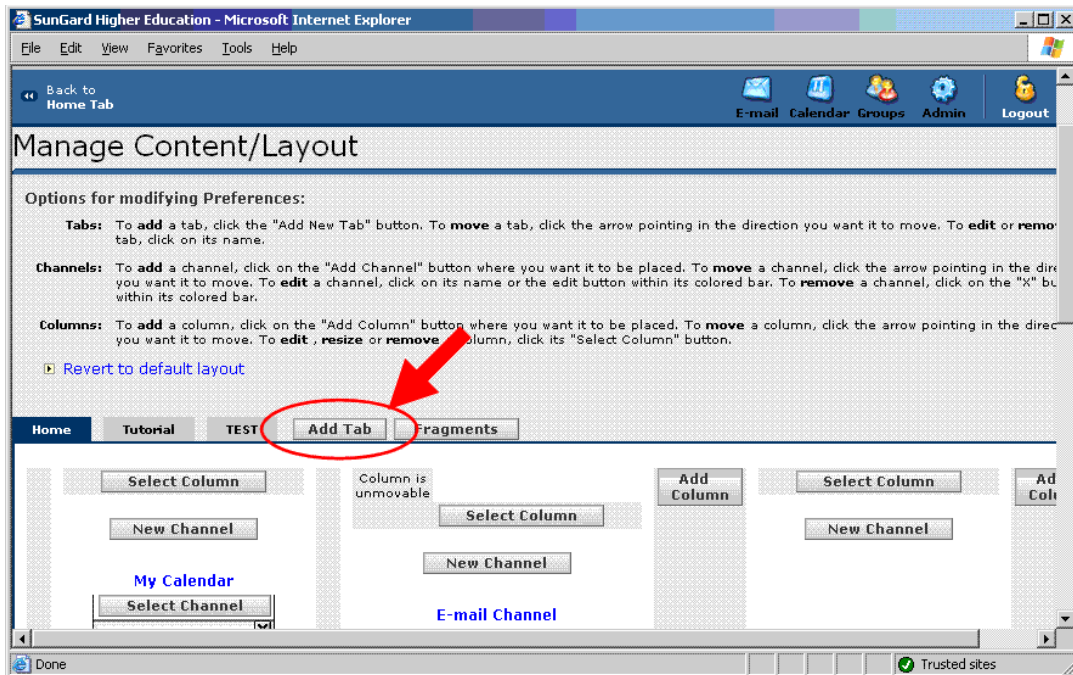
The next step is to associate this channel with a tab on the portal.

15. Click the **Content Layout** link



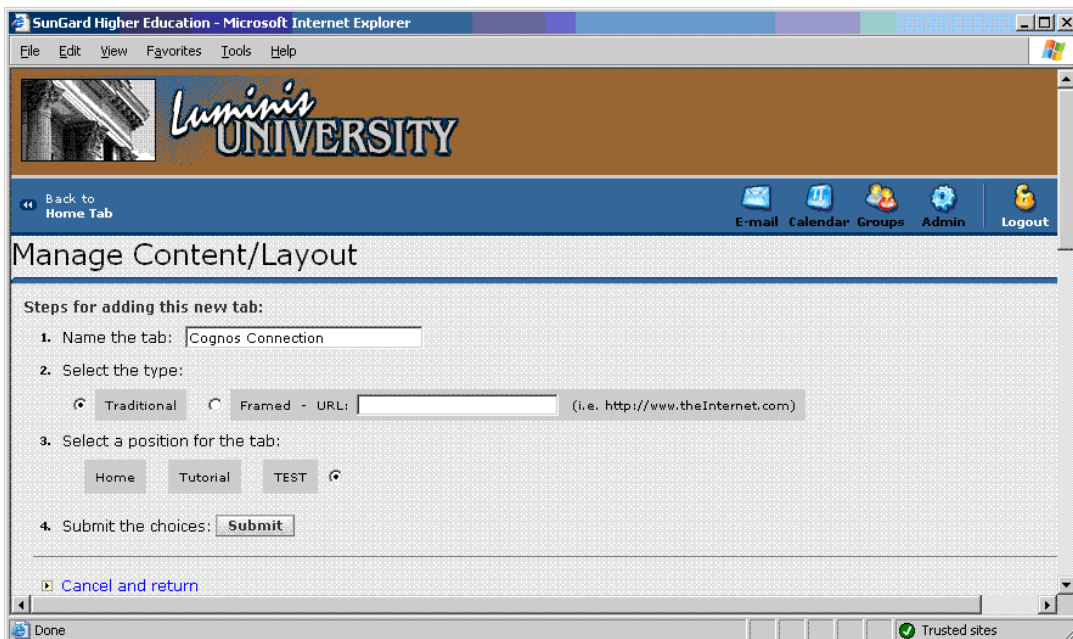


16. Click the **Add Tab** button to create a new tab.



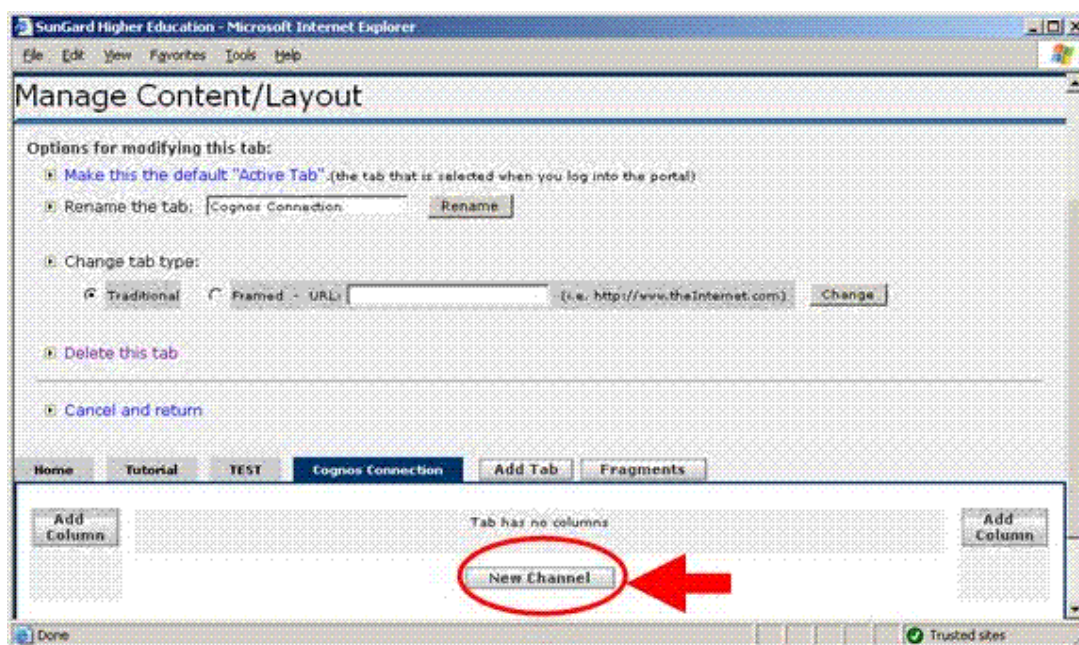
17. Enter the name for this Tab as **Cognos Connection**.

18. Click **Submit**.



19. Select the new **Cognos Connection** tab.

20. Click the **New Channel** button:



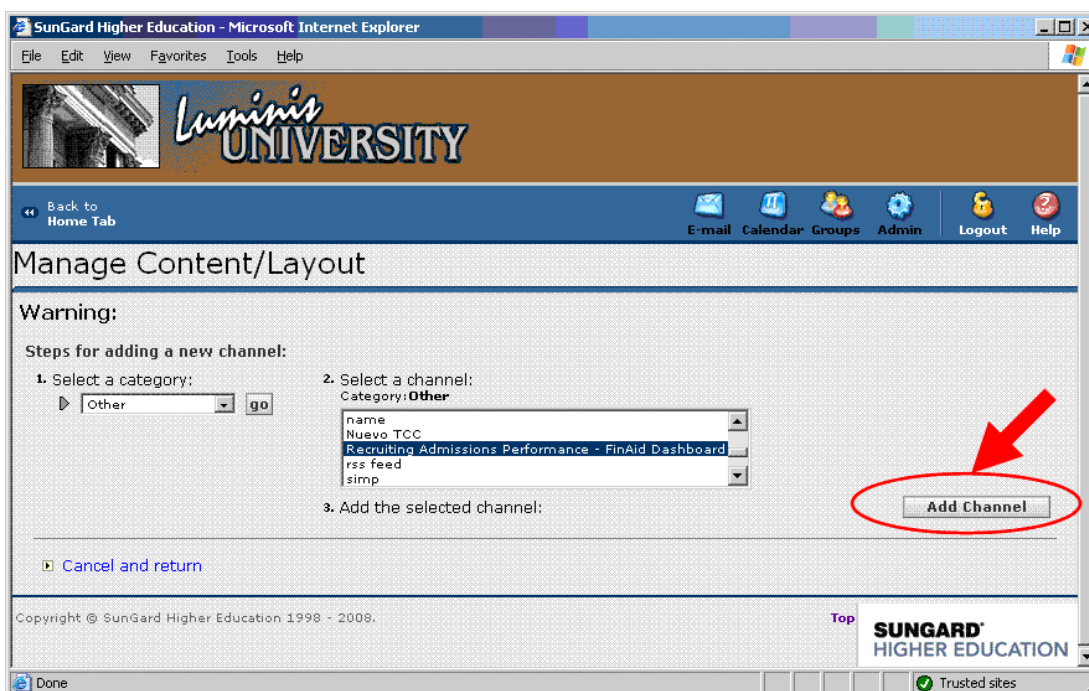
21. Select the channel by first entering the category (or **Select All**)

22. Click **Go**.

23. Select the channel from the listbox.



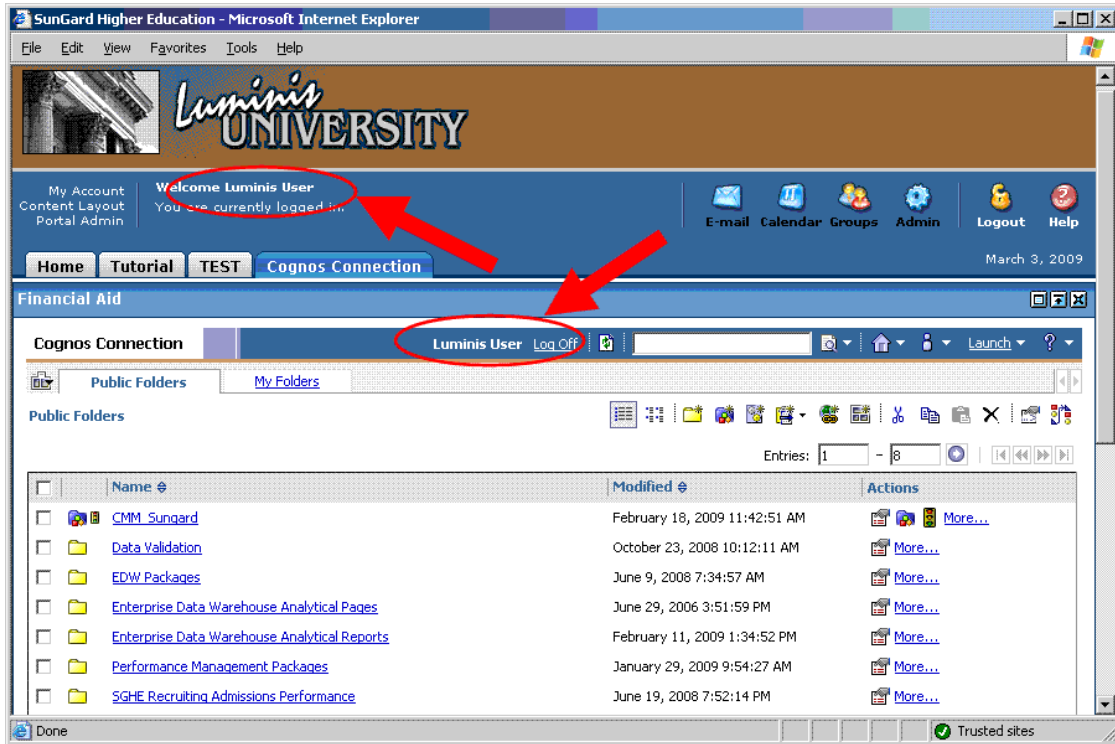
24. Click **Add Channel**:



25. Click the **Back to Home Tab** link to return to the main Luminis page,

26. Click the new **Cognos Connection** tab to see the new channel.

You will see the authenticated user in both Luminis and Cognos, with the name coming from the common user store (Luminis LDAP):



Following the same basic process, any Cognos pages can be deployed within Luminis, such as in the example screen below:



This screen is using the Cognos URL for the “Director of Financial Aid Dashboard”, which is defined in the cognos.xml file as:

```
<SET a:symbol="cogURL2" a:value="${properties.externalSystemURL}/
${properties.cognosSystemID}/cgi-bin/
cognos.cgi?b_action=dashboard&pathinfo=/cm&frag-
header=true&path=storeID(%22i04AD276242AF47B680223538F724B06C%22)&
amp;ui=h1h3h4" />
```

so that the channel definition of this is then:

```
http://<Site Luminis Server>/cp/ip/login?sys=cognos&url=${cogURL2}
```

In the Cognos URL definition, note the use of the `path=storeID` parameter to refer to the Cognos object (the dashboard report) to display. This ID number is unique within a given Cognos installation so it can be advisable to use the actual search path for the object instead of the object ID when referencing it in the URL. The search path for a page/object is found in the Properties dialog, which is available in the Cognos Connection navigator interface.

## Further Cognos UI Customization

While the Cognos applications (Cognos Connection viewer, Studio applications, etc) can be embedded within a Luminis page using the channel concepts discussed, some of the Cognos UI features may be unnecessary and distract from the overall usability of the page. To address this issue, Cognos provides various URL-based parameters which can control some aspects of the UI for these applications. This section describes those parameters and describes a few examples of setting these up.

Consider again the Cognos URL used to launch the Cognos Connection viewer previously, that was defined in the cognos.xml file:

```
<SET a:symbol="urlPass" a:value= "${properties.externalSystemURL} /
${properties.cognosSystemID}/cgi-bin/
cognos.cgi?b_action=xts.run&m=portal/cc.xts&gohome=&ui=" /
>
```

### Note

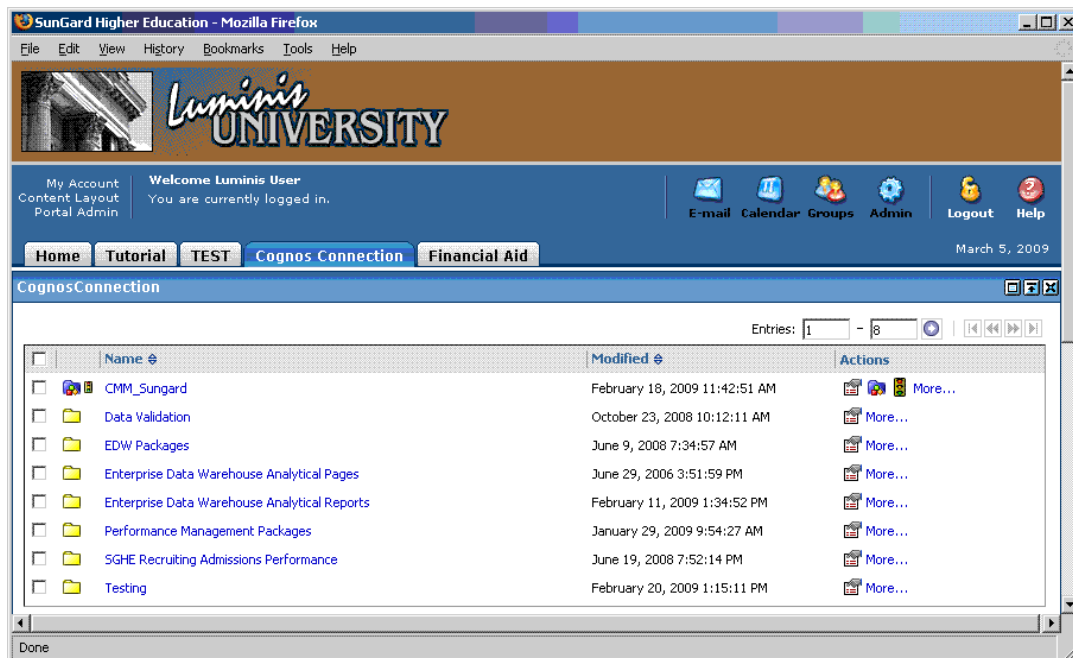
Consider the use of the trailing "ui=" parameter in the URL above. Cognos supports using URL parameters to customize the appearance and functionality of the web pages displayed by the Cognos Connection/Viewer interface. The "ui" parameter can take different values to display (or hide) various parts of the page. For example, ui=h1h2h3h4 will display all 4 header bars on a Cognos Connection page, whereas "ui=h1" would only display the first header bar. Similarly, the "frag-header" dparameter (=true/false) can be used to customize the appearance of Cognos dashboard reports displayed in Cognos connection. Following the technique described here, these values would get added to the URLs defined in the cognos.xml file, so they could then be referenced in Channel definitions.

For more information on these using these parameters, see the Cognos Administration and Security Guide (Chapter 29:Customizing the Functionality of Cognos 8). ■

Putting this into action, we can modify the Cognos Connection URL used earlier (defined in the cognos.xml as urlPass) as:

```
<SET a:symbol="urlPass" a:value= "${properties.externalSystemURL} /
${properties.cognosSystemID}/cgi-bin/
cognos.cgi?b_action=xts.run&m=portal/
cc.xts&gohome=&ui=h1h3h4" />
```

to see:



#### Note

Luminis can be configured to cache certain internal configuration data (such as channel definitions) so you may need to restart Luminis in order for channel definition changes to take effect.

For additional details on defining Luminis channels and UI elements, see the Luminis SDK/Channel Development Guide.

## Cognos Branch and Merge Functionality

Typically you do not need to modify the Framework Manager Master Project (sghe\_pm) that is delivered with the Banner Operational Data Store since this is not a recommended practice. However, if you do make changes to the master project, you need to implement a process that maintains your institution's changes before you upgrade to a new release of Banner Operational Data Store.

If you do need to modify the Framework Manager Master Project, use the branch and merge functionality described in the following sections. The following high level steps outline the best process to use.

1. Keep the original Framework Manager model (the master project) untouched and branch at least two layers from that delivered model.
2. Use the first branch of the master model as your production model. This branch reflects the delivered baseline model plus your institution's specific changes.

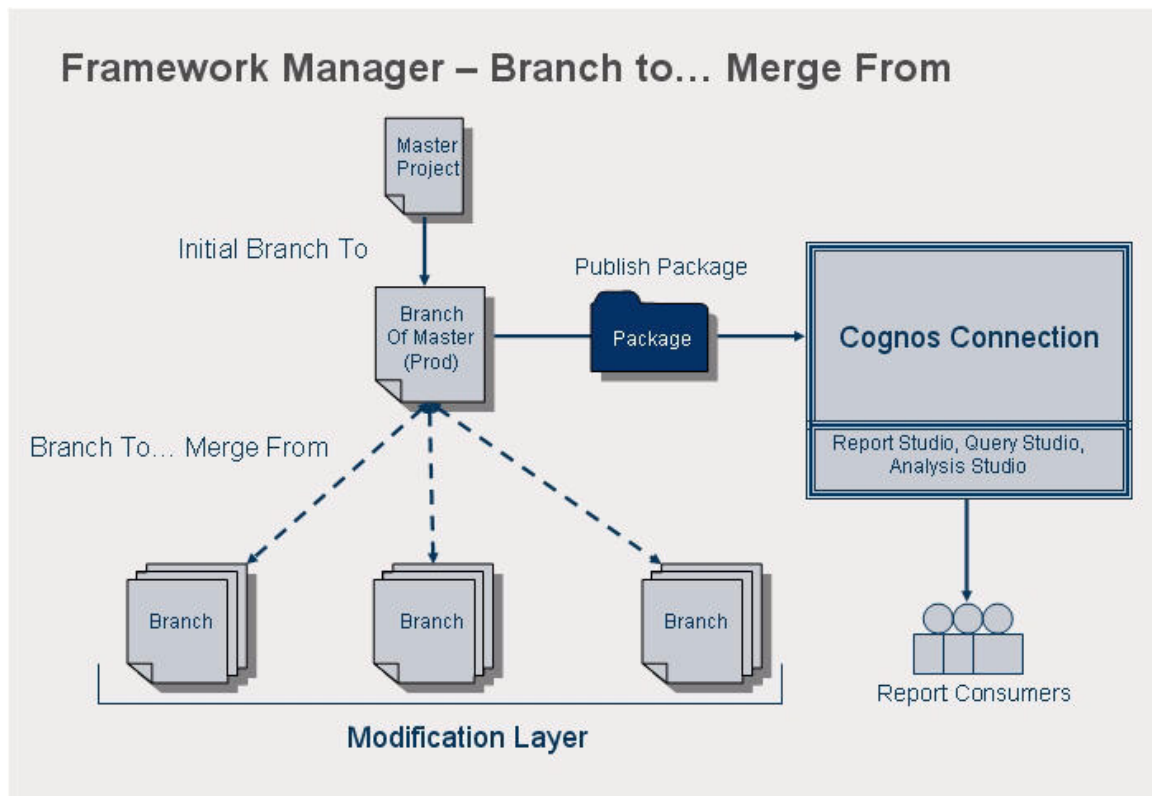
3. Create additional branches of the model and use them as working copies of the production project environment.

Creating multiple working branches allows more than one modeler to work on the same project simultaneously, each in their own working area.

4. Work through your institution's specific changes and enhancements in one of the working model branches.
5. When you're satisfied with the changes or enhancements in the working model, merge the changes back into the production branch (the first branch from the master model.)

Cognos Framework Manager can compare the .log files of two models to determine whether they are derived from the same model and what changes have been made to them. This allows you to merge a working model branch with the production model branch and move only the desired changes into the production model. Using this process lets you maintain the audit trail of changes to your production model.

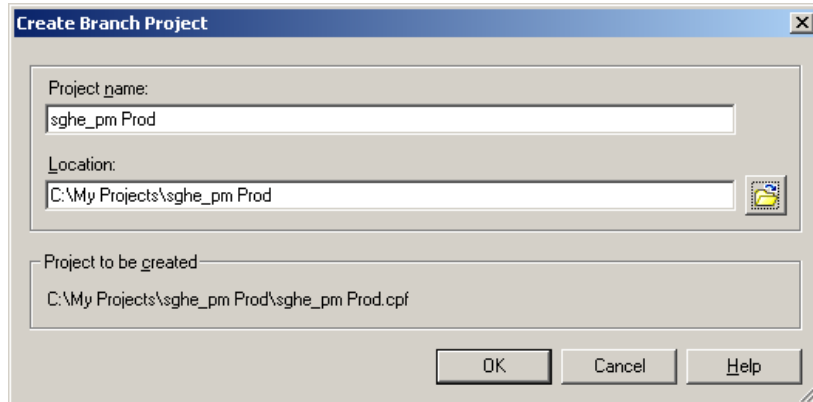
6. When you're ready to make these changes available to all users, publish any package from the production project branch where changes were merged.



## Branch Process

If you need to modify the Framework Manager Master Project (sghe\_pm) that is delivered with the Banner Operational Data Store, use the following steps to create two branch layers of the original project.

1. Open the delivered master project, sghe\_pm, in Framework Manager.
2. Select **Project>Branch To...** to create a branch copy of this project.
3. Enter a **Project name** and the **Location** where you want to save the branch copy.
  - When creating the first branch, or production model, you may want to give it a name like “production” or “sghe\_pm\_prod.”
  - When creating additional or working branches, you may want to give them a name like “sghe\_pm\_mod1” and “sghe\_pm\_mod2.”



4. Click **OK**.
5. Click **OK** again in the warning window.

Use this first branch layer of the master model as your production model.

6. Repeat Steps 2 - 5 as many times as needed to create additional branch copies of the master model.

These branch layers will be the modification layers or working models where you can make changes to the model.

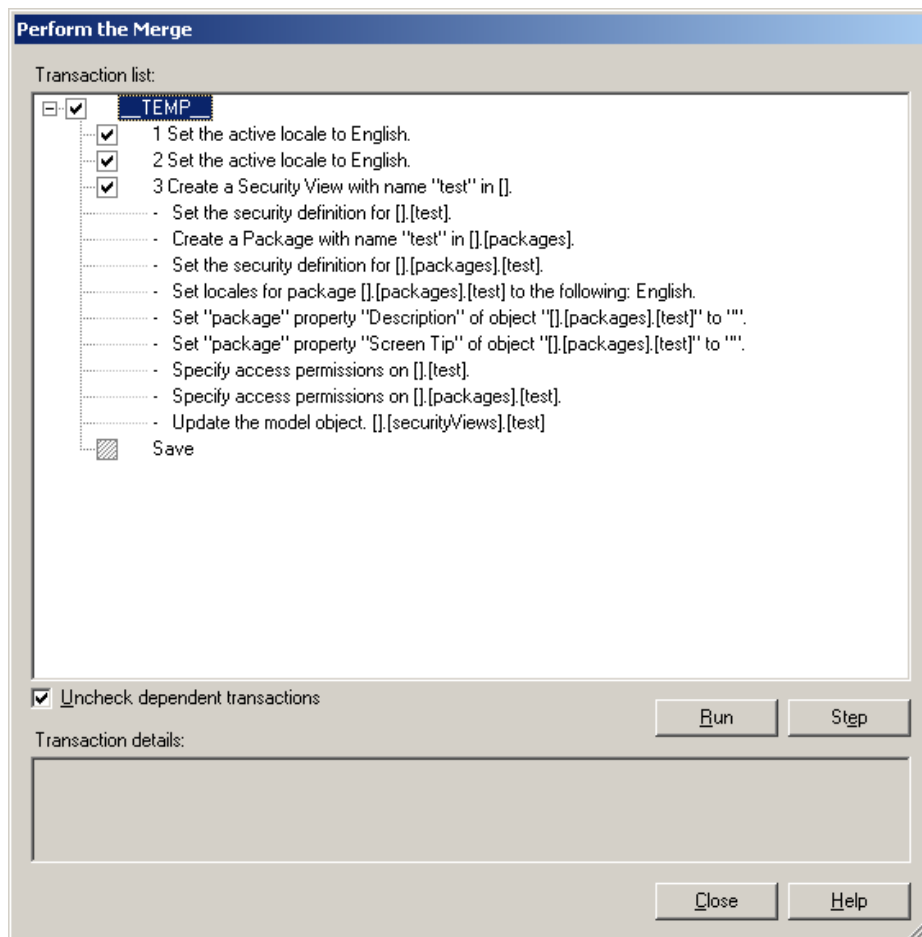
7. Select **File>Close** to close the Master Project (sghe\_pm.).

When you complete these steps, there are at least two branch models that are identical to the original master model. Merge changes from the modification branch layers back into the production branch so that the production branch eventually reflects the delivered baseline model plus your institution’s specific changes.

## Merge Process

After you have made changes to a modification layer, use the following steps to merge the changes into the production layer.

1. Open the production model in Framework Manager.
2. Select **Project>Merge From...** to begin the merge process.
3. Navigate to the location of the modification project. This is the working branch model that you want to merge into the production model.
4. Click **Open**.
5. Select the actions that you want Framework Manager to perform during the merge. Leave any actions that you do not want to take place deselected.



6. Click **Run** to launch the entire merge process.

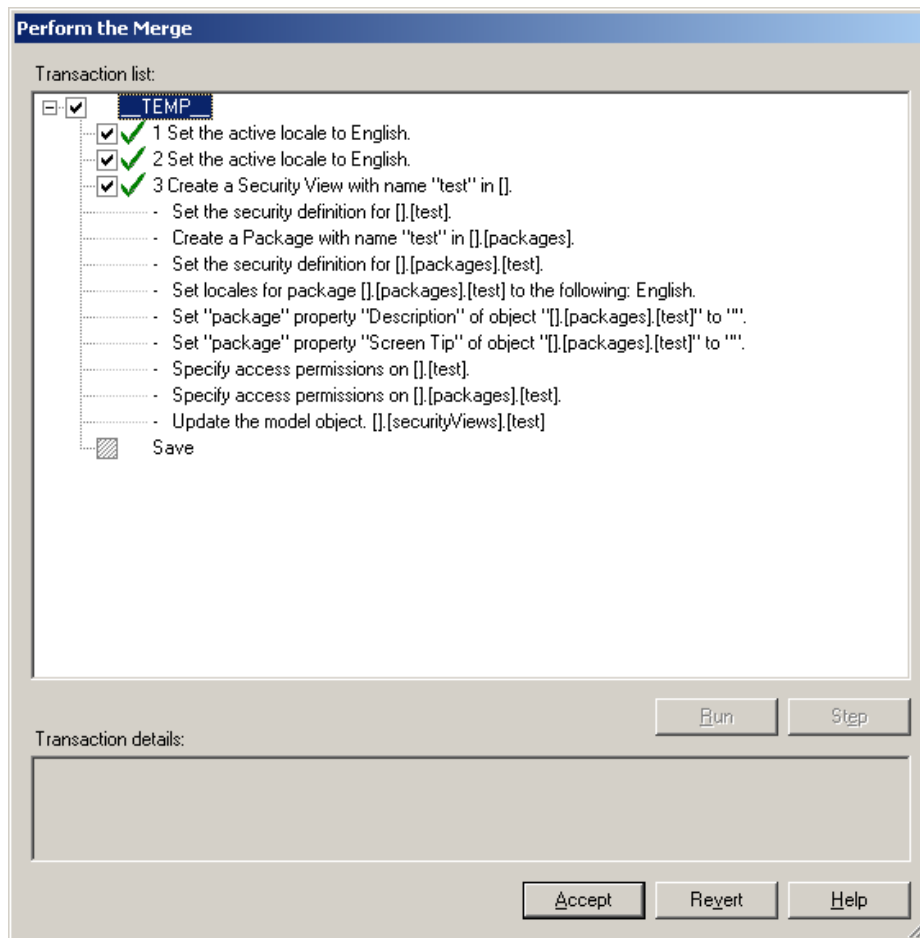
*or*



Click **Step** to go through the merge process one action at a time.

Framework Manager compares the log files of each project to determine the differences.

7. Review the log entries in the Transaction details area of the Perform Merge window.



8. Click **Accept** to apply all of the changes in the log.

*or*

Select desired changes from the list in the log and click **Accept** to apply only selected changes.

*or*

Click **Revert** to deny any changes to the model and return to the original production model.

9. Select **File>Save** to save the merged changes in the production model.

## Create a New Package

Work through your institution's specific changes and enhancements in one of the working model branches.

When you're satisfied with the changes or enhancements in the working model, merge the changes back into the production branch (the first branch from the master model.)

1. Open a modification project model where you will make the package changes.

### Note

If you have not already created a modification branch layer of the production model, follow the steps in the section [“Branch Process” on page 5-37](#) to create a branch layer before you continue with these steps. ■

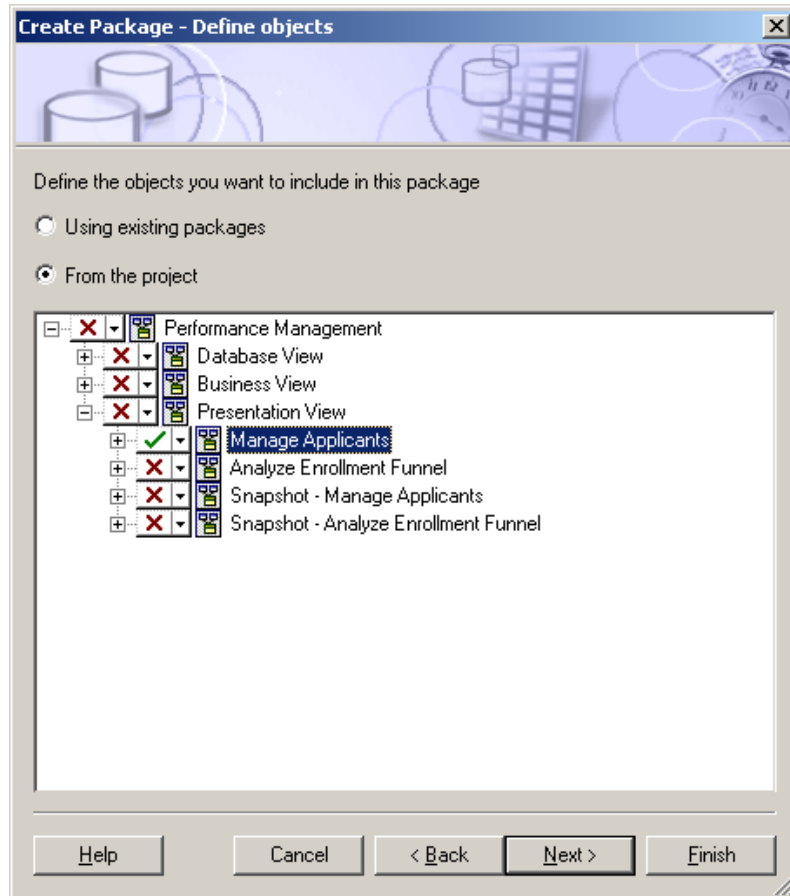
2. Right-click on **Packages** in the Project Viewer and select **Create>Package**.
3. Enter a **Name** for the new package.
4. Click **Next**.
5. Choose **From the project** and select which model objects you want to include in the package by selecting, deselecting, or hiding Query Subjects.

Choices are inherited by an objects' children, so if you deselect a top level option it deselects the entire structure below that object.

### Note

Do not choose the **Using existing packages** option if you are creating a new Functional Package. ■

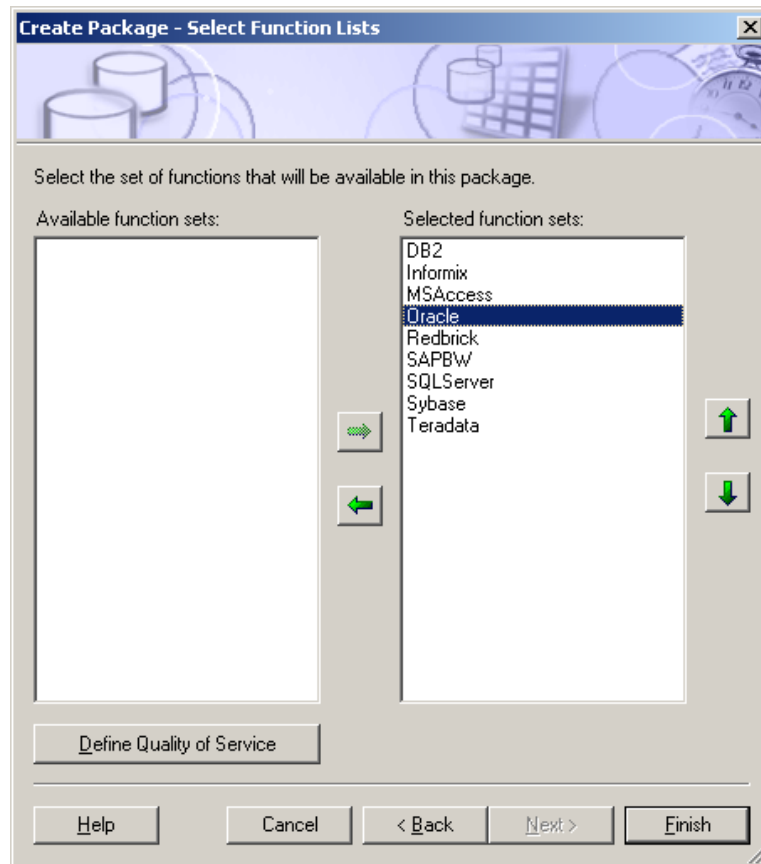
- Click the plus sign (+) next to Presentation View to show its children options.
- Click the red X to select the **Managed Applicants** business concept.



6. After you have selected everything you want the package to include, click **Next**.

7. Select your database from the **Selected function sets** column if you want to include its functions in the package.

This selection tells the report writer which database functions to use in the package.



8. Click **Finish**.
9. Click **No** when prompted whether you want to open the Publish Package wizard.

You do not want to publish your newly created package at this time because you need to merge it first.

10. Select **File>Save** to save the project.
11. Select **File>Close** to close the project.

When you are ready to merge the new package into the production branch model, follow the steps in the section [“Merge Process” on page 5-38](#).

## Transaction History Tracking Process

In Framework Manager, you can view and play back actions performed on the project. An action log is an XML file that contains a set of transactions. Each transaction has a sequence number and one or more actions. The action log file is stored in the project folder.

For example, you make changes to a project in a test environment. When it is time to move the project to production, you can use log files to play back every action, or series of actions, that you performed in the test environment to create an identical project in the production environment. Similarly, as an alternative to branching and merging projects one might want to track a series of customizations applied to a project to enable the identical customizations to be applied to an upgraded version of that model.

There are two action log files. The `log.xml` file contains all the transactions that have been run and saved in the project. This file is created the first time you save the project and exists until you delete the project. The temporary file contains transactions that have been run during the current session, but not saved. The temporary file is deleted when you close the project.

### View and Save Transaction History

You can view the transaction history in an action log file and then save it as a script.

1. From the **Project** menu, click **View Transaction History**.



#### Tip

To make the dialog box larger, double-click the caption. Double-click again to restore the dialog box to its original size. ■

2. Click the transaction numbers that you want.



#### Tip

To view the details of a transaction, click the plus sign (+) next to a transaction number. ■

3. Click **Save as Script**.
4. Type a name for the file.
5. Click **Save**. Do not save the file in the **logs** folder.
6. Click **Close**.

## Play Back Transactions From a Log File

You can choose to play back a specific transaction or a combination of transactions in a project or segment action log file.

When you play back transactions from a log file, the script player applies the commands in the log file to the contents of the existing model. Errors appear if objects created by the log file already exist in the model.

After the script in a log file has run successfully, a backup of the original project is created in the parent directory of the project. If you want to undo the transactions performed in the script, you can use the backup to restore the project to its original state.

You must disable or clear any commands that will conflict with the contents of the model. You can then run the script again.

1. From the **Project** menu, click **Run Script**.
2. Select the script you want, and click **Open**.
3. If you want to view the details of a transaction, click the transaction.
4. Set the starting or stop point that you want.
  - To set the starting point for running the script, select the script and then click **Set the starting point**. You can do this at any time to skip an instruction or run instructions that have already been executed .
  - To set a stop point for the script, select the script and then click **Set the stop point** .

You can stop the script to make a manual fix and then start it again.



### Tip

To remove the stop point, click **Remove the stop point** 

5. Using the toolbar buttons, choose the run action that you want.

| Buttons                                                                             | Description                                                                                        |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|  | Runs the script                                                                                    |
|  | After an error is encountered, clicking this button attempts to re-execute the failed instruction. |
|  | Skips to the next transaction and runs the script to the end                                       |

| Buttons                                                                           | Description                                                                |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|  | Runs the selected transaction only                                         |
|  | Skips to the next transaction and stops, but does not run any transactions |

6. The project window is updated as the script is run.
7. Fix any errors encountered by the script either by retargeting objects or modifying the temporary project as required.
8. When the script has completed, click **Accept** to accept the changes or click **Revert** to undo the changes.

#### **Note**

After you click **Accept** or **Revert**, you cannot use **Undo** and **Redo** for the current session. ■

## Oracle Business Intelligence Discoverer (Banner ODS)

### Delivered EULs

The structure of the business areas in the EUL is designed to mimic the Business Concepts delivered in the Cognos Framework Manager model. The EUL contains 51 organized Business Concepts which help users identify which reporting views to use when trying to write a report in a specific business area.

The older style EUL delivered in the Banner ODS 2.0 up to the Banner ODS 3.0 was also delivered for the Banner ODS 3.1. This EUL consists of just 3 Business Area. The main Business Area being the Banner ODS – Reporting Views that comprised all of the Banner ODS Reporting Views and their logical joins to other reporting views. This EUL has been synchronized with the subsequent Banner ODS releases and delivered so that existing reports written against this style EUL could continue to run without breaking in Banner ODS 3.1. Currently clients have the option of installing 1, both or none of these EULs.

Below are the scenarios that may help your institution decide which EUL to import moving forward:

## Existing institutions that wrote reports against the EUL in Banner ODS 3.0 or earlier

- Import and continue to use the old style EUL and not import the new style EUL.  
SunGard Higher Education will continue to support the old style EUL.
- Continue to use the old style EUL and also create a separate schema to import the new EUL.

In this scenario institutions can run their old reports against the older style EUL and create their new ones against the new EUL if they like the newer style EUL. In order for this scenario to happen 2 EUL schemas would need to be up and running. You cannot import both .eex files into the same EUL.

- Only import and use the new EUL.

This option would require institutions to potentially have to modify existing reports that were written against the old style EUL.

Clients new to the Banner ODS can use either EUL, but SunGard recommends that you use the new style EUL to benefit from the additional functionality.

## Lists of Values

A list of values (LOV) is a set of valid values for a column in a Banner ODS reporting view. List of value views are contained within the ODSLOV schema within the Banner ODS. The LOV views obtain their information from the Banner ODS composite table called MGT\_VALIDATION. The meta data layers are shipped containing lists of values to be used for drop-down lists or filters in queries and reports. The views contained within the ODSLOV schema provide the data which populates these lists of values. See the ODSLOV List of Values section in [Chapter 4, “Data Models \(Banner ODS\)”](#) for the complete list of ODSLOV list of value views. The values also exist in Oracle Business Intelligence Discoverer and Cognos 8 Business Intelligence with the exact same names as the LOV views but without the underscores.

In Oracle Business Intelligence Discoverer there is a business area that contains folders for each of the ODSLOV views. The business view and area are called “List of Values”.

### Lists of Values – Item Classes

List of value folders in Oracle Business Intelligence Discoverer are used to create item classes in Oracle Business Intelligence Discoverer Administrator. Item classes are groups of items that share some similar properties. An item class enables you to define item properties once, and then assign the item class to other items that share similar properties.



### Example

The Academic Period LOV folder includes an item called Academic Period that describes each academic period. A similar item also called Academic Period is contained in the Academic Outcome folder.

To enable both items to share common properties (for example, a list of values), SunGard Higher Education created an item class from the list of value folder to define the properties, and applied it to both items. So, the list of values only had to be defined once from the ODSLOV view.

### Note

You may notice that when using this approach there may be academic periods in the Academic Period LOV folder that are not in the Academic Outcome folder. However, accessing the list from the ODSLOV view is faster than accessing one created from the reporting view. If you need a list of values that exactly matches the values in the reporting view column, you can create an item class from a reporting view column similarly to how it was created from the ODSLOV views.) ■

Oracle Business Intelligence Discoverer end users use lists of values to display values or enter values in parameters and conditions.

A table of Oracle Business Intelligence Discoverer item classes that have been assigned to reporting view columns displays below. There are many more item classes that can be create from the list of value views. Below are the ones that are currently provided:

| Item Class                              | Item Class                             | Item Class                              |
|-----------------------------------------|----------------------------------------|-----------------------------------------|
| Lov Academic Period.Value               | Lov Division.Value                     | Lov Native Language.Value               |
| Lov Academic Period.Value Description   | Lov Division.Value Description         | Lov Native Language.Value Description   |
| Lov Academic Standing.Value             | Lov Earnings.Value                     | Lov Organization Level 1.Value          |
| Lov Academic Standing.Value Description | Lov Earnings.Value Description         | Lov Organization Level 2.Value          |
| Lov Academic Title.Value                | Lov Educational Goal.Value             | Lov Organization Level 3.Value          |
| Lov Academic Year.Value                 | Lov Educational Goal.Value Description | Lov Organization Level 4.Value          |
| Lov Academic Year.Value Description     | Lov Eeo Skill.Value                    | Lov Organization Level 5.Value          |
| Lov Account Class.Value                 | Lov Eeo Skill.Value Description        | Lov Organization Level 6.Value          |
| Lov Account Class.Value Description     | Lov Employee Class.Value               | Lov Organization Level 7.Value          |
| Lov Account Level 1.Value               | Lov Employee Group.Value               | Lov Organization Pool.Value             |
| Lov Account Level 2.Value               | Lov Employee Group.Value Description   | Lov Organization Pool.Value Description |
| Lov Account Level 3.Value               | Lov Employee Status.Value              | Lov Packaging Group.Value               |

| Item Class                                     | Item Class                                 | Item Class                                      |
|------------------------------------------------|--------------------------------------------|-------------------------------------------------|
| Lov Account Level 4.Value                      | Lov Employee Status.Value<br>Description   | Lov Packaging Group.Value<br>Description        |
| Lov Account Pool.Value                         | Lov Employer Category.Value                | Lov Position Change<br>Reason.Value             |
| Lov Account Pool.Value<br>Description          | Lov Employer Category.Value<br>Description | Lov Position Change<br>Reason.Value Description |
| Lov Account Type Level 1.Value                 | Lov Employer Industrial<br>Type.Value      | Lov Position Class.Value                        |
| Lov Account Type Level 2.Value                 | Lov Employer.Value                         | Lov Position Class.Value<br>Description         |
| Lov Activity Category.Value                    | Lov Employer.Value Description             | Lov Position Deferred Pay.Value                 |
| Lov Activity Category.Value<br>Description     | Lov Employment Status.Value                | Lov Position Deferred Pay.Value<br>Description  |
| Lov Activity Type.Value                        | Lov Employment Status.Value<br>Description | Lov Position Location.Value                     |
| Lov Activity Type.Value<br>Description         | Lov Enrollment Status.Value                | Lov Position Location.Value<br>Description      |
| Lov Activity.Value                             | Lov Enrollment Status.Value<br>Description | Lov Position Status.Value                       |
| Lov Activity.Value Description                 | Lov Fiscal Period.Value                    | Lov Position Status.Value<br>Description        |
| Lov Address Type.Value                         | Lov Fiscal Year.Value                      | Lov Position.Value                              |
| Lov Address Type.Value<br>Description          | Lov Foreign Currency.Value                 | Lov Pref Class.Value                            |
| Lov Admissions Attribute.Value                 | Lov Foreign Currency.Value<br>Description  | Lov Pref Class.Value Description                |
| Lov Admissions Attribute.Value<br>Description  | Lov Fund Level 1.Value                     | Lov Prim Disability.Value                       |
| Lov Admissions Population.Value                | Lov Fund Level 2.Value                     | Lov Prim Disability.Value<br>Description        |
| Lov Admissions Population.Value<br>Description | Lov Fund Level 3.Value                     | Lov Program Classification.Value                |
| Lov Advisor Name Lfmi.Value                    | Lov Fund Level 4.Value                     | Lov Program Classification.Value<br>Description |
| Lov Advisor Type.Value                         | Lov Fund Level 5.Value                     | Lov Program Level 1.Value                       |
| Lov Advisor Type.Value<br>Description          | Lov Fund Pool.Value                        | Lov Program Level 2.Value                       |
| Lov Aid Year.Value                             | Lov Fund Pool.Value Description            | Lov Program Level 3.Value                       |
| Lov Aid Year.Value Description                 | Lov Fund Source.Value                      | Lov Program Level 4.Value                       |
| Lov Application Status.Value                   | Lov Fund Source.Value<br>Description       | Lov Program.Value                               |
| Lov Application Status.Value<br>Description    | Lov Fund Type Level 1.Value                | Lov Program.Value Description                   |

| Item Class                                       | Item Class                                     | Item Class                                   |
|--------------------------------------------------|------------------------------------------------|----------------------------------------------|
| Lov Assignment Grade.Value                       | Lov Fund Type Level 2.Value                    | Lov Progress Evaluation.Value                |
| Lov Assignment Pay Id.Value                      | Lov Fund Type.Value                            | Lov Progress Evaluation.Value<br>Description |
| Lov Assignment Pay Id.Value<br>Description       | Lov Fund Type.Value Description                | Lov Project.Value                            |
| Lov Assignment Salary<br>Group.Value             | Lov Gender.Value                               | Lov Project.Value Description                |
| Lov Assignment Salary<br>Group.Value Description | Lov Gender.Value Description                   | Lov Prospect Status.Value                    |
| Lov Award Category.Value                         | Lov Grade Type.Value                           | Lov Rating Type.Value                        |
| Lov Award Category.Value<br>Description          | Lov Grade Type.Value<br>Description            | Lov Rating Type.Value<br>Description         |
| Lov Benefit Category.Value                       | Lov Grant.Value Description                    | Lov Rating.Value                             |
| Lov Benefit Category.Value<br>Description        | Lov Hold.Value                                 | Lov Rating.Value Description                 |
| Lov Block Schedule.Value                         | Lov Hold.Value Description                     | Lov Recruiter.Value                          |
| Lov Block Schedule.Value<br>Description          | Lov Income Level.Value                         | Lov Recruiter.Value Description              |
| Lov Budget Group.Value                           | Lov Income Level.Value<br>Description          | Lov Registration Reason.Value                |
| Lov Budget Group.Value<br>Description            | Lov Installment Plan.Value                     | Lov Registration Reason.Value<br>Description |
| Lov Budget Phase.Value                           | Lov Installment Plan.Value<br>Description      | Lov Registration Status.Value                |
| Lov Budget Phase.Value<br>Description            | Lov Instruction Method.Value                   | Lov Registration Status.Value<br>Description |
| Lov Budget.Value                                 | Lov Instruction Method.Value<br>Description    | Lov Residency.Value                          |
| Lov Building.Value                               | Lov Instructional Method.Value                 | Lov Residency.Value Description              |
| Lov Building.Value Description                   | Lov Instructional Method.Value<br>Description  | Lov Review Type.Value                        |
| Lov Campaign Type.Value                          | Lov Instructor Name.Value                      | Lov Review Type.Value<br>Description         |
| Lov Campaign Type.Value<br>Description           | Lov Internal Account Type.Value                | Lov Schedule Type.Value                      |
| Lov Campaign.Value                               | Lov Internal Account Type.Value<br>Description | Lov Schedule Type.Value<br>Description       |
| Lov Campus.Value                                 | Lov Internal Fund Type.Value                   | Lov Secondary School.Value                   |
| Lov Campus.Value Description                     | Lov Internal Fund Type.Value<br>Description    | Lov Site.Value                               |
| Lov Certification.Value                          | Lov Job Leave Category.Value                   | Lov Site.Value Description                   |
| Lov Certification.Value<br>Description           | Lov Job Leave Category.Value<br>Description    | Lov State Province.Value                     |

| Item Class                                   | Item Class                                       | Item Class                                         |
|----------------------------------------------|--------------------------------------------------|----------------------------------------------------|
| Lov Chart Of Accounts.Value                  | Lov Job Suffix.Value                             | Lov State Province.Value<br>Description            |
| Lov Chart Of Accounts.Value<br>Description   | Lov Leadership Role.Value                        | Lov Student Population.Value                       |
| Lov Cohort.Value                             | Lov Leadership Role.Value<br>Description         | Lov Student Population.Value<br>Description        |
| Lov Cohort.Value Description                 | Lov Leave Of Absence<br>Reason.Value             | Lov Student Status.Value                           |
| Lov Collection Agency<br>Name.Value          | Lov Leave Of Absence<br>Reason.Value Description | Lov Student Status.Value<br>Description            |
| Lov College.Value                            | Lov Legacy.Value                                 | Lov Sub Academic Period.Value                      |
| Lov College.Value Description                | Lov Legacy.Value Description                     | Lov Sub Academic Period.Value<br>Description       |
| Lov Commodity.Value                          | Lov Location Level 1.Value                       | Lov Subject.Value                                  |
| Lov Commodity.Value<br>Description           | Lov Location Level 2.Value                       | Lov Subject.Value Description                      |
| Lov Contract Number.Value                    | Lov Location Level 3.Value                       | Lov Termination Reason.Value                       |
| Lov Contract Type.Value                      | Lov Location Level 4.Value                       | Lov Termination Reason.Value<br>Description        |
| Lov Contract Type.Value<br>Description       | Lov Mail.Value                                   | Lov Test Rule.Value                                |
| Lov County.Value                             | Lov Mail.Value Description                       | Lov Test.Value                                     |
| Lov County.Value Description                 | Lov Major.Value                                  | Lov Test.Value Description                         |
| Lov Course Attribute.Value                   | Lov Major.Value Description                      | Lov Tracking Group.Value                           |
| Lov Course Attribute.Value<br>Description    | Lov Marital Status.Value                         | Lov Tracking Group.Value<br>Description            |
| Lov Course Identification.Value              | Lov Marital Status.Value<br>Description          | Lov Vendor Type.Value                              |
| Lov Course Reference<br>Number.Value         | Lov Meal Plan.Value                              | Lov Vendor Type.Value<br>Description               |
| Lov Current Time Status.Value                | Lov Meal Plan.Value Description                  | Lov Veteran Category.Value                         |
| Lov Current Time Status.Value<br>Description | Lov Meeting Type.Value                           | Lov Veteran Category.Value<br>Description          |
| Lov Department.Value                         | Lov Meeting Type.Value<br>Description            | Lov Worker Compensation<br>Class.Value             |
| Lov Department.Value<br>Description          | Lov Nation.Value                                 | Lov Worker Compensation<br>Class.Value Description |
| Lov Designation.Value                        | Lov Nation.Value Description                     |                                                    |

## Conditions

Information from reporting views in the Banner ODS can be filtered using objects in the reporting tool meta data layer. In Oracle Business Intelligence Discoverer, they are called conditions.

The table at the bottom of this section identifies which conditions are set up in the Oracle Business Intelligence Discoverer EUL.

| Oracle Business Intelligence Discoverer Object | Definition                                                                                                                                                                                     |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Condition Name                                 | A name for the condition on the reporting view.                                                                                                                                                |
| Formula                                        | An expression that is used to generate a where clause when querying the Reporting View.                                                                                                        |
| Folder Name                                    | An Oracle Business Intelligence Discoverer folder that represents a Banner ODS Reporting View.                                                                                                 |
| Business Area                                  | A logical grouping of Banner ODS Reporting Views.                                                                                                                                              |
| Optional vs. Mandatory                         | If a condition is optional, it is visible in Oracle Business Intelligence Discoverer Plus and can be added to a workbook. If it is mandatory, it is invisible, and always applied to a folder. |

| Condition Name                       | Formula                | Folder Name         | Business Area          | Optional vs. Mandatory |
|--------------------------------------|------------------------|---------------------|------------------------|------------------------|
| Endowment Distribution Document Type | Document Type = 20     | Transaction History | Endowment Distribution | Optional               |
|                                      |                        |                     | Transaction History    | Optional               |
| Fixed Asset Adjustment Document Type | Document Type = 60     | Transaction History | Fixed Asset            | Optional               |
|                                      |                        |                     | Transaction History    | Optional               |
| Invoice Document Type                | Document Type = 3      | Transaction History | Invoice Payable        | Optional               |
|                                      |                        |                     | Transaction History    | Optional               |
| Purchasing Document Type             | Document Type = 2      | Transaction History | Purchasing Payable     | Optional               |
|                                      |                        |                     | Transaction History    | Optional               |
| Encumbrance Ledger Indicator         | Ledger Indicator = 'E' | Transaction History | Encumbrance            | Optional               |
|                                      |                        |                     | Transaction History    | Optional               |
| General Ledger Indicator             | Ledger Indicator = 'G' | Transaction History | General Ledger         | Optional               |

| Condition Name             | Formula                  | Folder Name         | Business Area              | Optional vs. Mandatory |
|----------------------------|--------------------------|---------------------|----------------------------|------------------------|
|                            |                          |                     | Receivable Revenue         | Optional               |
|                            |                          |                     | Transaction History        | Optional               |
| Operating Ledger Indicator | Ledger Indicator = 'O'   | Transaction History | Grant Ledger               | Optional               |
|                            |                          |                     | Operating Ledger           | Optional               |
|                            |                          |                     | Transaction History        | Optional               |
| Status = 'A'               | Status = 'A'             | Employee            | Benefit Deduction          | Mandatory              |
| Status Disposition = 'U'   | Status Disposition = 'U' | Hr Application      | Human Resource Application | Mandatory              |
|                            |                          |                     | Person Role                | Mandatory              |

## Date Hierarchies

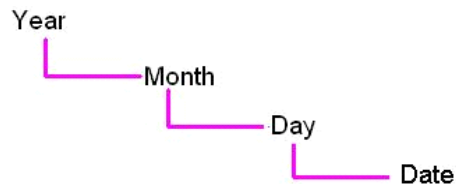
Hierarchies are logical relationships between items that enable you to drill up and down to view more or less detail. To analyze information effectively, Oracle Business Intelligence Discoverer end users should:

- Drill down to see more detail. The Year to Month to Day to Date, for example.
- Drill up to see how the detail contributes to information at a higher level. The Date to Day to Month to Year, for example.

### Note

Oracle Business Intelligence Discoverer automatically creates default date hierarchies against date items when you import a reporting view into the End User Layer (EUL) using Oracle Business Intelligence Discoverer Administrator. However, these default date hierarchies can cause performance issues. Oracle Business Intelligence Discoverer adds additional date items to a folder with default date hierarchies, using a function to populate the values returned for these items. This keeps queries that include these date items from using any indexes on the folder. Therefore the SunGard Higher Education date hierarchy replaces the Oracle Business Intelligence Discoverer default date hierarchies. ■

The EUL uses the CALENDAR\_DATE\_HIERARCHY reporting view to specify time periods needed for the hierarchy. Below is an example of the calendar date hierarchy used in the EUL.



A number of date folders are provided based on the CALENDAR\_DATE\_HIERARCHY reporting view. Each folder has a hierarchy defined on it. The table below lists the date folders in the Oracle Business Intelligence Discoverer EUL.

| Date Folder              | Date Folder                 |
|--------------------------|-----------------------------|
| Award Status Date        | Origination Tag Number Date |
| Birth Date               | Package Completion Date     |
| Collection Date          | Pledge Date                 |
| Current Time Status Date | Pool Termination Date       |
| Date Added Date          | Position Begin Date         |
| Deceased Date            | Position Vacancy Date       |
| Document Date            | Posting Date                |
| Enrollment Status Date   | Profile Date                |
| Function Start Date      | Project Start Date          |
| Highest Gift Amount Date | Purchase Order Date         |
| Immigration Status Date  | Rating Date                 |
| Income Spend End Date    | Related Birth Date          |
| Invoice Date             | Related Deceased Date       |
| Latest Decision Date     | Start Date                  |
| Military Separation Date | Target Ask Date             |
| Most Recent Gift Date    | Tenure Date                 |
| Most Recent Pledge Date  | Transaction Date            |
| Operating Date           | Visa Start Date             |

The EUL joins a date in a folder created for a typical reporting view to the date item in the date folder. The date is then accessible along with date items for Year, Month, and Day from the date folder. Drill up or down on these items to view more detail or a more generalized view of the information. The date folders are sometimes used in more than one business area.

The table below displays the date folders in the Oracle Business Intelligence Discoverer EUL by business area:

| Business Area          | Date Folder              |
|------------------------|--------------------------|
| Active Registration    | Current Time Status Date |
|                        | Enrollment Status Date   |
| Admissions Application | Latest Decision Date     |
| Advancement Prospect   | Target Ask Date          |
| Advancement Rating     | Rating Date              |
| Annual Giving          | Highest Gift Amount Date |
| Constituent            | Most Recent Gift Date    |
|                        | Most Recent Pledge Date  |
| Constituent Entity     | Birth Date               |

| Business Area                        | Date Folder                 |
|--------------------------------------|-----------------------------|
| Employee                             | Profile Date                |
| Endowment Distribution               | Income Spend End Date       |
| Endowment Unit                       | Pool Termination Date       |
| Enrollment Management                | Current Time Status Date    |
|                                      | Enrollment Status Date      |
| Event                                | Function Start Date         |
| Faculty Assignment                   | Tenure Date                 |
| Financial Aid Application            | Package Completion Date     |
| Financial Aid Award and Disbursement | Award Status Date           |
| Fixed Asset                          | Origination Tag Number Date |
| Gift                                 | Deceased Date               |
|                                      | Posting Date                |
| Government Reporting                 | Visa Start Date             |
| Grant and Project                    | Project Start Date          |
| Human Resource Application           | Position Vacancy Date       |
| Human Resource Faculty               | Tenure Date                 |
| Invoice Payable                      | Invoice Date                |
| Organizational Constituent           | Most Recent Gift Date       |
|                                      | Most Recent Pledge Date     |
| Payroll                              | Document Date               |
| Person Demographic                   | Birth Date                  |
|                                      | Deceased Date               |
|                                      | Immigration Status Date     |
|                                      | Military Separation Date    |
| Person Role                          | Birth Date                  |
|                                      | Deceased Date               |
|                                      | Immigration Status Date     |
|                                      | Military Separation Date    |
| Person Supplemental                  | Birth Date                  |
|                                      | Deceased Date               |
|                                      | Immigration Status Date     |
|                                      | Military Separation Date    |
| Pledge                               | Deceased Date               |
|                                      | Pledge Date                 |
|                                      | Posting Date                |
| Position                             | Position Begin Date         |
| Purchasing Payable                   | Invoice Date                |
|                                      | Purchase Order Date         |
| Receivable Customer                  | Collection Date             |
| Receivable Revenue                   | Operating Date              |



| Business Area           | Date Folder              |
|-------------------------|--------------------------|
| Recruitment Information | Date Added Date          |
| Relationship            | Related Birth Date       |
|                         | Related Deceased Date    |
| Residential Life        | Birth Date               |
|                         | Deceased Date            |
|                         | Immigration Status Date  |
|                         | Military Separation Date |
|                         | Start Date               |
| Schedule Offering       | Start Date               |
| Transaction History     | Transaction Date         |



## 6 Business Concepts (Banner ODS and Banner EDW)



Business concepts are used to organize the data available for different reporting requirements. A business concept shows the relationships between the data supporting a set of business processes. Because different business processes often require different perspectives on data, the relationships among the supporting database objects need to change based on the analysis being performed.

The Banner ODS and Banner EDW solutions are designed to take advantage of Cognos Framework Manager's ability to use database objects in multiple models. Each model is referred to as a namespace. In a Framework Manager namespace, database objects are defined as Cognos metadata query subjects. In that namespace the relationships between the different query subjects focus around a central or primary fact table query subject. All other query subjects are related to each other through the central or primary fact table. All data analysis and reporting completed using the business concept uses the central fact table to filter and determine what data to retrieve.

The following sections describe the Banner ODS and Banner EDW business concepts.

- [“Banner ODS Business Concepts” on page 6-2](#)
- [“Banner EDW Business Concepts” on page 6-56](#)

# Banner ODS Business Concepts

The following table lists the business concept and primary reporting view or database table for each business concept within the Banner ODS. These concepts are listed by subject areas. A subject area loosely corresponds to a SunGard Higher Education Banner product. When you write a report, use filters on the primary reporting view rather than the other reporting views whenever possible.

| Subject Area        | Business Concepts          | Primary Fact Table at the center of Banner ODS Business Concepts |
|---------------------|----------------------------|------------------------------------------------------------------|
| Accounts Receivable | Receivable Customer        | RECEIVABLE_ACCOUNT                                               |
|                     | Receivable Revenue         | RECEIVABLE_ACCOUNT_DETAIL                                        |
| Advancement         | Advancement Prospect       | PROSPECT_INFO                                                    |
|                     | Advancement Rating         | ADVANCEMENT_RATING                                               |
|                     | Annual Giving              | ANNUAL_GIVING                                                    |
|                     | Campaign Giving History    | CAMPAIGN_GIVING_HISTORY                                          |
|                     | Constituent                | CONSTITUENT                                                      |
|                     | Constituent Entity         | CONSTITUENT_ENTITY                                               |
|                     | Designation Giving History | DESIGNATION_GIVING_HISTORY                                       |
|                     | Gift                       | GIFT_TRANSACTION                                                 |
|                     | Organizational Constituent | ORGANIZATIONAL_CONSTITUENT                                       |
|                     | Pledge                     | PLEDGE_TRANSACTION                                               |
| Common              | Event                      | EVENT                                                            |
|                     | Institution                | INSTITUTION                                                      |
|                     | Organization Entity        | ORGANIZATION_ENTITY                                              |
|                     | Person Demographic         | PERSON_DETAIL                                                    |
|                     | Person Role                | PERSON_DETAIL                                                    |
|                     | Person Supplemental        | PERSON_DETAIL                                                    |
| Finance             | Relationship               | RELATIONSHIP                                                     |
|                     | Budget Availability Ledger | BUDGET_AVAILABILITY_LEDGER                                       |
|                     | Budget Detail              | BUDGET_DETAIL                                                    |
|                     | Encumbrance                | ENCUMBRANCE_ACCOUNTING                                           |
|                     | Endowment Distribution     | ENDOWMENT_DISTRIBUTION                                           |

|                 |                                      | Primary Fact Table at the center of Banner ODS Business Concepts    |
|-----------------|--------------------------------------|---------------------------------------------------------------------|
|                 | Endowment Units                      | ENDOWMENT_UNIT                                                      |
|                 | Fixed Asset                          | FIXED_ASSET_ITEM                                                    |
|                 | General Ledger                       | GENERAL_LEDGER                                                      |
|                 | Grant and Project                    | GRANT_VIEW                                                          |
|                 | Grant Ledger                         | GRANT_LEDGER                                                        |
|                 | Invoice Payable                      | INVOICE_ITEM                                                        |
|                 | Operating Ledger                     | OPERATING_LEDGER                                                    |
|                 | Purchasing Payable                   | PURCHASE_ORDER_ITEM                                                 |
|                 | Transaction History                  | TRANSACTION_HISTORY                                                 |
|                 | Financial Aid                        | FINAID_APPLICANT_STATUS                                             |
|                 | Financial Aid Award and Disbursement | AWARD_BY_PERSON                                                     |
|                 | Financial Aid Fund                   | AWARD_BY_FUND                                                       |
| Human Resources | Employee                             | EMPLOYEE                                                            |
|                 | Human Resource Application           | HR_APPLICATION                                                      |
|                 | Human Resource Faculty               | FACULTY                                                             |
|                 | Payroll                              | PAYROLL_DOCUMENT                                                    |
|                 | Position                             | POSITION_DEFINITION                                                 |
| Student         | Active Registration                  | ENROLLMENT                                                          |
|                 | Admissions Application               | ADMISSIONS_APPLICATION                                              |
|                 | Advisor Student List                 | STUDENT                                                             |
|                 | Course Catalog                       | COURSE_CATALOG                                                      |
|                 | Enrollment Management                | ENROLLMENT                                                          |
|                 | Faculty Assignment                   | FACULTY                                                             |
|                 | Government Reporting                 | GOVERNMENT_STUDENT, GOVERNMENT_FINANCIAL_AID, GOVERNMENT_ADMISSIONS |
|                 | Recruitment Information              | RECRUITMENT_INFORMATION                                             |
|                 | Residential Life                     | PERSON_DETAIL                                                       |

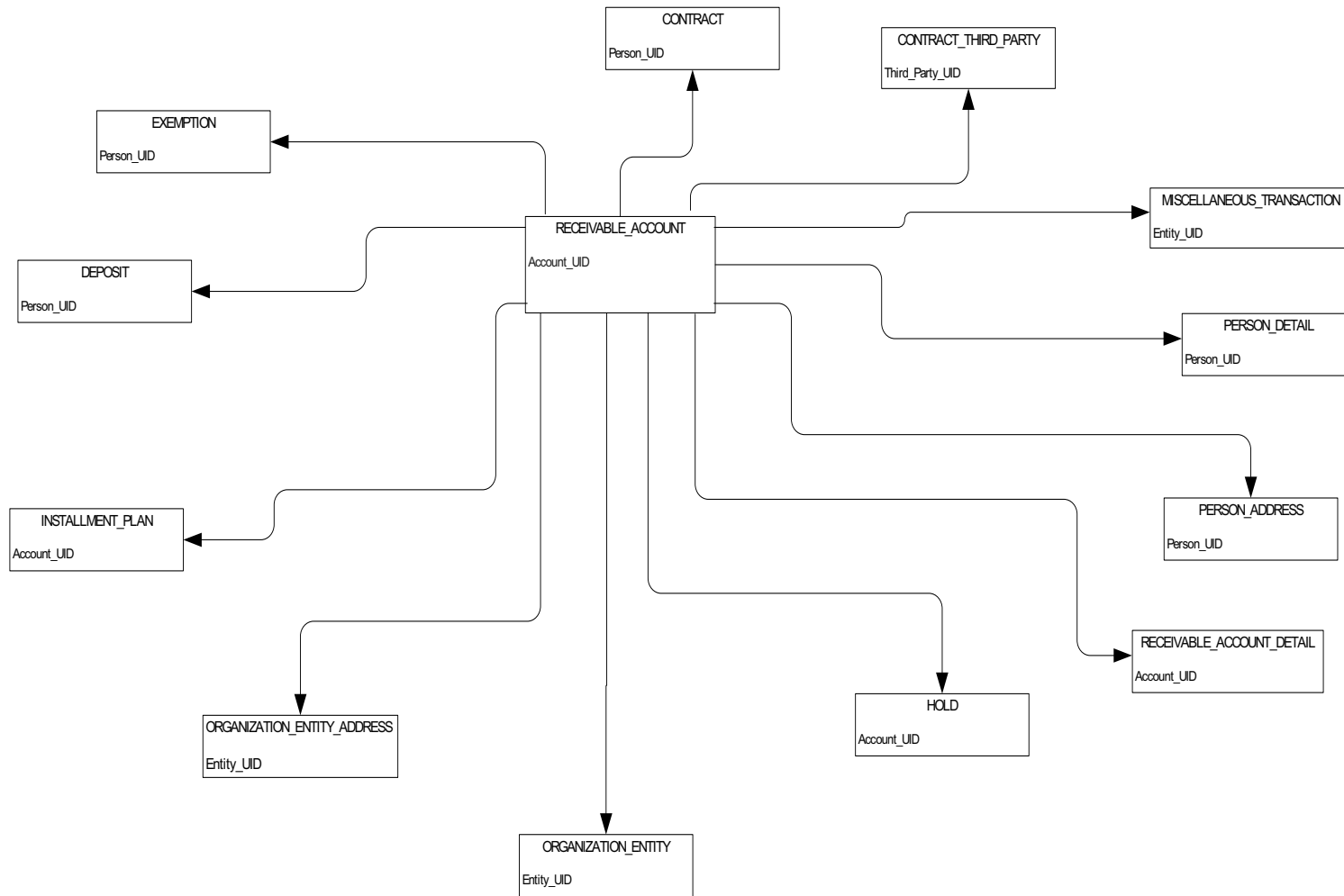
| Subject Area | Business Concepts | Primary Fact Table at the center of Banner ODS Business Concepts |
|--------------|-------------------|------------------------------------------------------------------|
|              | Schedule Offering | SCHEDULE_OFFERING                                                |
|              | Student Detail    | STUDENT                                                          |

## Diagrams

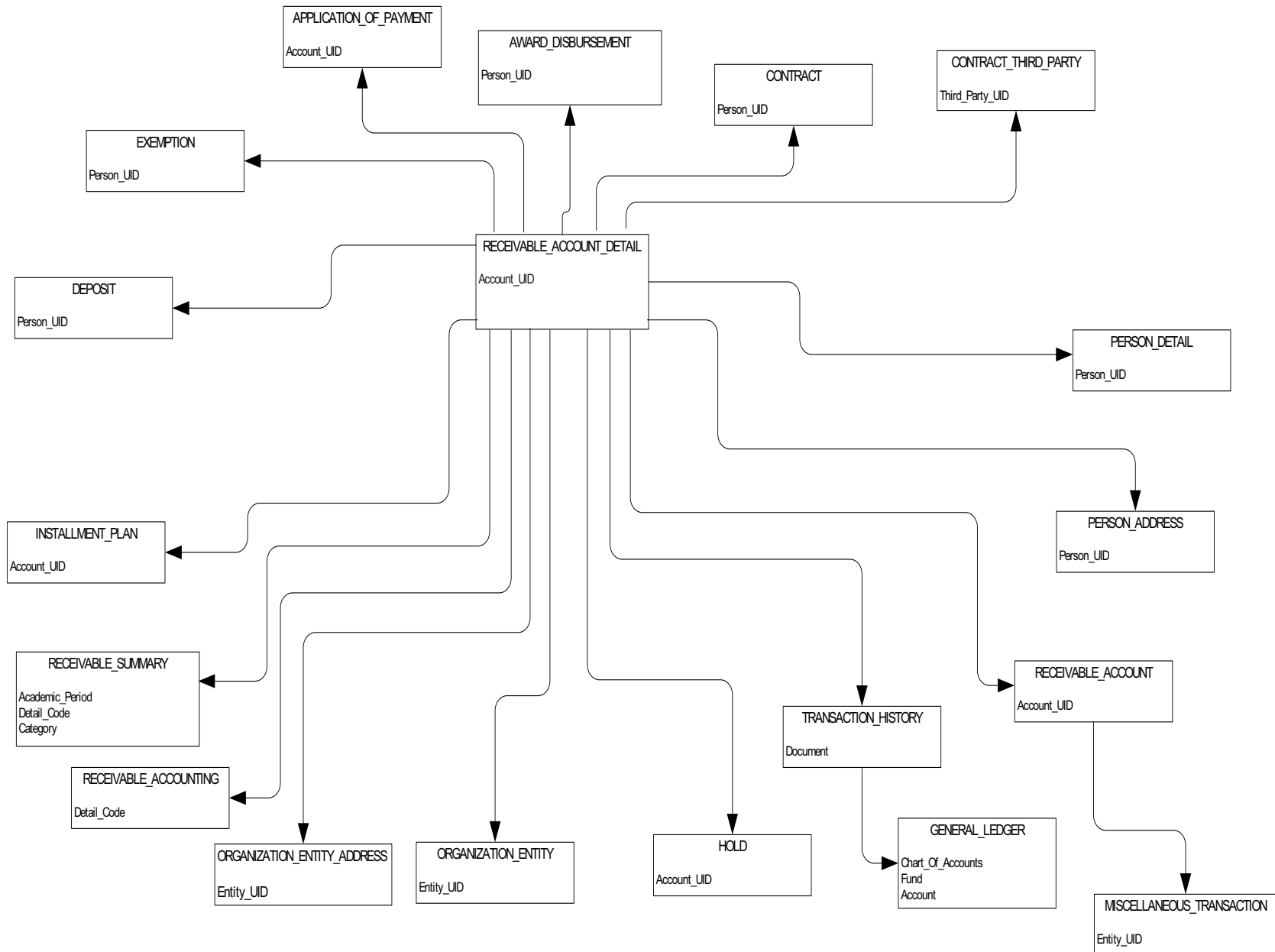
The relationships in the reporting tool meta data for Cognos 8 Business Intelligence and Oracle Business Intelligence Discoverer are the same. Below are the diagrams that show the relationships for the business concepts defined in the Banner ODS. There is one diagram for each business concept. The diagrams are grouped by subject areas such as Accounts Receivable, Advancement, etc.

# Accounts Receivable

## Receivable Customer



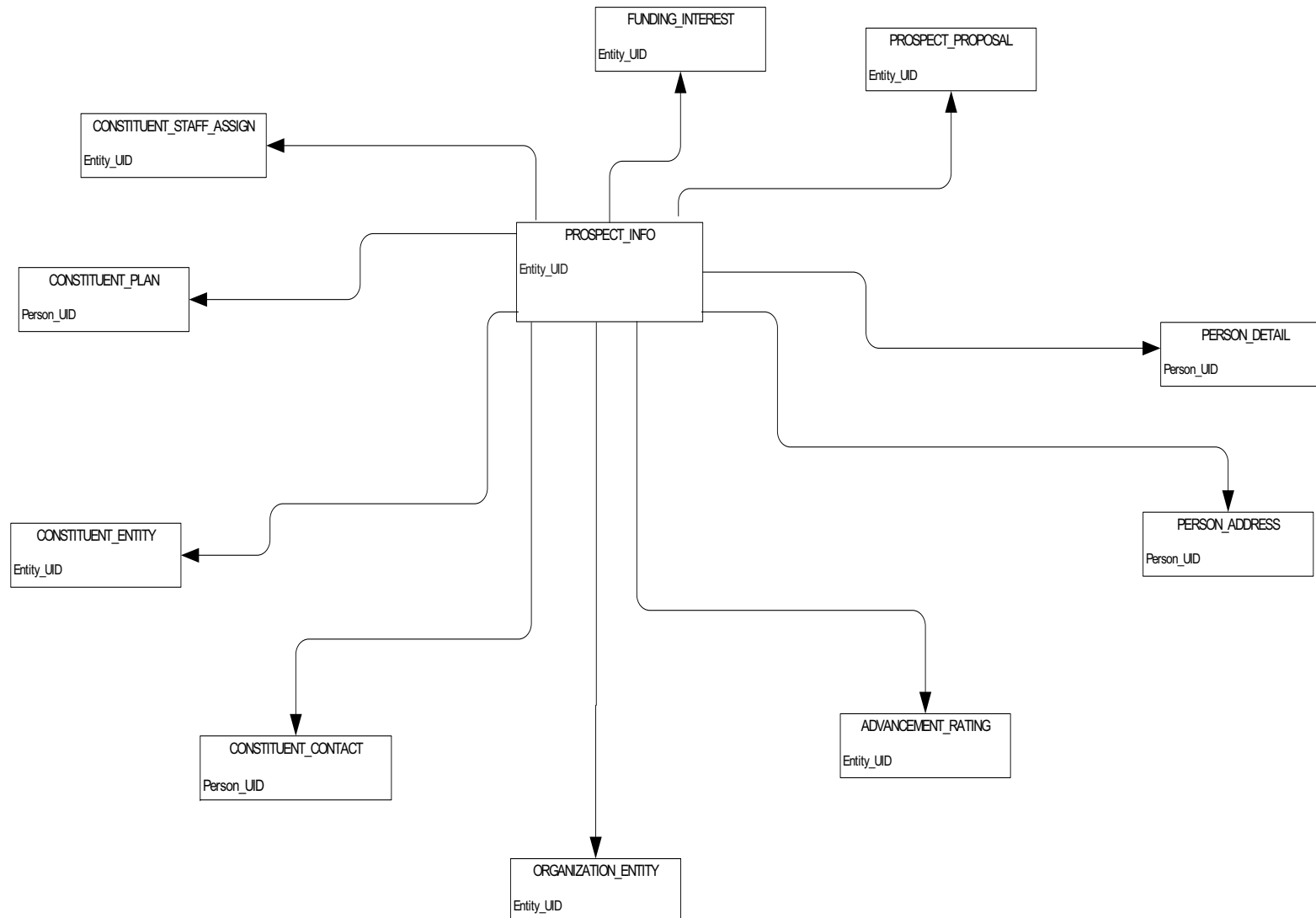
## Receivable Revenue



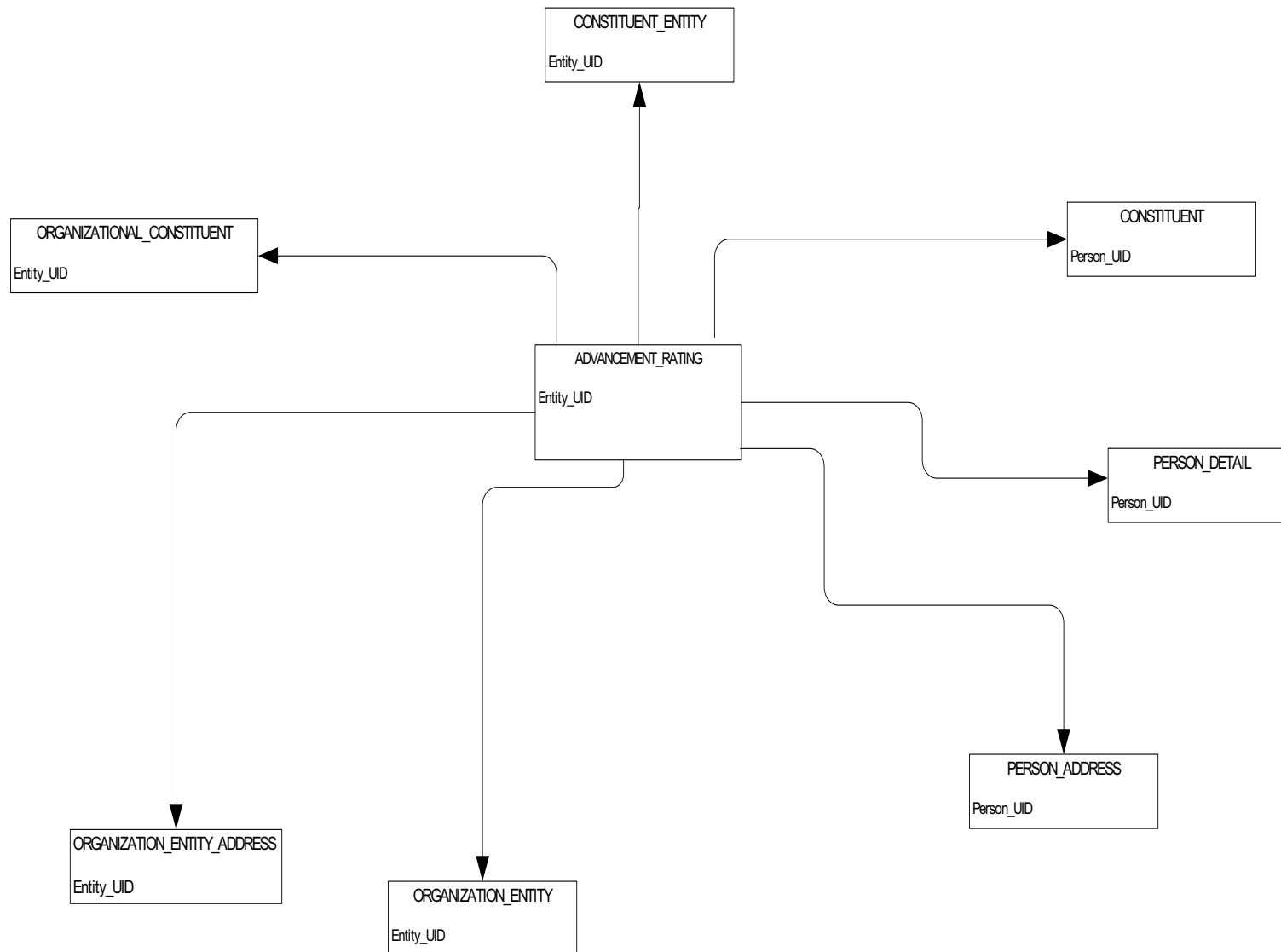


## Advancement

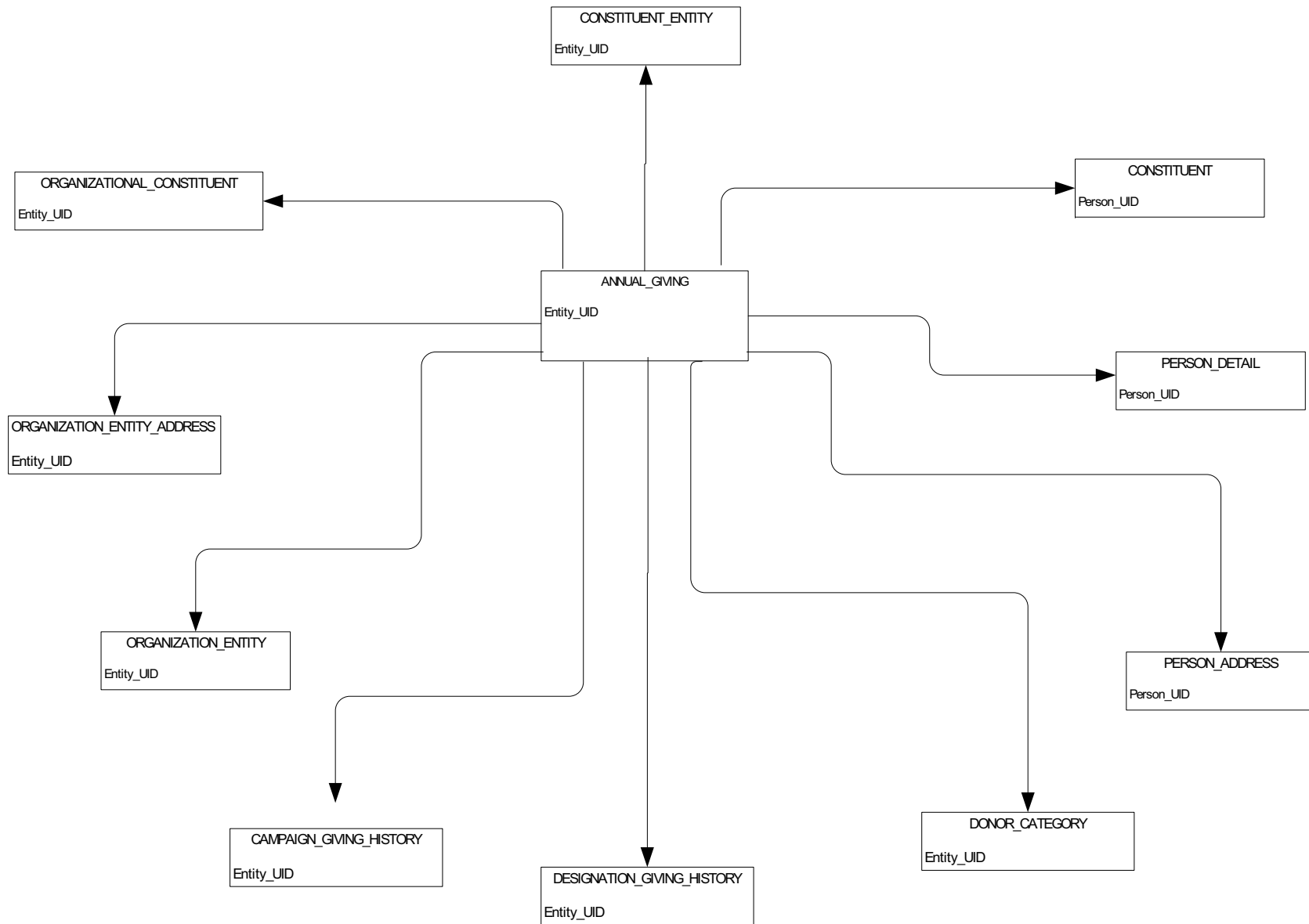
### Advancement Prospect



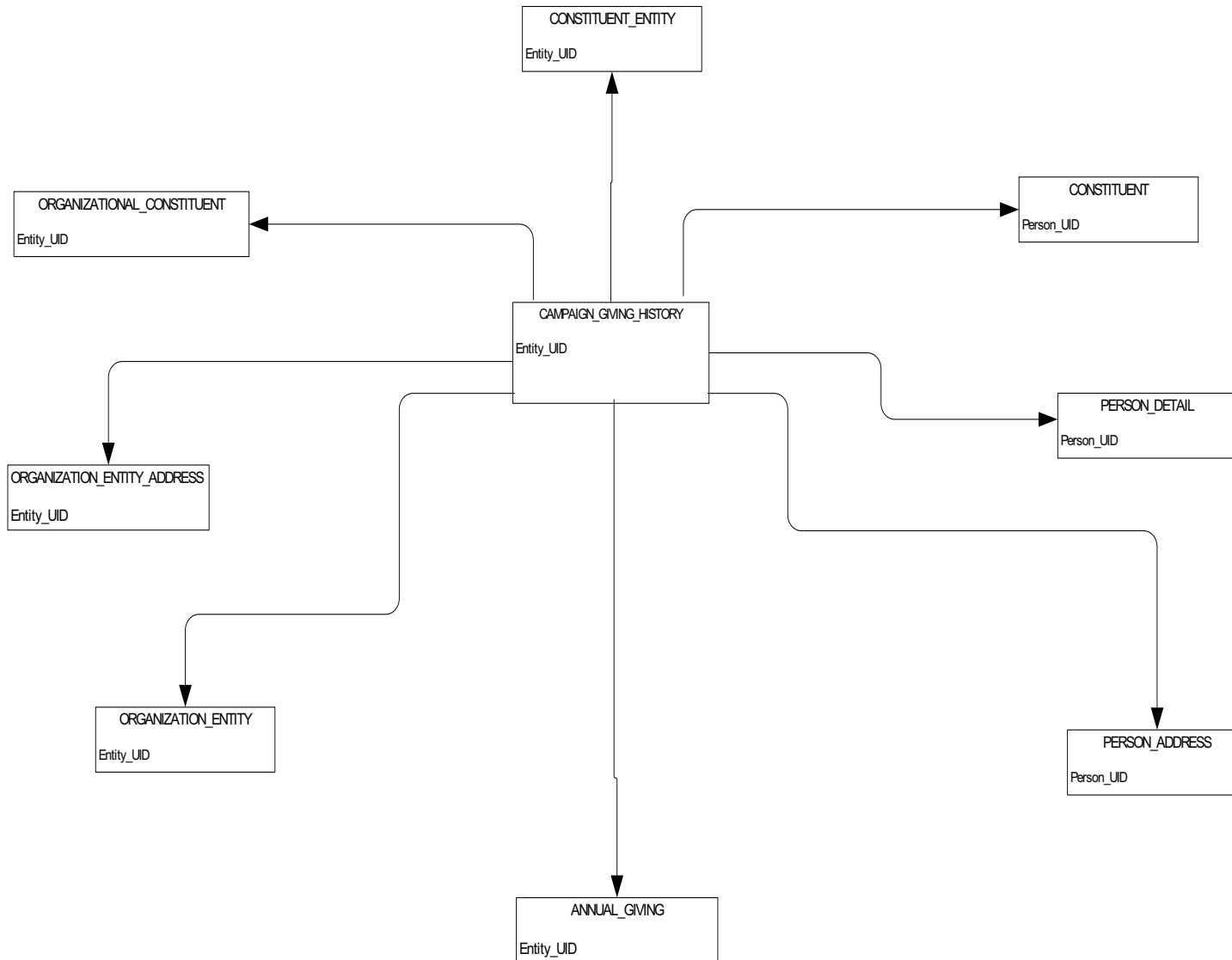
## Advancement Rating



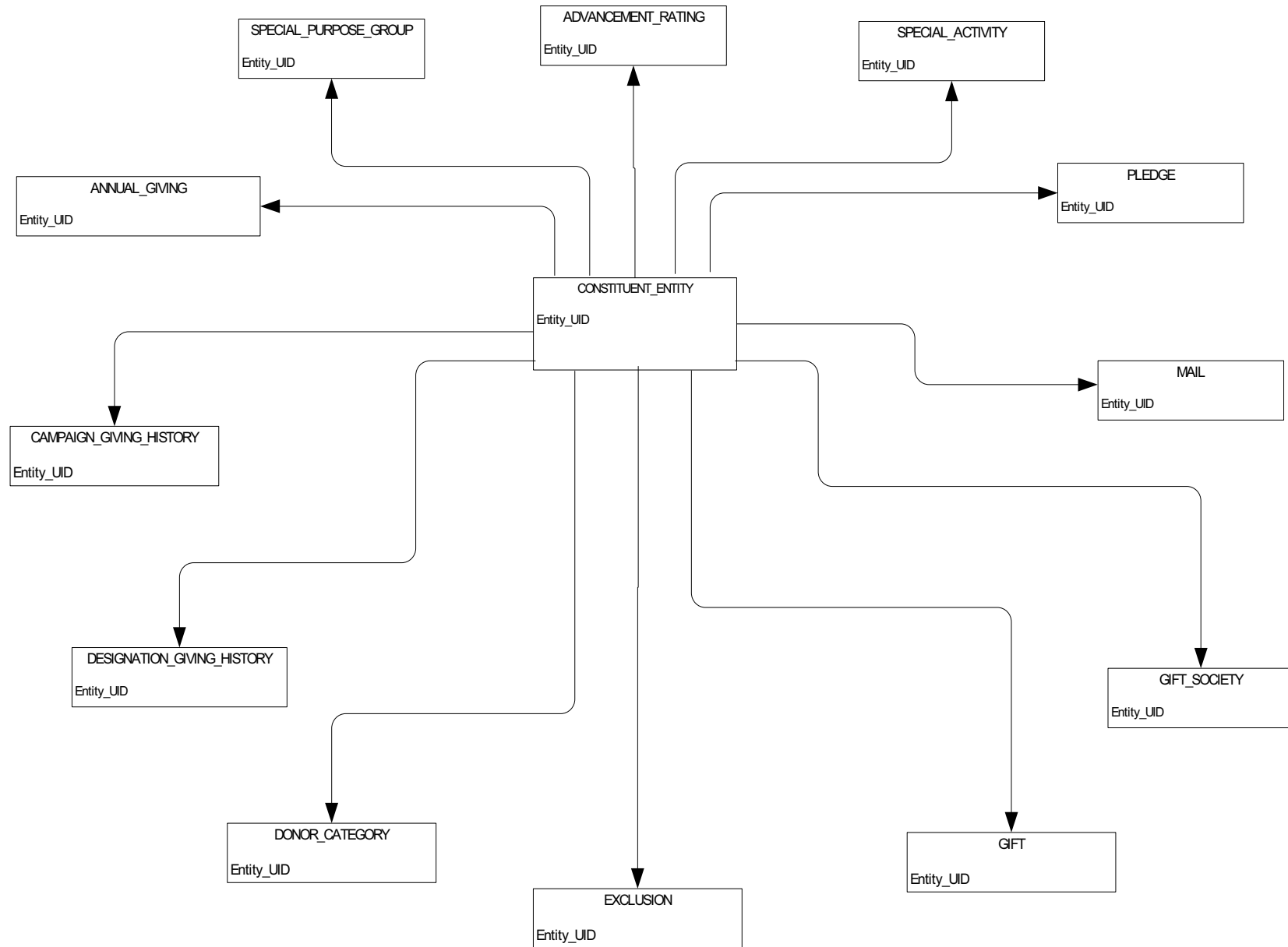
## Annual Giving



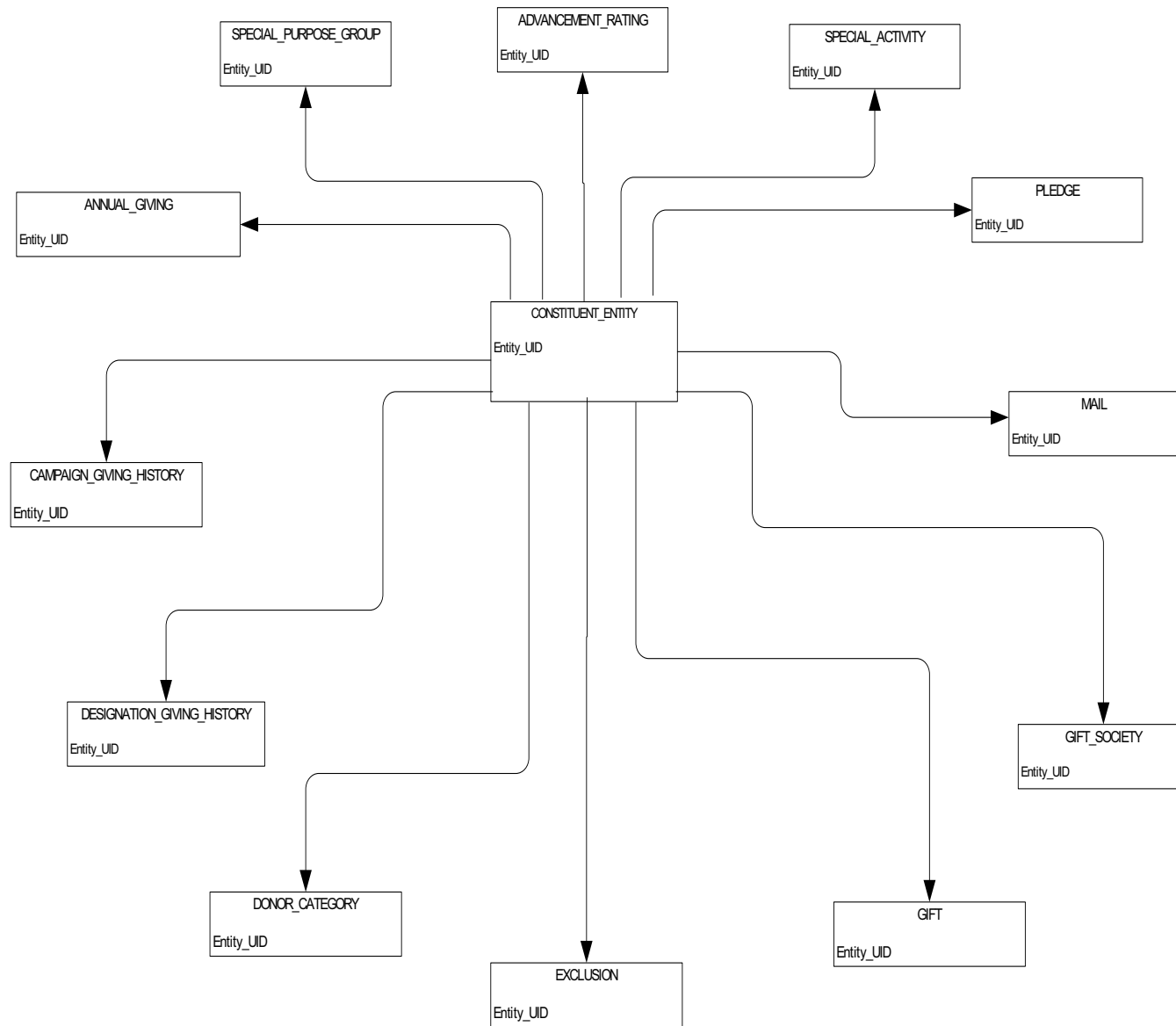
## Campaign Giving History



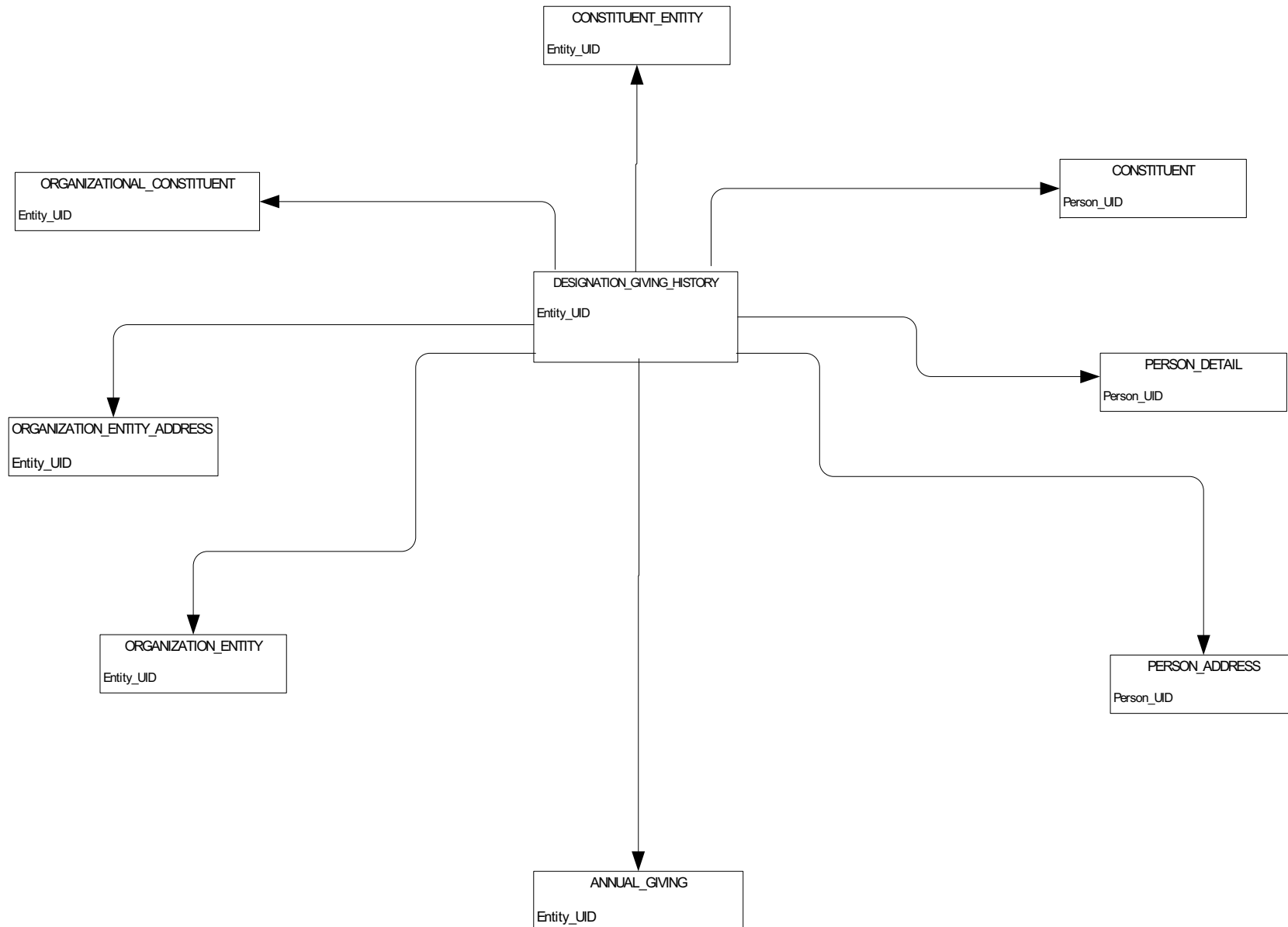
## Constituent



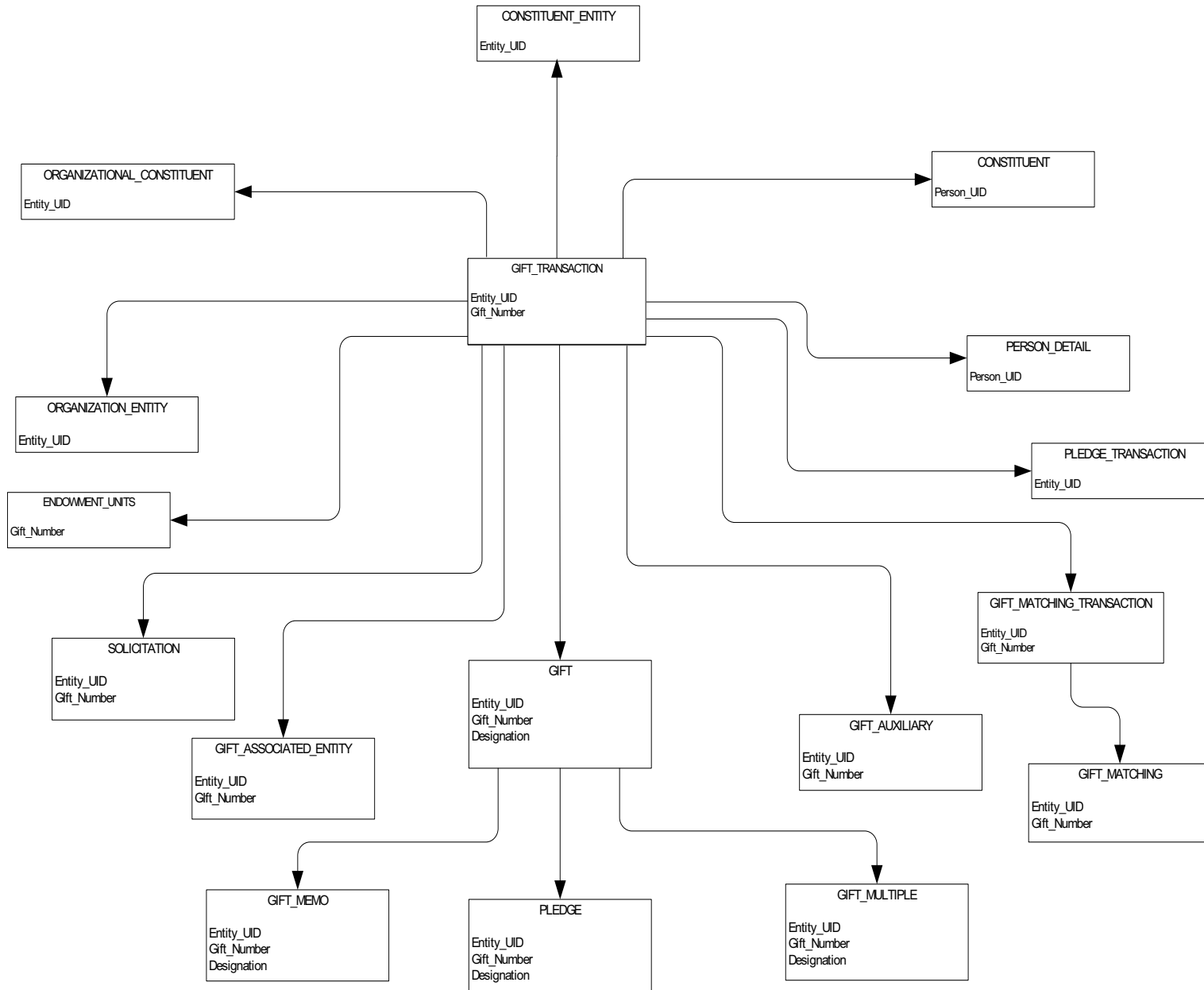
## Constituent Entity



## Designation Giving History

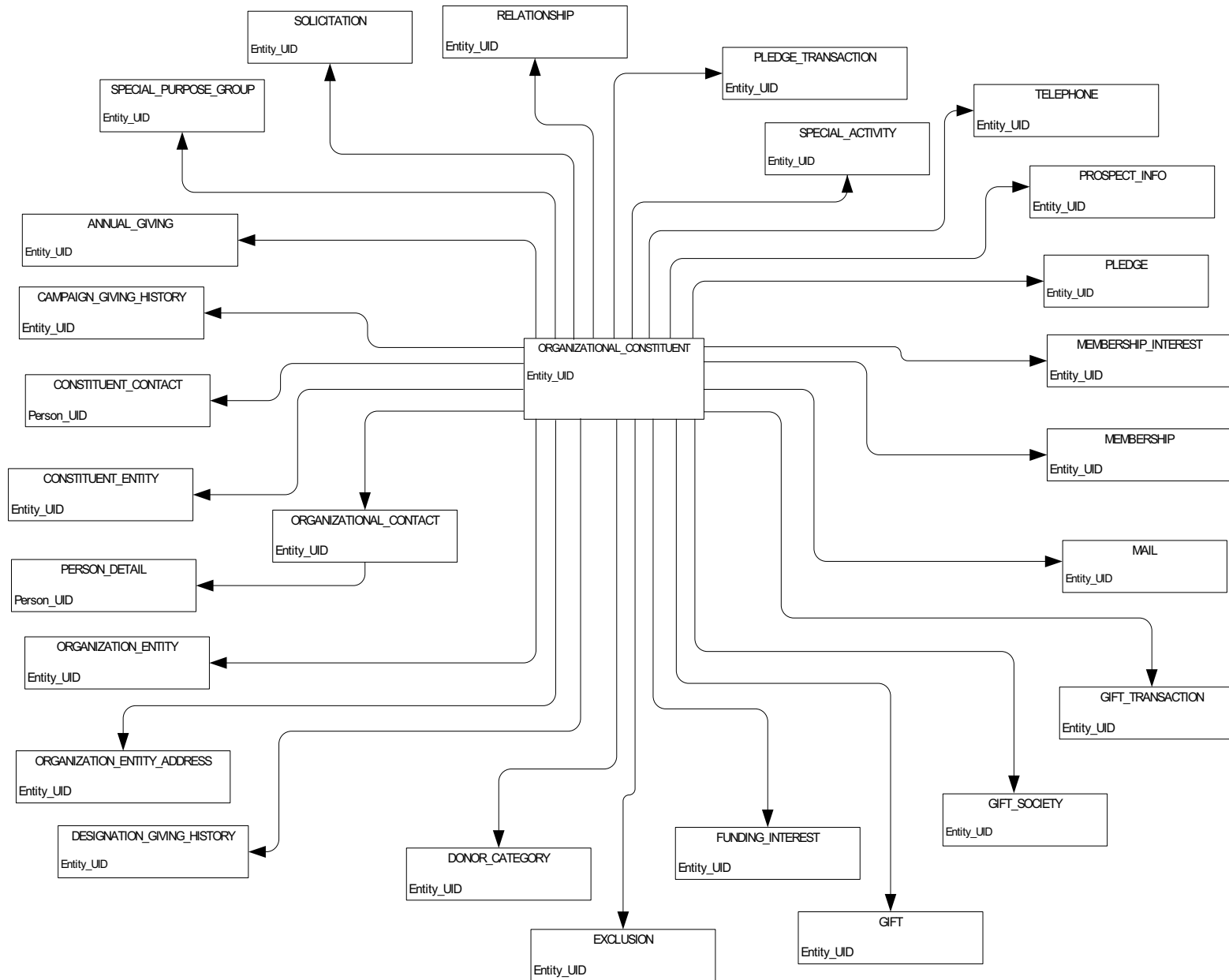


# Gift

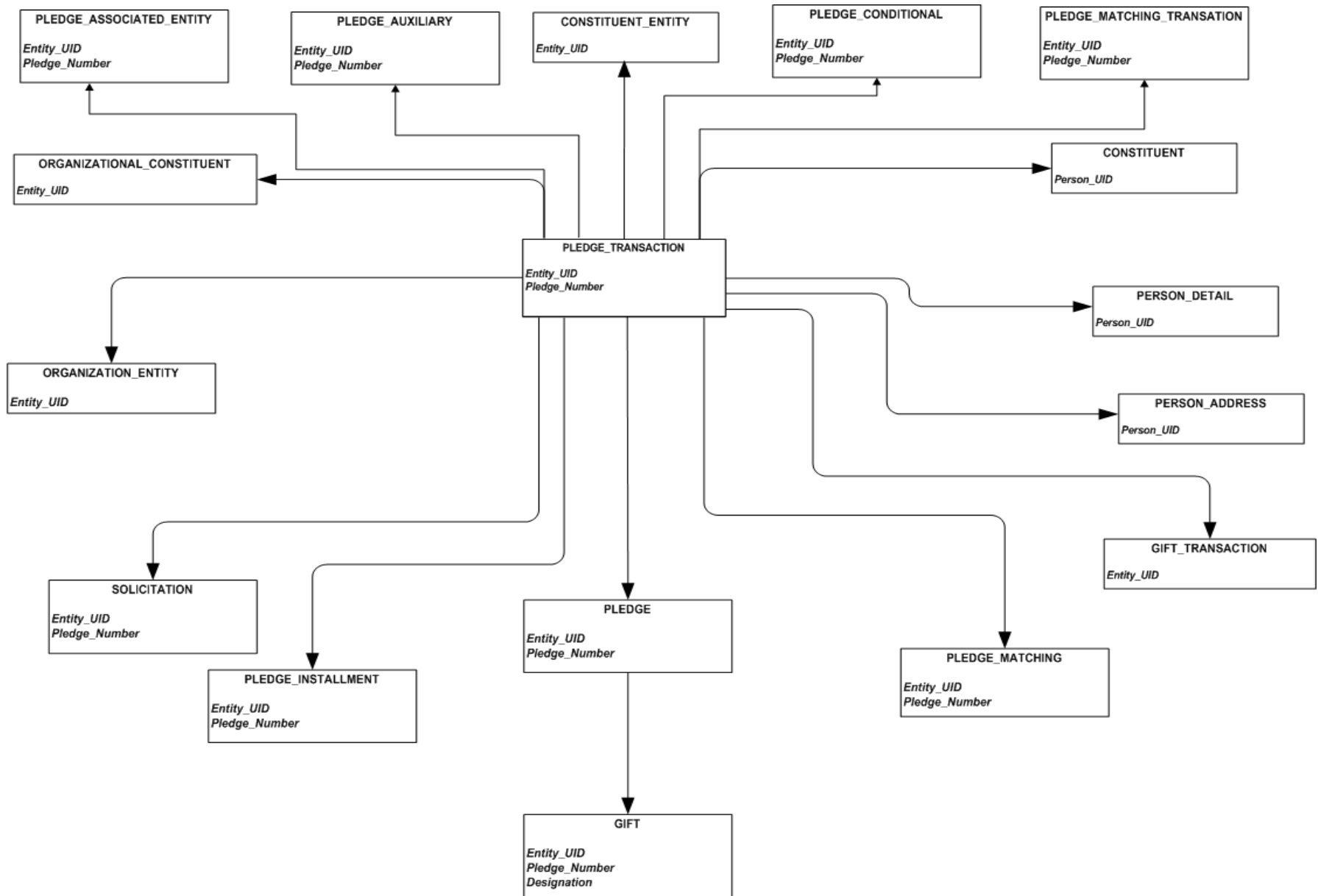




## Organizational Constituent

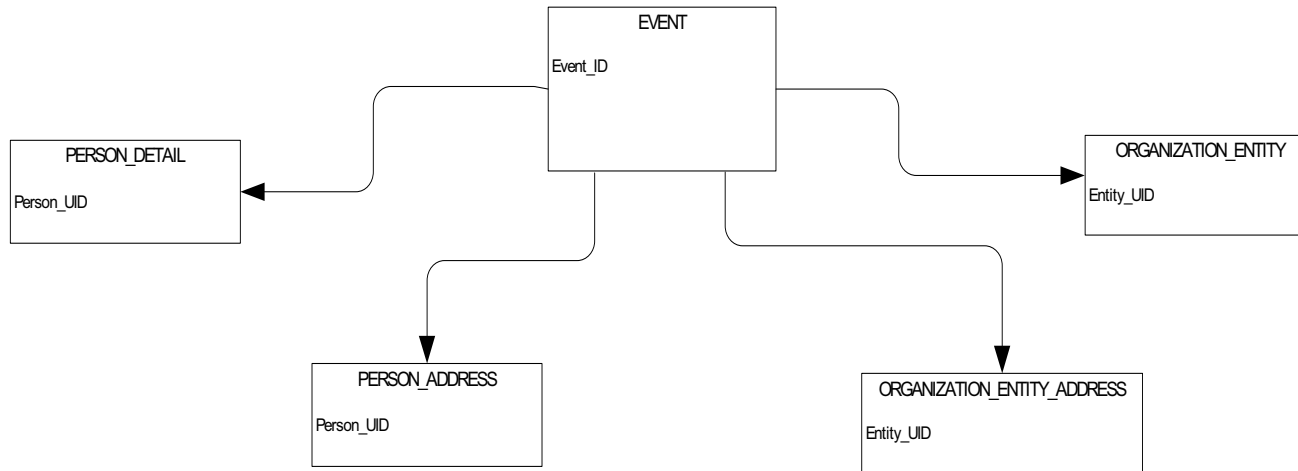


## Pledge

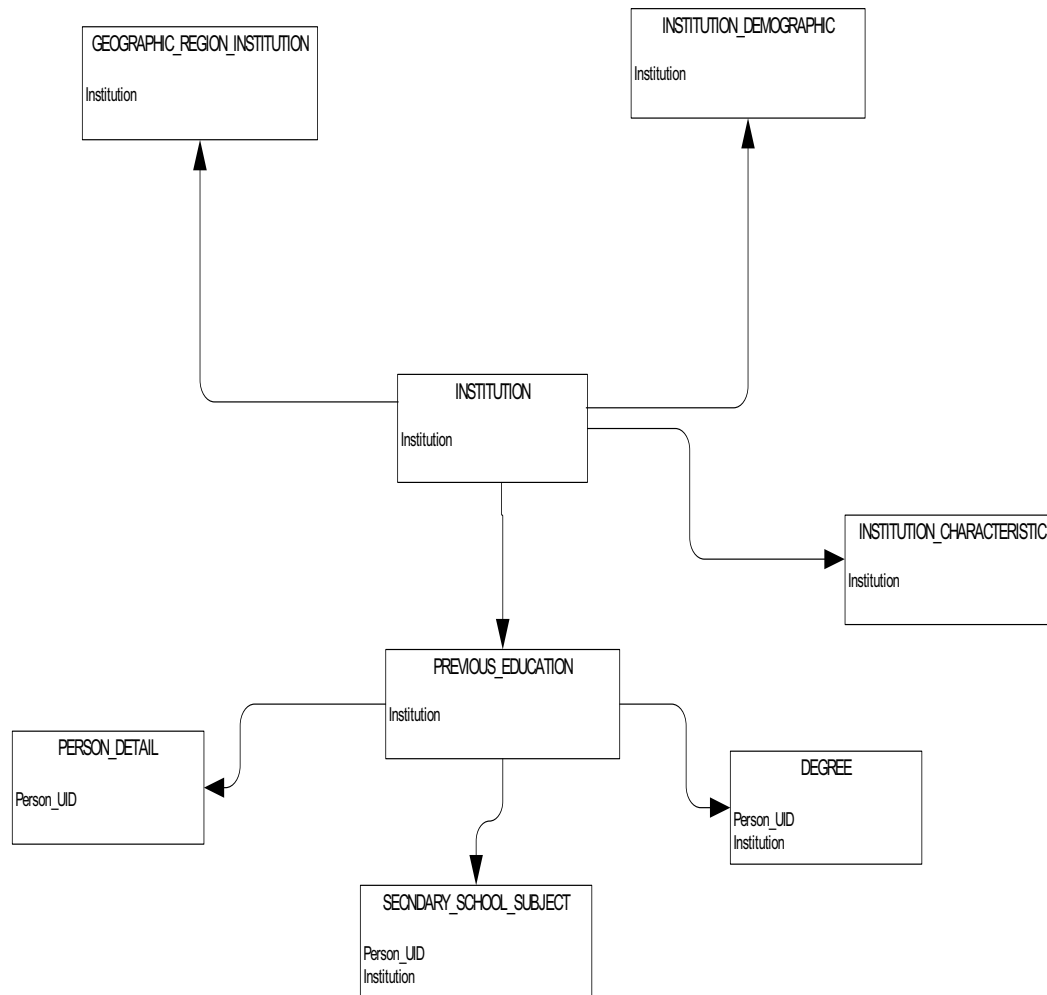


## Common

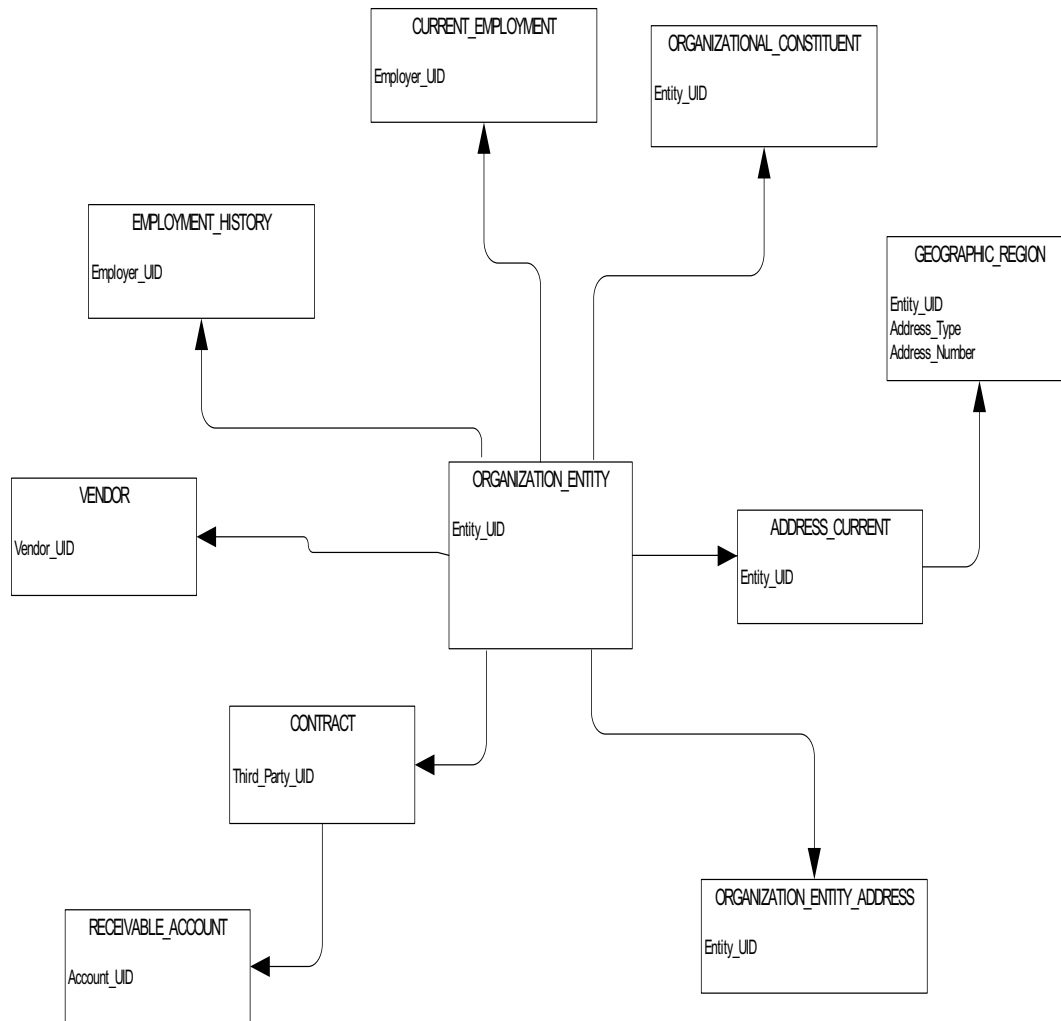
### Event



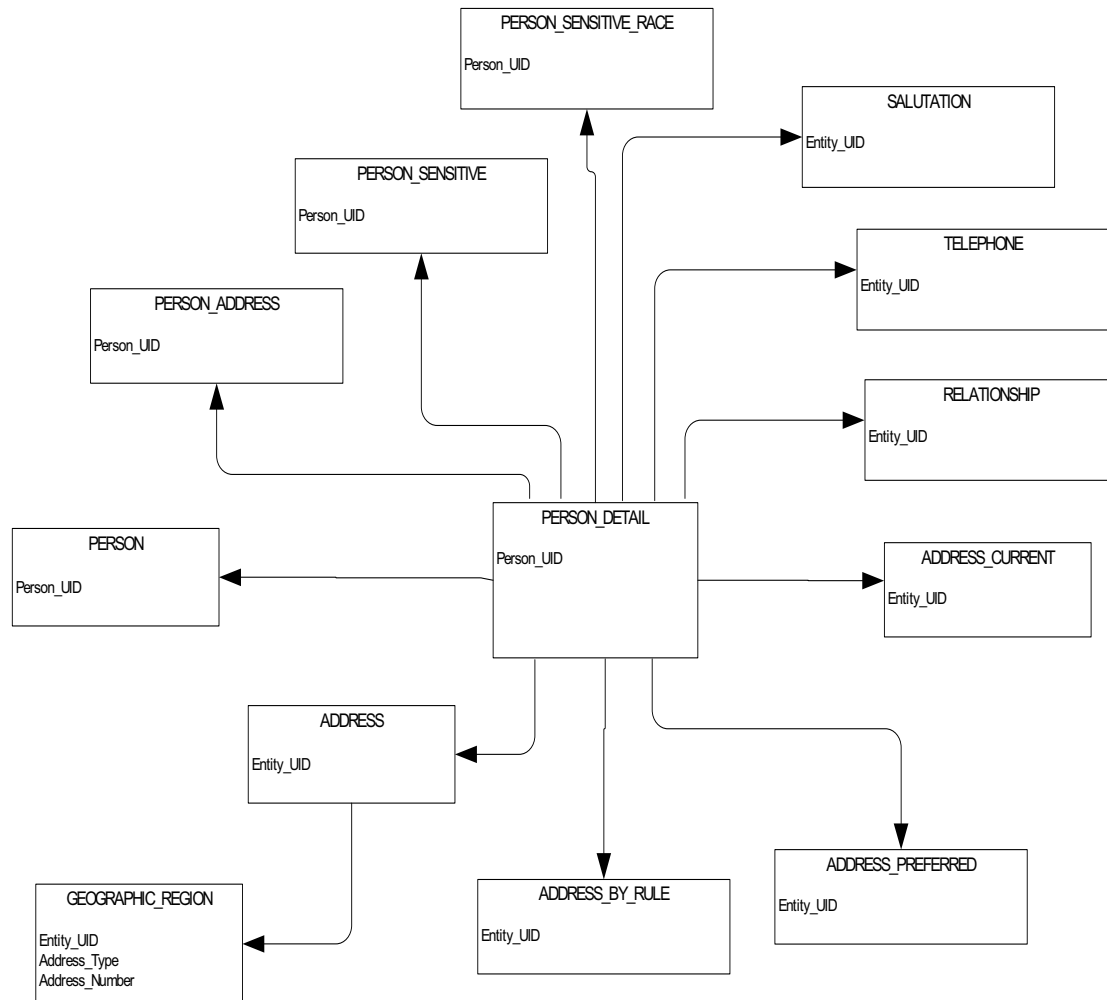
## Institution



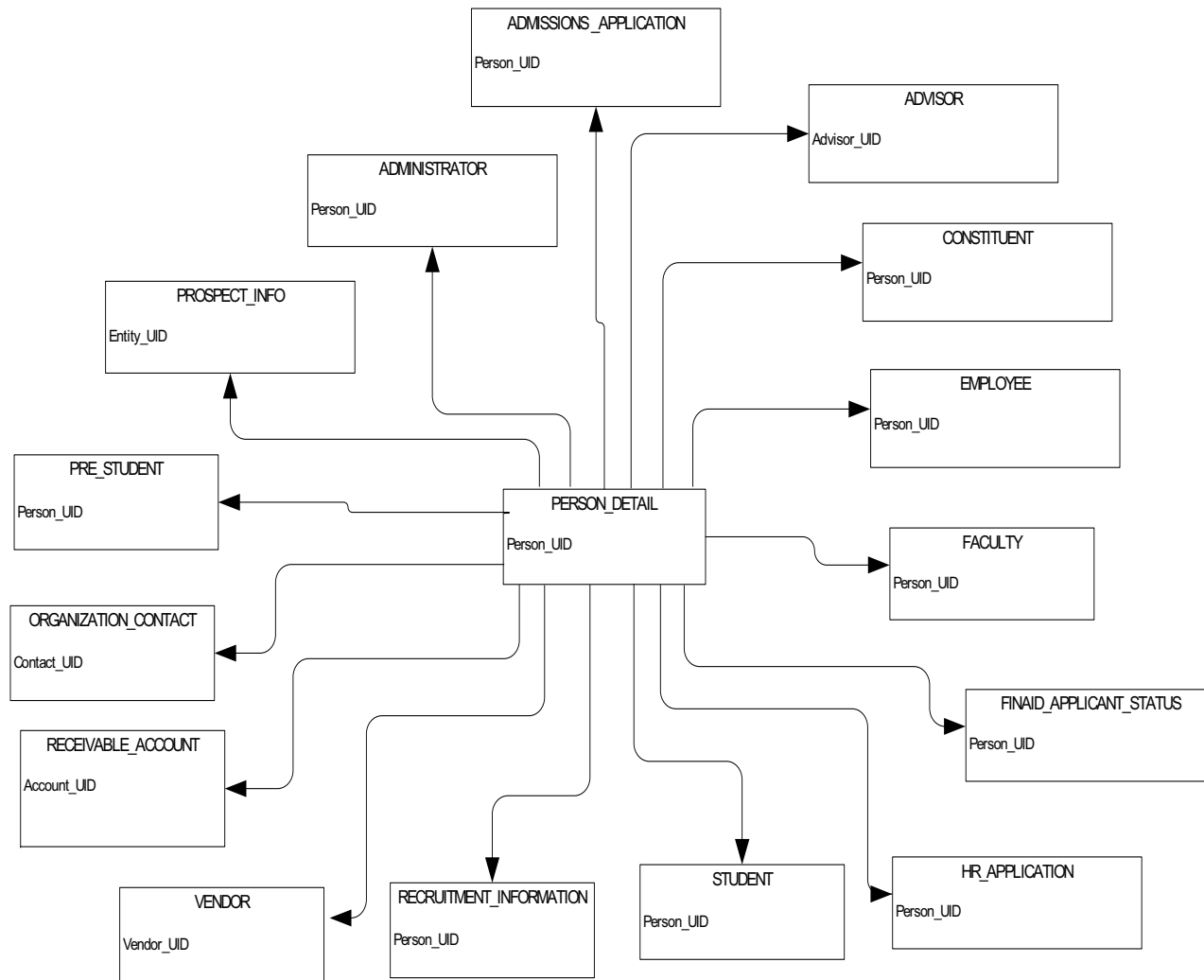
## Organization Entity



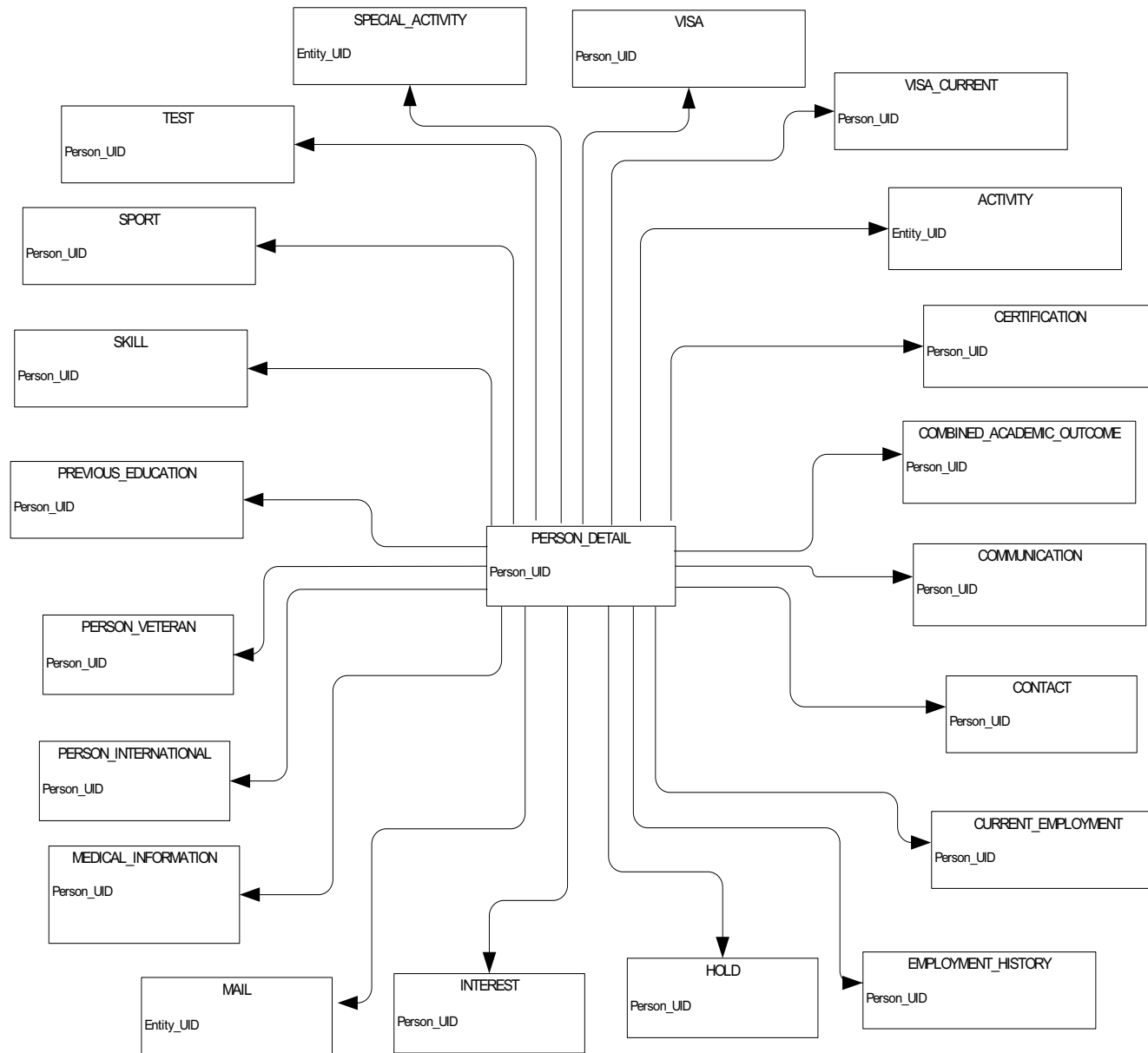
## Person Demographic



## Person Role

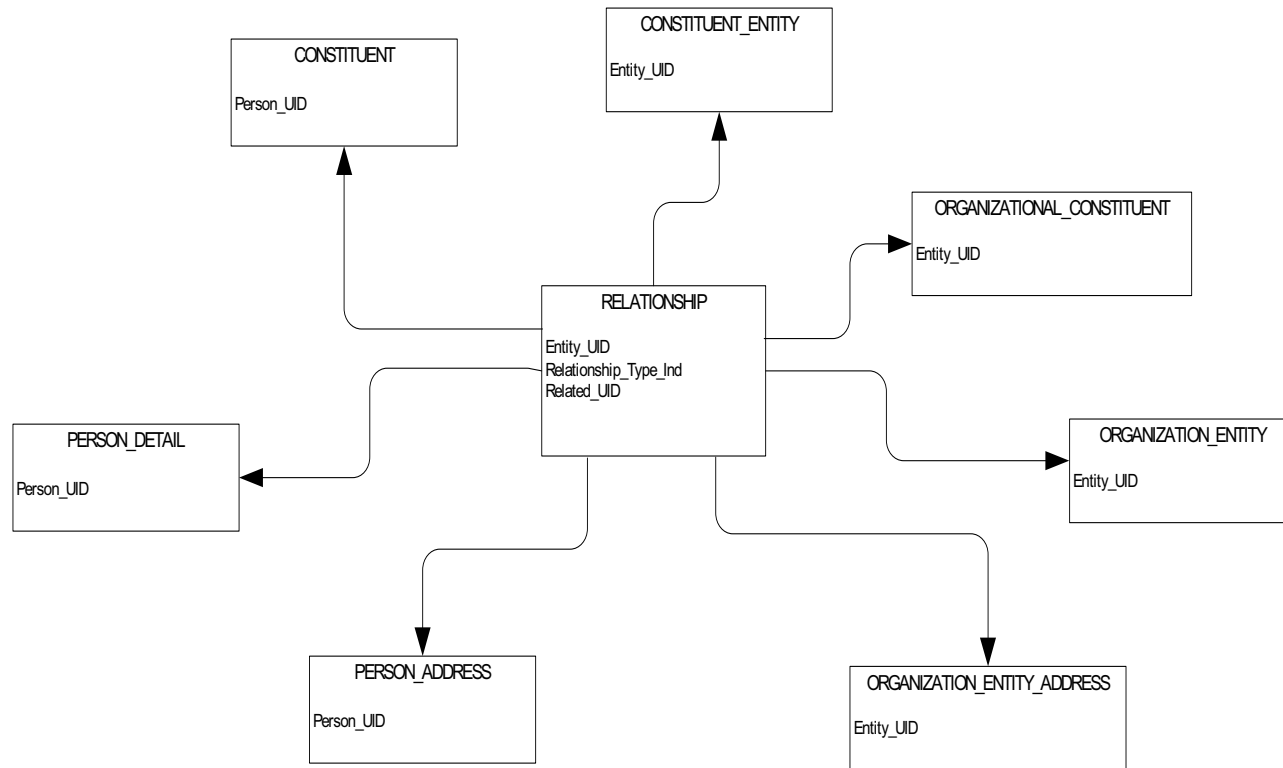


## Person Supplemental



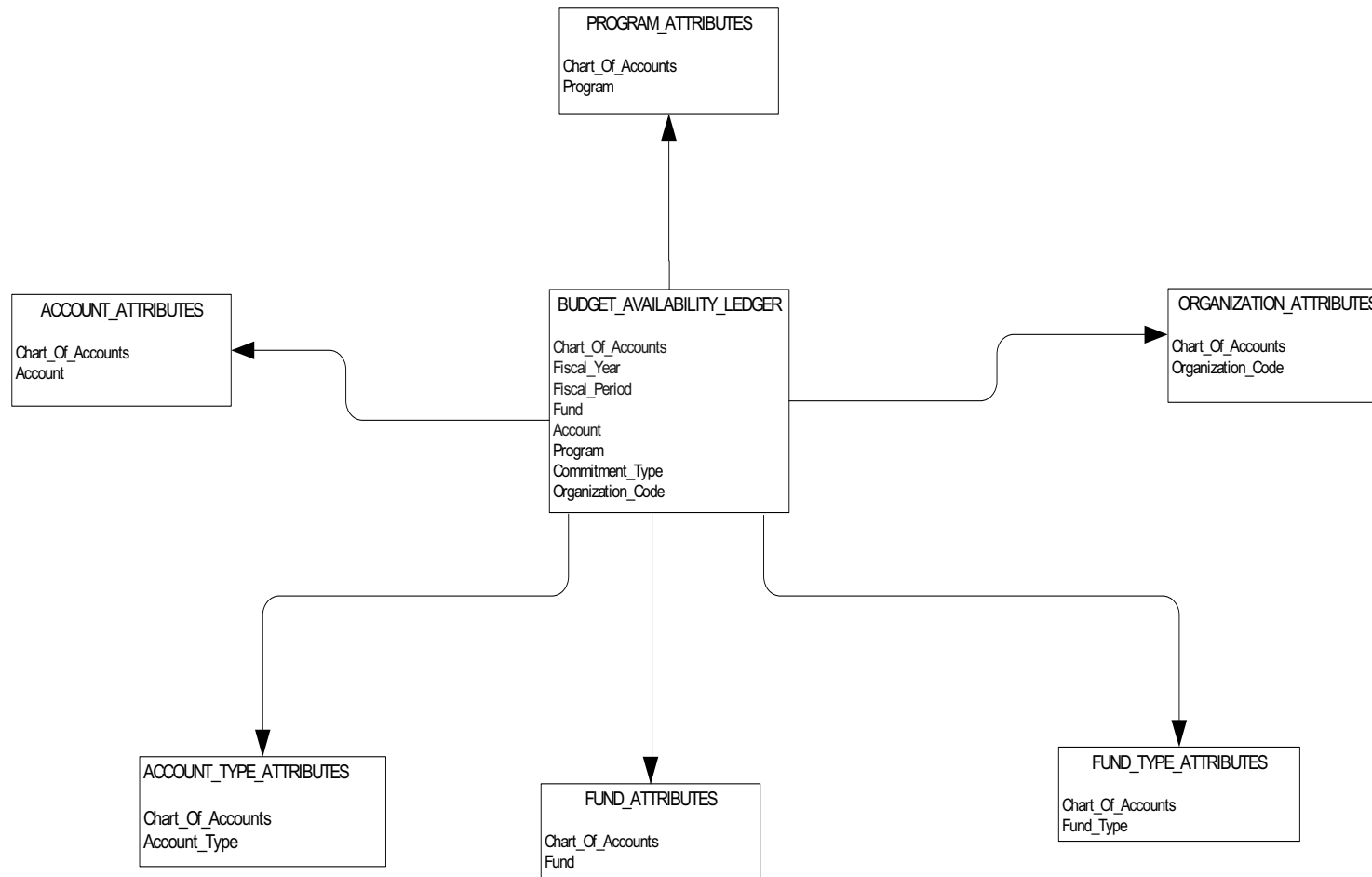


## Relationship

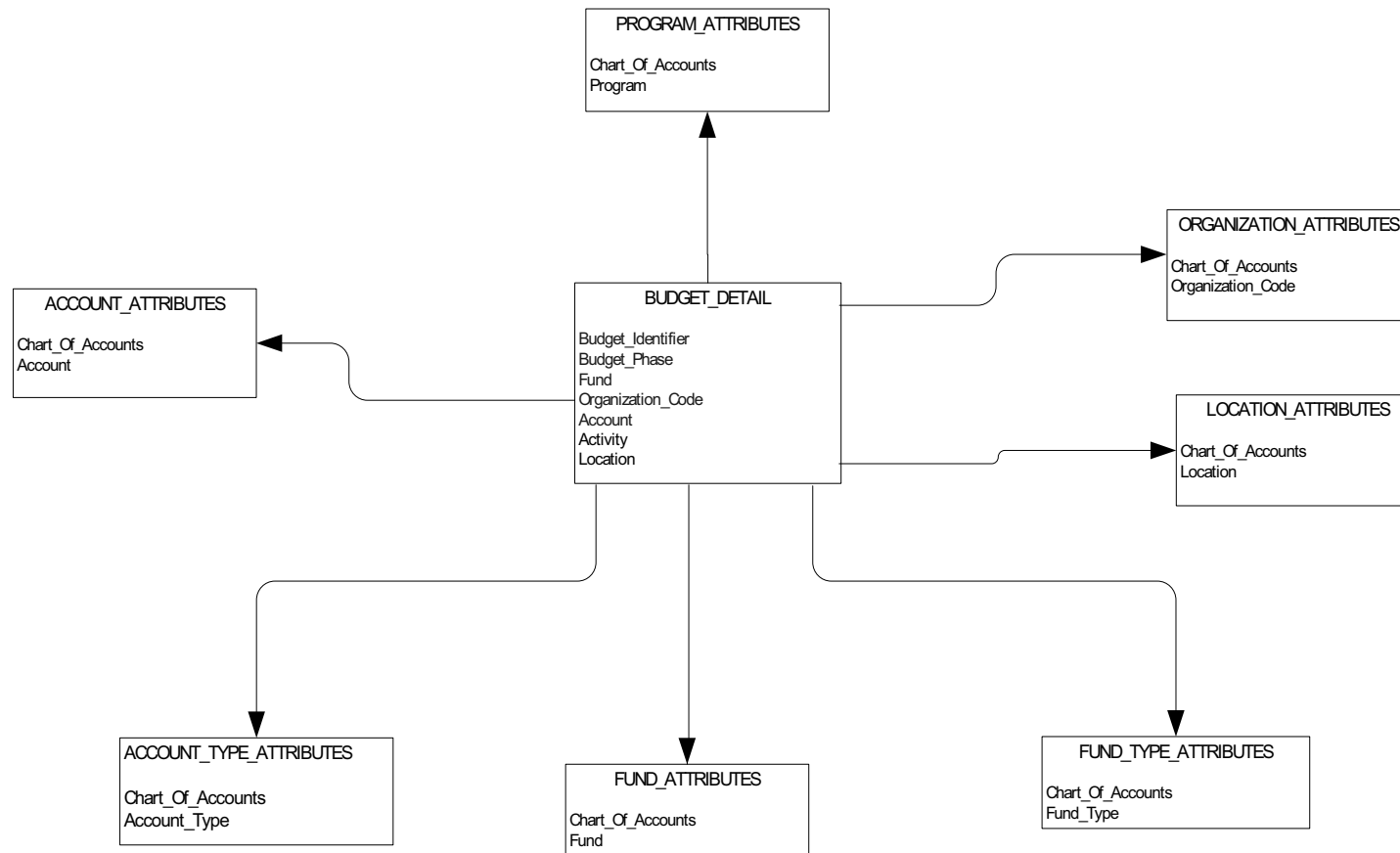


# Finance

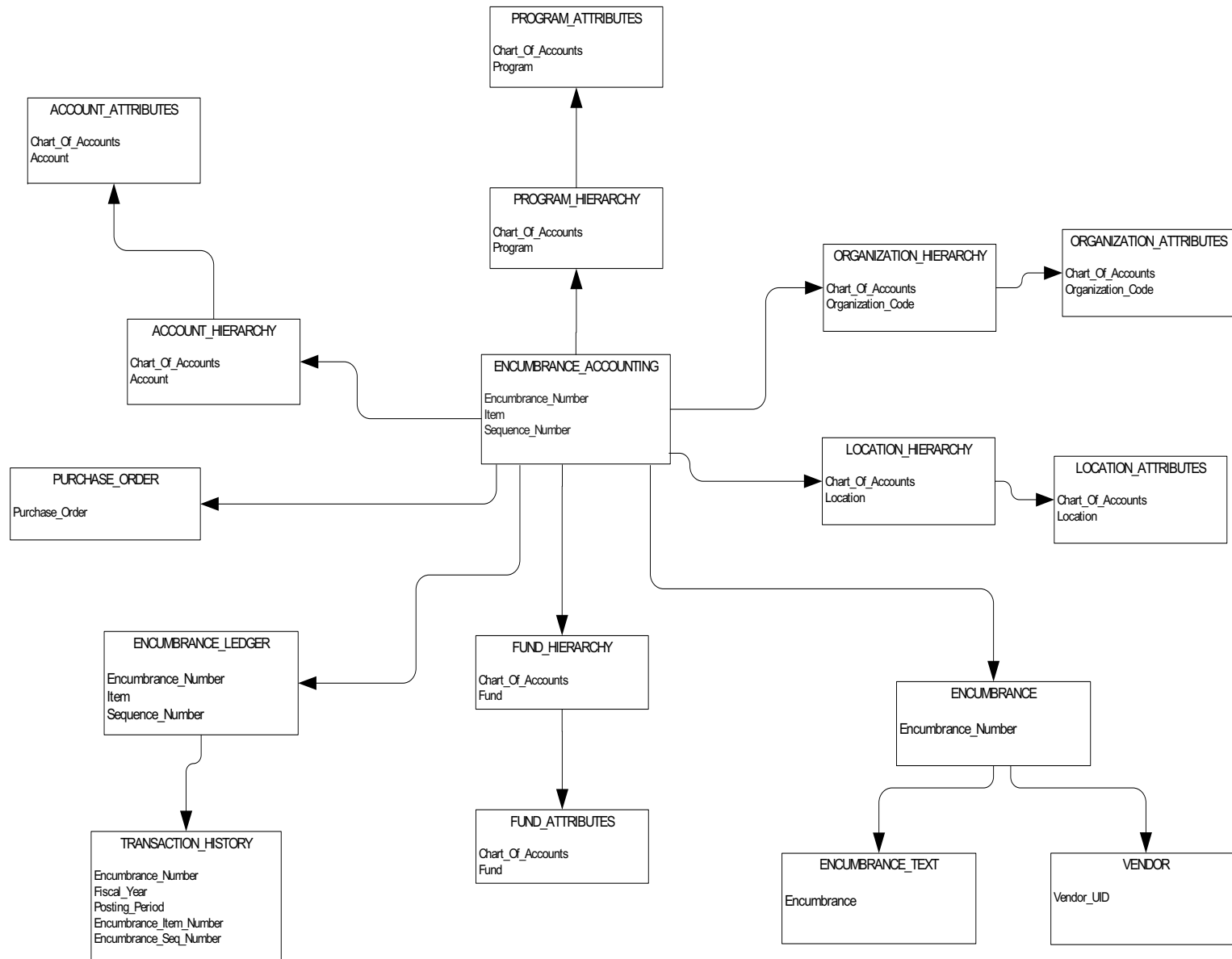
## Budget Availability Ledger



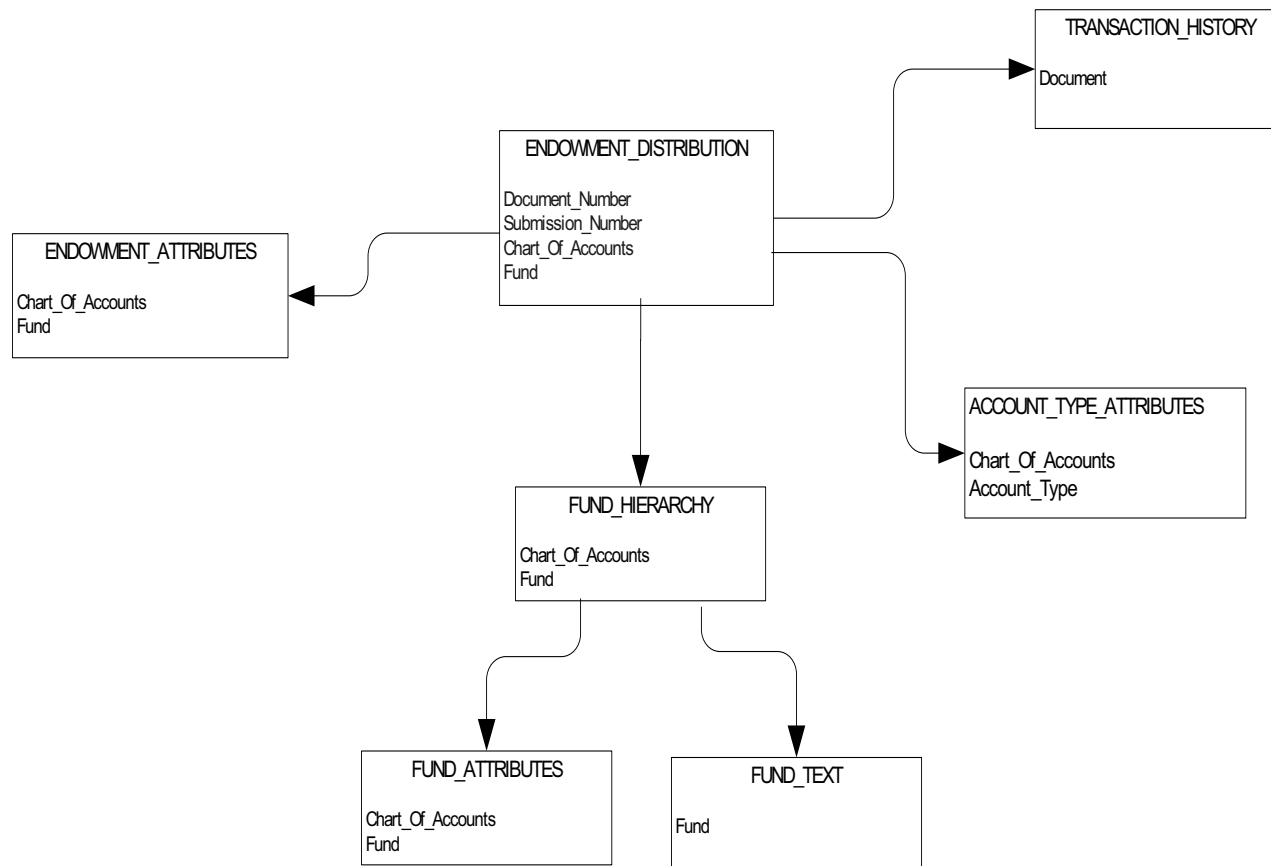
## Budget Detail



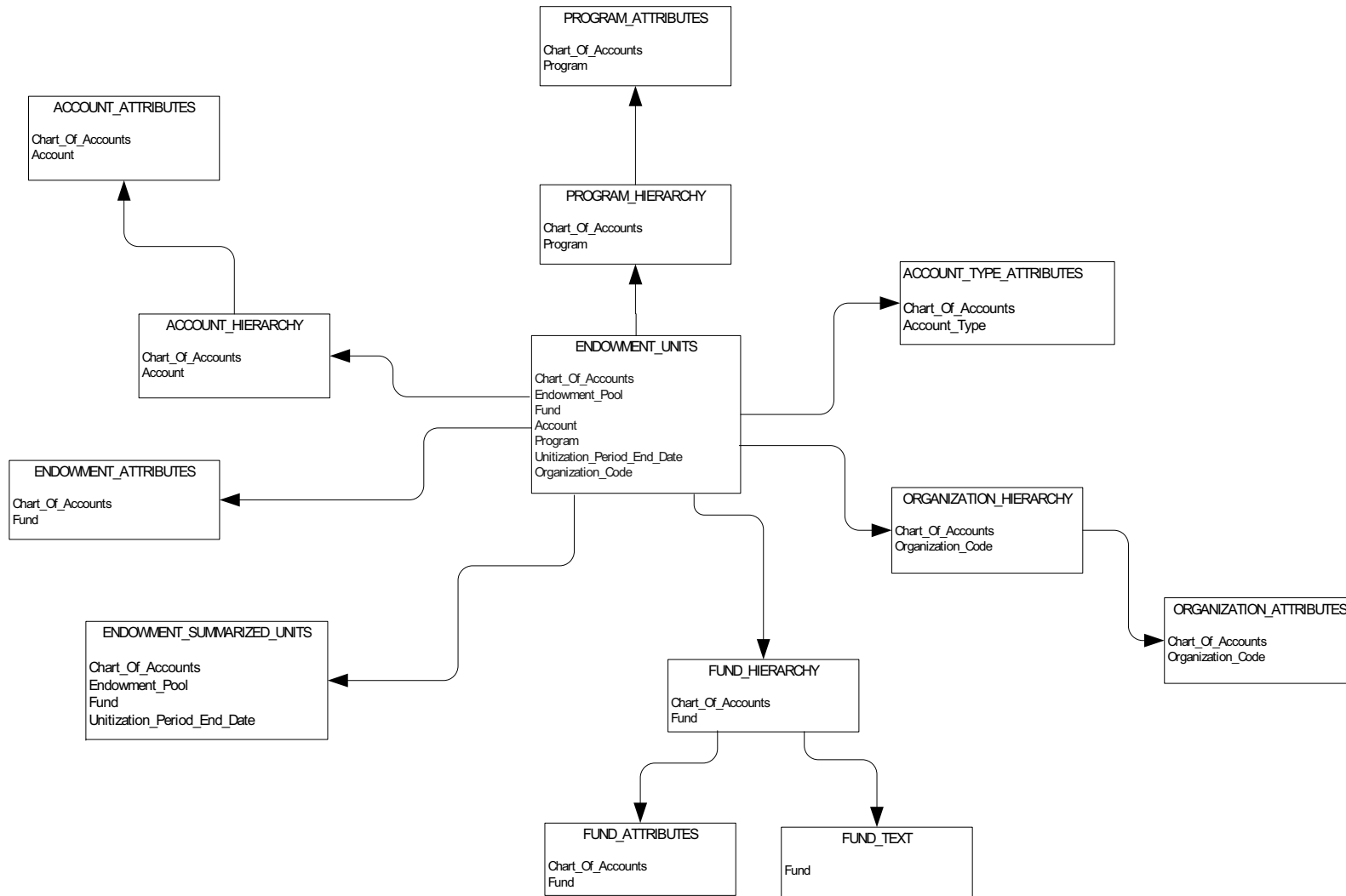
## Encumbrance



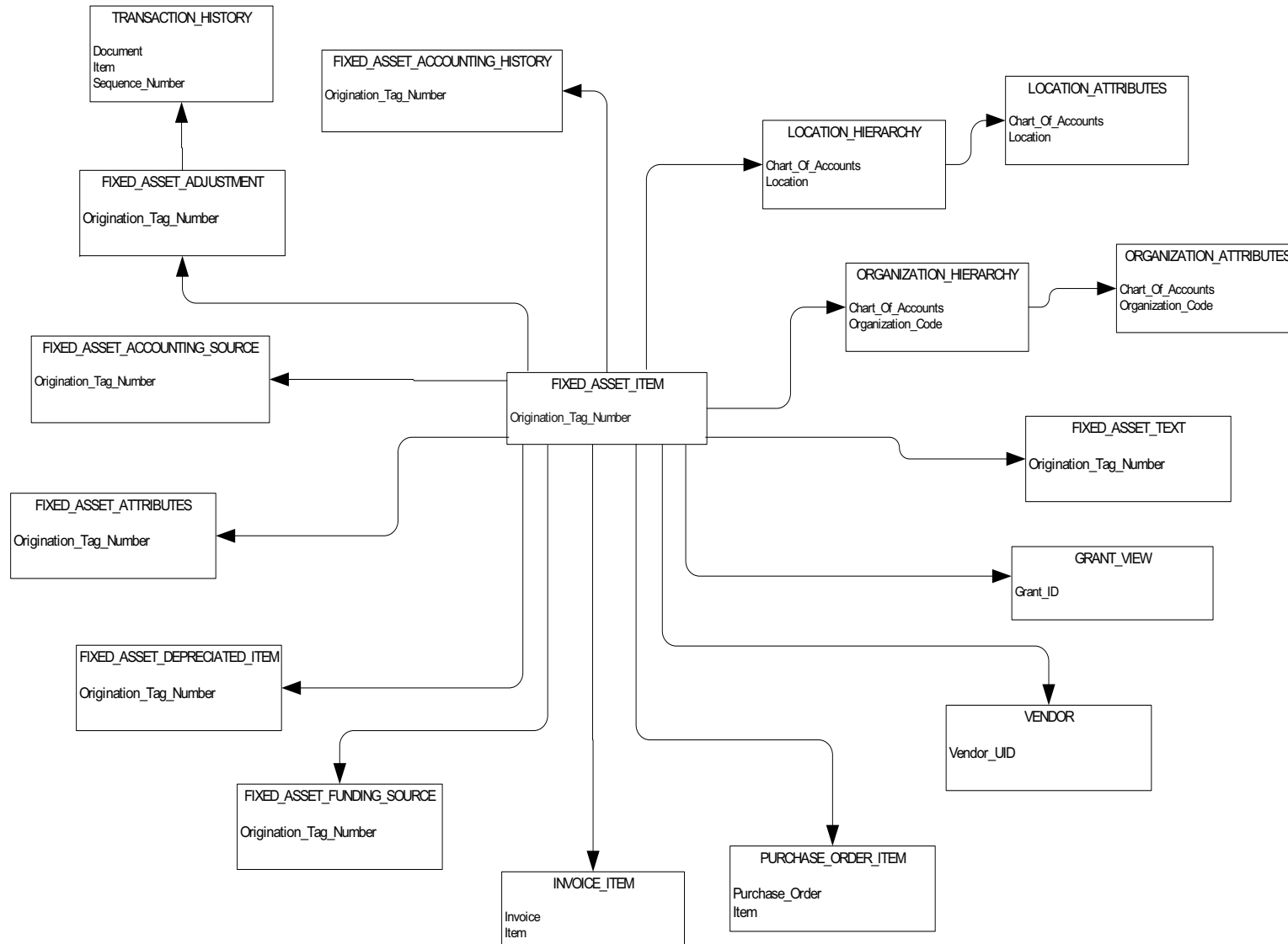
## Endowment Distribution



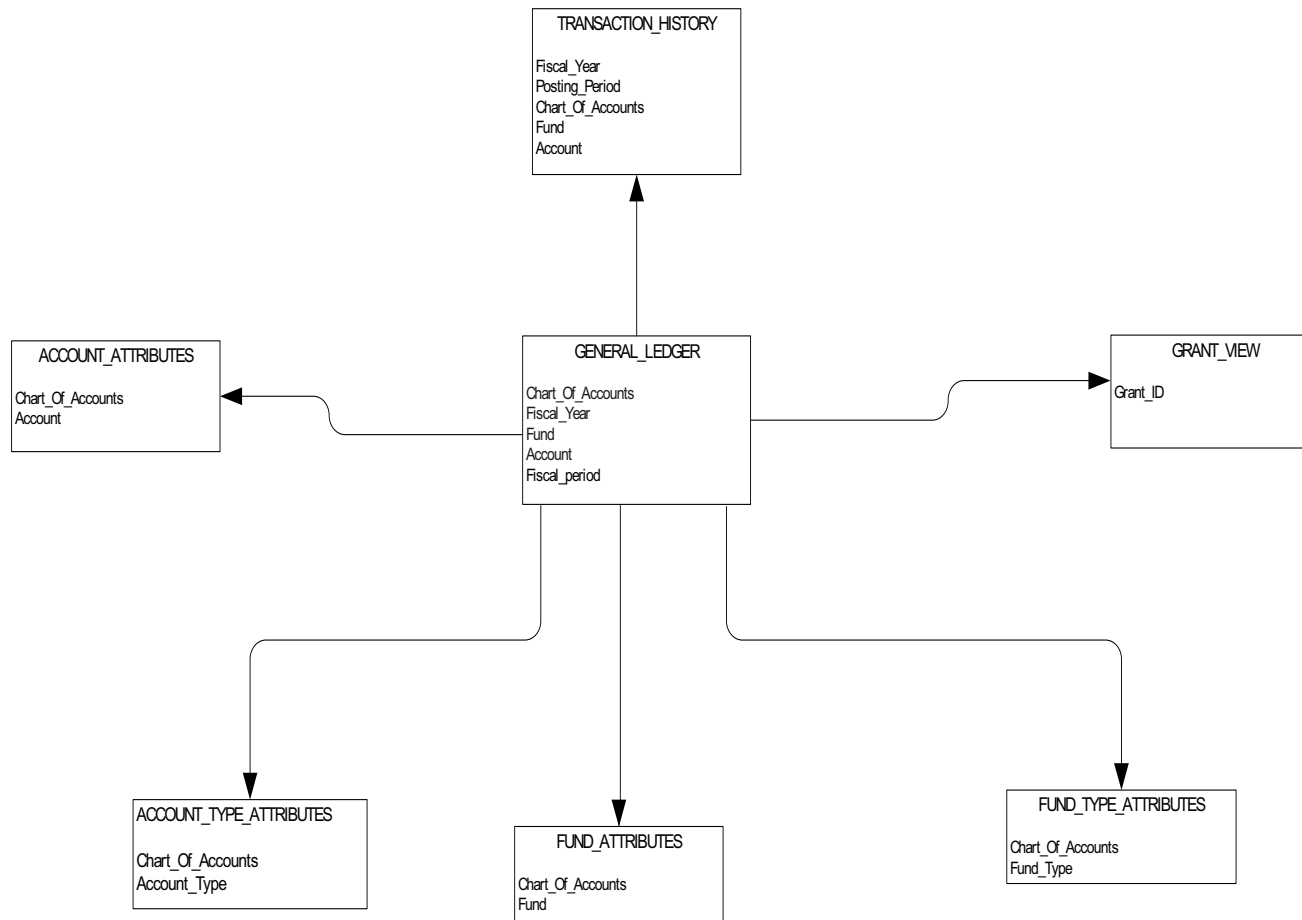
## Endowment Units



## Fixed Asset

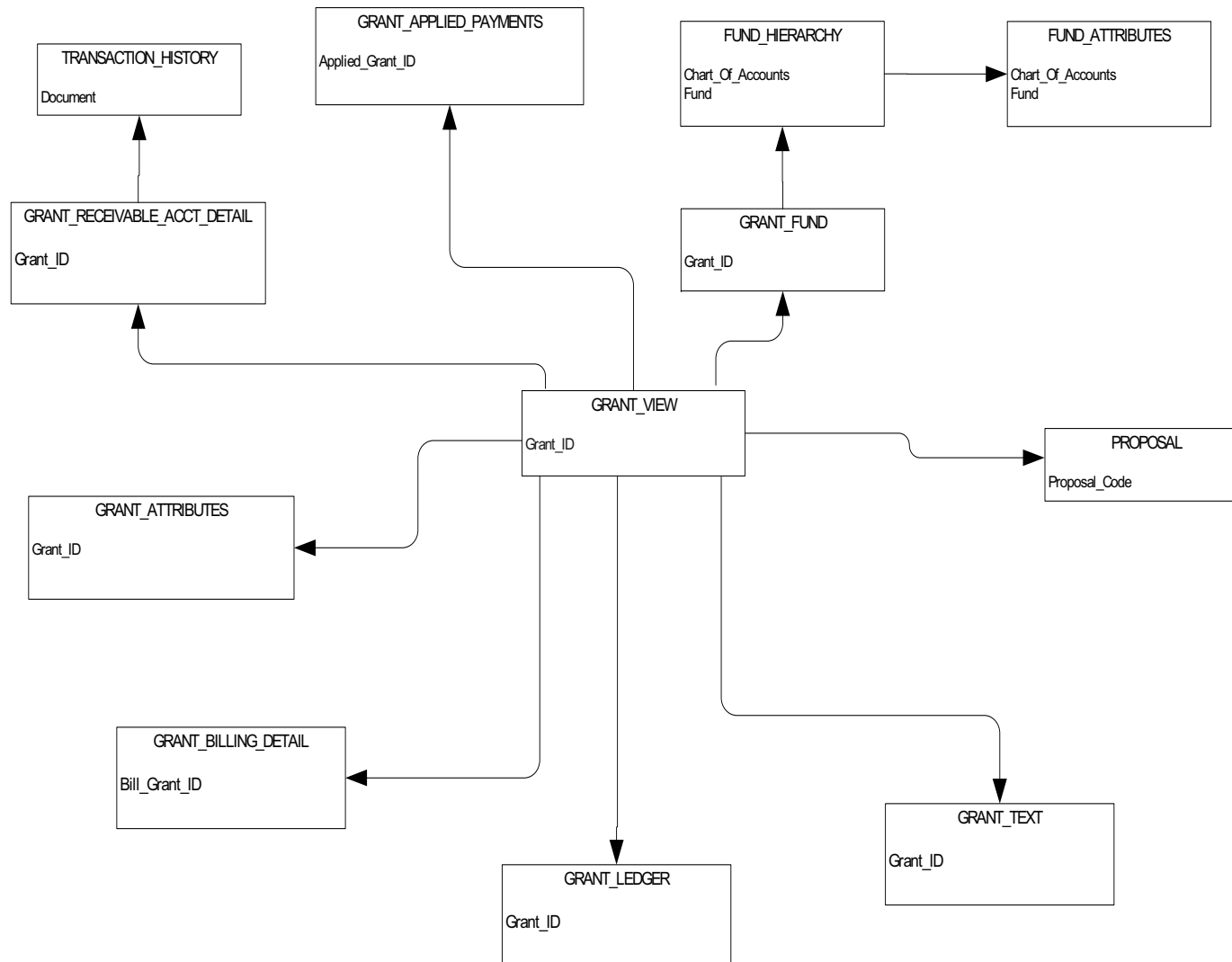


## General Ledger

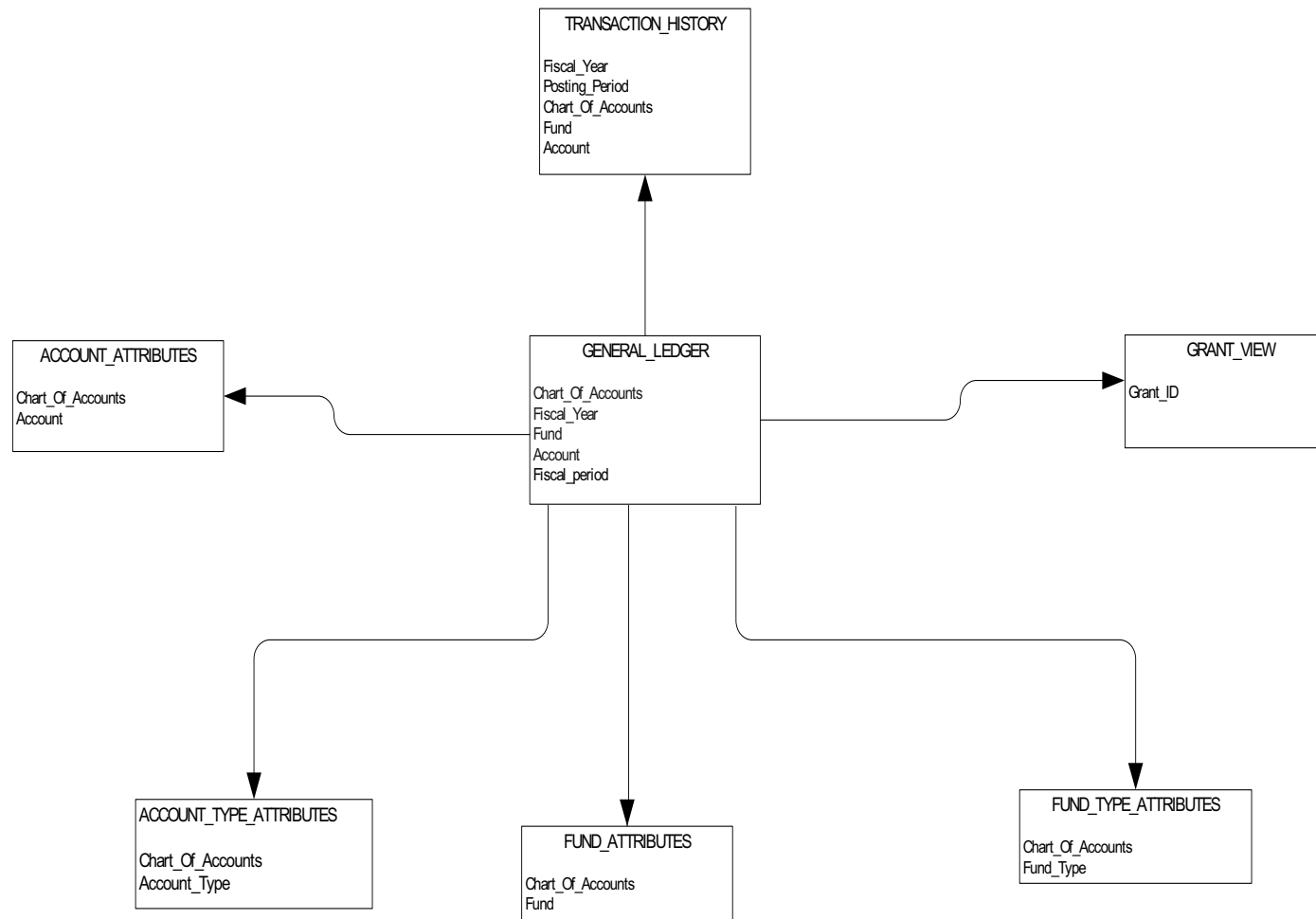




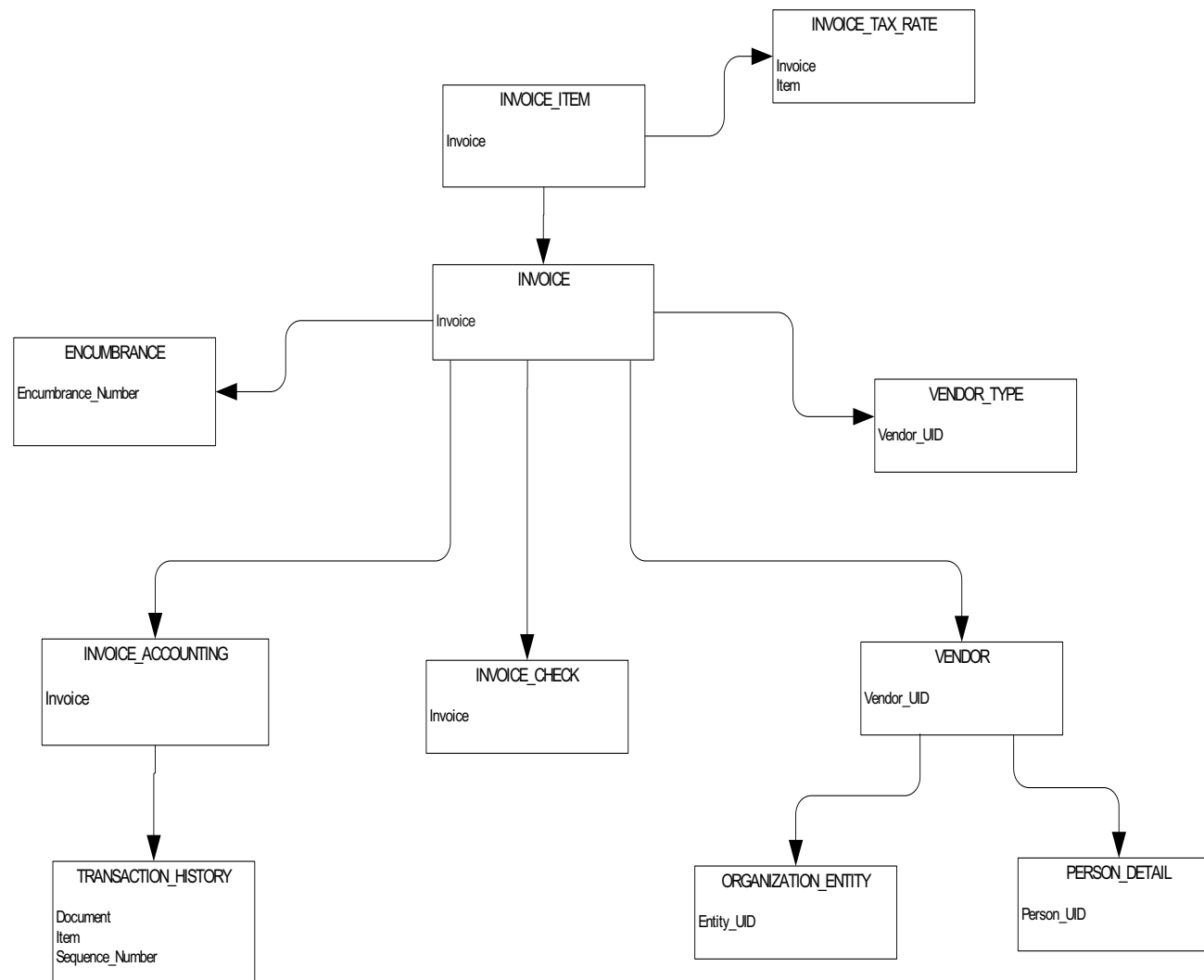
## Grant and Project



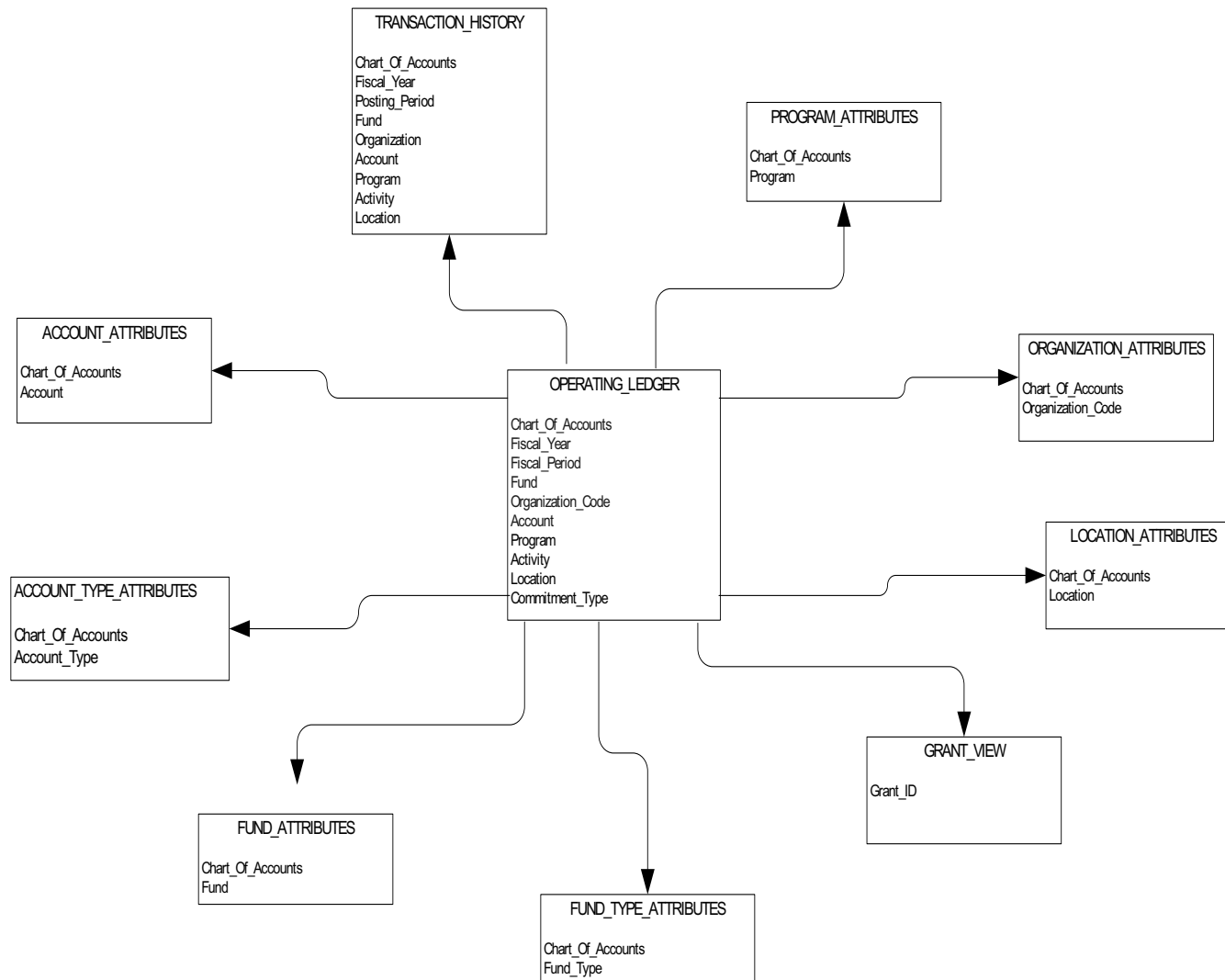
## Grant Ledger



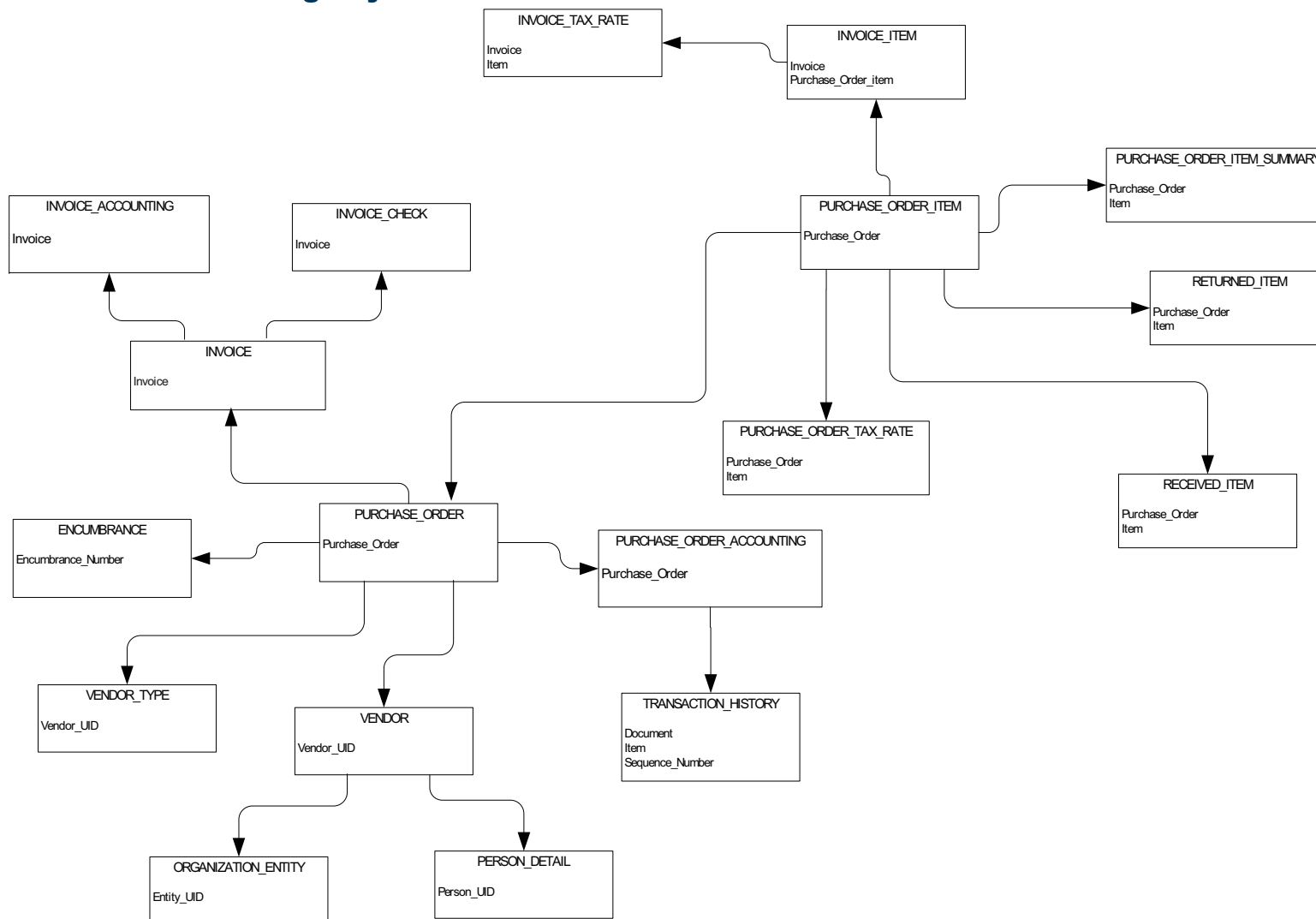
## Invoice Payable



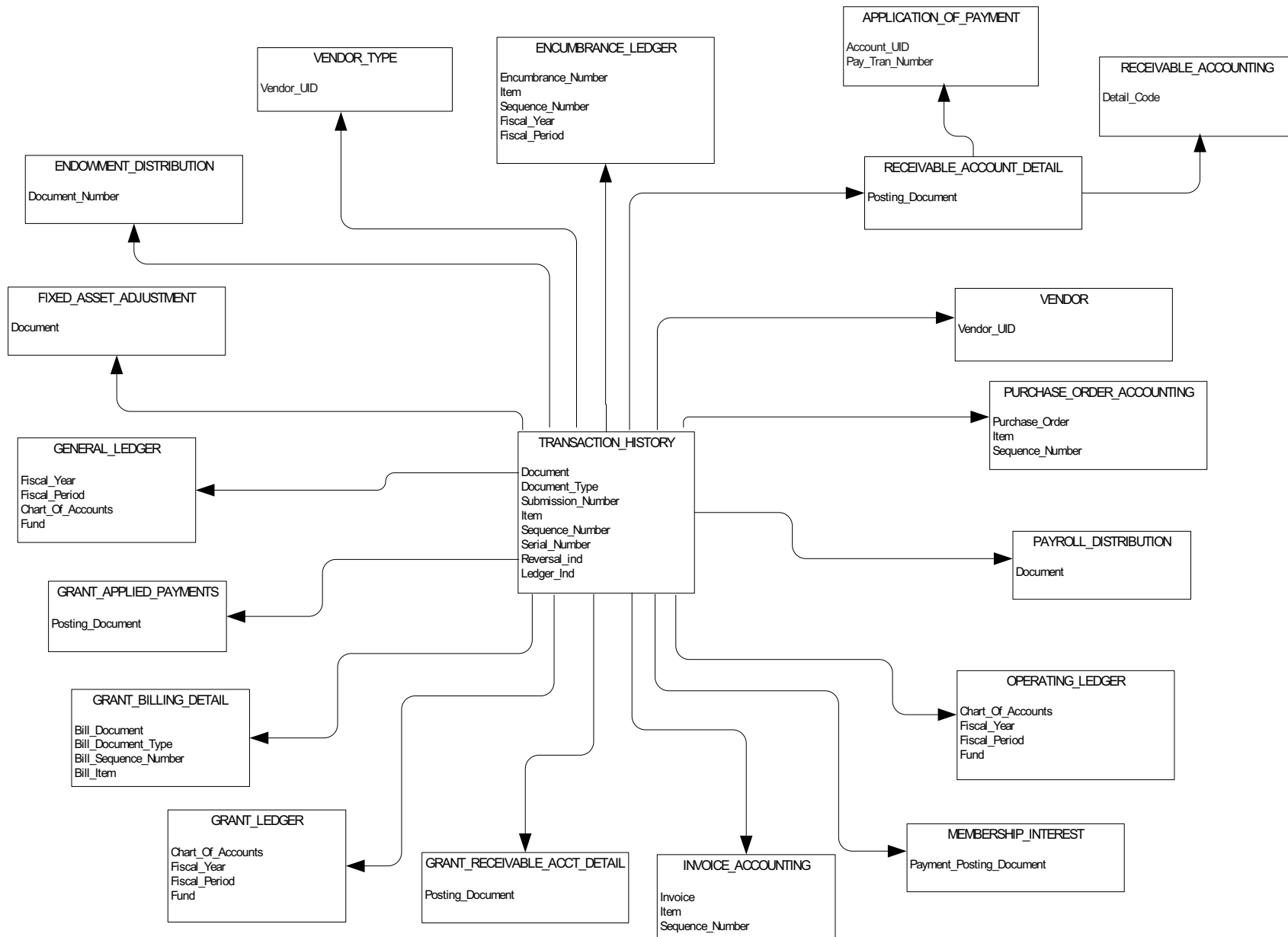
## Operating Ledger



## Purchasing Payable

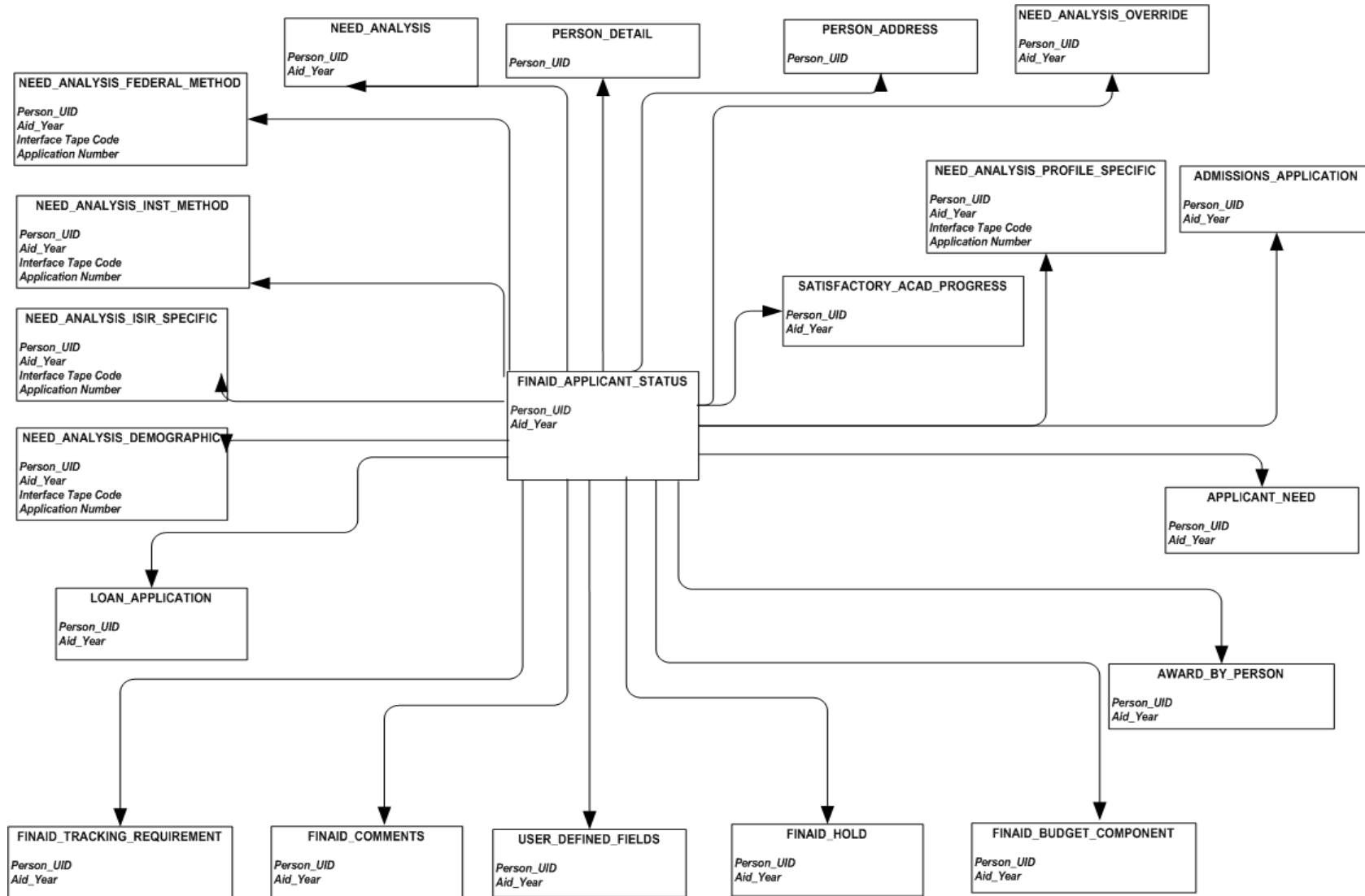


## Transaction History

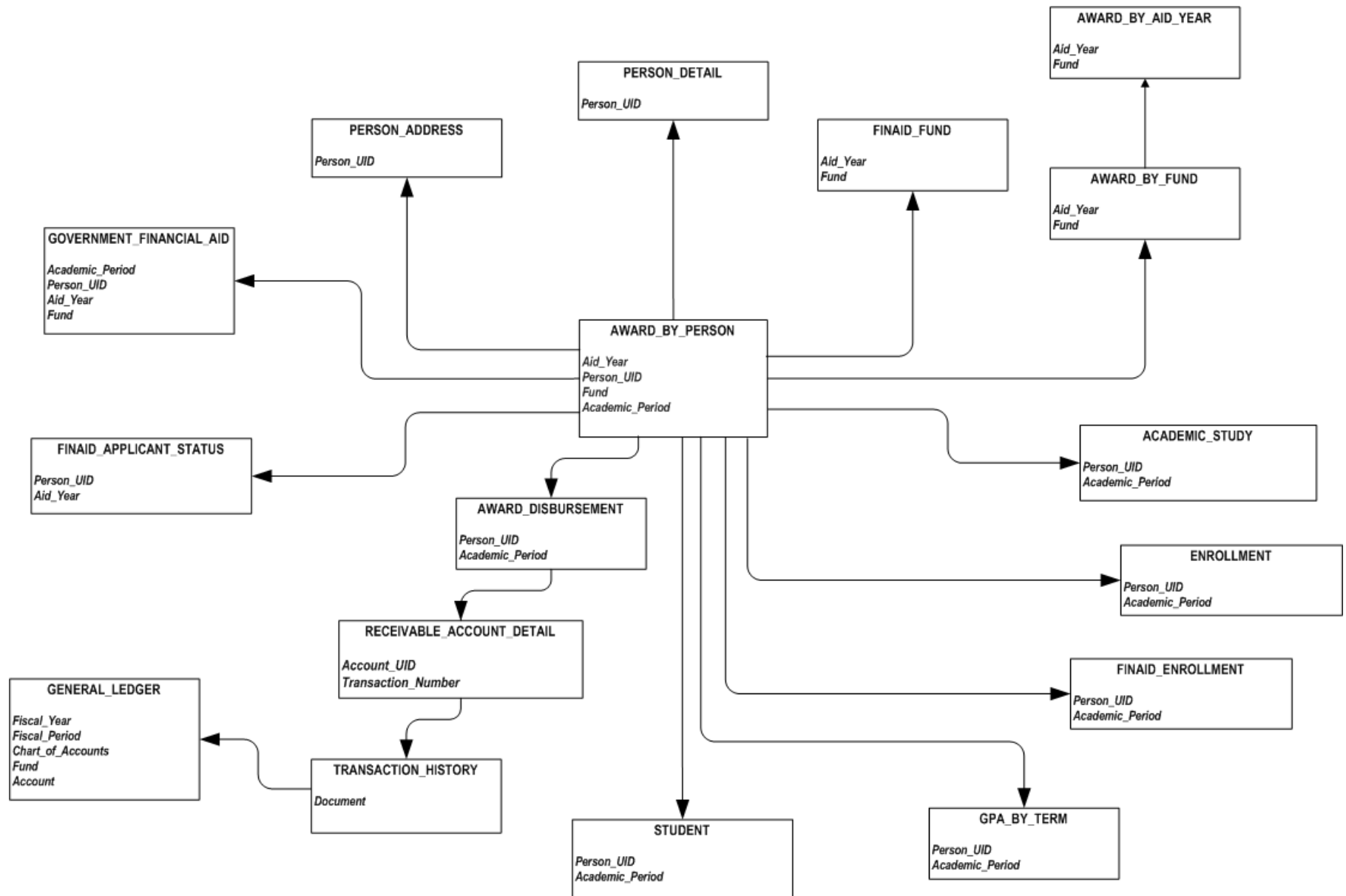


# Financial Aid

## Financial Aid Application

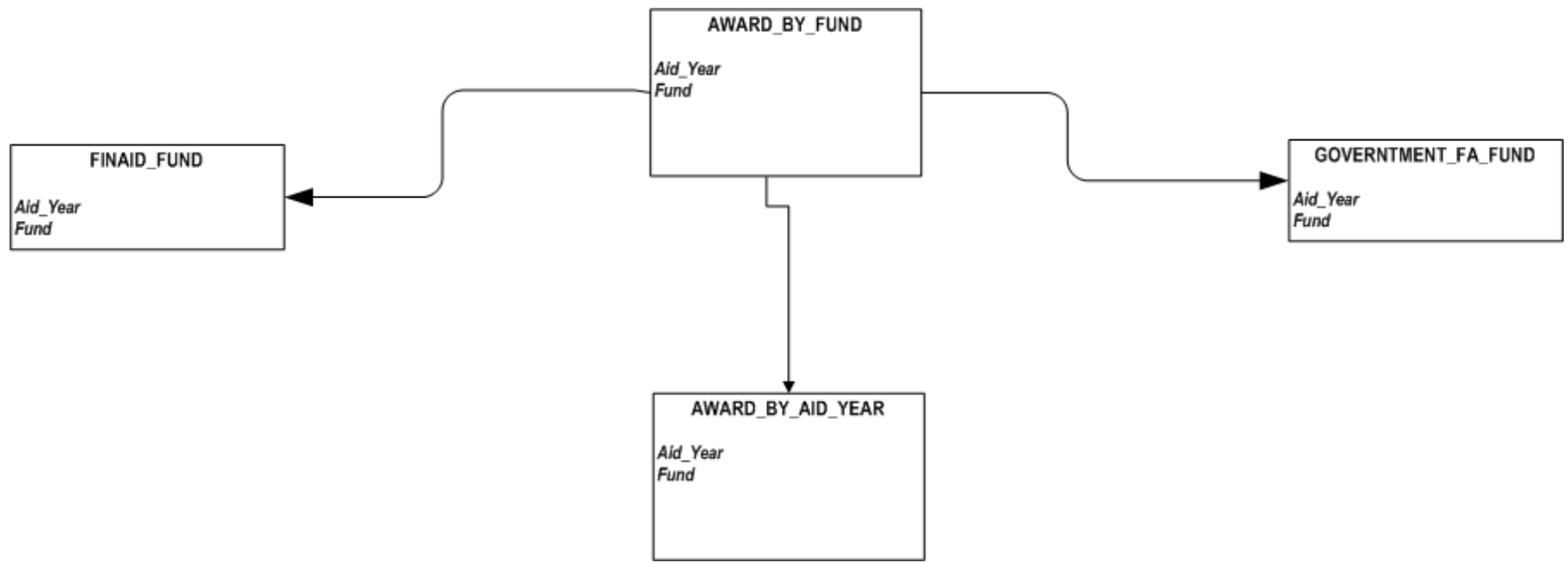


## Financial Aid Award and Disbursement



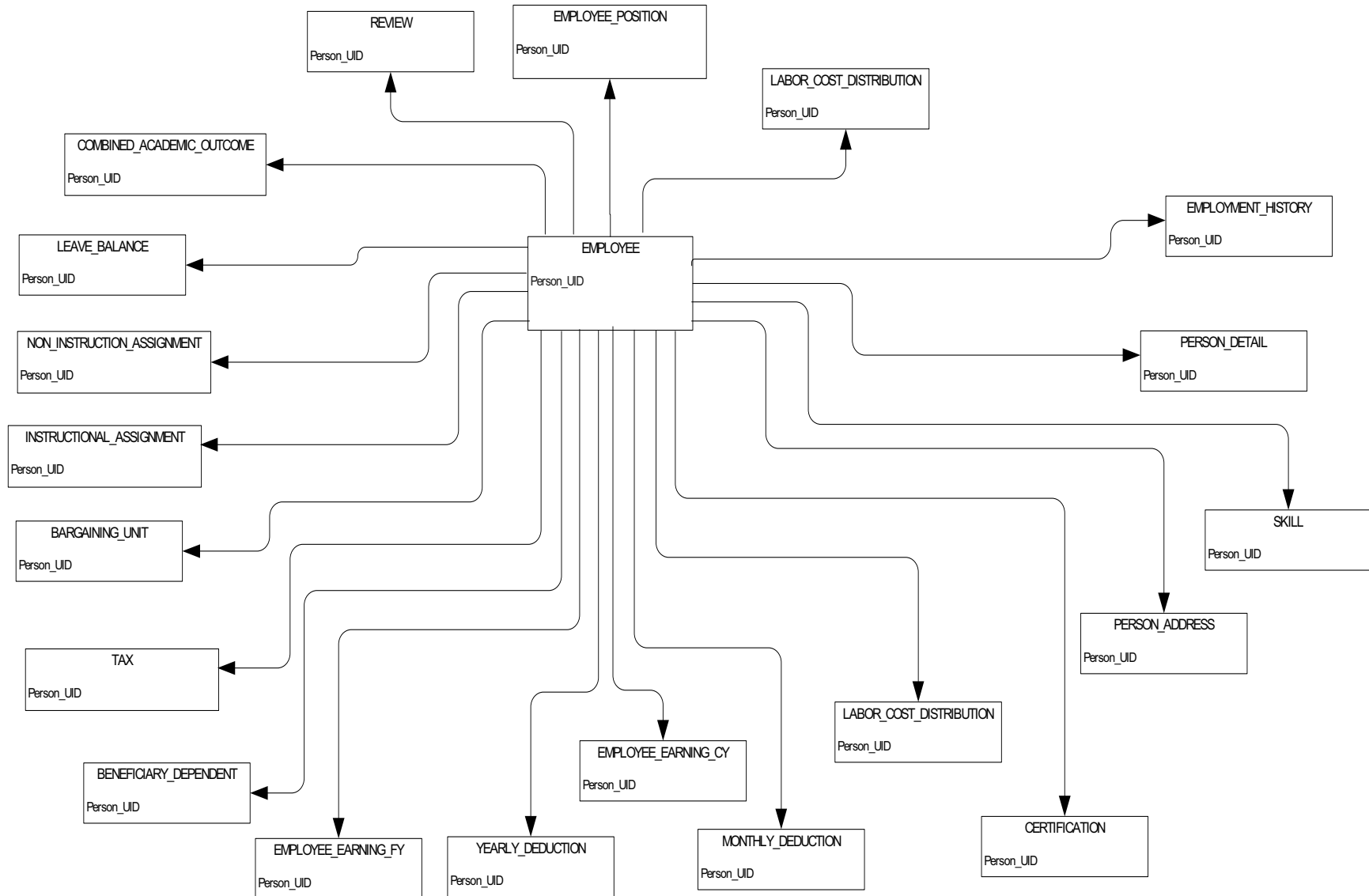


## Financial Aid Fund

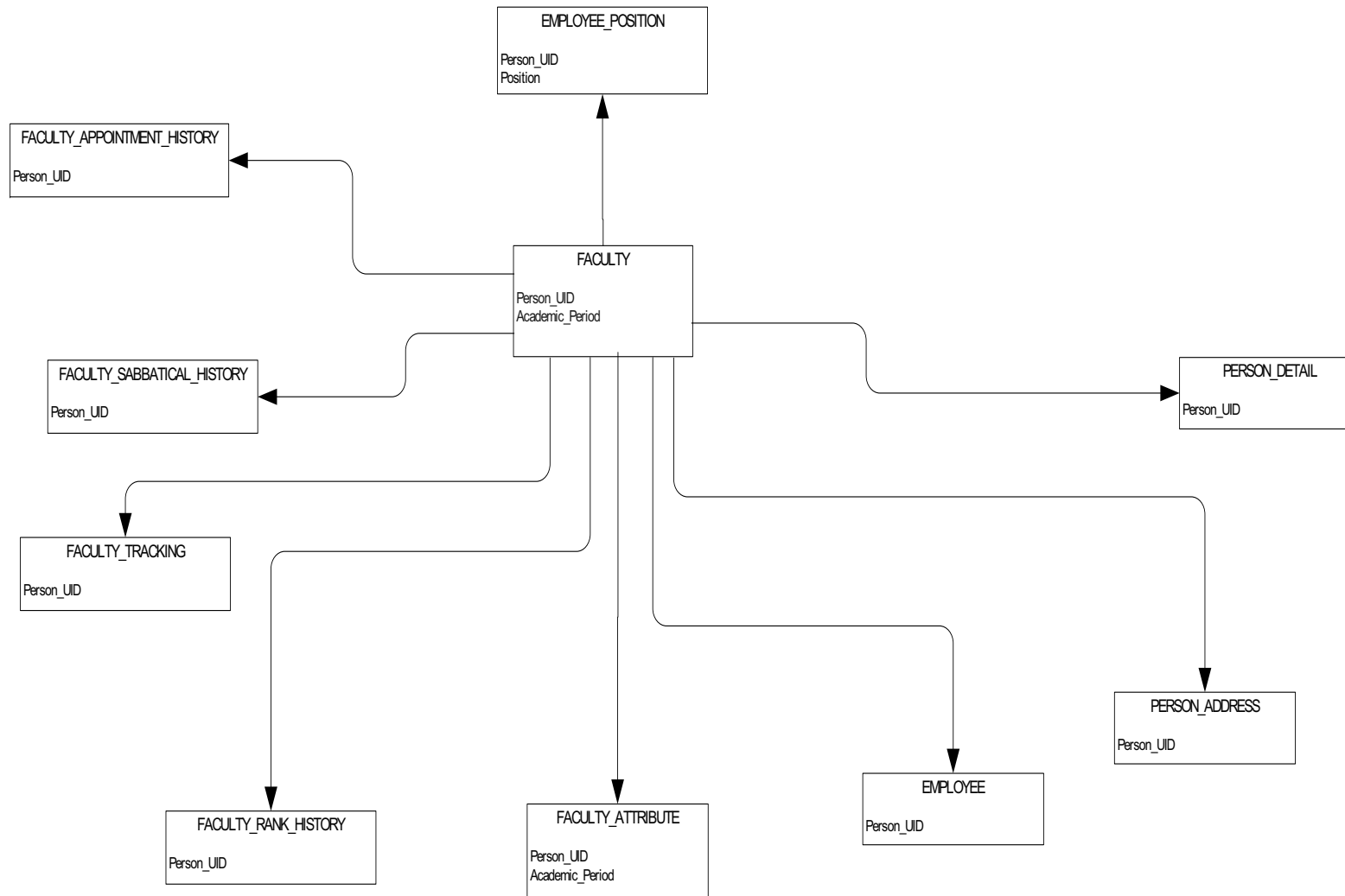


# Human Resources

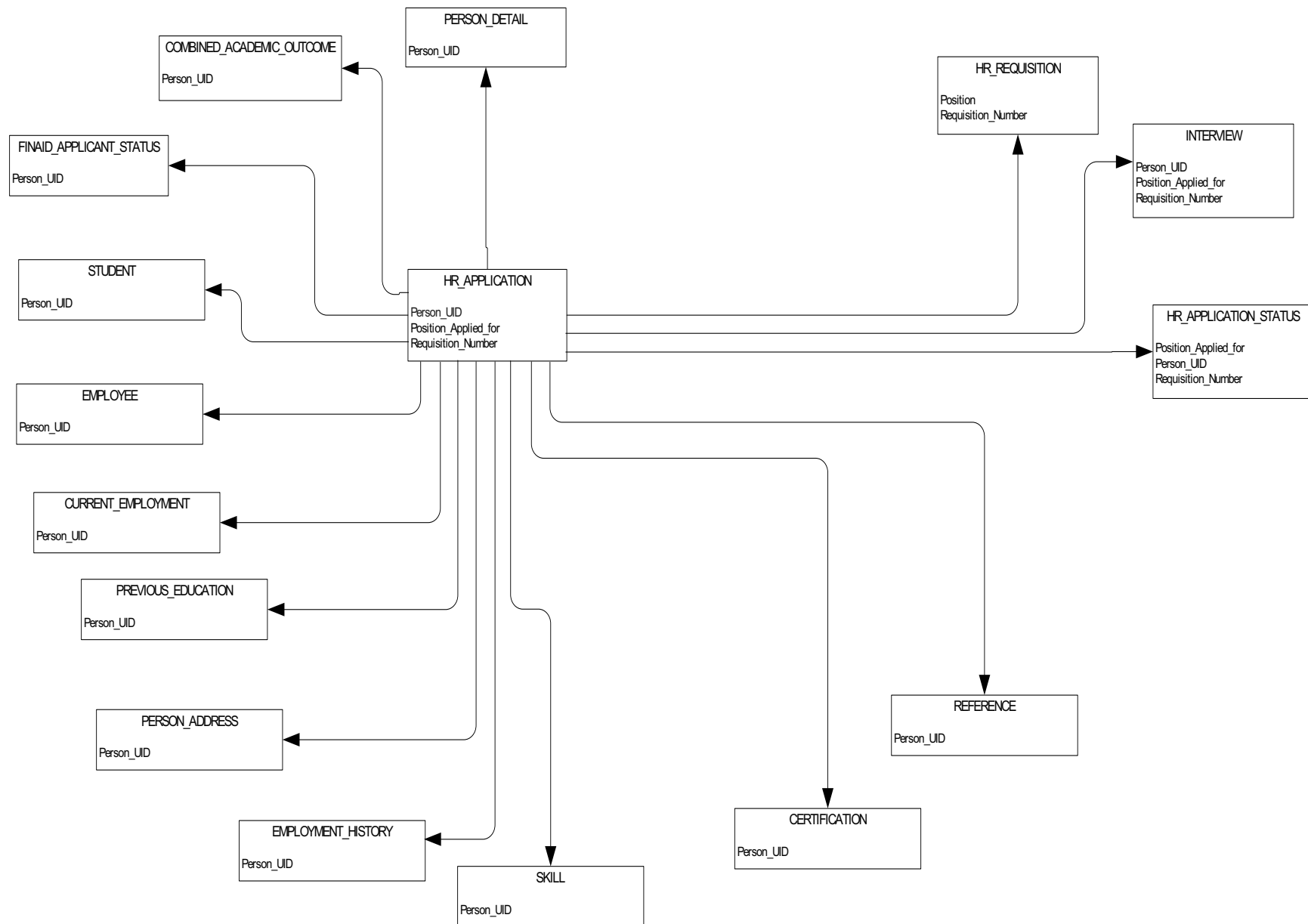
## Employee



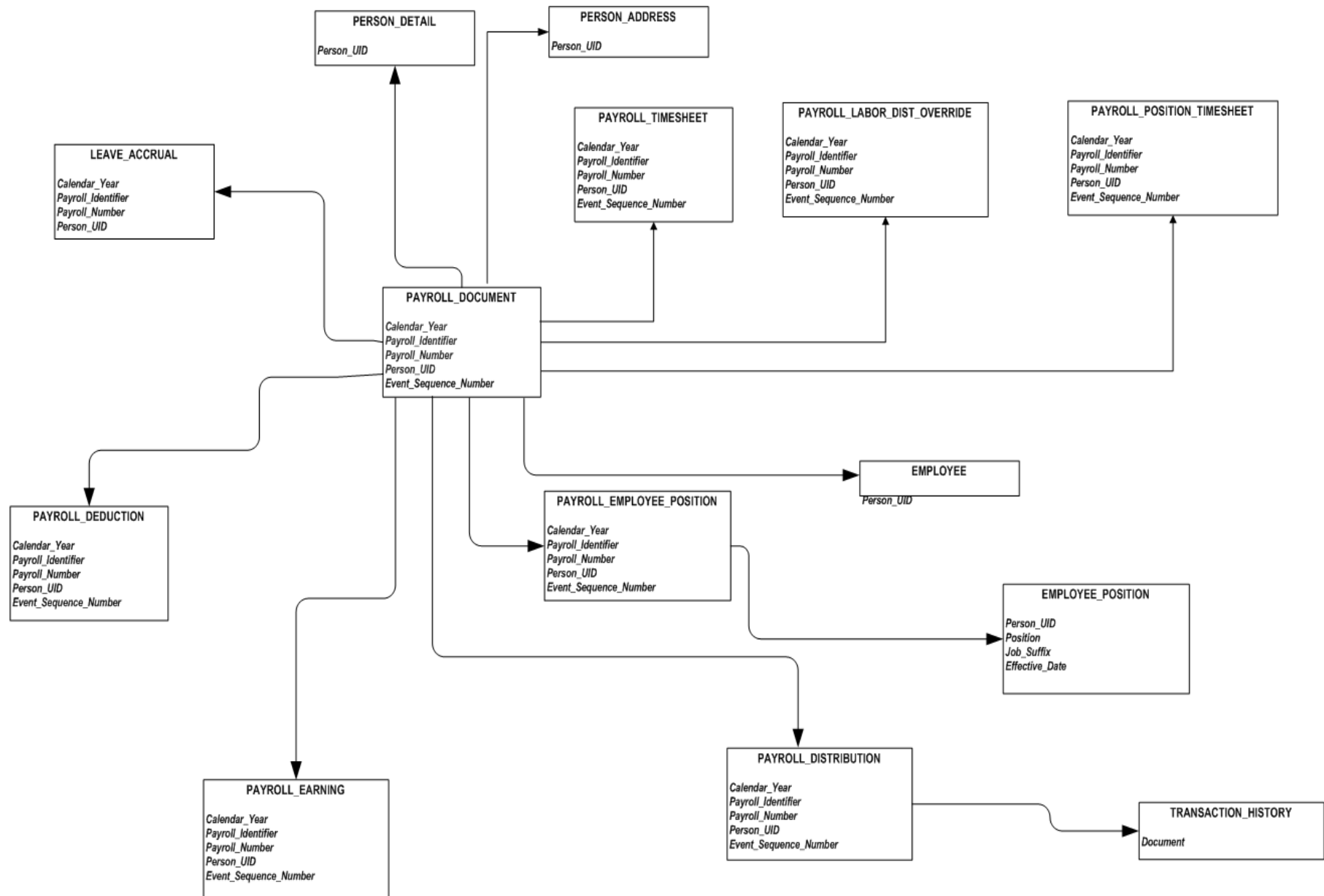
## Human Resource Faculty



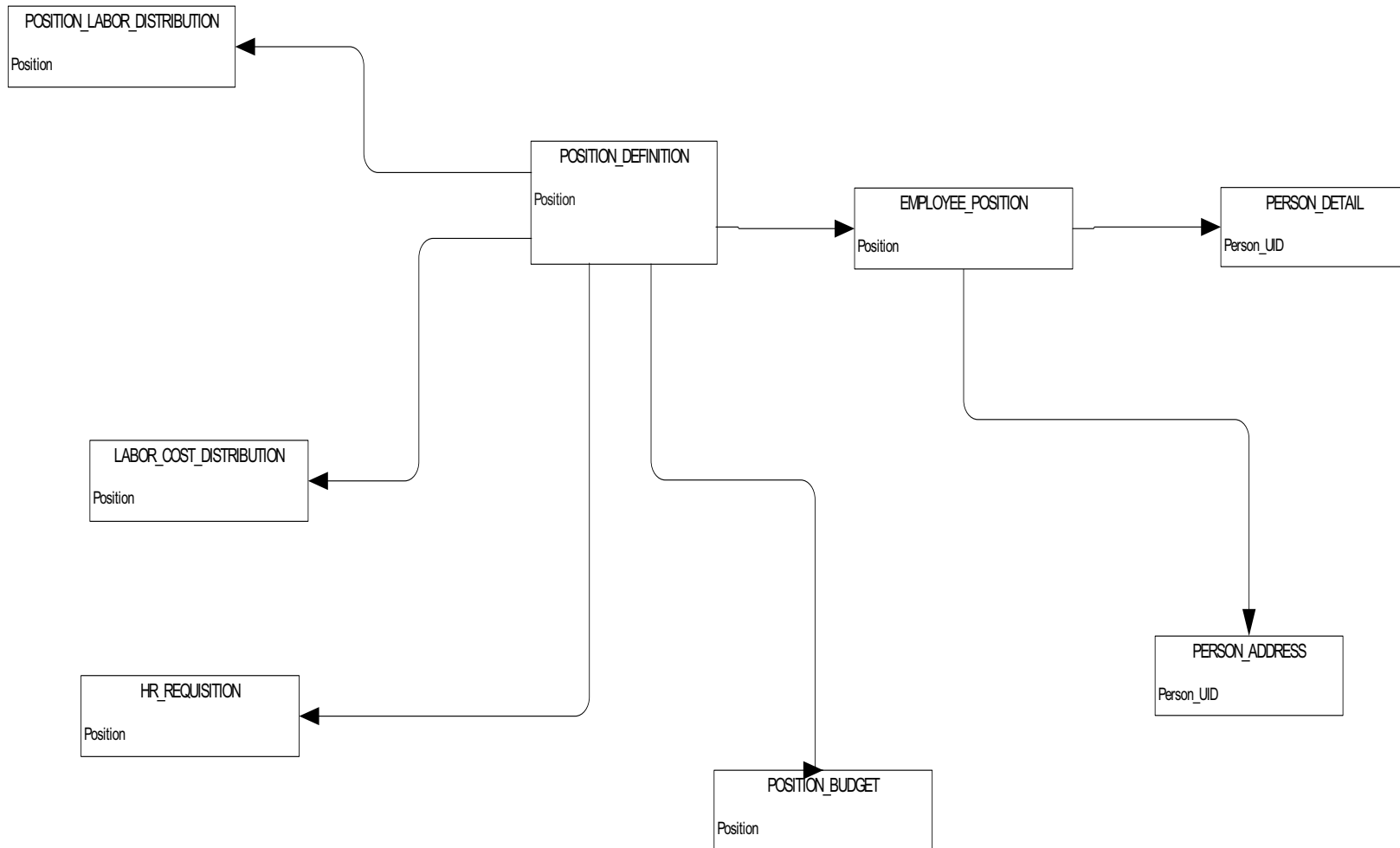
## Human Resource Application



# Payroll

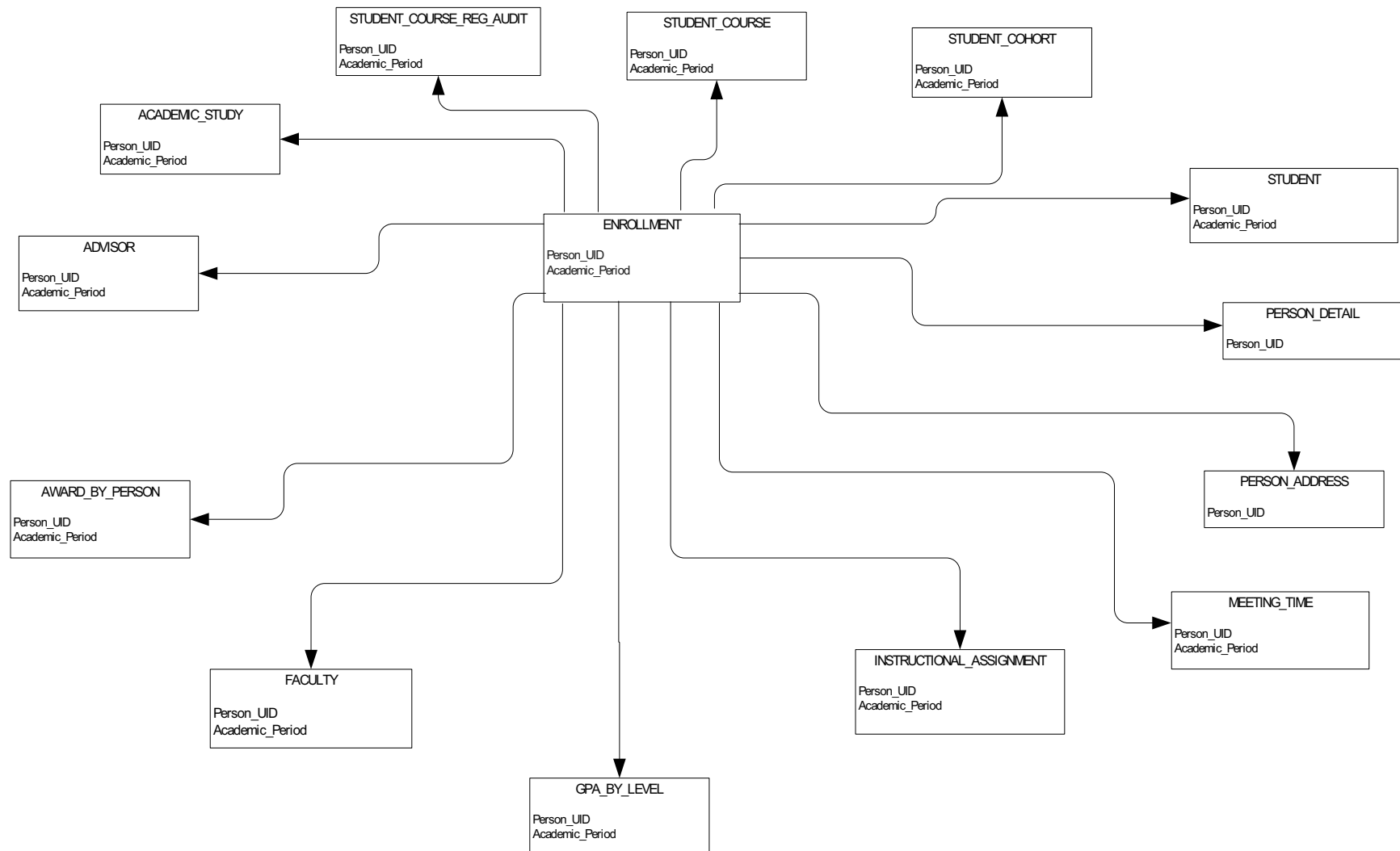


## Position

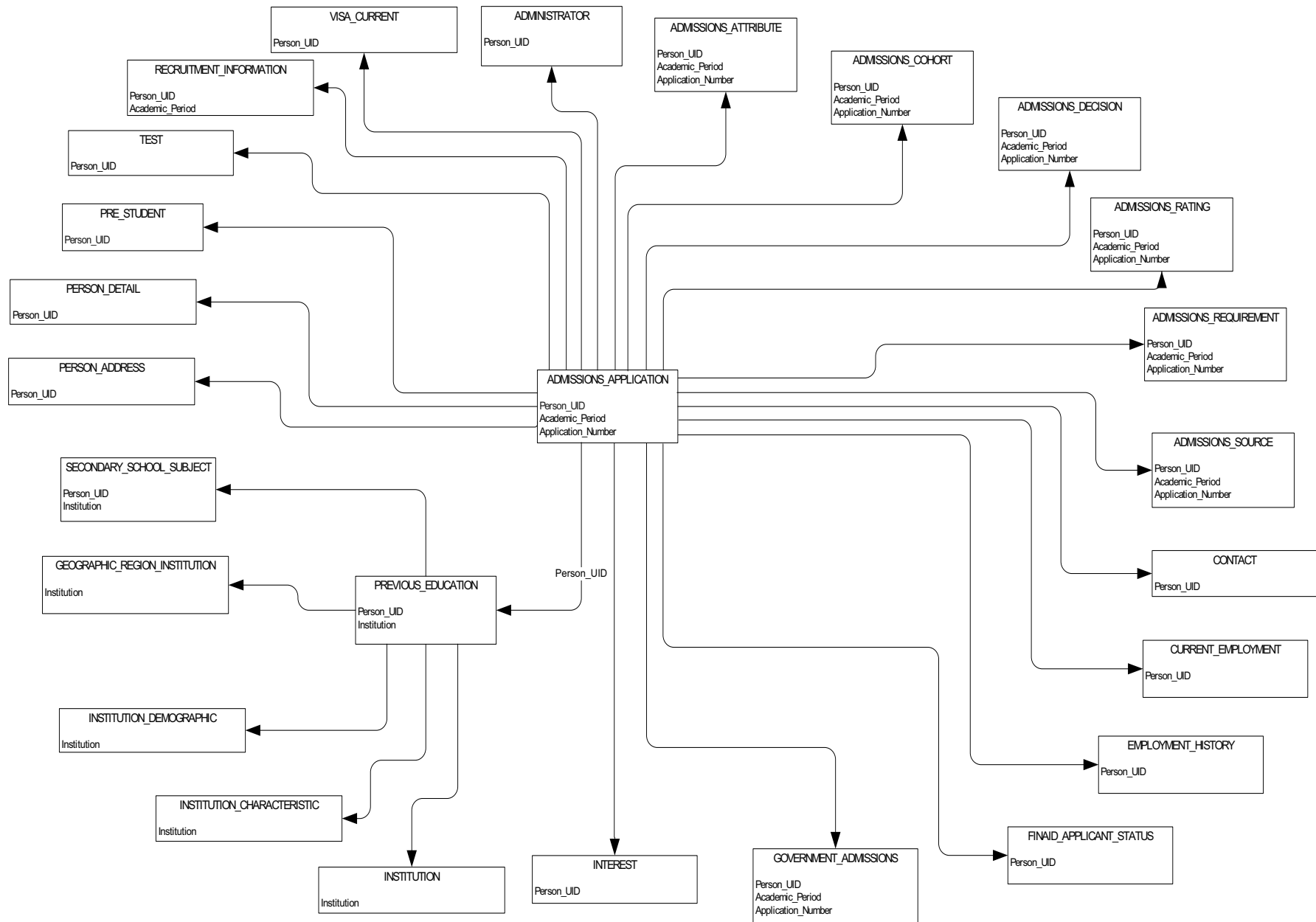


# Student

## Active Registration

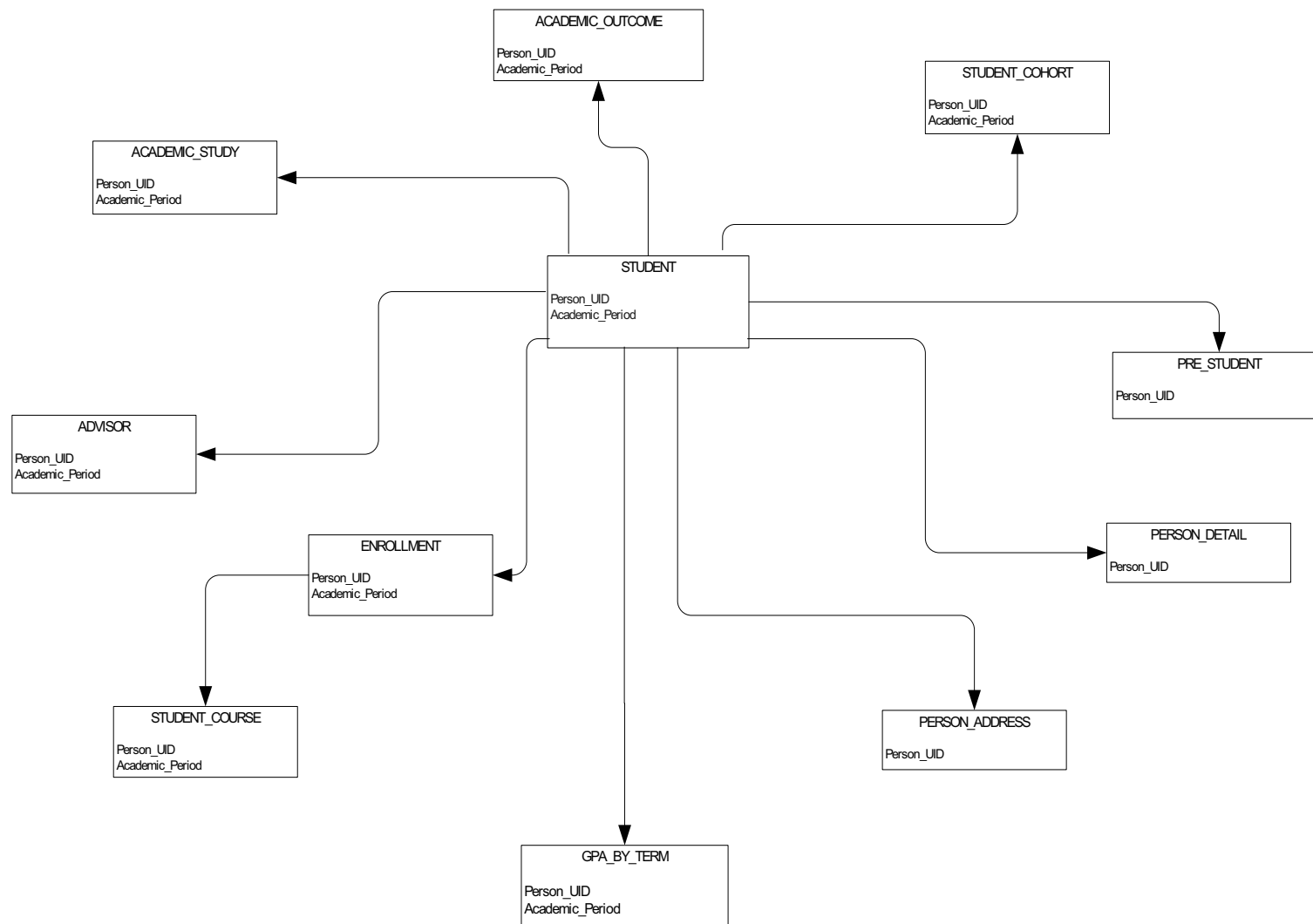


## Admissions Application

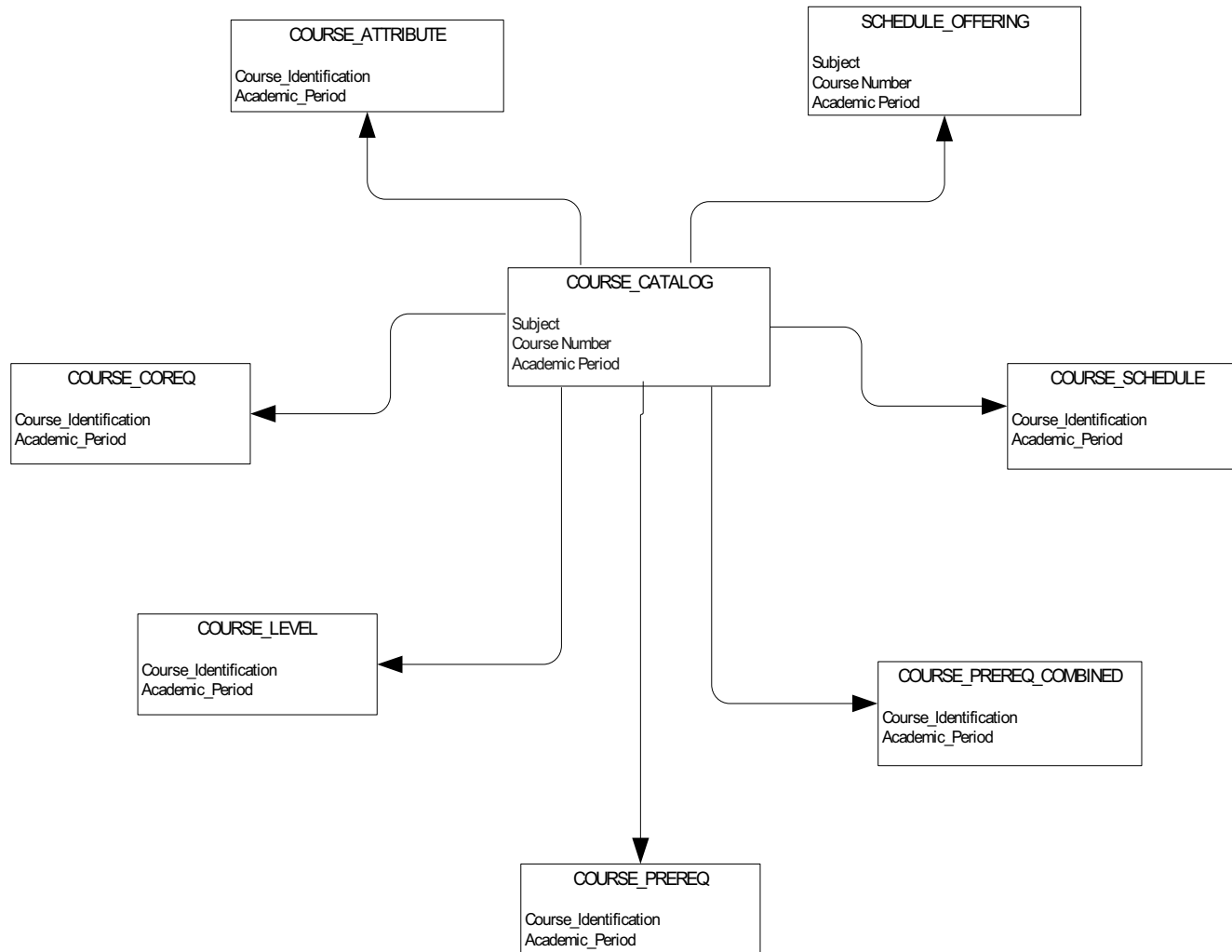




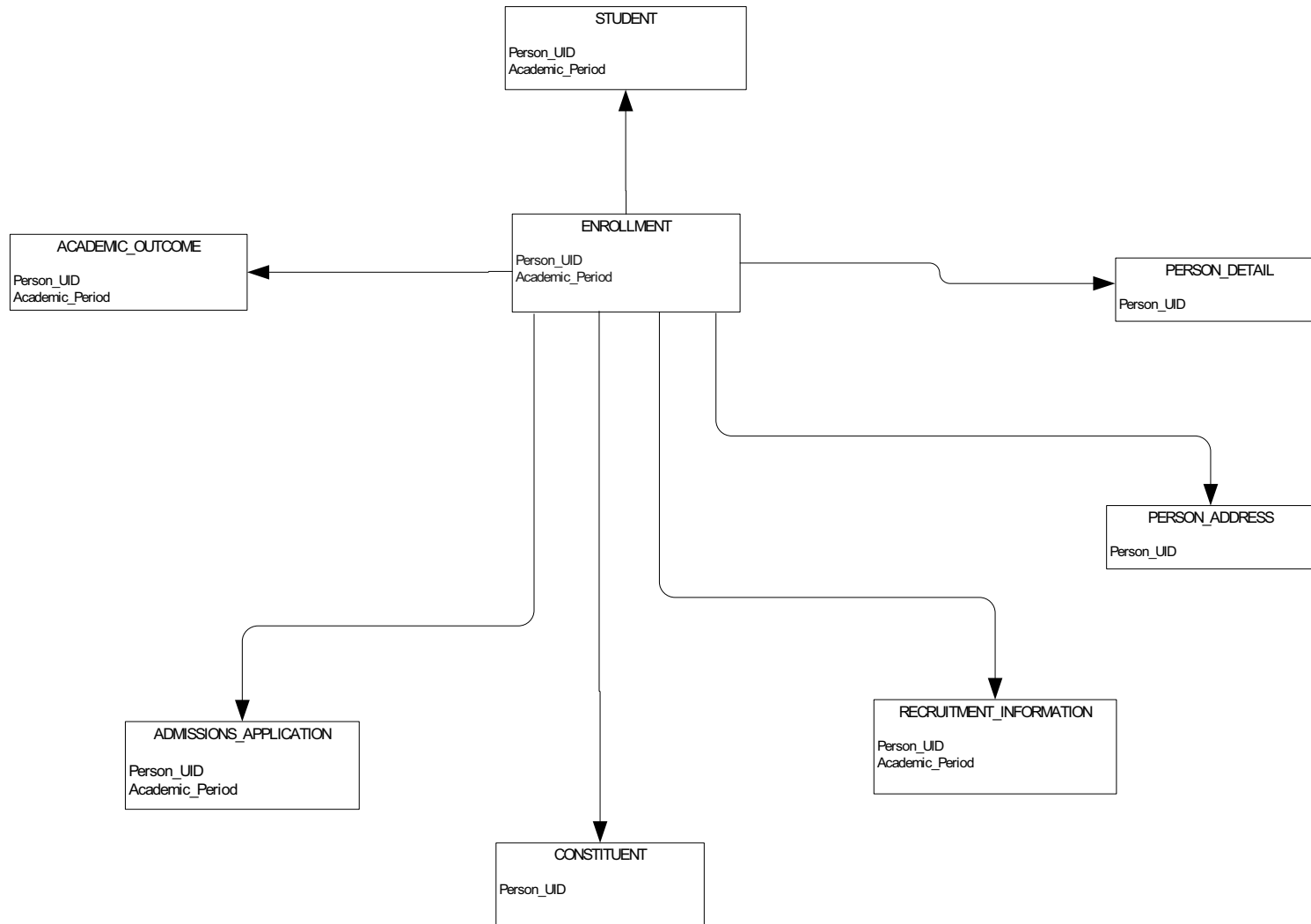
## Advisor Student List



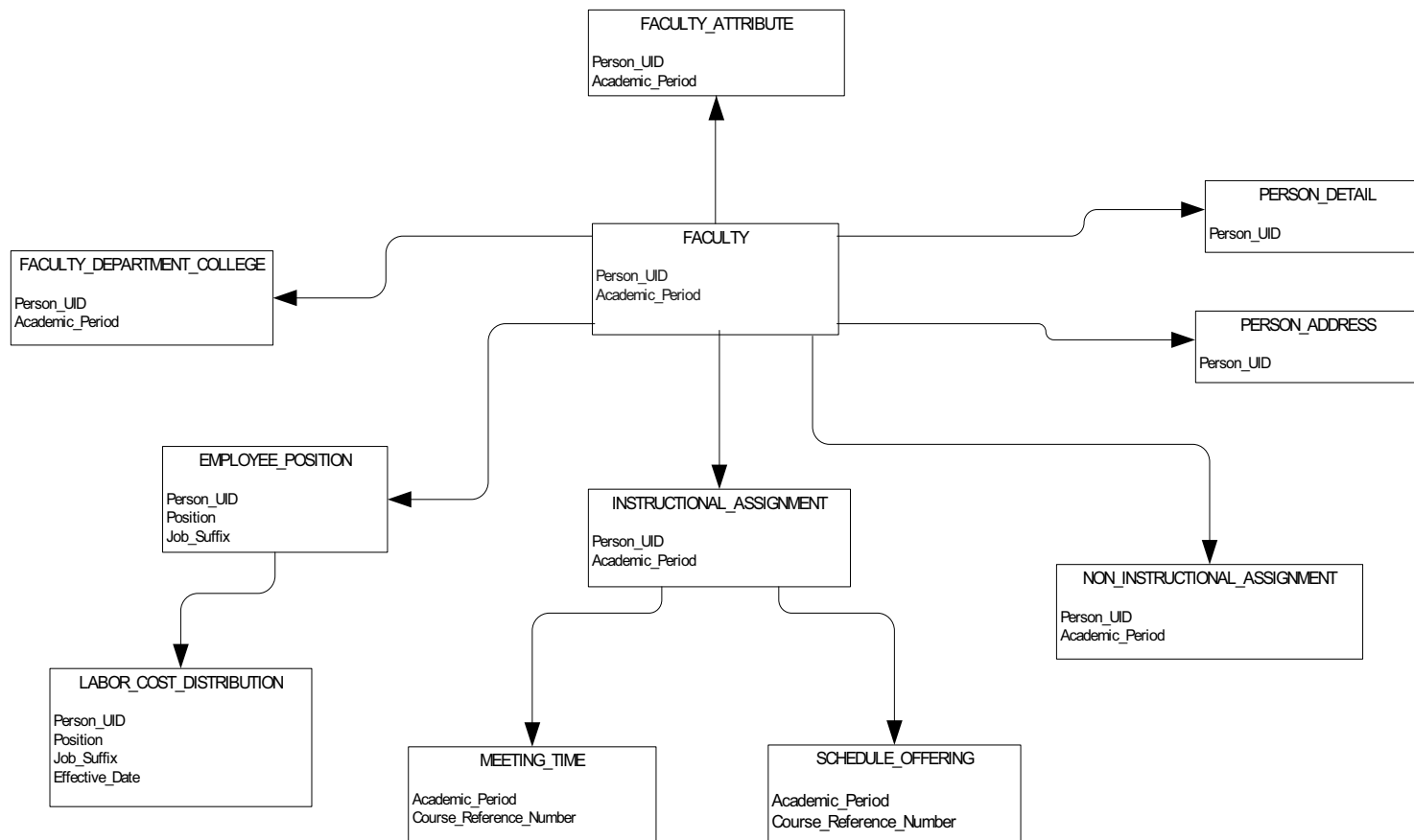
## Course Catalog



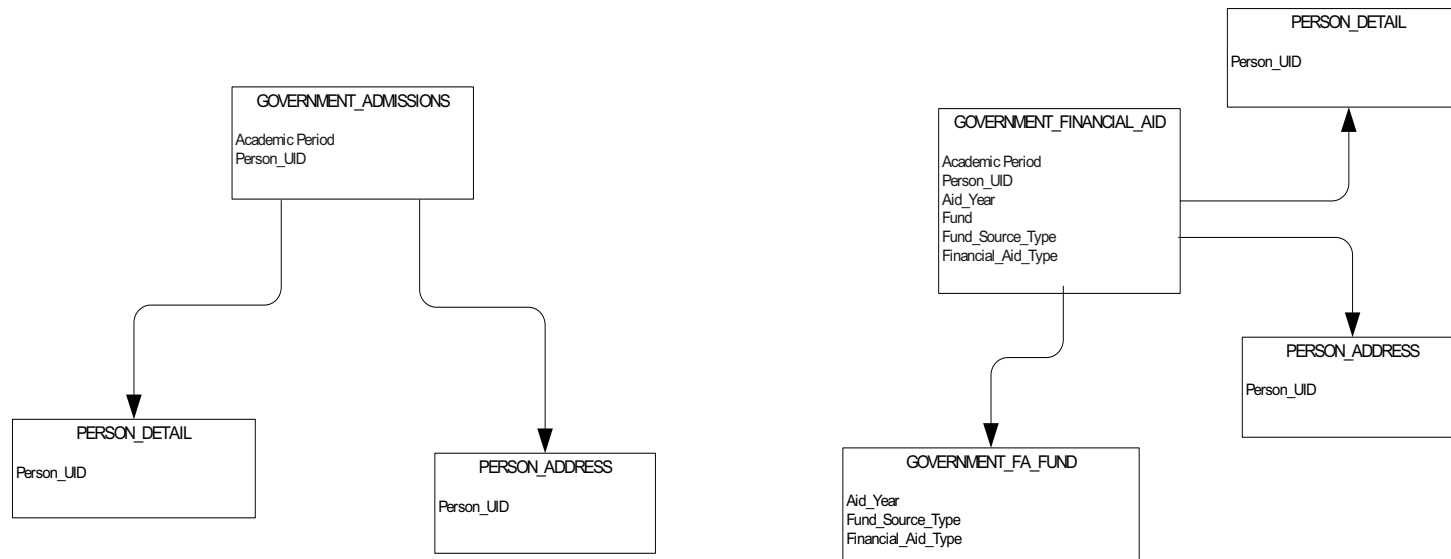
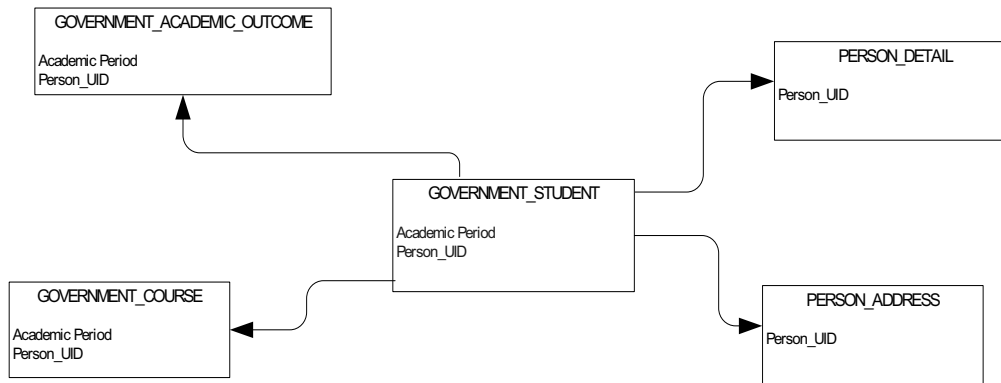
## Enrollment Management



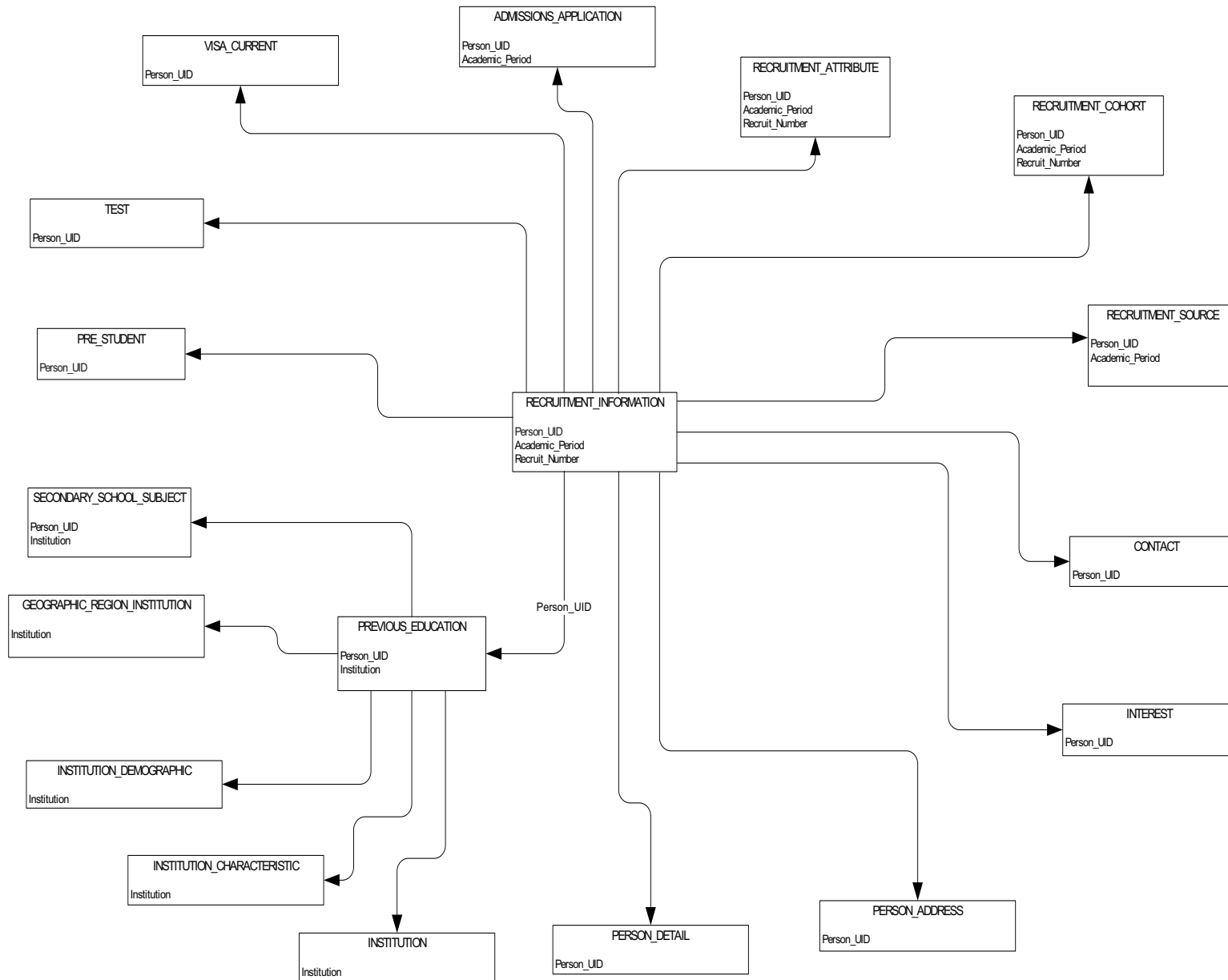
## Faculty Assignment



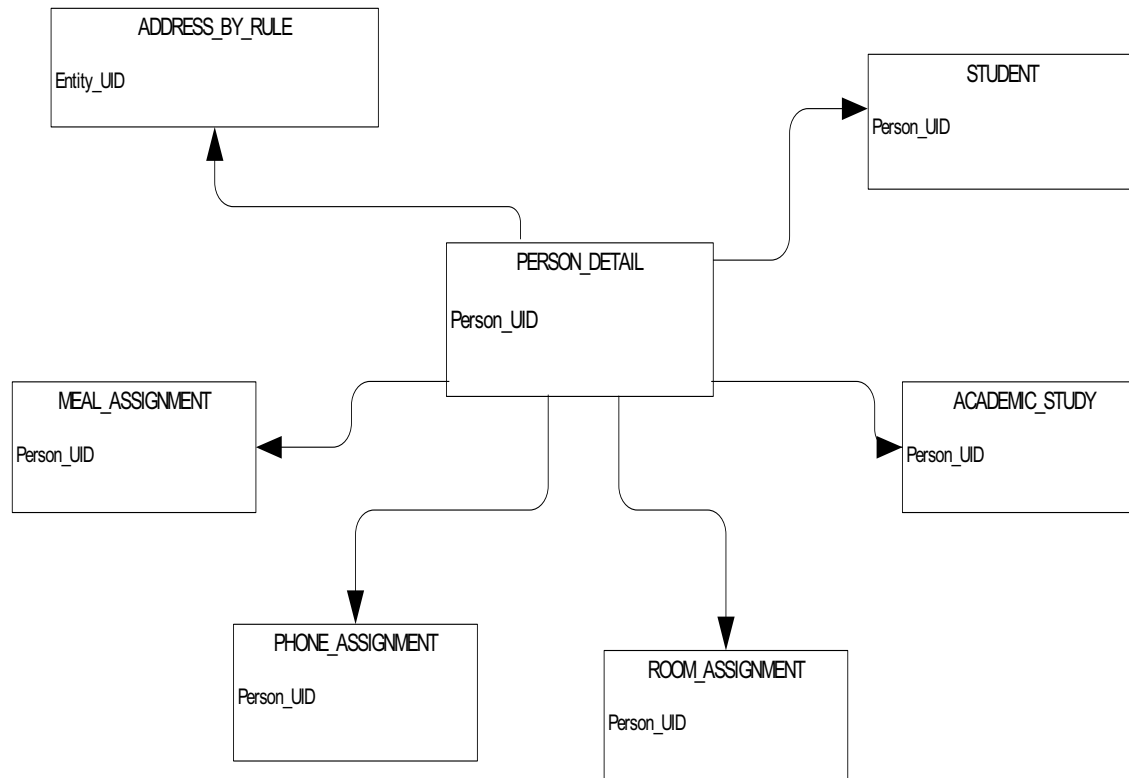
## Government Reporting



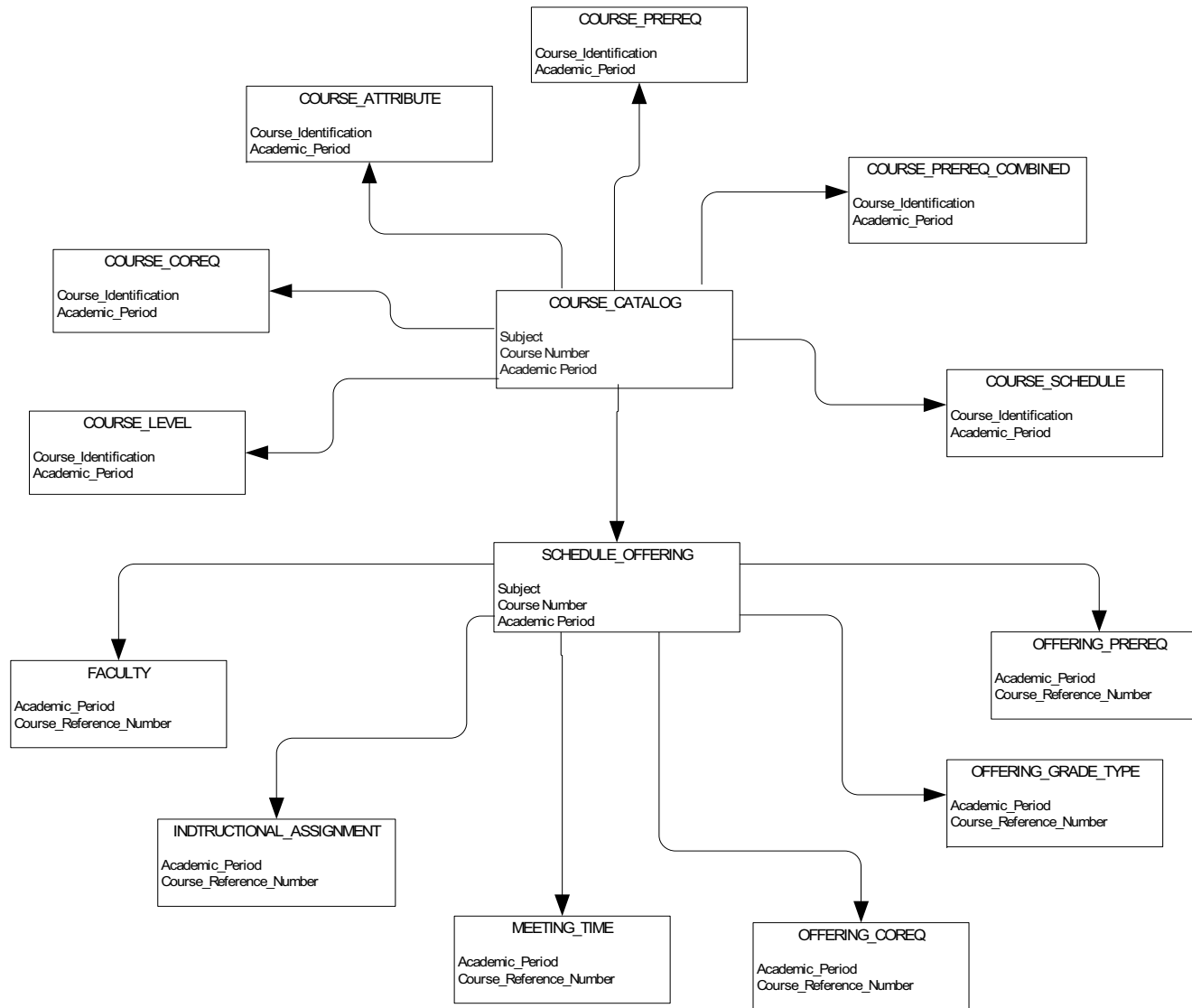
## Recruitment Information



## Residential Life

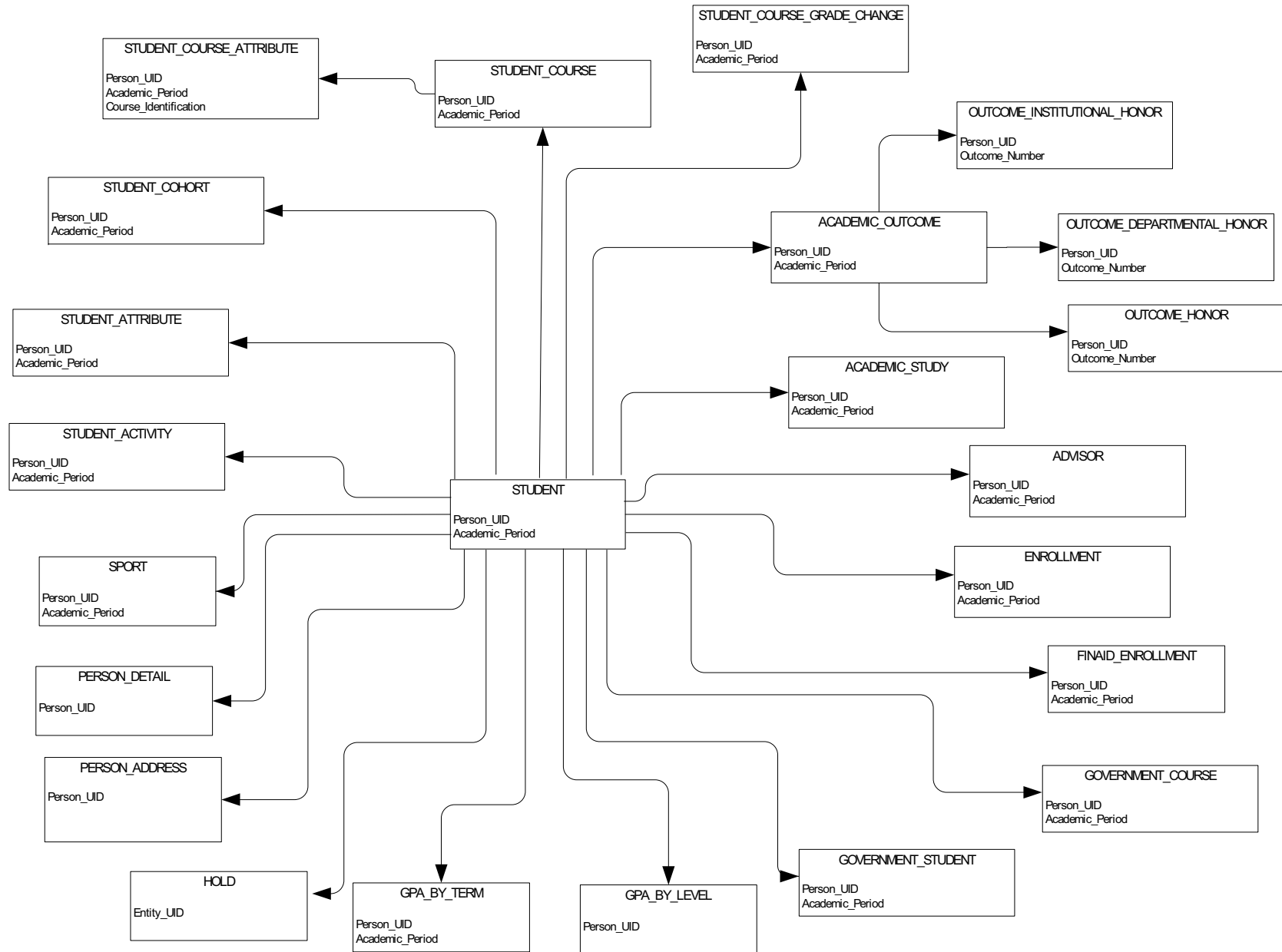


## Schedule Offering





## Student Detail



# Banner EDW Business Concepts

The Banner EDW includes two versions of each business concept. The different versions are associated with different types of star schema. The base business concept allows you to report from a group of operational star schema. Reports generated from a model associated with this type of business concept draw from Banner EDW information that is updated regularly to stay synchronized with the Banner ODS data source.

The second type of business concept, or snapshot, allows you to report from a group of snapshot star schema. Reports generated from a snapshot business concept draw from Banner EDW information that is captured at a particular point in time, which can be associated with a specific business event.

These business concepts were developed for use with the Banner Recruiting and Admissions Performance product. The Banner EDW includes an additional set of business concept, PM Analyze Enrollment Funnel and its related snapshot. Refer to the Business Concepts chapter of the Banner Recruiting and Admissions Performance Handbook for more information about the PM Analyze Enrollment Funnel business concepts.

The following business concepts are delivered with the Banner Enterprise Data Warehouse.

| Subject Area  | Business Concept                         | Driving Fact Table           | Package Name                                                    |
|---------------|------------------------------------------|------------------------------|-----------------------------------------------------------------|
| Financial Aid | Impact of Aid on New Enrollment          | WAT_ADMISSIONS_FINAID_RECORD | <a href="#">“PM Impact Of Aid On New Enrollment”</a>            |
|               | Impact of Aid on New Enrollment Snapshot | WAZ_ADMISSIONS_FINAID_RECORD | <a href="#">“Snapshot – PM Impact Of Aid On New Enrollment”</a> |
| Student       | Manage Applicants                        | ADMISSIONS_APPLICATION       | <a href="#">“PM Manage Applicants”</a>                          |
|               | Manage Applicants Snapshot               | ADMISSIONS_APPLICATION       | <a href="#">“Snapshot – PM Manage Applicants”</a>               |

## PM Impact Of Aid On New Enrollment

The PM Impact of Aid on New Enrollment business concept allows you to monitor the financial aid need and awards offered to prospective students in the enrollment pool for an academic period. You can review financial need, award amounts, aid types and sources to assess the impact they have on the yield of admitted persons who enroll at the institution. You can analyze whether the gross need and percent of need met influenced a person's enrollment decision.

This business concept includes the Admissions Financial Aid (combined) Fact along with Financial Aid Application and Financial Aid Year and Academic Period Award information. The business concept includes data for those in the enrollment pool who apply for aid as well as those who do not apply for aid. This allows you to compare attributes and see whether a prospect is more or less likely to register for classes when they apply for or are offered financial assistance.

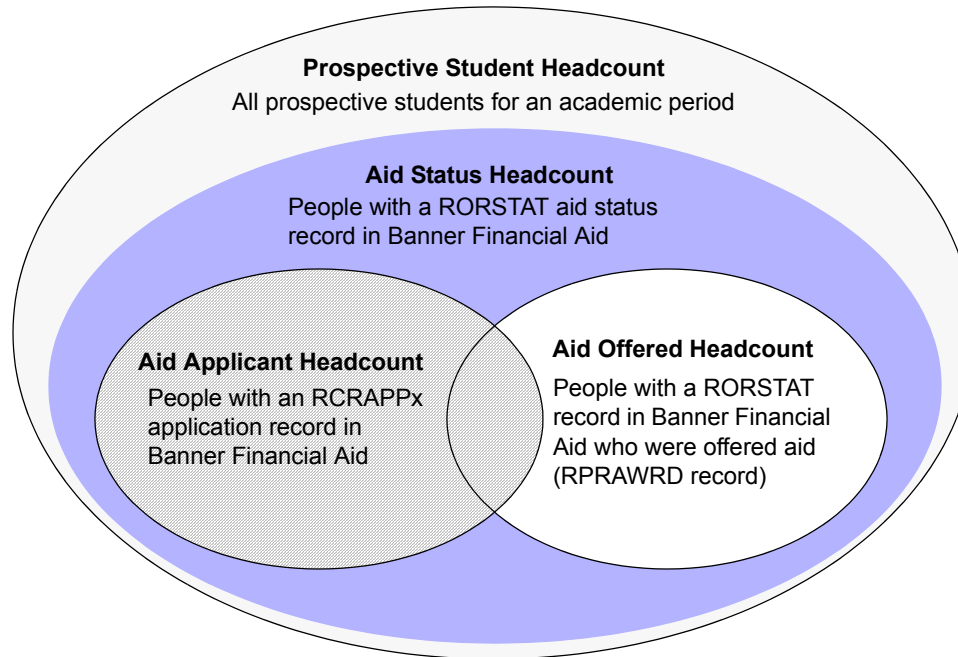
This business concept includes person demographic diversity attributes; person educational background attributes to assess quality; and recruit or application program attributes to compare diversity and or quality by requested program of study for those in the enrollment pool. Financial Aid specific data includes financial aid applicant groups (budget and packaging), needs analysis data (using both the federal and institutional methodology to calculate) and specifics of the award offered, accepted, declined or canceled within the aid year and academic period for each person.

You can use the Cognos package associated with the PM Impact of Aid on New Enrollment business concept to create reports that offer the following information or can answer the following questions:

- Review the number of financial aid applicants that fail to enroll and compare numbers by different demographic breakdowns to analyze the decrease or increase in numbers from year to year.
- How do financial aid package levels compare by the applicants' chosen colleges, programs or majors? And what are the offer counts and amounts of awards offered by the various funds that make up those packages?
- What are the amounts and percentages of need met and need not met by quality attributes like secondary school GPA or ACT Composite score?
- How is the amount of gift versus self help aid affecting enrollment outcomes? For self help aid as component of total offers, is there an amount or percentage where non-enrollments increase?

## Populations included in PM Impact of Aid on New Enrollment business concept

It is important to know what populations of people will be included in the reports that you create using the PM Impact of Aid on New Enrollment business concept. The following picture illustrates the various headcounts available in this business concept and the relationships between the populations included in each headcount.



The headcount query items included in the business concept are pre-defined measures that you can use together on a report to do headcount comparisons. For example, you can compare the number of students who have applied for aid with those who have been offered aid.

| Headcount                     | Definition                                                                                                                                                                                                                                                                                                                                                                                                   | Query Subject location in business concept |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Prospective Student Headcount | Prospective Student Headcount is the base population included in the PM Impact of Aid on New Enrollment business concept. It includes the broadest population, which is all prospective students, or those with an admissions application record or recruitment record, for a given academic period.                                                                                                         | Prospective Student Headcounts             |
| Aid Status Headcount          | Aid Status Headcount includes the population of people within a prospective student population who have an aid status record in the Banner Financial Aid system. The fact that a person exists in the Banner Financial Aid system means only that they have a record in the Banner RORSTAT table. The person may or may not have need based information and may or may not have been offered or awarded aid. | Financial Aid Headcounts and Indicators    |
| Aid Applicant Headcount       | Aid Applicant Headcount includes the population of people who are need based applicants and have a record on the Financial Aid Application (RCRAPPx) table in the Banner Financial Aid system. The people included in this headcount may have either FM or IM RCRAPPx records or both for each aid year (or academic period if applicable.)                                                                  | Financial Aid Headcounts and Indicators    |
| Aid Offered Headcount         | Aid Offered Headcount includes people who have been offered aid for an aid year (or academic period if applicable.)                                                                                                                                                                                                                                                                                          | Financial Aid Headcounts and Indicators    |

## Filters and Indicators

You can apply various filters and indicators to a report to isolate specific populations within any of the headcount populations.

### Single Admissions Record filters (Academic Period and Aid Year)

Your institution may allow multiple admissions records for a person. If this is the case, use either the “Single Admissions Record - Aid Year” or “Single Admissions Record - Academic Period” filter (depending on the time

period of your report) to isolate only one admission application or recruitment record for any prospective student who has multiple records.

Using one of these filters is necessary to eliminate the multiplication of Financial Aid Application amounts in the report. Any aid year related amounts specific to the financial aid application but captured for each prospective student record may be multiplied by the number of multiple recruitment or admissions application records for a prospective student in Banner for a given academic period or aid year. This affects the values stored in the WAT\_ADMISSIONS\_FINAID\_RECORD (or WAZ\_ADMISSIONS\_FINAID\_RECORD) aggregate tables including but not limited to Total Offer Amount, Cost of Attendance, Other Resources and need analysis amounts such as FM or IM Gross Need. When you apply either of the Single Admissions Record filters, the report will display distinct amounts in both the detail and the summary report amounts for individuals with multiple records.

If you only allow one recruitment record and one admissions application for prospective students for a given academic period or aid year, you do not need to use these filters.

The Admissions Record - Aid Year and Admissions Record - Academic Period query items are provided to isolate single admissions records in cube based reporting.

## Financial Aid Filters

The Aid Status, Aid Applicant, and Aid Offered filters are basically the related Aid Status, Aid Applicant, and Aid Offered indicators set to Yes. Apply these filters with the headcounts to narrow down the population.

## Financial Aid Headcounts and Indicators

The Financial Aid Headcounts and Indicators query subject includes folders of indicators grouped by Financial Aid Applicant, Financial Aid Status, and Financial Aid Composition. These indicators are defined in the following table.

| Query Subject Folder               | Indicator                  | Definition                                                                                  |
|------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|
| Financial Aid Applicant Indicators | Aid Applicant Indicator    | If prospective student has either an FM or IM aid application, the indicator is set to Yes. |
|                                    | FM Aid Applicant Indicator | If prospective student has an FM aid application, the indicator is set to Yes.              |

| Query Subject Folder                 | Indicator                  | Definition                                                                                          |
|--------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------|
|                                      | IM Aid Applicant Indicator | If prospective student has an IM aid application, the indicator is set to Yes.                      |
| Financial Aid Status Indicators      | Aid Offered Ind            | If prospective student has been offered any form of aid, the indicator is set to Yes.               |
|                                      | Aid Accepted Ind           | If prospective student has accepted any part of the total offer, the indicator is set to Yes.       |
|                                      | Aid Declined Ind           | If prospective student has declined any part of the total offer, the indicator is set to Yes.       |
|                                      | Aid Canceled Ind           | If any award offered or any part of the total offer has been canceled, the indicator is set to Yes. |
|                                      | Aid Paid Ind               | If any part of the total offer has been paid, the indicator is set to Yes.                          |
| Financial Aid Composition Indicators | Gift Aid Offered Ind       | If prospective student has been offered gift aid, the indicator is set to Yes.                      |
|                                      | Self Help Aid Offered Ind  | If prospective student has been offered self help aid, the indicator is set to Yes.                 |

### Pre-Student Status Indicators and Headcounts

The Pre-Student Status query subject includes predefined indicators and headcounts that when applied to a report will reflect the population at a specific time in the admissions cycle: Inquired, Applied, Admitted, Accepted, Tuition Deposited, and Enrolled.

The Pre-Student Status query subject also includes the Admitted Not Enrolled Headcount. This headcount counts any prospective student whose Admitted Indicator is Yes and Enrolled Indicator is No.

## Snapshot – PM Impact Of Aid On New Enrollment

The snapshot version of the PM Impact of Aid On New Enrollment business concept includes the same information as the base version. The snapshot version also includes an event dimension. Using the event dimension, you can load the Banner EDW with a complete version of the PM Impact of Aid On New Enrollment data pulled from the Banner ODS at a point in time (the event.) This gives you a static version of the data for a specific event. For example, you might load the Snapshot - PM Impact of Aid On New Enrollment on a weekly basis. You can then compare the data at like periods of time based on the event dimension.



## PM Manage Applicants

The PM Manage Applicants business concept includes all of the information you need to monitor the application process and interact with applicants. The PM Manage Applicants business concept includes but is not limited to the following information about applicants:

- Academic field of study - student level, program, college, campus, degree, and major
- Application status, complete indicator, primary source, recruit type
- Bio-demographic - birth date, age, gender, phone number, E-mail address
- Pre-student status indicators and counts
- Secondary and post-secondary school - school name, diploma, GPA range, percentile range
- Testing
- Contacts and interests

## Snapshot – PM Manage Applicants

The snapshot version of the PM Manage Applicants business concept includes the same information as the base version. The snapshot version also includes an event dimension. Using the event dimension, you can load the Banner EDW with a complete version of the PM Manage Applicants data pulled from the Banner ODS at a point in time (the event.) This gives you a static version of the data for a specific event. For example, you might load the Snapshot - PM Manage Applicants at the end of each month.



# 7 Star Schema Data Models (Banner EDW)



## Star schema

Star schemas are a standard data model technique used to design data warehouse tables. Each star schema contains a fact table and its associated dimension tables, which are typically referenced via foreign keys. They are referred to as “star schemas” because of their starlike appearance when viewing their entity-relationship diagrams (ERDs.)

The Banner Enterprise Data Warehouse provides two types of star schema data models: snapshot stars and operational stars. The difference between these two types of stars is based on when you will update the star data.

## Snapshot stars

The snapshot star schemas included with the Banner EDW are an integral part of the warehouse. These stars are referred to as “snapshot stars” because they capture data as of a specific point in time defined by the business processes at your institution. Each star relates to an event dimension that allows you to give captured data a label relative to a specific business purpose for the captured data. This event dimension time period could represent, for example, end of month processing for financial data, start or end of academic period for enrollment data, and so on. This allows your institution to historically build data that you can compare over time for longitudinal reporting flexibility. You can use the common event attribute to compare disparate time periods to one another.

This set of star schemas is represented by two variations in the Banner EDW. The first is to support a single business need with a set of data combined in a single star schema. The second is a set of star schemas saved at the same point in time with the same event dimension or attributes. The first predefines all of the data to be used as dimension attributes with their associated specified measures. The second permits a set of star schemas that are being used in combination to be frozen with the same event dimensions so they can be used in longitudinal reporting.

## Operational stars

The operational star schemas delivered with the Banner Recruiting and Admissions Performance and Banner EDW products are a unique part of the Banner EDW. The operational stars use a prototypical star schema design. They are described as “operational stars” because their data is refreshed on a regular basis to stay synchronized with their Banner Operational Data Store (Banner ODS) data source.

To support the currency of data, you will use incremental refresh processes, similar to those in the Banner ODS, that migrate only the data that has changed (DML activity) since the last refresh of the data. You can then perform queries against data that is current based on the last time the star was refreshed. Refer to [Chapter 3, “Administrative User Interface \(Banner ODS and Banner EDW\)”](#) for details about how to schedule the jobs that load and refresh operational star data.

Each operational star schema may serve a separate business question unto itself, but they are intended to be used in concert with one or more other operational star schemas. The delivered Cognos FM models are designed to combine these star schemas and to take advantage of the stars’ conformity providing you with increased reporting flexibility.

You can also use an operational star the same way you use a snapshot star. If you want to save the data for a specific point in time, in most of the operational stars you can define an event dimension and save a snapshot of the data. Refer to the list of snapshot stars for details.

## Fact and dimension tables

The fact table is the primary table in a star schema that stores the numerical performance measurements of the institution. Fact tables store amounts or counts of information. Total Credits is an example of a measure that is stored in the WFT\_ENROLLMENT fact table.

Dimension tables contain the descriptive attributes that define how you want to slice or look at the measures in a fact table. For example, Total Credits is a measure stored in the Enrollment fact table. In the query Total Credits by Program, program is considered a dimension or attribute of the Total Credits measure.

The Fact and Dimension Table definitions give a description of each table in the data model. Table names that begin with WDT\_ are dimension table names. Table names that begin with WFT\_ are fact table names.

## View fact and dimension tables

Use the following steps to access the Banner Enterprise Data Warehouse (Banner EDW) Administrative User Interface to view fact and dimension table information displayed on Banner Enterprise Data Warehouse Meta Data Reports.

1. Select **Banner Enterprise Data Warehouse** from the Meta Data menu. Banner Enterprise Data Warehouse Meta Data Reports page opens.
2. Select the star you want to review. The Star Report for that star opens.
3. Select the target dimension or fact table you want to review. The selected report displays.

# Banner EDW snapshot stars

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The following snapshot star schema data models are referred to as “snapshot stars” because they offer you the ability to capture data at a point in time. Using these stars you can create static snapshots of the data at various points in time.

Each of the snapshot stars includes an event dimension, which allows you to capture data at a specified point in time. In essence, the event dimension lets you assign a shared label (or business purpose) to all data captured at the same time. You can then report and compare data across time dimensions using the data that was saved from the related snapshots.

For example, you might save a snapshot of the Course Registration star on the first day of registration, the last day to drop or add classes, and when registration has closed. This gives you the ability to compare registration numbers across these three different time-based event dimensions.

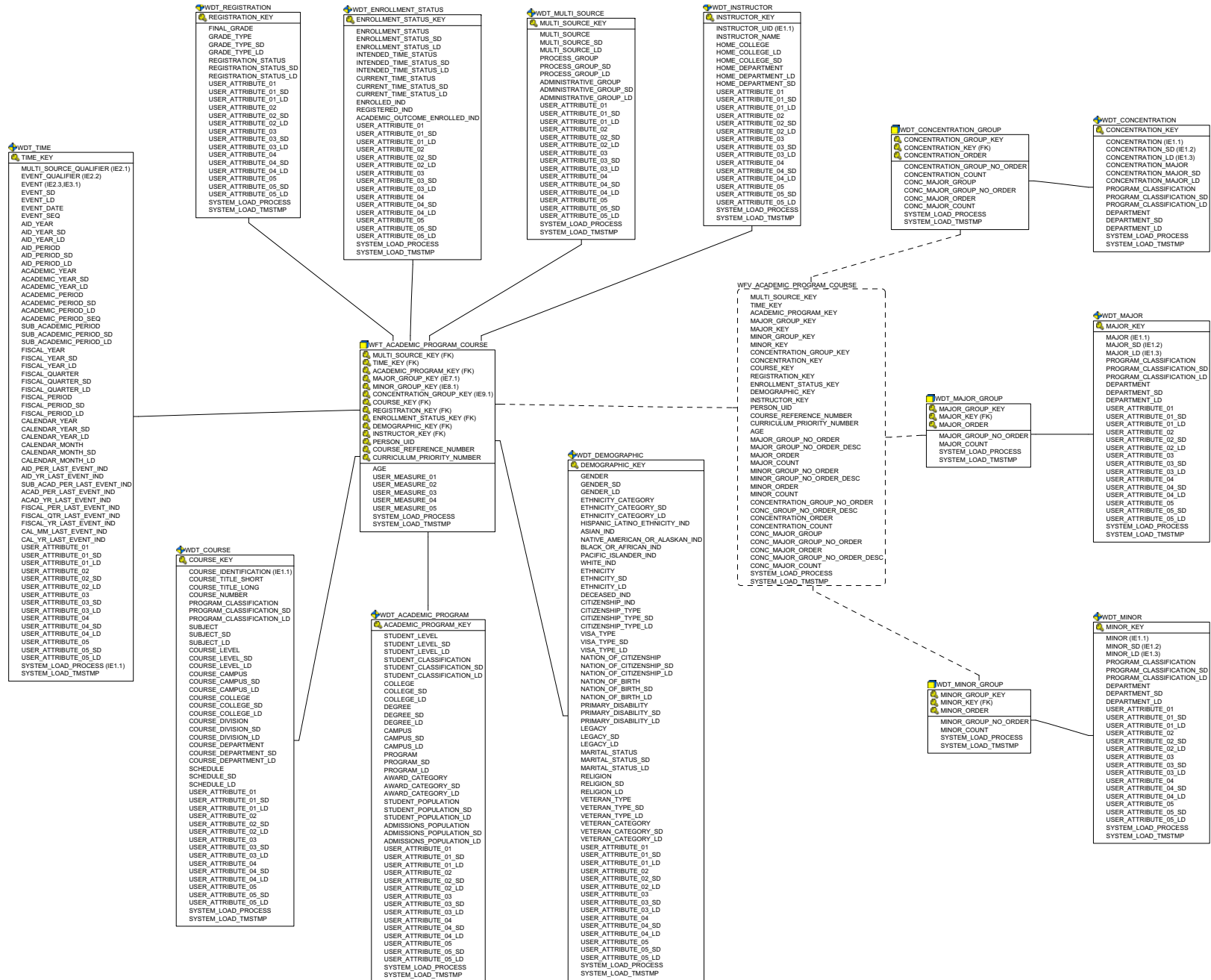
These are the Banner EDW snapshot stars.

- [“Academic Program Course snapshot star” on page 7-5](#)
- [“Advancement Gift snapshot star” on page 7-7](#)
- [“Course Registration snapshot star” on page 7-9](#)
- [“Employee snapshot star” on page 7-11](#)
- [“Employee Degree snapshot star” on page 7-13](#)
- [“Employee Position snapshot star” on page 7-15](#)
- [“Employment Application snapshot star” on page 7-17](#)
- [“Enrollment snapshot star” on page 7-19](#)
- [“Financial Aid Pre-Student snapshot star” on page 7-21](#)
- [“Financial Aid Student snapshot star” on page 7-23](#)
- [“General Ledger snapshot star” on page 7-25](#)
- [“Graduation Completion snapshot star” on page 7-27](#)
- [“Grant and Project snapshot star” on page 7-29](#)
- [“Operating Ledger snapshot star” on page 7-31](#)
- [“Receivable Customer snapshot star” on page 7-33](#)
- [“Receivable Revenue snapshot star” on page 7-35](#)
- [“Recruiting and Admission snapshot star” on page 7-37](#)

## Academic Program Course snapshot star

Use the Academic Program Course star schema to review trends in course registration across attributes like program and major for students registering for those courses. This information can be used to analyze the number of students and courses using attributes from any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (calendar year, event)
- Academic Program
- Major
- Major Group
- Minor
- Minor Group
- Concentration
- Concentration Group
- Course
- Registration
- Enrollment status
- Demographic (ethnicity, gender)
- Instructor

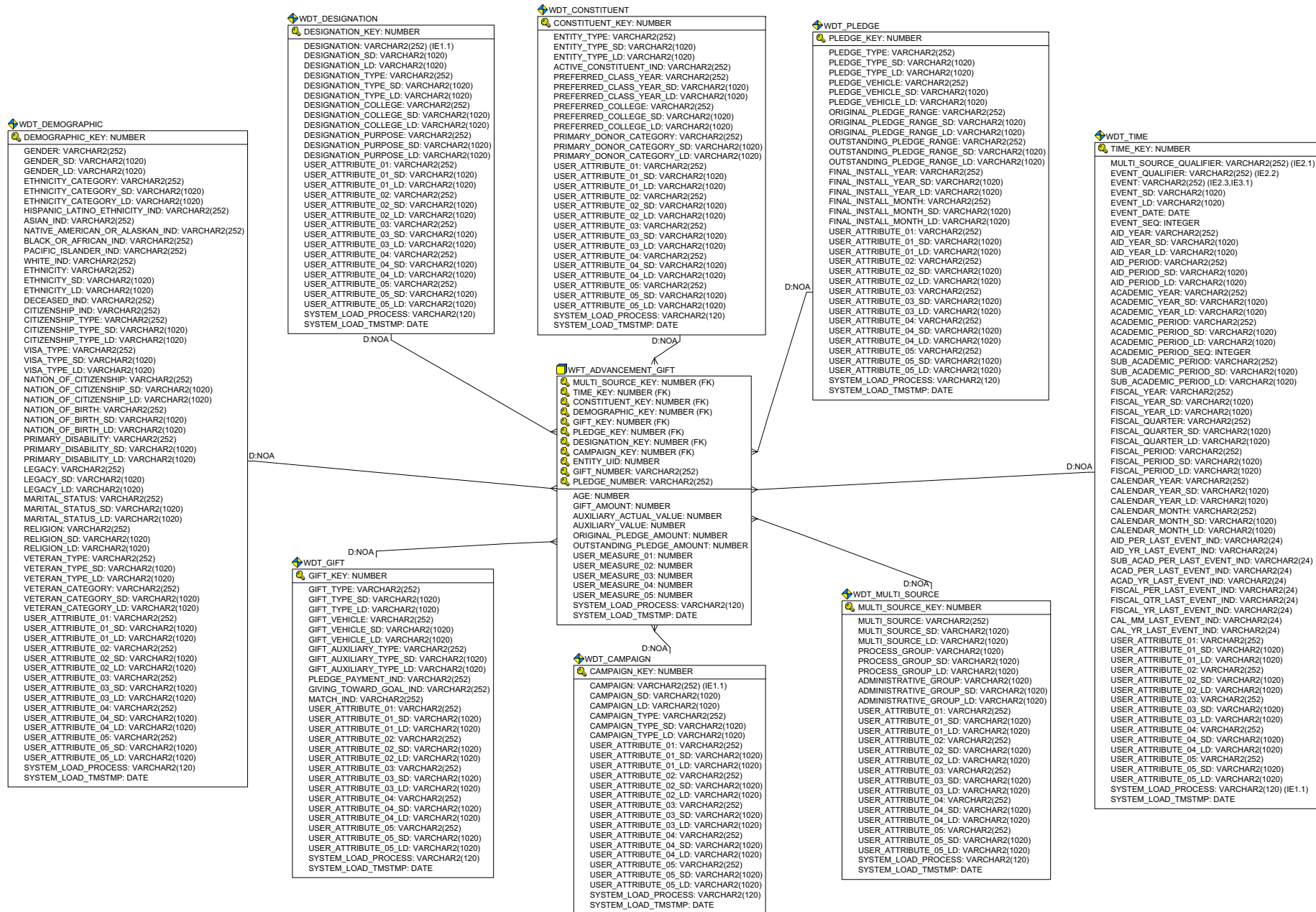




## Advancement Gift snapshot star

Use the Advancement Gift star schema to understand the trends in giving, and to better manage donor acquisition and retention. With this data you can analyze gifts using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (calendar year, event)
- Constituent Information (class year, college)
- Demographic Data (ethnicity, gender)
- Gift (type and source of gift)
- Pledge (type, vehicle and amount)
- Designation/Fund information (purpose)
- Campaign

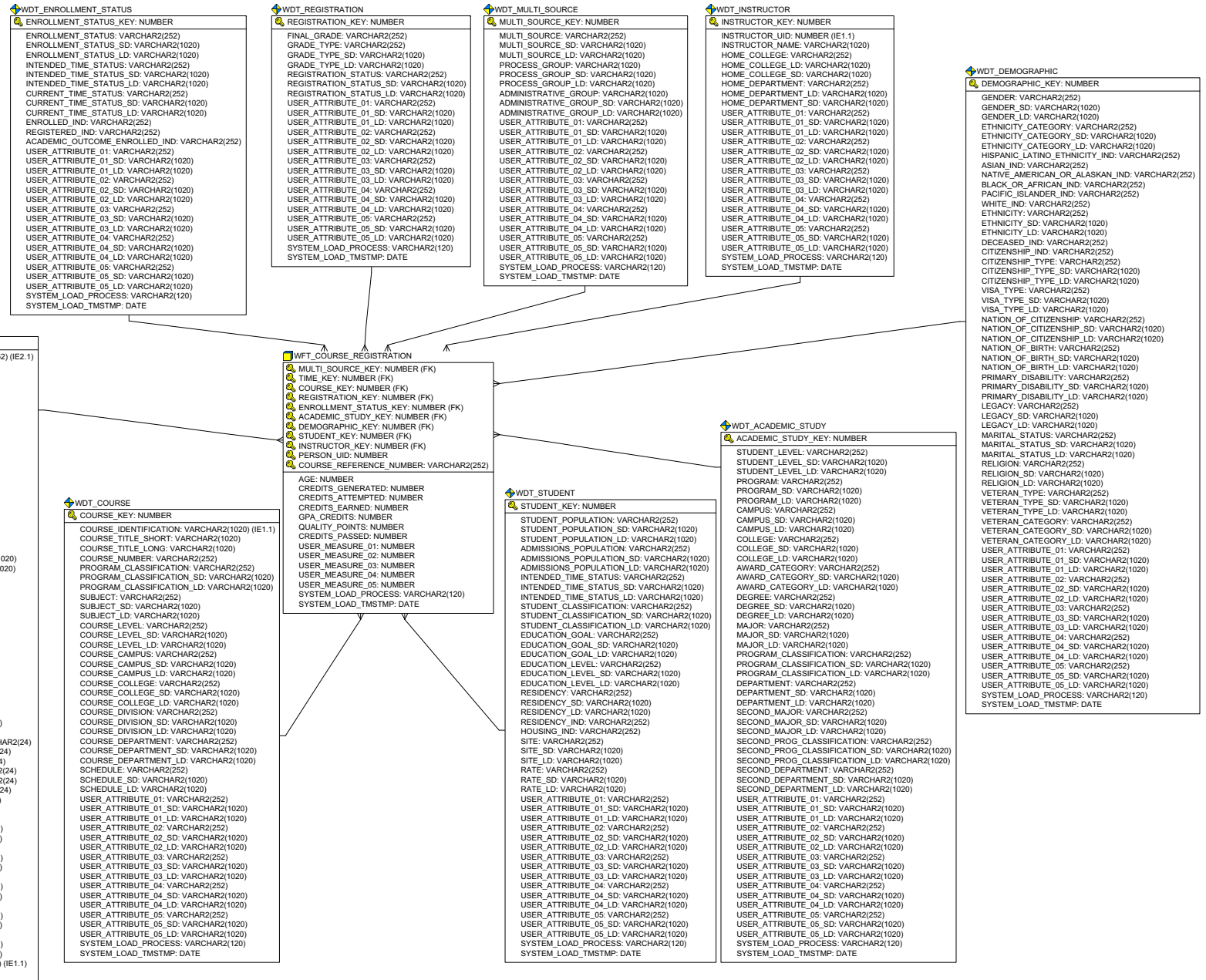


## Course Registration snapshot star

Use the Course Registration star schema to understand the trends in course registration, and to plan for the courses that meet your needs.

This information is used to analyze credits generated, credits attempted, credits earned, GPA credits, quality points, credits passed, and total number of students using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic year, academic period, sub-academic period)
- Course (course level, course campus, course department)
- Registration
- Enrollment Status
- Academic Study
- Demographic (ethnicity, gender)
- Student (residency, classification, campus)
- Instructor



## Employee snapshot star

Use the Employee star schema to understand the trends in the compensation and expense structure for employees, and to better manage the cost infrastructure of the institutional staff.

With this information you can analyze the number of salaried employee and hourly employee FTE, year-to-date earnings, compensation, deductions, encumbrances, and years of service using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year, and event)
- Administration (employer, division, department, chart of accounts)
- Demographic (ethnicity, gender)
- Employee (years of service, salary, type and group of employee)

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ADMINISTRATION\_KEY: NUMBER (FK)  
DEMOGRAPHIC\_KEY: NUMBER (FK)  
EMPLOYEE\_KEY: NUMBER (FK)  
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ENCUMBRANCE\_AMOUNT: NUMBER  
LEAVE\_BENEFITS\_AMOUNT: NUMBER  
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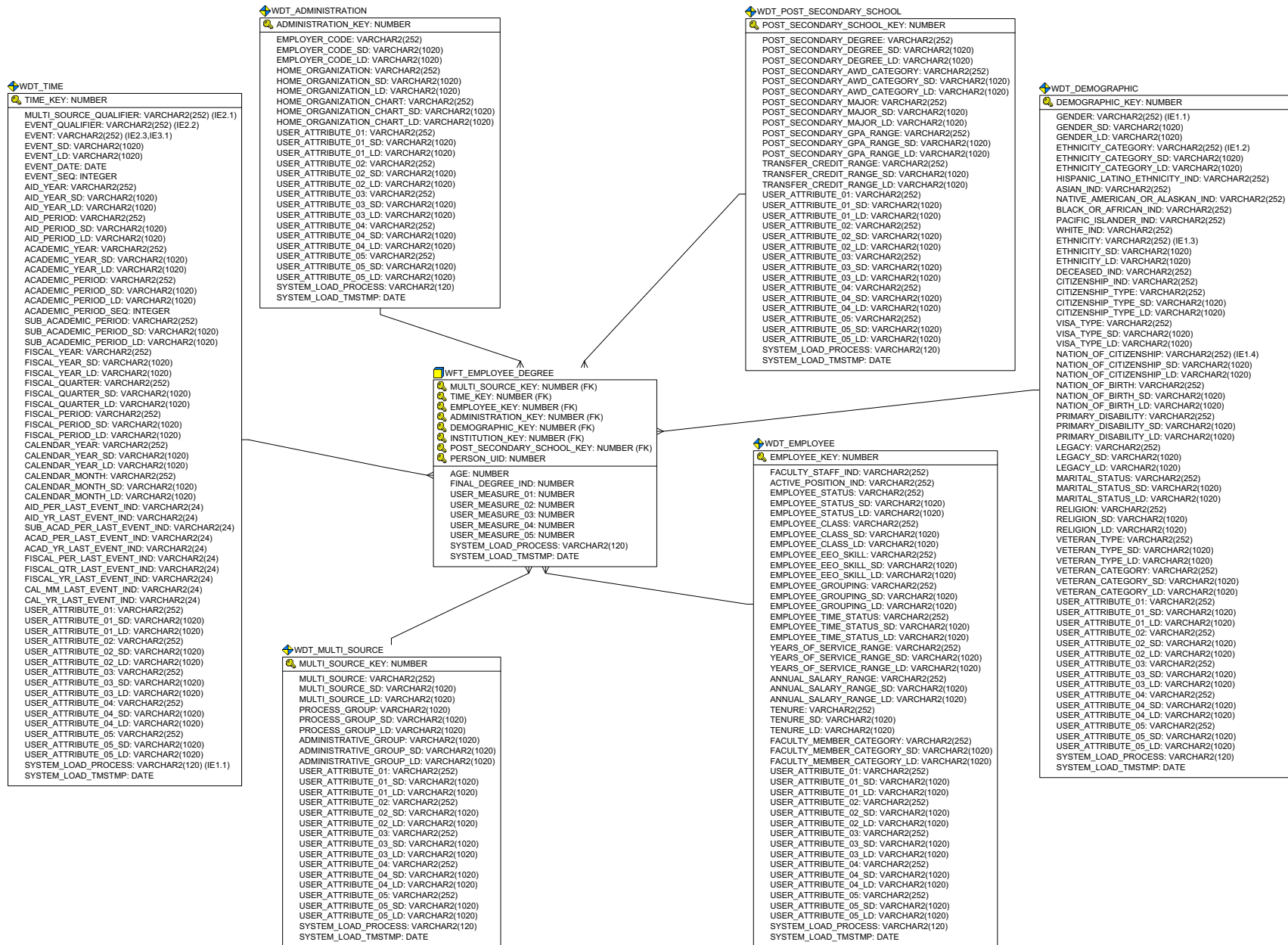
## Employee Degree snapshot star

Use the Employee Degree star schema to understand the trends in faculty degrees and majors, to better manage the educational qualifications of your faculty, and to support the institutional profile goals for faculty.

This information is used to analyze the number of degrees and majors earned by employees based on the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year, and event)
- Employee (years of service, salary, type and group of employee)
- Administration (employer, division, department, chart of accounts)
- Demographic (ethnicity, gender)
- Institution
- Post Secondary School (post secondary degree and major)







## Employee Position snapshot star

Use the Employee Position star schema to understand the trends in appointing employees, to better manage staff recruitment, retention and attrition, and to support a desired staff profile.

You can analyze the number of years on the job, number of hourly and salaried FTE (Full time Equivalent), year-to-date earnings, deductions, and encumbrances using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year, and event)
- Position (status, contract type, position classification, EEO skill)
- Job
- Administration (employer, division, department, chart of accounts)
- Employee Data (years of service, salary, type and group of employee)
- Demographic Data (ethnicity, gender)

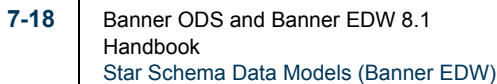


## Employment Application snapshot star

Use the Employment Application star schema to understand the trends in position applications, to better manage the type of effort it takes to hire a new employee, and for better analysis of the impact of turnover.

With this data you can analyze previous months of service, previous salary, and desired salary using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year, and event)
- HR Requisition
- HR Applicant
- HR Applicant Status
- Position (status, contract type, position classification, EEO skill)
- Administration (employer, division, department, chart of accounts)
- Employment History
- PS Institution
- Post Secondary School
- SS Institution
- Secondary School
- Demographic (ethnicity, gender)



## Enrollment snapshot star

Use the Enrollment star schema to understand the trends in enrollment and to support the institution's retention planning.

With this data you can analyze the generated credits, FTE (Full time Equivalent), academic period credits attempted and earned, tuition charges, financial aid amounts, enrolled counts, and registered counts using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic period, academic year)
- Student (residency, classification, campus)
- Demographic (ethnicity, gender)
- Enrollment Status
- Academic Study (program, degree, college, major, department)

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SYSTEM\_LOAD\_TMSTMP: DATE

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CALENDAR\_YEAR: VARCHAR2(252)  
CALENDAR\_YEAR\_SD: VARCHAR2(1020)  
CALENDAR\_YEAR\_LD: VARCHAR2(1020)  
CALENDAR\_MONTH: VARCHAR2(252)  
CALENDAR\_MONTH\_SD: VARCHAR2(1020)  
CALENDAR\_MONTH\_LD: VARCHAR2(1020)  
AID\_PER\_LAST\_EVENT\_IND: VARCHAR2(24)  
AID\_YR\_LAST\_EVENT\_IND: VARCHAR2(24)  
ACAD\_PER\_LAST\_EVENT\_IND: VARCHAR2(24)  
ACAD\_YR\_LAST\_EVENT\_IND: VARCHAR2(24)  
FISCAL\_PER\_LAST\_EVENT\_IND: VARCHAR2(24)  
FISCAL\_QTR\_LAST\_EVENT\_IND: VARCHAR2(24)  
CAL\_MN\_LAST\_EVENT\_IND: VARCHAR2(24)  
CAL\_YR\_LAST\_EVENT\_IND: VARCHAR2(24)  
USER\_ATTRIBUTE\_01: VARCHAR2(252)  
USER\_ATTRIBUTE\_01\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_01\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_02: VARCHAR2(252)  
USER\_ATTRIBUTE\_02\_SD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_03\_LD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_04\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05: VARCHAR2(252)  
USER\_ATTRIBUTE\_05\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05\_LD: VARCHAR2(1020)  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120) (IE1.1)  
SYSTEM\_LOAD\_TMSTMP: DATE

# WDT\_ENROLLMENT\_STATUS

ENROLLMENT\_STATUS\_KEY: NUMBER

ENROLLMENT\_STATUS: VARCHAR2(252)  
ENROLLMENT\_STATUS\_SD: VARCHAR2(1020)  
ENROLLMENT\_STATUS\_LD: VARCHAR2(1020)  
INTENDED\_TIME\_STATUS: VARCHAR2(252)  
INTENDED\_TIME\_STATUS\_SD: VARCHAR2(1020)  
INTENDED\_TIME\_STATUS\_LD: VARCHAR2(1020)  
CURRENT\_TIME\_STATUS: VARCHAR2(252)  
CURRENT\_TIME\_STATUS\_SD: VARCHAR2(1020)  
CURRENT\_TIME\_STATUS\_LD: VARCHAR2(1020)  
REGISTERED\_IND: VARCHAR2(252)  
ACADEMIC\_OUTCOME\_ENROLLED\_IND: VARCHAR2(252)  
USER\_ATTRIBUTE\_01: VARCHAR2(252)  
USER\_ATTRIBUTE\_01\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_01\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_02: VARCHAR2(252)  
USER\_ATTRIBUTE\_02\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_02\_LD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_03\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_04: VARCHAR2(252)  
USER\_ATTRIBUTE\_04\_SD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_05: VARCHAR2(252)  
USER\_ATTRIBUTE\_05\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05\_LD: VARCHAR2(1020)  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120)  
SYSTEM\_LOAD\_TMSTMP: DATE

# WDT\_ENROLLMENT

MULTI\_SOURCE\_KEY: NUMBER (FK)  
TIME\_KEY: NUMBER (FK)  
STUDENT\_KEY: NUMBER (FK)  
DEMOGRAPHIC\_KEY: NUMBER (FK)  
ENROLLMENT\_STATUS\_KEY: NUMBER (FK)  
ACADEMIC\_STUDY\_KEY: NUMBER (FK)  
PERSON\_UID: NUMBER

AGE: NUMBER  
TOTAL\_CREDITS\_GENERATED: NUMBER  
TOTAL\_BILLING: NUMBER  
TOTAL\_CONTACT\_HOURS: NUMBER  
FTE\_NUMERATOR: NUMBER  
FTE\_DENOMINATOR: NUMBER  
TUITION\_CHARGES: NUMBER  
FINANCIAL\_AID\_AMOUNT: NUMBER  
TOTAL\_CEU: NUMBER  
TOTAL\_CEU\_BILLING: NUMBER  
INST\_ACAD\_PER\_CREDITS\_ATTEMPT: NUMBER  
INST\_ACAD\_PER\_CREDITS\_EARNED: NUMBER  
INST\_ACAD\_PER\_GPA\_CREDITS: NUMBER  
INST\_ACAD\_PER\_QUALITY\_POINTS: NUMBER  
INST\_ACAD\_PER\_CREDITS\_PASSED: NUMBER  
STUDENT\_LEVEL\_CREDITS\_EARNED: NUMBER  
STUDENT\_LEVEL\_GPA\_CREDITS: NUMBER  
STUDENT\_LEVEL\_QUALITY\_POINTS: NUMBER  
STUDENT\_LEVEL\_CREDITS\_PASSED: NUMBER  
INST\_LEVEL\_CREDITS\_ATTEMPT: NUMBER  
INST\_LEVEL\_CREDITS\_EARNED: NUMBER  
INST\_LEVEL\_GPA\_CREDITS: NUMBER  
INST\_LEVEL\_QUALITY\_POINTS: NUMBER  
INST\_LEVEL\_CREDITS\_PASSED: NUMBER  
USER\_MEASURE\_01: NUMBER  
USER\_MEASURE\_02: NUMBER  
USER\_MEASURE\_03: NUMBER  
USER\_MEASURE\_04: NUMBER  
USER\_MEASURE\_05: NUMBER  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120)  
SYSTEM\_LOAD\_TMSTMP: DATE

# WDT\_STUDENT

STUDENT\_KEY: NUMBER

STUDENT\_POPULATION: VARCHAR2(252)  
STUDENT\_POPULATION\_SD: VARCHAR2(1020)  
STUDENT\_POPULATION\_LD: VARCHAR2(1020)  
ADMISSIONS\_POPULATION: VARCHAR2(252)  
ADMISSIONS\_POPULATION\_SD: VARCHAR2(1020)  
ADMISSIONS\_POPULATION\_LD: VARCHAR2(1020)  
INTENDED\_TIME\_STATUS: VARCHAR2(252)  
INTENDED\_TIME\_STATUS\_SD: VARCHAR2(1020)  
INTENDED\_TIME\_STATUS\_LD: VARCHAR2(1020)  
STUDENT\_CLASSIFICATION: VARCHAR2(252)  
STUDENT\_CLASSIFICATION\_SD: VARCHAR2(1020)  
STUDENT\_CLASSIFICATION\_LD: VARCHAR2(1020)  
EDUCATION\_GOAL: VARCHAR2(252)  
EDUCATION\_GOAL\_SD: VARCHAR2(1020)  
EDUCATION\_GOAL\_LD: VARCHAR2(1020)  
EDUCATION\_LEVEL: VARCHAR2(252)  
EDUCATION\_LEVEL\_SD: VARCHAR2(1020)  
EDUCATION\_LEVEL\_LD: VARCHAR2(1020)  
RESIDENCY: VARCHAR2(252)  
RESIDENCY\_SD: VARCHAR2(1020)  
RESIDENCY\_LD: VARCHAR2(1020)  
HOUSING\_IND: VARCHAR2(252)  
SITE: VARCHAR2(252)  
SITE\_SD: VARCHAR2(1020)  
SITE\_LD: VARCHAR2(1020)  
RATE: VARCHAR2(252)  
RATE\_SD: VARCHAR2(1020)  
RATE\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_01: VARCHAR2(252)  
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USER\_ATTRIBUTE\_05\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05\_LD: VARCHAR2(1020)  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120)  
SYSTEM\_LOAD\_TMSTMP: DATE

# WDT\_DEMOGRAPHIC

DEMOGRAPHIC\_KEY: NUMBER

GENDER: VARCHAR2(252)  
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GENDER\_LD: VARCHAR2(1020)  
ETHNICITY\_CATEGORY: VARCHAR2(252)  
ETHNICITY\_CATEGORY\_SD: VARCHAR2(1020)  
ETHNICITY\_CATEGORY\_LD: VARCHAR2(1020)  
HISPANIC\_LATINO\_ETHNICITY\_IND: VARCHAR2(252)  
ASIAN\_IND: VARCHAR2(252)  
NATIVE\_AMERICAN\_OR\_ALASKAN\_IND: VARCHAR2(252)  
BLACK\_OR\_AFRICAN\_IND: VARCHAR2(252)  
PACIFIC\_ISLANDER\_IND: VARCHAR2(252)  
WHITE\_IND: VARCHAR2(252)  
ETHNICITY: VARCHAR2(252)  
ETHNICITY\_SD: VARCHAR2(1020)  
ETHNICITY\_LD: VARCHAR2(1020)  
DECEASED\_IND: VARCHAR2(252)  
CITIZENSHIP\_IND: VARCHAR2(252)  
CITIZENSHIP\_TYPE: VARCHAR2(252)  
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CITIZENSHIP\_TYPE\_LD: VARCHAR2(1020)  
VISA\_TYPE: VARCHAR2(252)  
VISA\_TYPE\_SD: VARCHAR2(1020)  
VISA\_TYPE\_LD: VARCHAR2(1020)  
NATION\_OF\_CITIZENSHIP: VARCHAR2(252)  
NATION\_OF\_CITIZENSHIP\_SD: VARCHAR2(1020)  
NATION\_OF\_CITIZENSHIP\_LD: VARCHAR2(1020)  
NATION\_OF\_BIRTH: VARCHAR2(252)  
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NATION\_OF\_BIRTH\_LD: VARCHAR2(1020)  
PRIMARY\_DISABILITY: VARCHAR2(252)  
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LEGACY: VARCHAR2(252)  
LEGACY\_SD: VARCHAR2(1020)  
LEGACY\_LD: VARCHAR2(1020)  
MARITAL\_STATUS: VARCHAR2(252)  
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MARITAL\_STATUS\_LD: VARCHAR2(1020)  
RELIGION: VARCHAR2(252)  
RELIGION\_SD: VARCHAR2(1020)  
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VETERAN\_CATEGORY\_SD: VARCHAR2(1020)  
VETERAN\_CATEGORY\_LD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_01\_LD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_03\_LD: VARCHAR2(1020)  
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USER\_ATTRIBUTE\_05\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05\_LD: VARCHAR2(1020)  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120)  
SYSTEM\_LOAD\_TMSTMP: DATE

# WDT\_MULTI\_SOURCE

MULTI\_SOURCE\_KEY: NUMBER

MULTI\_SOURCE: VARCHAR2(252)  
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MULTI\_SOURCE\_LD: VARCHAR2(1020)  
PROCESS\_GROUP: VARCHAR2(1020)  
PROCESS\_GROUP\_SD: VARCHAR2(1020)  
PROCESS\_GROUP\_LD: VARCHAR2(1020)  
ADMINISTRATIVE\_GROUP: VARCHAR2(1020)  
ADMINISTRATIVE\_GROUP\_SD: VARCHAR2(1020)  
ADMINISTRATIVE\_GROUP\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_01: VARCHAR2(252)  
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USER\_ATTRIBUTE\_04\_LD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05: VARCHAR2(252)  
USER\_ATTRIBUTE\_05\_SD: VARCHAR2(1020)  
USER\_ATTRIBUTE\_05\_LD: VARCHAR2(1020)  
SYSTEM\_LOAD\_PROCESS: VARCHAR2(120)  
SYSTEM\_LOAD\_TMSTMP: DATE

## Financial Aid Pre-Student snapshot star

Use the Financial Aid Pre-Student star schema to understand the trends in pre-student acceptance and enrollment based on how financial aid amounts are allocated.

With this information you can analyze the number of applicants who are aid recipients, and the award amounts offered, accepted, declined, cancelled, and paid using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic period, academic year, aid year, aid period)
- Financial Aid Fund
- Demographic (ethnicity, gender)
- Pre-Student Status (inquired, applied, accepted, enrolled)
- Financial Aid Status (e.g. offered, accepted, declined)



| WDT_TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TIME_KEY: NUMBER</b><br>MULTI_SOURCE_QUALIFIER: VARCHAR2(252)<br>EVENT_QUALIFIER: VARCHAR2(252)<br>EVENT: VARCHAR2(252)<br>EVENT_SD: VARCHAR2(1020)<br>EVENT_LD: VARCHAR2(1020)<br>EVENT_DATE: DATE<br>EVENT_SEQ: INTEGER<br>AID_YEAR: VARCHAR2(252)<br>AID_YEAR_SD: VARCHAR2(1020)<br>AID_YEAR_LD: VARCHAR2(1020)<br>AID_PERIOD: VARCHAR2(252)<br>AID_PERIOD_SD: VARCHAR2(1020)<br>AID_PERIOD_LD: VARCHAR2(1020)<br>ACADEMIC_YEAR: VARCHAR2(252)<br>ACADEMIC_YEAR_SD: VARCHAR2(1020)<br>ACADEMIC_YEAR_LD: VARCHAR2(1020)<br>ACADEMIC_PERIOD: VARCHAR2(252)<br>ACADEMIC_PERIOD_SD: VARCHAR2(1020)<br>ACADEMIC_PERIOD_LD: VARCHAR2(1020)<br>SUB_ACADEMIC_PERIOD: VARCHAR2(252)<br>SUB_ACADEMIC_PERIOD_SD: VARCHAR2(1020)<br>SUB_ACADEMIC_PERIOD_LD: VARCHAR2(1020)<br>FISCAL_YEAR: VARCHAR2(252)<br>FISCAL_YEAR_SD: VARCHAR2(1020)<br>FISCAL_YEAR_LD: VARCHAR2(1020)<br>FISCAL_QUARTER: VARCHAR2(252)<br>FISCAL_QUARTER_SD: VARCHAR2(1020)<br>FISCAL_QUARTER_LD: VARCHAR2(1020)<br>FISCAL_PERIOD: VARCHAR2(252)<br>FISCAL_PERIOD_SD: VARCHAR2(1020)<br>FISCAL_PERIOD_LD: VARCHAR2(1020)<br>CALENDAR_YEAR: VARCHAR2(252)<br>CALENDAR_YEAR_SD: VARCHAR2(1020)<br>CALENDAR_YEAR_LD: VARCHAR2(1020)<br>CALENDAR_MONTH: VARCHAR2(252)<br>CALENDAR_MONTH_SD: VARCHAR2(1020)<br>CALENDAR_MONTH_LD: VARCHAR2(1020)<br>AID_PER_LAST_EVENT_IND: VARCHAR2(24)<br>AID_YR_LAST_EVENT_IND: VARCHAR2(24)<br>SUB_ACAD_PER_LAST_EVENT_IND: VARCHAR2(24)<br>ACAD_PER_LAST_EVENT_IND: VARCHAR2(24)<br>ACAD_YR_LAST_EVENT_IND: VARCHAR2(24)<br>FISCAL_PER_LAST_EVENT_IND: VARCHAR2(24)<br>FISCAL_QTR_LAST_EVENT_IND: VARCHAR2(24)<br>FISCAL_YR_LAST_EVENT_IND: VARCHAR2(24)<br>CAL_MM_LAST_EVENT_IND: VARCHAR2(24)<br>CAL_YR_LAST_EVENT_IND: VARCHAR2(24)<br>USER_ATTRIBUTE_01: VARCHAR2(252)<br>USER_ATTRIBUTE_01_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02: VARCHAR2(252)<br>USER_ATTRIBUTE_02_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03: VARCHAR2(252)<br>USER_ATTRIBUTE_03_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04: VARCHAR2(252)<br>USER_ATTRIBUTE_04_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05: VARCHAR2(252)<br>USER_ATTRIBUTE_05_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05_SD: VARCHAR2(1020)<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WDT_FINANCIAL_AID_STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FINANCIAL_AID_STATUS_KEY: NUMBER</b><br>FINANCIAL_AID_APPLICANT_IND: VARCHAR2(252)<br>FINANCIAL_AID_APPLICATION_IND: VARCHAR2(252)<br>FM_APPLICATION_IND: VARCHAR2(252)<br>IM_APPLICATION_IND: VARCHAR2(252)<br>AWARD_OFFERED_IND: VARCHAR2(252)<br>AWARD_ACCEPTED_IND: VARCHAR2(252)<br>AWARD_DECLINED_IND: VARCHAR2(252)<br>AWARD_CANCELED_IND: VARCHAR2(252)<br>AWARD_PAID_IND: VARCHAR2(252)<br>FM_NEED_ELIGIBLE_IND: VARCHAR2(252)<br>FM_FULLY_MET_NEED_IND: VARCHAR2(252)<br>IM_NEED_ELIGIBLE_IND: VARCHAR2(252)<br>IM_FULLY_MET_NEED_IND: VARCHAR2(252)<br>DEPENDENT_IND: VARCHAR2(252)<br>USER_ATTRIBUTE_01: VARCHAR2(252)<br>USER_ATTRIBUTE_01_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02: VARCHAR2(252)<br>USER_ATTRIBUTE_02_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03: VARCHAR2(252)<br>USER_ATTRIBUTE_03_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04: VARCHAR2(252)<br>USER_ATTRIBUTE_04_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05: VARCHAR2(252)<br>USER_ATTRIBUTE_05_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05_LD: VARCHAR2(1020)<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WFT_FINANCIAL_AID_PRE_STUDENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MULTI_SOURCE_KEY: NUMBER (FK)</b><br><b>TIME_KEY: NUMBER (FK)</b><br><b>FINANCIAL_AID_FUND_KEY: NUMBER (FK)</b><br><b>DEMOGRAPHIC_KEY: NUMBER (FK)</b><br><b>PRE_STUDENT_STATUS_KEY: NUMBER (FK)</b><br><b>FINANCIAL_AID_STATUS_KEY: NUMBER (FK)</b><br><b>PERSON_UID: NUMBER</b><br>AGE: NUMBER<br>FAMILY_INCOME: NUMBER<br>AWARD_AUTHORIZED_AMOUNT: NUMBER<br>AWARD_OFFERED_AMOUNT: NUMBER<br>AWARD_ACCEPTED_AMOUNT: NUMBER<br>AWARD_DECLINED_AMOUNT: NUMBER<br>AWARD_CANCELED_AMOUNT: NUMBER<br>AWARD_PAID_AMOUNT: NUMBER<br>USER_MEASURE_01: NUMBER<br>USER_MEASURE_02: NUMBER<br>USER_MEASURE_03: NUMBER<br>USER_MEASURE_04: NUMBER<br>USER_MEASURE_05: NUMBER<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WDT_PRE_STUDENT_STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRE_STUDENT_STATUS_KEY: NUMBER</b><br>INQUIRED_IND: VARCHAR2(252)<br>APPLIED_IND: VARCHAR2(252)<br>ADMITTED_IND: VARCHAR2(252)<br>ACCEPTED_IND: VARCHAR2(252)<br>TUITION_DEPOSITED_IND: VARCHAR2(252)<br>ENROLLED_IND: VARCHAR2(252)<br>USER_ATTRIBUTE_01: VARCHAR2(252)<br>USER_ATTRIBUTE_01_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02: VARCHAR2(252)<br>USER_ATTRIBUTE_02_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03: VARCHAR2(252)<br>USER_ATTRIBUTE_03_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04: VARCHAR2(252)<br>USER_ATTRIBUTE_04_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05: VARCHAR2(252)<br>USER_ATTRIBUTE_05_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05_SD: VARCHAR2(1020)<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WDT_FINANCIAL_AID_FUND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FINANCIAL_AID_FUND_KEY: NUMBER</b><br>FUND: VARCHAR2(252)<br>FUND_SD: VARCHAR2(1020)<br>FUND_LD: VARCHAR2(1020)<br>FUND_TYPE: VARCHAR2(252)<br>FUND_TYPE_SD: VARCHAR2(1020)<br>FUND_TYPE_LD: VARCHAR2(1020)<br>FINANCIAL_AID_TYPE: VARCHAR2(252)<br>FINANCIAL_AID_TYPE_SD: VARCHAR2(1020)<br>FINANCIAL_AID_TYPE_LD: VARCHAR2(1020)<br>FUND_SOURCE: VARCHAR2(252)<br>FUND_SOURCE_SD: VARCHAR2(1020)<br>FUND_SOURCE_LD: VARCHAR2(1020)<br>FINANCIAL_AID_SOURCE_TYPE: VARCHAR2(252)<br>FINANCIAL_AID_SOURCE_TYPE_SD: VARCHAR2(1020)<br>FINANCIAL_AID_SOURCE_TYPE_LD: VARCHAR2(1020)<br>GIFT_OR_SELF_HELP_AID: VARCHAR2(252)<br>GIFT_OR_SELF_HELP_AID_SD: VARCHAR2(1020)<br>GIFT_OR_SELF_HELP_AID_LD: VARCHAR2(1020)<br>REPLACE_EFC_IND: VARCHAR2(252)<br>REDUCE_NEED_IND: VARCHAR2(252)<br>OVERRIDE_UNMET_NEED_IND: VARCHAR2(252)<br>OVERRIDE_NEED_TO_COA_IND: VARCHAR2(252)<br>NEED_ANALYSIS_IND: VARCHAR2(252)<br>USER_ATTRIBUTE_01: VARCHAR2(252)<br>USER_ATTRIBUTE_01_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02: VARCHAR2(252)<br>USER_ATTRIBUTE_02_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03: VARCHAR2(252)<br>USER_ATTRIBUTE_03_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04: VARCHAR2(252)<br>USER_ATTRIBUTE_04_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05: VARCHAR2(252)<br>USER_ATTRIBUTE_05_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05_LD: VARCHAR2(1020)<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WDT_MULTI_SOURCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MULTI_SOURCE_KEY: NUMBER</b><br>MULTI_SOURCE: VARCHAR2(252)<br>MULTI_SOURCE_SD: VARCHAR2(1020)<br>MULTI_SOURCE_LD: VARCHAR2(1020)<br>PROCESS_GROUP: VARCHAR2(1020)<br>PROCESS_GROUP_SD: VARCHAR2(1020)<br>PROCESS_GROUP_LD: VARCHAR2(1020)<br>ADMINISTRATIVE_GROUP: VARCHAR2(1020)<br>ADMINISTRATIVE_GROUP_SD: VARCHAR2(1020)<br>ADMINISTRATIVE_GROUP_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01: VARCHAR2(252)<br>USER_ATTRIBUTE_01_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_01_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02: VARCHAR2(252)<br>USER_ATTRIBUTE_02_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_02_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03: VARCHAR2(252)<br>USER_ATTRIBUTE_03_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_03_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04: VARCHAR2(252)<br>USER_ATTRIBUTE_04_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_04_SD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05: VARCHAR2(252)<br>USER_ATTRIBUTE_05_LD: VARCHAR2(1020)<br>USER_ATTRIBUTE_05_SD: VARCHAR2(1020)<br>SYSTEM_LOAD_PROCESS: VARCHAR2(120)<br>SYSTEM_LOAD_TMSTMP: DATE |

| WDT_DEMOGRAPHIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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## Financial Aid Student snapshot star

Use the Financial Aid Student star schema to understand the trends in packaging financial aid awards and to support improved allocation of financial aid amounts.

With this data you can analyze the family income, number of aid recipients, and the award amounts offered, accepted, declined, cancelled, and paid using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic period, academic year, aid year, aid period)
- Financial Aid Fund
- Student
- Demographic (ethnicity, gender)
- Academic Study (program, degree, college, major, department)
- Enrollment Status



## General Ledger snapshot star

Use the General Ledger star schema to understand trends in the general ledger activity and to better manage the overall financial health of the institution.

With this data you can analyze current year, year to date, calendar period debits and credits, and beginning and ending balances using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year)
- Chart
- Fund (type, level, pool)
- Account (type, level, pool)

|                                               |
|-----------------------------------------------|
| <b>WDT_TIME</b>                               |
| <b>TIME_KEY: NUMBER</b>                       |
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| EVENT: VARCHAR2(252) (IE2.3, IE3.1)           |
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| EVENT_DATE: DATE                              |
| EVENT_SEQ: INTEGER                            |
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| AID_PERIOD_SD: VARCHAR2(1020)                 |
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| ACADEMIC_YEAR_SD: VARCHAR2(1020)              |
| ACADEMIC_PERIOD: VARCHAR2(252)                |
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| ACADEMIC_PERIOD_LD: VARCHAR2(1020)            |
| ACADEMIC_PERIOD_SEQ: INTEGER                  |
| SUB_ACADEMIC_PERIOD: VARCHAR2(252)            |
| SUB_ACADEMIC_PERIOD_SD: VARCHAR2(1020)        |
| SUB_ACADEMIC_PERIOD_LD: VARCHAR2(1020)        |
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| FISCAL_YEAR_SD: VARCHAR2(1020)                |
| FISCAL_YEAR_LD: VARCHAR2(1020)                |
| FISCAL_QUARTER: VARCHAR2(252)                 |
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| FISCAL_QUARTER_LD: VARCHAR2(1020)             |
| FISCAL_PERIOD: VARCHAR2(252)                  |
| FISCAL_PERIOD_SD: VARCHAR2(1020)              |
| FISCAL_PERIOD_LD: VARCHAR2(1020)              |
| CALENDAR_YEAR: VARCHAR2(252)                  |
| CALENDAR_YEAR_LD: VARCHAR2(1020)              |
| CALENDAR_YEAR_SD: VARCHAR2(1020)              |
| CALENDAR_MONTH: VARCHAR2(252)                 |
| CALENDAR_MONTH_SD: VARCHAR2(1020)             |
| CALENDAR_MONTH_LD: VARCHAR2(1020)             |
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| AID_YR_LAST_EVENT_IND: VARCHAR2(24)           |
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| ACAD_PER_LAST_EVENT_IND: VARCHAR2(24)         |
| ACAD_YR_LAST_EVENT_IND: VARCHAR2(24)          |
| FISCAL_PER_LAST_EVENT_IND: VARCHAR2(24)       |
| FISCAL_QTR_LAST_EVENT_IND: VARCHAR2(24)       |
| FISCAL_YR_LAST_EVENT_IND: VARCHAR2(24)        |
| CAL_MM_LAST_EVENT_IND: VARCHAR2(24)           |
| CAL_YR_LAST_EVENT_IND: VARCHAR2(24)           |
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| USER_ATTRIBUTE_01_SD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_01_LD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_02: VARCHAR2(252)              |
| USER_ATTRIBUTE_02_SD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_02_LD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_03: VARCHAR2(252)              |
| USER_ATTRIBUTE_03_SD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_03_LD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_04: VARCHAR2(252)              |
| USER_ATTRIBUTE_04_SD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_04_LD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_05: VARCHAR2(252)              |
| USER_ATTRIBUTE_05_SD: VARCHAR2(1020)          |
| USER_ATTRIBUTE_05_LD: VARCHAR2(1020)          |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120) (IE1.1)    |
| SYSTEM_LOAD_TMSTMP: DATE                      |

|                                      |
|--------------------------------------|
| <b>WDT_CHART</b>                     |
| <b>CHART_KEY: NUMBER</b>             |
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| CHART_OF_ACCOUNTS_SD: VARCHAR2(1020) |
| CHART_OF_ACCOUNTS_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_01: VARCHAR2(252)     |
| USER_ATTRIBUTE_01_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_01_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_02: VARCHAR2(252)     |
| USER_ATTRIBUTE_02_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_02_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_03: VARCHAR2(252)     |
| USER_ATTRIBUTE_03_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_03_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_04: VARCHAR2(252)     |
| USER_ATTRIBUTE_04_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_04_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_05: VARCHAR2(252)     |
| USER_ATTRIBUTE_05_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_05_SD: VARCHAR2(1020) |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120)   |
| SYSTEM_LOAD_TMSTMP: DATE             |

|                                    |
|------------------------------------|
| <b>WFT_GENERAL_LEDGER</b>          |
| MULTI_SOURCE_KEY: NUMBER (FK)      |
| TIME_KEY: NUMBER (FK)              |
| CHART_KEY: NUMBER (FK)             |
| FUND_KEY: NUMBER (FK)              |
| ACCOUNT_KEY: NUMBER (FK)           |
| CURRENT_YEAR_DEBITS: NUMBER        |
| CURRENT_YEAR_CREDITS: NUMBER       |
| CURRENT_YEAR_ACTIVITY: NUMBER      |
| CURRENT_PERIOD_DEBITS: NUMBER      |
| CURRENT_PERIOD_CREDITS: NUMBER     |
| CURRENT_PERIOD_ACTIVITY: NUMBER    |
| YTD_DEBITS: NUMBER                 |
| YTD_CREDITS: NUMBER                |
| YTD_ACTIVITY: NUMBER               |
| BEGINNING_BALANCE: NUMBER          |
| ENDING_BALANCE: NUMBER             |
| USER_MEASURE_01: NUMBER            |
| USER_MEASURE_02: NUMBER            |
| USER_MEASURE_03: NUMBER            |
| USER_MEASURE_04: NUMBER            |
| USER_MEASURE_05: NUMBER            |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120) |
| SYSTEM_LOAD_TMSTMP: DATE           |

|                                         |
|-----------------------------------------|
| <b>WDT_MULTI_SOURCE</b>                 |
| <b>MULTI_SOURCE_KEY: NUMBER</b>         |
| MULTI_SOURCE: VARCHAR2(252)             |
| MULTI_SOURCE_SD: VARCHAR2(1020)         |
| MULTI_SOURCE_LD: VARCHAR2(1020)         |
| PROCESS_GROUP: VARCHAR2(1020)           |
| PROCESS_GROUP_SD: VARCHAR2(1020)        |
| PROCESS_GROUP_LD: VARCHAR2(1020)        |
| ADMINISTRATIVE_GROUP: VARCHAR2(1020)    |
| ADMINISTRATIVE_GROUP_SD: VARCHAR2(1020) |
| ADMINISTRATIVE_GROUP_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_01: VARCHAR2(252)        |
| USER_ATTRIBUTE_01_SD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_01_LD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_02: VARCHAR2(252)        |
| USER_ATTRIBUTE_02_SD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_02_LD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_03: VARCHAR2(252)        |
| USER_ATTRIBUTE_03_SD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_03_LD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_04: VARCHAR2(252)        |
| USER_ATTRIBUTE_04_SD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_04_LD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_05: VARCHAR2(252)        |
| USER_ATTRIBUTE_05_SD: VARCHAR2(1020)    |
| USER_ATTRIBUTE_05_LD: VARCHAR2(1020)    |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120)      |
| SYSTEM_LOAD_TMSTMP: DATE                |

|                                      |
|--------------------------------------|
| <b>WDT_FUND</b>                      |
| <b>FUND_KEY: NUMBER</b>              |
| FUND: VARCHAR2(252) (IE1.1)          |
| FUND_SD: VARCHAR2(1020)              |
| FUND_LD: VARCHAR2(1020)              |
| FUND_POOL: VARCHAR2(252)             |
| FUND_POOL_SD: VARCHAR2(1020)         |
| FUND_POOL_LD: VARCHAR2(1020)         |
| FUND_TYPE: VARCHAR2(252)             |
| FUND_TYPE_SD: VARCHAR2(1020)         |
| FUND_TYPE_LD: VARCHAR2(1020)         |
| FUND_TYPE_LEVEL_1: VARCHAR2(252)     |
| FUND_TYPE_LEVEL_1_SD: VARCHAR2(1020) |
| FUND_TYPE_LEVEL_1_LD: VARCHAR2(1020) |
| FUND_TYPE_LEVEL_2: VARCHAR2(252)     |
| FUND_TYPE_LEVEL_2_SD: VARCHAR2(1020) |
| FUND_TYPE_LEVEL_2_LD: VARCHAR2(1020) |
| FUND_LEVEL_1: VARCHAR2(252)          |
| FUND_LEVEL_1_SD: VARCHAR2(1020)      |
| FUND_LEVEL_1_LD: VARCHAR2(1020)      |
| FUND_LEVEL_2: VARCHAR2(252)          |
| FUND_LEVEL_2_SD: VARCHAR2(1020)      |
| FUND_LEVEL_2_LD: VARCHAR2(1020)      |
| FUND_LEVEL_3: VARCHAR2(252)          |
| FUND_LEVEL_3_SD: VARCHAR2(1020)      |
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| FUND_LEVEL_4: VARCHAR2(252)          |
| FUND_LEVEL_4_SD: VARCHAR2(1020)      |
| FUND_LEVEL_4_LD: VARCHAR2(1020)      |
| FUND_LEVEL_5: VARCHAR2(252)          |
| FUND_LEVEL_5_SD: VARCHAR2(1020)      |
| FUND_LEVEL_5_LD: VARCHAR2(1020)      |
| USER_ATTRIBUTE_01: VARCHAR2(252)     |
| USER_ATTRIBUTE_01_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_01_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_02: VARCHAR2(252)     |
| USER_ATTRIBUTE_02_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_02_LD: VARCHAR2(1020) |
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| USER_ATTRIBUTE_03_LD: VARCHAR2(1020) |
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| USER_ATTRIBUTE_04_SD: VARCHAR2(1020) |
| USER_ATTRIBUTE_04_LD: VARCHAR2(1020) |
| USER_ATTRIBUTE_05: VARCHAR2(252)     |
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| USER_ATTRIBUTE_05_LD: VARCHAR2(1020) |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120)   |
| SYSTEM_LOAD_TMSTMP: DATE             |

|                                          |
|------------------------------------------|
| <b>WDT_ACCOUNT</b>                       |
| <b>ACCOUNT_KEY: NUMBER</b>               |
| ACCOUNT: VARCHAR2(252) (IE1.1)           |
| ACCOUNT_SD: VARCHAR2(1020)               |
| ACCOUNT_LD: VARCHAR2(1020)               |
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| ACCOUNT_POOL_SD: VARCHAR2(1020)          |
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| ACCOUNT_LEVEL_3_SD: VARCHAR2(1020)       |
| ACCOUNT_LEVEL_3_LD: VARCHAR2(1020)       |
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| USER_ATTRIBUTE_04_LD: VARCHAR2(1020)     |
| USER_ATTRIBUTE_05: VARCHAR2(252)         |
| USER_ATTRIBUTE_05_SD: VARCHAR2(1020)     |
| USER_ATTRIBUTE_05_LD: VARCHAR2(1020)     |
| SYSTEM_LOAD_PROCESS: VARCHAR2(120)       |
| SYSTEM_LOAD_TMSTMP: DATE                 |

## Graduation Completion snapshot star

Use the Graduation Completion star schema to understand graduation trends, and to monitor and improve graduation rates.

With this data you can analyze, credits attempted, credits earned, credits passed, GPA credits, quality points, and the number of academic periods using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic period, academic year)
- Student
- Graduation
- Demographic (ethnicity, gender)
- Academic Study (program, degree, college, major, department)

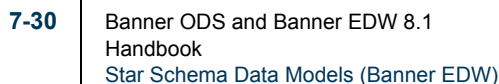


## Grant and Project snapshot star

Use the Grant and Project star schema to understand trends in grants and other sponsored research projects, and to better understand and manage research funding and spending.

With this information you can analyze the budget, direct expenditures, matching costs, indirect costs, direct revenue, reservations, encumbrances, original and adjusted budgets for year-to-date, current period-to-date, and life-to-date using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year)
- Grant Type (organization, principle investigator, agency, type of grant)
- Chart
- Fund (type, level, pool)
- Organization (level, pool)
- Account (type, level, pool)
- Program (level)





## Operating Ledger snapshot star

Use the Operating Ledger star schema to understand trends in operating expenses and revenue to help you better plan and forecast.

With this data you can analyze calendar budget information, quarterly, calendar, and current period budgeted, actual, and reservations using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year)
- Chart
- Fund (type, level, pool)
- Organization (level, pool)
- Account (type, level, pool)
- Program (level)



## Receivable Customer snapshot star

Use the Receivable Customer star schema to understand trends in customers' accounts receivables and to better manage the cash flow of the institution.

With this information you can analyze customers' balances and amounts due using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year)
- Accounts Receivable (detail, category, bill or effective date aging)
- Academic Study (program, degree, college, major, department)
- Customer (delinquency or collections)



## Receivable Revenue snapshot star

Use the Receivable Revenue star schema to understand trends in the receivable accounts and to better manage the cash flow within the different ledger accounts.

With this information you can analyze receivable amounts due and balances using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (fiscal year, calendar year)
- Accounts Receivable (detail, category, bill or effective date aging)
- Chart
- Fund (type, level, pool)
- Organization (level, pool)
- Account (type, level, pool)
- Program (level)



## Recruiting and Admission snapshot star

Use the Recruiting and Admission star schema to understand trends in recruiting and admissions, to better manage the enrollment funnel, and to understand trends in financial aid awarding to new students to better manage financial aid funds.

With this information you can analyze the number of applications, prospects, applicants, those applying for aid, those who were admitted, and those who enrolled using any of the following dimension attributes:

- Multi-Source (if applicable)
- Time (academic period, academic year)
- Academic Study (program, degree, college, major, department)
- Demographic (ethnicity, gender)
- PS Institution
- Post Secondary School
- SS Institution
- Secondary School
- Pre-Student Status (indicators to specify inquired, applied, admitted, accepted, tuition deposited, enrolled)
- Employment History
- Pre-Student (test scores, academic percentile)
- Student Application
- Student





# Banner EDW baseline operational stars

The following operational star schema data models were created for use in Banner Recruiting and Admissions Performance reporting based on existing Banner Student, Banner General, or Banner Financial Aid content. While you can use the data in an individual star schema for business reporting, more commonly you will use these stars to combine information from one or more of the operational stars for specific business needs.



## Note

Refer to the *Banner Recruiting and Admissions Performance Handbook* for information about the Banner Recruiting and Admissions Performance operational stars.

- [“Administrator operational star” on page 7-40](#)
- [“Admissions Application operational star” on page 7-42](#)
- [“Admissions Recruitment operational star” on page 7-44](#)
- [“Application Attribute operational star” on page 7-46](#)
- [“Application Cohort operational star” on page 7-48](#)
- [“Application Decision operational star” on page 7-50](#)
- [“Application Rating operational star” on page 7-52](#)
- [“Application Requirement operational star” on page 7-54](#)
- [“Contact operational star” on page 7-56](#)
- [“Financial Aid Application operational star” on page 7-58](#)
- [“Financial Aid Award By Academic Period operational star” on page 7-60](#)
- [“Financial Aid Award By Aid Year operational star” on page 7-62](#)
- [“Hold operational star” on page 7-64](#)
- [“Institution operational star” on page 7-66](#)
- [“Interest operational star” on page 7-68](#)
- [“Post Secondary School operational star” on page 7-70](#)
- [“Prospective Student operational star” on page 7-72](#)
- [“Recruitment Attribute operational star” on page 7-74](#)
- [“Recruitment Cohort operational star” on page 7-76](#)
- [“Secondary School Subject operational star” on page 7-78](#)
- [“Test operational star” on page 7-80](#)

## Administrator operational star

The Administrator star includes the current version of all administrators to prospective student assigned data for the academic period. The main information included in this star is from the Banner Selective Admissions Administrator Assignment (SORAINF) table.

Use the Administrator star to understand any relationships defined for the academic period. The relationship is defined for an Admissions Application Number or Admissions Recruitment Number. You can join the fact table of this star to other star fact tables to analyze assignments by other dimensions. This data will be joined with other star schemas for analysis.

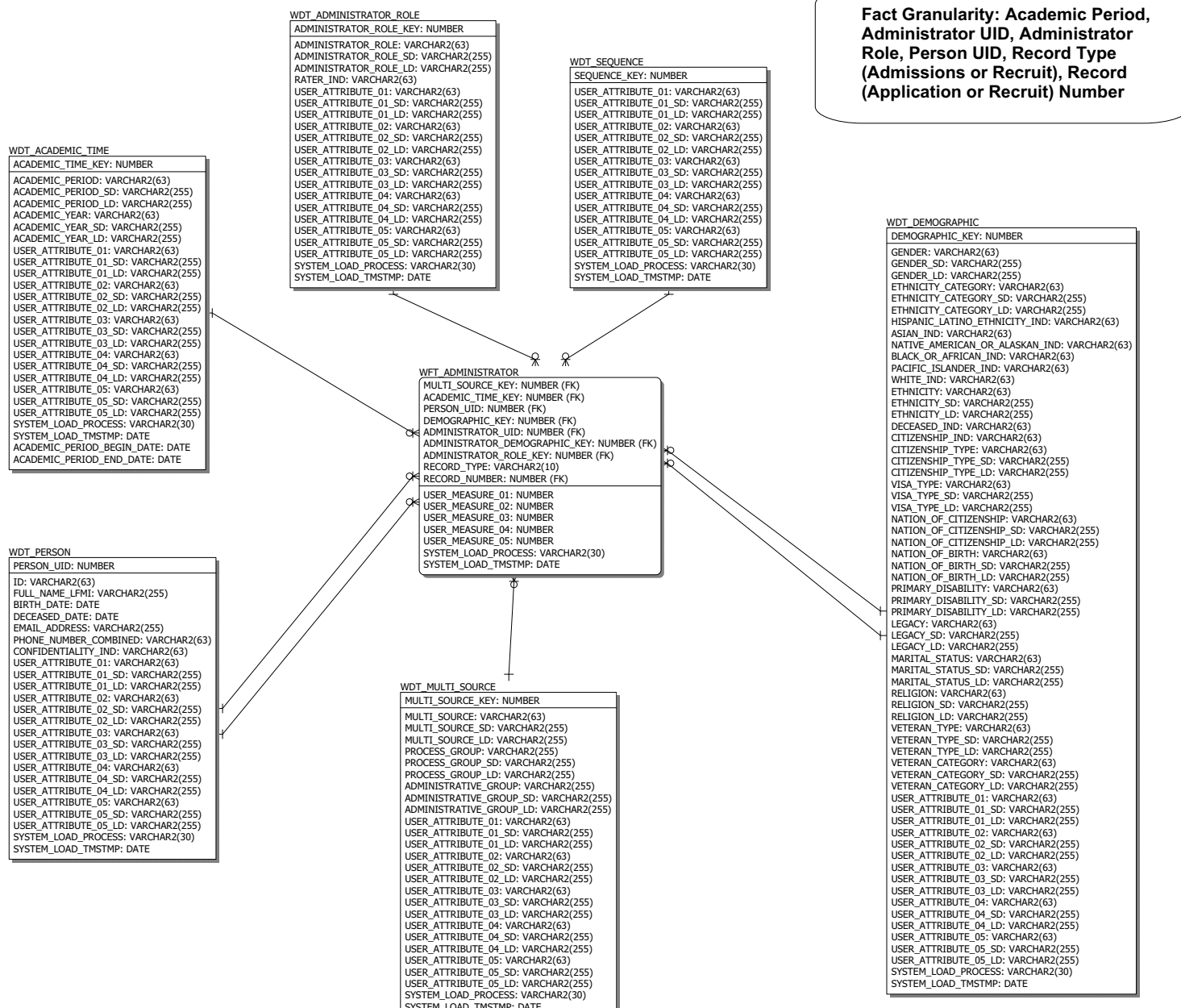
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Demographic (Gender, Race, etc)
- Person
- Administrator Demographic (Gender, Race, etc)
- Administrator Role

The Administrator star uses an accumulating refresh process. This means that when you refresh the star, table changes are not tracked but rather updated to the current information.

The fact table granularity includes:

- Academic Period
- Administrator UID
- Administrator Role
- Person UID
- Record Type
- Record Number



## Admissions Application operational star

The Admissions Application star includes the current version of all data related to each admissions application record. The main information included in this star is from the Banner Admissions Application Repeating (SARADAP) table.

Use the Admissions Application star to understand trends over academic periods. You can also use this star to analyze the number and attributes of applications received, completed and processed to better satisfy admission target goals. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Demographic (Gender, Race, etc)
- Person
- Student Application
- Student
- Pre\_Student Status
- Academic Study
- Financial Aid Status
- Postal

The Admissions Application star uses an accumulating refresh process. This means that when you refresh the star, table changes are not tracked but rather updated to the current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number

**Fact Granularity:**  
**Person UID,**  
**Academic Period,**  
**Application Number**

| WDT ACADEMIC STUDY             |               |
|--------------------------------|---------------|
| ACADEMIC_STUDY_KEY: NUMBER     |               |
| STUDENT_LEVEL:                 | VARCHAR2(63)  |
| STUDENT_LEVEL_SD:              | VARCHAR2(255) |
| STUDENT_LEVEL_LD:              | VARCHAR2(255) |
| PROGRAM:                       | VARCHAR2(63)  |
| PROGRAM_ID:                    | VARCHAR2(255) |
| PROGRAM_LD:                    | VARCHAR2(255) |
| CAMPUS:                        | VARCHAR2(63)  |
| CAMPUS_ID:                     | VARCHAR2(255) |
| CAMPUS_LD:                     | VARCHAR2(255) |
| COLLEGE:                       | VARCHAR2(63)  |
| COLLEGE_ID:                    | VARCHAR2(255) |
| COLLEGE_LD:                    | VARCHAR2(255) |
| AWARD_CATEGORY:                | VARCHAR2(63)  |
| AWARD_CATEGORY_SD:             | VARCHAR2(255) |
| AWARD_CATEGORY_LD:             | VARCHAR2(255) |
| DEGREE:                        | VARCHAR2(63)  |
| DEGREE_SD:                     | VARCHAR2(255) |
| DEGREE_LD:                     | VARCHAR2(255) |
| MAJOR:                         | VARCHAR2(63)  |
| MAJOR_ID:                      | VARCHAR2(255) |
| MAJOR_LD:                      | VARCHAR2(255) |
| PROGRAM_CLASSIFICATION:        | VARCHAR2(63)  |
| PROGRAM_CLASSIFICATION_SD:     | VARCHAR2(255) |
| PROGRAM_CLASSIFICATION_LD:     | VARCHAR2(255) |
| DEPARTMENT:                    | VARCHAR2(63)  |
| DEPARTMENT_ID:                 | VARCHAR2(255) |
| DEPARTMENT_LD:                 | VARCHAR2(255) |
| SECOND_MAJOR:                  | VARCHAR2(63)  |
| SECOND_MAJOR_SD:               | VARCHAR2(255) |
| SECOND_MAJOR_LD:               | VARCHAR2(255) |
| SECOND_PROG_CLASSIFICATION:    | VARCHAR2(63)  |
| SECOND_PROG_CLASSIFICATION_SD: | VARCHAR2(255) |
| SECOND_PROG_CLASSIFICATION_LD: | VARCHAR2(255) |
| SECOND_DEPARTMENT:             | VARCHAR2(63)  |
| SECOND_DEPARTMENT_ID:          | VARCHAR2(255) |
| SECOND_DEPARTMENT_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_01:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:          | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:           | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:            | DATE          |

| WDT ACADEMIC TIME           |               |
|-----------------------------|---------------|
| ACADEMIC_TIME_KEY: NUMBER   |               |
| ACADEMIC_PERIOD:            | VARCHAR2(63)  |
| ACADEMIC_PERIOD_SD:         | VARCHAR2(255) |
| ACADEMIC_PERIOD_LD:         | VARCHAR2(255) |
| ACADEMIC_PERIOD_BEGIN_DATE: | DATE          |
| ACADEMIC_PERIOD_END_DATE:   | DATE          |
| ACADEMIC_YEAR:              | VARCHAR2(63)  |
| ACADEMIC_YEAR_SD:           | VARCHAR2(255) |
| ACADEMIC_YEAR_LD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_01:          | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_02:          | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_03:          | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_04:          | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_05:          | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:       | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:       | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:        | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:         | DATE          |

| WDT STUDENT APPLICATION        |               |
|--------------------------------|---------------|
| APPLICATION_STATUS_KEY: NUMBER |               |
| APPLICATION_STATUS:            | VARCHAR2(63)  |
| APPLICATION_STATUS_SD:         | VARCHAR2(255) |
| APPLICATION_STATUS_LD:         | VARCHAR2(255) |
| PRIMARY_SOURCE:                | VARCHAR2(63)  |
| PRIMARY_SOURCE_SD:             | VARCHAR2(255) |
| PRIMARY_SOURCE_LD:             | VARCHAR2(255) |
| RECRUITER:                     | VARCHAR2(63)  |
| RECRUITER_ID:                  | VARCHAR2(255) |
| RECRUITER_LD:                  | VARCHAR2(255) |
| RECRUIT_TYPE:                  | VARCHAR2(63)  |
| RECRUIT_TYPE_SD:               | VARCHAR2(255) |
| RECRUIT_TYPE_LD:               | VARCHAR2(255) |
| WITHDRAWAL_REASON:             | VARCHAR2(63)  |
| WITHDRAWAL_REASON_SD:          | VARCHAR2(255) |
| WITHDRAWAL_REASON_LD:          | VARCHAR2(255) |
| INSTITUTION_ATTENDING:         | VARCHAR2(63)  |
| INSTITUTION_ATTENDING_SD:      | VARCHAR2(255) |
| INSTITUTION_ATTENDING_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_01:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:          | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:           | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:            | DATE          |

| WDT PRE STUDENT STATUS         |               |
|--------------------------------|---------------|
| PRE_STUDENT_STATUS_KEY: NUMBER |               |
| INQUIRED_INQ:                  | VARCHAR2(63)  |
| INQUIRED_INQ_SD:               | VARCHAR2(255) |
| INQUIRED_INQ_LD:               | VARCHAR2(255) |
| ADMITTED:                      | VARCHAR2(63)  |
| ADMITTED_INQ:                  | VARCHAR2(63)  |
| ADMITTED_INQ_SD:               | VARCHAR2(255) |
| ADMITTED_INQ_LD:               | VARCHAR2(255) |
| TUITION_DEPOSITED:             | VARCHAR2(63)  |
| TUITION_DEPOSITED_INQ:         | VARCHAR2(63)  |
| TUITION_DEPOSITED_INQ_SD:      | VARCHAR2(255) |
| TUITION_DEPOSITED_INQ_LD:      | VARCHAR2(255) |
| ENROLLED:                      | VARCHAR2(63)  |
| ENROLLED_INQ:                  | VARCHAR2(63)  |
| ENROLLED_INQ_SD:               | VARCHAR2(255) |
| ENROLLED_INQ_LD:               | VARCHAR2(255) |
| USER_ATTRIBUTE_01:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:          | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:           | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:            | DATE          |

| WDT FINANCIAL AID STATUS         |               |
|----------------------------------|---------------|
| FINANCIAL_AID_STATUS_KEY: NUMBER |               |
| FINANCIAL_AID_APPLICANT_INQ:     | VARCHAR2(63)  |
| FINANCIAL_AID_APPLICANT_INQ_SD:  | VARCHAR2(255) |
| FINANCIAL_AID_APPLICANT_INQ_LD:  | VARCHAR2(255) |
| FM_APPLICATION:                  | VARCHAR2(63)  |
| FM_APPLICATION_INQ:              | VARCHAR2(63)  |
| FM_APPLICATION_INQ_SD:           | VARCHAR2(255) |
| FM_APPLICATION_INQ_LD:           | VARCHAR2(255) |
| AWARD_OFFERED:                   | VARCHAR2(63)  |
| AWARD_OFFERED_INQ:               | VARCHAR2(63)  |
| AWARD_OFFERED_INQ_SD:            | VARCHAR2(255) |
| AWARD_OFFERED_INQ_LD:            | VARCHAR2(255) |
| AWARD_PAID:                      | VARCHAR2(63)  |
| AWARD_PAID_INQ:                  | VARCHAR2(63)  |
| AWARD_PAID_INQ_SD:               | VARCHAR2(255) |
| AWARD_PAID_INQ_LD:               | VARCHAR2(255) |
| FM_NEED_ELIGIBLE:                | VARCHAR2(63)  |
| FM_NEED_ELIGIBLE_INQ:            | VARCHAR2(63)  |
| FM_NEED_ELIGIBLE_INQ_SD:         | VARCHAR2(255) |
| FM_NEED_ELIGIBLE_INQ_LD:         | VARCHAR2(255) |
| FM_FULFILLMENT_NEED:             | VARCHAR2(63)  |
| FM_FULFILLMENT_NEED_INQ:         | VARCHAR2(63)  |
| FM_FULFILLMENT_NEED_INQ_SD:      | VARCHAR2(255) |
| FM_FULFILLMENT_NEED_INQ_LD:      | VARCHAR2(255) |
| DEPENDENT:                       | VARCHAR2(63)  |
| DEPENDENT_INQ:                   | VARCHAR2(63)  |
| DEPENDENT_INQ_SD:                | VARCHAR2(255) |
| DEPENDENT_INQ_LD:                | VARCHAR2(255) |
| USER_ATTRIBUTE_01:               | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_02:               | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_03:               | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_04:               | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_05:               | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:            | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:             | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:              | DATE          |

| WDT STUDENT                |               |
|----------------------------|---------------|
| STUDENT_KEY: NUMBER        |               |
| STUDENT_POPULATION:        | VARCHAR2(63)  |
| STUDENT_POPULATION_SD:     | VARCHAR2(255) |
| STUDENT_POPULATION_LD:     | VARCHAR2(255) |
| ADMISSIONS_POPULATION:     | VARCHAR2(63)  |
| ADMISSIONS_POPULATION_SD:  | VARCHAR2(255) |
| ADMISSIONS_POPULATION_LD:  | VARCHAR2(255) |
| INTENDED_TIME_STATUS:      | VARCHAR2(63)  |
| INTENDED_TIME_STATUS_SD:   | VARCHAR2(255) |
| INTENDED_TIME_STATUS_LD:   | VARCHAR2(255) |
| STUDENT_CLASSIFICATION:    | VARCHAR2(63)  |
| STUDENT_CLASSIFICATION_SD: | VARCHAR2(255) |
| STUDENT_CLASSIFICATION_LD: | VARCHAR2(255) |
| EDUCATION_GOAL:            | VARCHAR2(63)  |
| EDUCATION_GOAL_SD:         | VARCHAR2(255) |
| EDUCATION_GOAL_LD:         | VARCHAR2(255) |
| EDUCATION_LEVEL:           | VARCHAR2(63)  |
| EDUCATION_LEVEL_SD:        | VARCHAR2(255) |
| EDUCATION_LEVEL_LD:        | VARCHAR2(255) |
| RESIDENCY:                 | VARCHAR2(63)  |
| RESIDENCY_INQ:             | VARCHAR2(63)  |
| RESIDENCY_INQ_SD:          | VARCHAR2(255) |
| RESIDENCY_INQ_LD:          | VARCHAR2(255) |
| HOUSING_INQ:               | VARCHAR2(63)  |
| HOUSING_INQ_SD:            | VARCHAR2(255) |
| HOUSING_INQ_LD:            | VARCHAR2(255) |
| SITE:                      | VARCHAR2(63)  |
| SITE_ID:                   | VARCHAR2(255) |
| SITE_LD:                   | VARCHAR2(255) |
| RATE:                      | VARCHAR2(63)  |
| RATE_ID:                   | VARCHAR2(255) |
| RATE_LD:                   | VARCHAR2(255) |
| USER_ATTRIBUTE_01:         | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_02:         | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_03:         | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_04:         | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_05:         | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:      | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:       | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:        | DATE          |

| WDT DEMOGRAPHIC                    |               |
|------------------------------------|---------------|
| DEMOGRAPHIC_KEY: NUMBER            |               |
| GENDER:                            | VARCHAR2(63)  |
| GENDER_SD:                         | VARCHAR2(255) |
| GENDER_LD:                         | VARCHAR2(255) |
| ETHNICITY_CATEGORY:                | VARCHAR2(63)  |
| ETHNICITY_CATEGORY_SD:             | VARCHAR2(255) |
| ETHNICITY_CATEGORY_LD:             | VARCHAR2(255) |
| HISPANIC_LATINO_ETHNICITY_INQ:     | VARCHAR2(63)  |
| HISPANIC_LATINO_ETHNICITY_INQ_SD:  | VARCHAR2(255) |
| HISPANIC_LATINO_ETHNICITY_INQ_LD:  | VARCHAR2(255) |
| ASIAN_INQ:                         | VARCHAR2(63)  |
| ASIAN_INQ_SD:                      | VARCHAR2(255) |
| ASIAN_INQ_LD:                      | VARCHAR2(255) |
| NATIVE_AMERICAN_OR_ALASKAN_INQ:    | VARCHAR2(63)  |
| NATIVE_AMERICAN_OR_ALASKAN_INQ_SD: | VARCHAR2(255) |
| NATIVE_AMERICAN_OR_ALASKAN_INQ_LD: | VARCHAR2(255) |
| PACIFIC_ISLANDER_INQ:              | VARCHAR2(63)  |
| PACIFIC_ISLANDER_INQ_SD:           | VARCHAR2(255) |
| PACIFIC_ISLANDER_INQ_LD:           | VARCHAR2(255) |
| WHITE_INQ:                         | VARCHAR2(63)  |
| WHITE_INQ_SD:                      | VARCHAR2(255) |
| WHITE_INQ_LD:                      | VARCHAR2(255) |
| ETHNICITY:                         | VARCHAR2(63)  |
| ETHNICITY_SD:                      | VARCHAR2(255) |
| ETHNICITY_LD:                      | VARCHAR2(255) |
| DECEASED_INQ:                      | VARCHAR2(63)  |
| DECEASED_INQ_SD:                   | VARCHAR2(255) |
| DECEASED_INQ_LD:                   | VARCHAR2(255) |
| CITIZENSHIP_INQ:                   | VARCHAR2(63)  |
| CITIZENSHIP_INQ_SD:                | VARCHAR2(255) |
| CITIZENSHIP_INQ_LD:                | VARCHAR2(255) |
| CITIZENSHIP_TYPE:                  | VARCHAR2(63)  |
| CITIZENSHIP_TYPE_SD:               | VARCHAR2(255) |
| CITIZENSHIP_TYPE_LD:               | VARCHAR2(255) |
| VISA_TYPE:                         | VARCHAR2(63)  |
| VISA_TYPE_ID:                      | VARCHAR2(255) |
| VISA_TYPE_LD:                      | VARCHAR2(255) |
| NATION_OF_CITIZENSHIP:             | VARCHAR2(63)  |
| NATION_OF_CITIZENSHIP_SD:          | VARCHAR2(255) |
| NATION_OF_CITIZENSHIP_LD:          | VARCHAR2(255) |
| NATION_OF_BIRTH:                   | VARCHAR2(63)  |
| NATION_OF_BIRTH_SD:                | VARCHAR2(255) |
| NATION_OF_BIRTH_LD:                | VARCHAR2(255) |
| PRIMARY_DISABILITY:                | VARCHAR2(63)  |
| PRIMARY_DISABILITY_INQ:            | VARCHAR2(63)  |
| PRIMARY_DISABILITY_INQ_SD:         | VARCHAR2(255) |
| PRIMARY_DISABILITY_INQ_LD:         | VARCHAR2(255) |
| LEGACY:                            | VARCHAR2(63)  |
| LEGACY_ID:                         | VARCHAR2(255) |
| LEGACY_LD:                         | VARCHAR2(255) |
| MARITAL_STATUS:                    | VARCHAR2(63)  |
| MARITAL_STATUS_INQ:                | VARCHAR2(63)  |
| MARITAL_STATUS_INQ_SD:             | VARCHAR2(255) |
| MARITAL_STATUS_INQ_LD:             | VARCHAR2(255) |
| RELIGION:                          | VARCHAR2(63)  |
| RELIGION_INQ:                      | VARCHAR2(63)  |
| RELIGION_INQ_SD:                   | VARCHAR2(255) |
| RELIGION_INQ_LD:                   | VARCHAR2(255) |
| VETERAN_TYPE:                      | VARCHAR2(63)  |
| VETERAN_TYPE_INQ:                  | VARCHAR2(63)  |
| VETERAN_TYPE_INQ_SD:               | VARCHAR2(255) |
| VETERAN_TYPE_INQ_LD:               | VARCHAR2(255) |
| USER_ATTRIBUTE_01:                 | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_02:                 | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_03:                 | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_04:                 | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_05:                 | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:              | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:              | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:               | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:                | DATE          |

| WDT FINANCIAL AID YEAR         |               |
|--------------------------------|---------------|
| FINANCIAL_AID_YEAR_KEY: NUMBER |               |
| FINANCIAL_AID_YEAR:            | VARCHAR2(63)  |
| FINANCIAL_AID_YEAR_SD:         | VARCHAR2(255) |
| FINANCIAL_AID_YEAR_LD:         | VARCHAR2(255) |
| USER_ATTRIBUTE_01:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05:             | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:          | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:          | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:           | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:            | DATE          |

| WDT ADMISSIONS APPLICATION     |              |
|--------------------------------|--------------|
| MULTI_SOURCE_KEY: NUMBER       |              |
| ACADEMIC_TIME_KEY:             | NUMBER       |
| PERSON_UID:                    | NUMBER       |
| APPLICATION_NUMBER:            | NUMBER       |
| FINANCIAL_AID_YEAR_KEY:        | NUMBER       |
| DEMOGRAPHIC_KEY:               | NUMBER       |
| APPLICATION_RANKING_KEY:       | NUMBER       |
| STUDENT_APPLICATION_KEY:       | NUMBER       |
| STUDENT_KEY:                   | NUMBER       |
| PRE_STUDENT_STATUS_KEY:        | NUMBER       |
| ACADEMIC_STUDY_KEY:            | NUMBER       |
| FINANCIAL_AID_STATUS_KEY:      | NUMBER       |
| POSTAL_KEY:                    | NUMBER       |
| APPLICATION_DATE:              | DATE         |
| APPLICATION_STATUS_DATE:       | DATE         |
| APPLICATION_FEE_RECEIVED_DATE: | DATE         |
| APPLICATION_FEE_REQUIRED_INQ:  | NUMBER       |
| APPLICATION_COMPLETE_INQ:      | NUMBER       |
| USER_MEASURE_01:               | NUMBER       |
| USER_MEASURE_02:               | NUMBER       |
| USER_MEASURE_03:               | NUMBER       |
| USER_MEASURE_04:               | NUMBER       |
| USER_MEASURE_05:               | NUMBER       |
| SYSTEM_LOAD_PROCESS:           | VARCHAR2(30) |
| SYSTEM_LOAD_TMSHMP:            | DATE         |

| WDT INDICATOR         |               |
|-----------------------|---------------|
| INDICATOR_KEY: NUMBER |               |
| INDICATOR:            | VARCHAR2(255) |
| INDICATOR_ID:         | VARCHAR2(63)  |
| INDICATOR_ID_SD:      | VARCHAR2(255) |
| INDICATOR_ID_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_01:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD: | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:  | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:   | DATE          |

| WDT POSTAL            |               |
|-----------------------|---------------|
| POSTAL_KEY: NUMBER    |               |
| POSTAL_CODE:          | VARCHAR2(63)  |
| POSTAL_CODE_SD:       | VARCHAR2(255) |
| POSTAL_CODE_LD:       | VARCHAR2(255) |
| CITY:                 | VARCHAR2(63)  |
| CITY_ID:              | VARCHAR2(255) |
| CITY_LD:              | VARCHAR2(255) |
| COUNTY:               | VARCHAR2(63)  |
| COUNTY_ID:            | VARCHAR2(255) |
| COUNTY_LD:            | VARCHAR2(255) |
| STATE_PROVINCE:       | VARCHAR2(63)  |
| STATE_PROVINCE_SD:    | VARCHAR2(255) |
| STATE_PROVINCE_LD:    | VARCHAR2(255) |
| NATION:               | VARCHAR2(63)  |
| NATION_ID:            | VARCHAR2(255) |
| NATION_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_01:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD: | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:  | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:   | DATE          |

| WDT PERSON             |               |
|------------------------|---------------|
| PERSON_UID: NUMBER     |               |
| ID:                    | VARCHAR2(63)  |
| FULL_NAME_FMI:         | VARCHAR2(255) |
| BIRTH_DATE:            | DATE          |
| DECEASED_DATE:         | DATE          |
| EMAIL_ADDRESS:         | VARCHAR2(255) |
| PHONE_NUMBER_COMBINED: | VARCHAR2(63)  |
| CONFIDENTIALITY_INQ:   | VARCHAR2(63)  |
| USER_ATTRIBUTE_01:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:  | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:   | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSHMP:    | DATE          |

## Admissions Recruitment operational star

The Admissions Recruitment star includes the current version of all data related to each recruitment information record. The main information included in this star is from the Banner Recruiting Base (SRBRECR) table.

Use the Admissions Recruitment star to understand trends over academic periods, to analyze the number and data for the recruitment records, and to analyze the quality of those prospective students. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Student Recruitment
- Student
- Pre\_Student Status
- Academic Study
- Financial Aid Status

The Admissions Recruitment star uses an accumulating refresh process. This means that when you refresh the star, table changes are not tracked but rather updated to the current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Recruit Number





## Application Attribute operational star

The Application Attribute star includes all current attributes associated with an admissions application record. The main information included in this star is from the Banner Admissions Attribute Repeating (SARAATT) table.

Use the Application Attribute star to understand trends over academic periods. You can also use this star to analyze the number and types of attributes being used and how the persons with those attributes perform. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Application Attribute

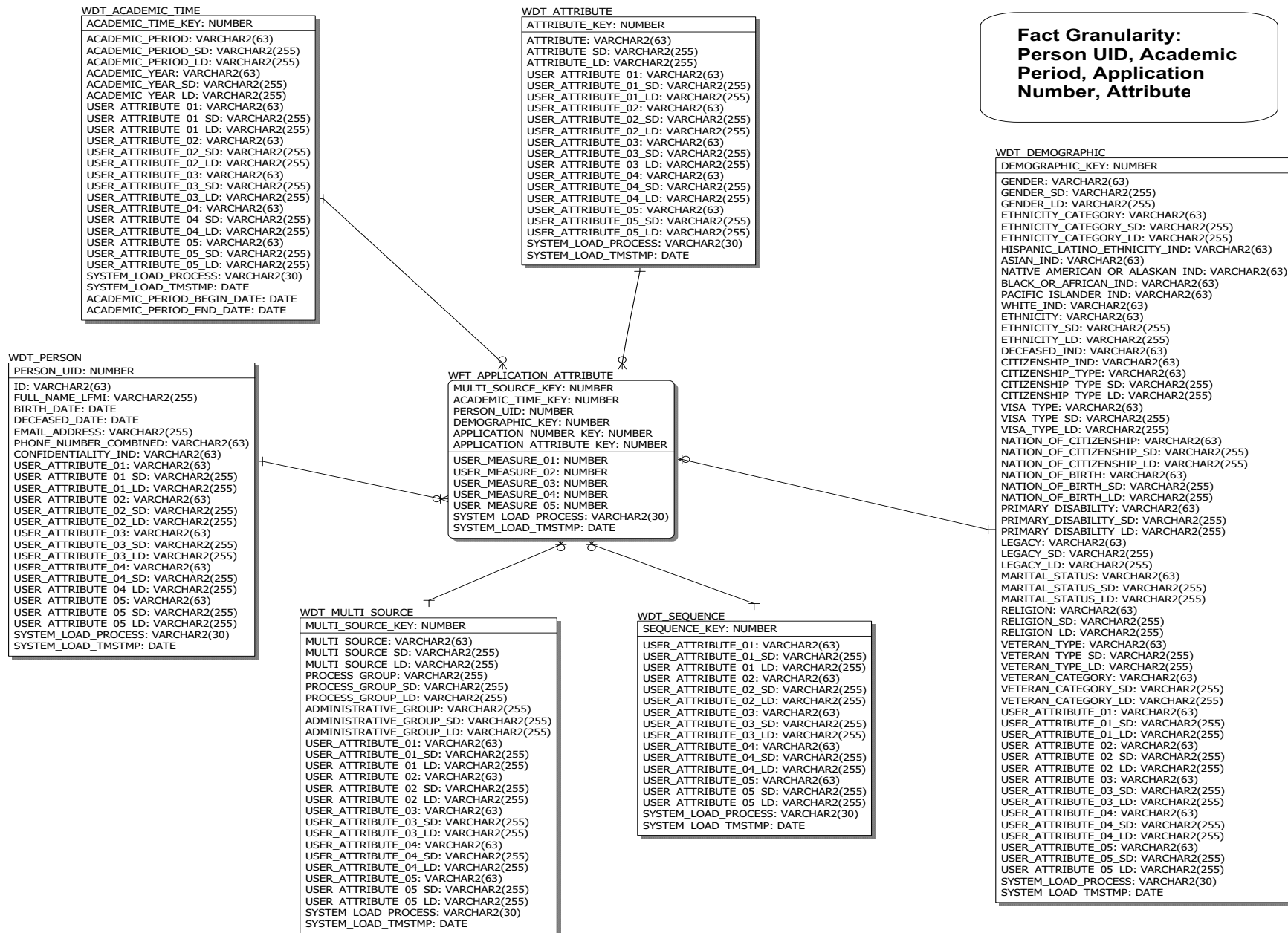
The Application Attribute star uses an accumulating refresh process. This means that when you refresh the star, table changes are not tracked but rather updated to the current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number
- Attribute



**Fact Granularity:  
Person UID, Academic  
Period, Application  
Number, Attribute**



## Application Cohort operational star

The Application Cohort star includes all current cohort codes associated with an admissions application record.

Use the Application Cohort star schema to understand trends over academic periods. Analyze the number and types of cohorts being used and how the persons with those cohorts perform. This data will be joined with other star schemas for analysis.

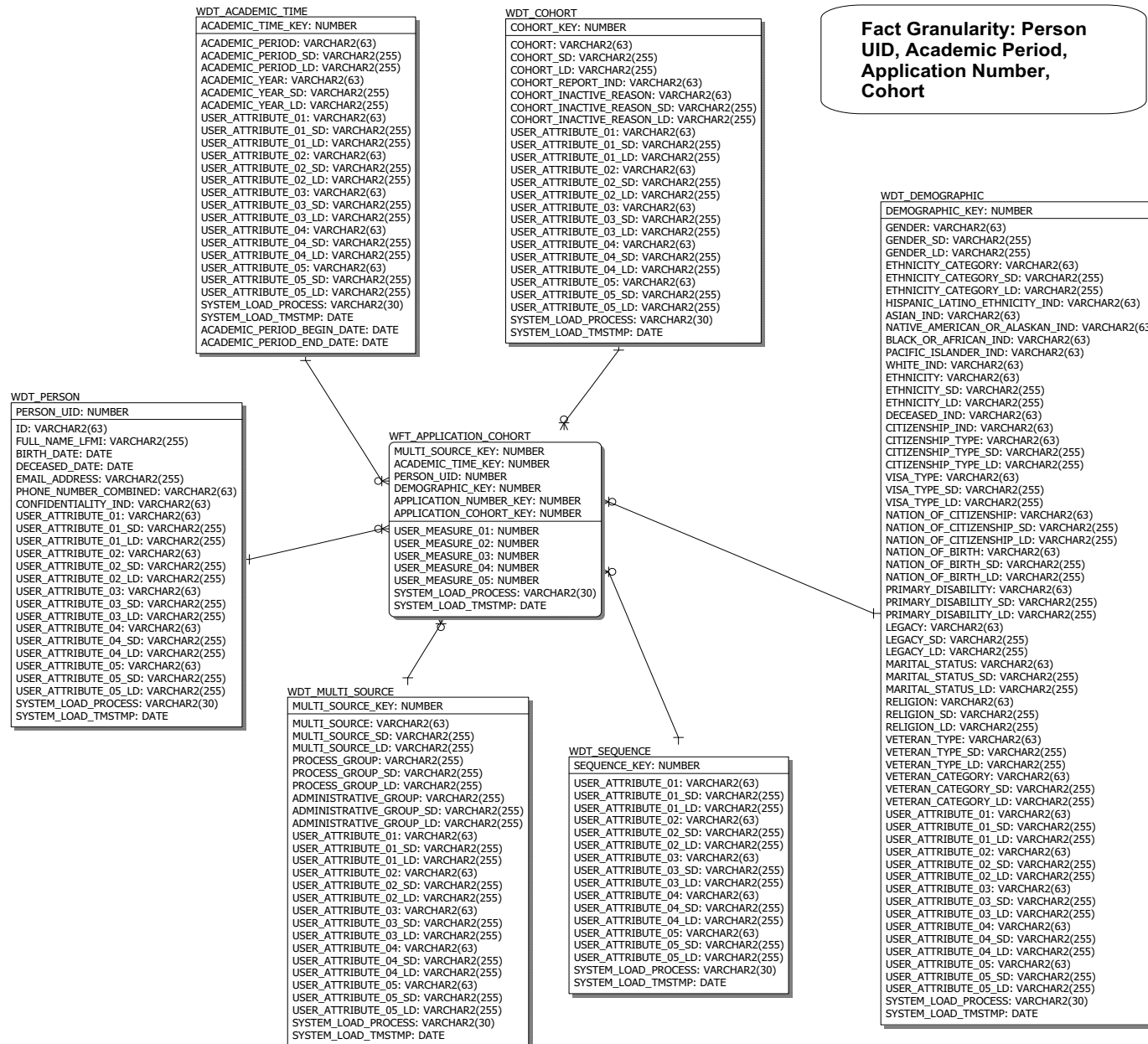
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Application Cohort

The Application Cohort star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number
- Cohort



## Application Decision operational star

The Application Decision star includes detail history of each admissions application decision recorded for each admissions application. Decisions are tracked with all detail data so that critical time reporting (daily, weekly, and monthly) is possible.

Use the Admissions Application Decision star schema to understand trends and analyze the application related information like the number of institution admits, applicant accepts, or institution declines during the application processing cycle. You can analyze the measures using current person, student application, and other student data. This data may be joined with other star schemas for analysis.

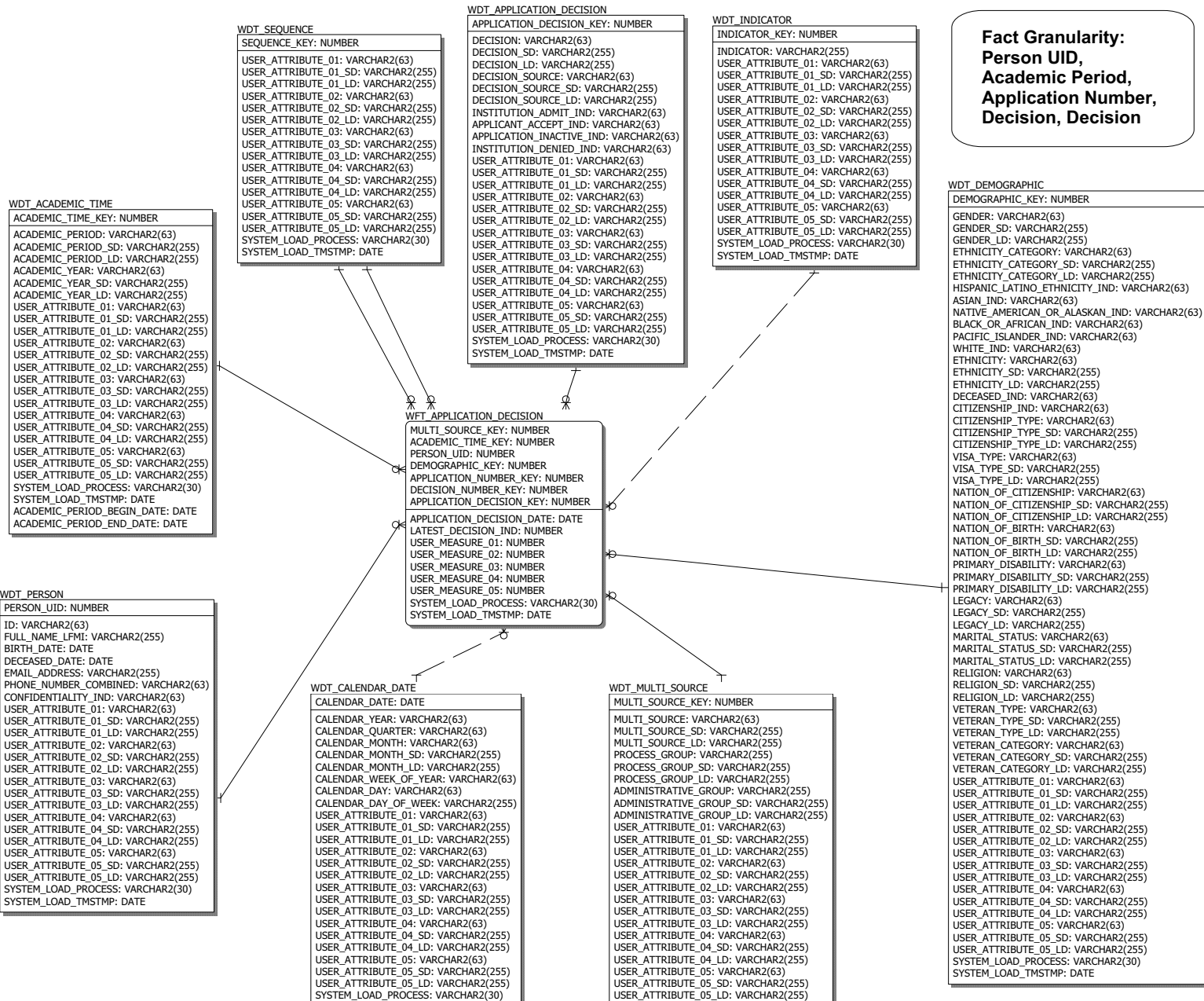
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Application Decision

The Application Decision star uses the transactional refresh process. This means when you refresh the star, fact table changes are tracked by date and in detail.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number
- Application Decision Number



**Fact Granularity:  
Person UID,  
Academic Period,  
Application Number,  
Decision, Decision**

## Application Rating operational star

The Application Rating star includes detail history of each admissions application rating recorded for each admissions application.

Use the Application Rating star schema to understand trends and analyze the number of institution admits, applicant accepts, etc. during the application processing cycle based on administrators and or ratings assigned to the application. You can analyze the measures using current person, student application, and other student data. This data may be joined with other star schemas for analysis.

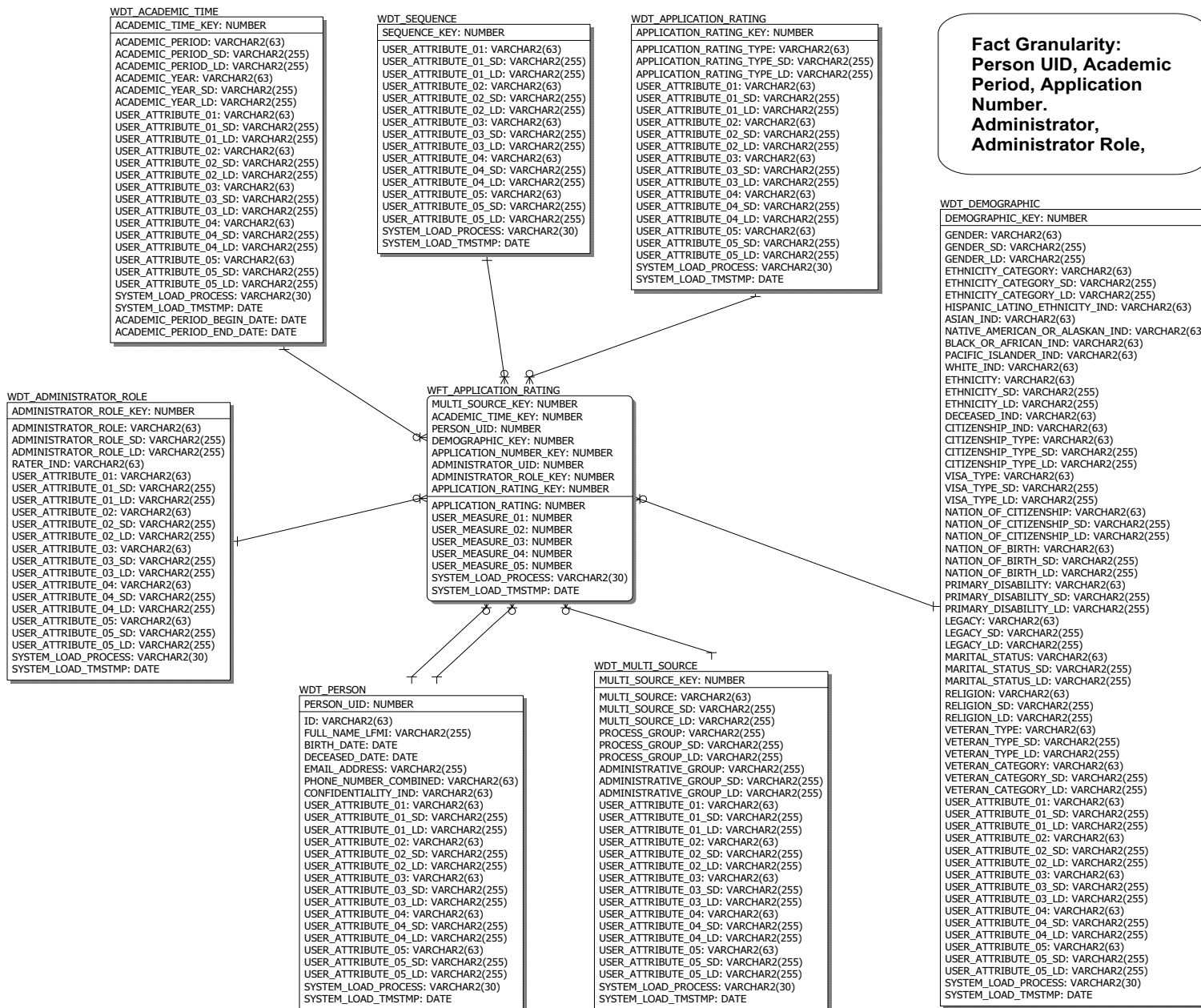
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Administrator
- Administrator Role
- Application Rating

The Application Rating star uses the accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number
- Administrator
- Administrator Role
- Application Rating





## Application Requirement operational star

The Application Requirement star includes detail history information about each admissions application requirement recorded for each admissions application and its current status.

Use the Admissions Application Requirement star schema to understand trends and analyze the number of application that are complete and incomplete and what requirement is unsatisfied at particular point in the processing cycle. You can analyze the measures using current person and student application data. This data may be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

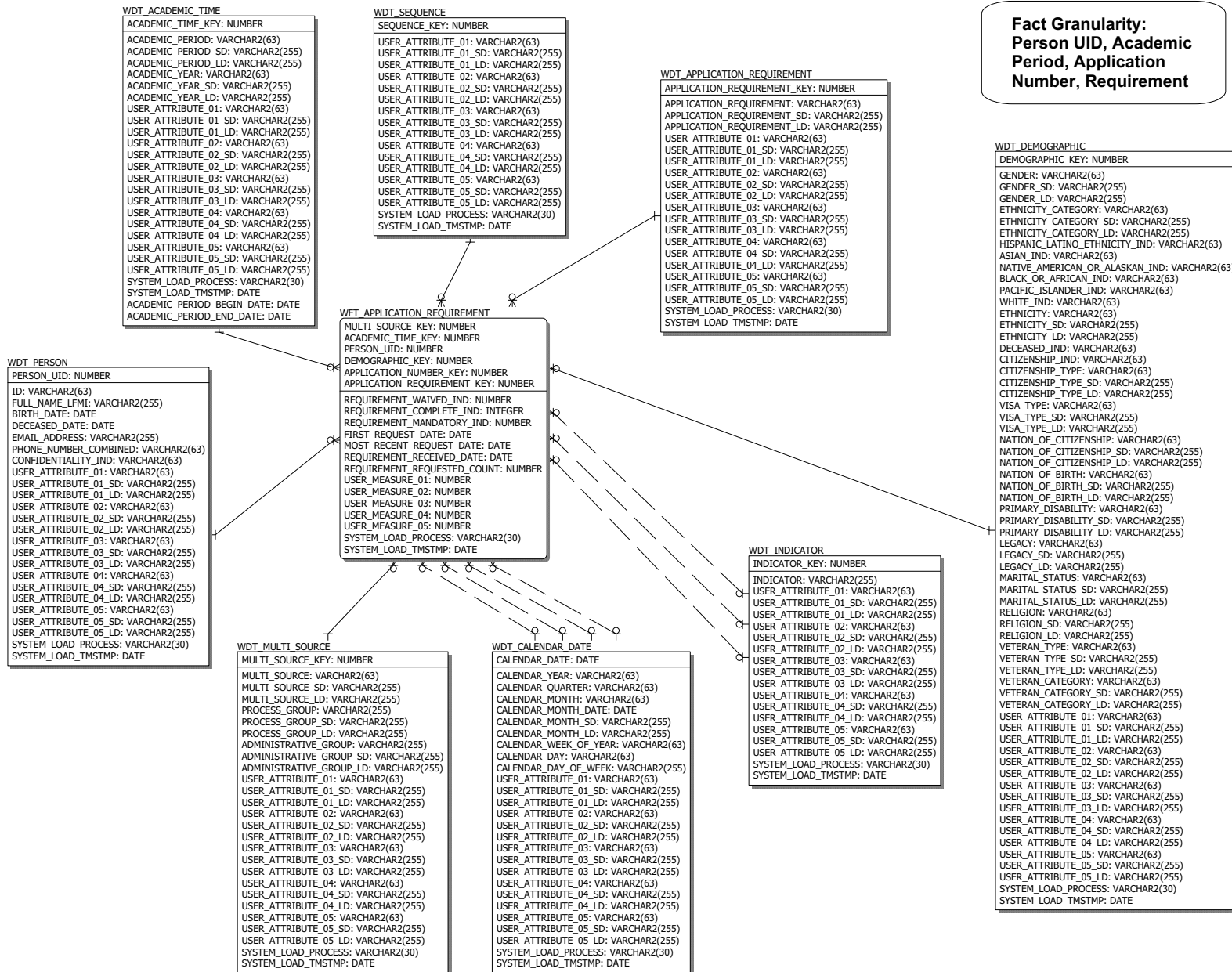
- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Application Requirement

The Application Requirement star uses the accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Application Number
- Application Requirement





## Contact operational star

The Contact star includes detail information about each contact and contact date for all person contacts. Contact dates are tracked so that critical time reporting (daily, weekly, and monthly) is possible. The first and last contact are identified to supply important reporting.

Use the Contact star schema to understand the number of persons with each contact type within a date range. Contact Model will be joined to other star schemas such as Prospective Student and Admissions Application to permit analysis of contacts across academic periods and with other dimensions. This data may be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Contact

The Contact star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Contact
- Contact Date

| WDT_PERSON             |               |
|------------------------|---------------|
| PERSON_UID: NUMBER     |               |
| ID:                    | VARCHAR2(63)  |
| FULL_NAME_LFMI:        | VARCHAR2(255) |
| BIRTH_DATE:            | DATE          |
| DECEASED_DATE:         | DATE          |
| EMAIL_ADDRESS:         | VARCHAR2(255) |
| PHONE_NUMBER_COMBINED: | VARCHAR2(63)  |
| CONFIDENTIALITY_IND:   | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:  | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:   | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:    | DATE          |

| WDT_MULTI_SOURCE         |               |
|--------------------------|---------------|
| MULTI_SOURCE_KEY: NUMBER |               |
| MULTI_SOURCE:            | VARCHAR2(63)  |
| MULTI_SOURCE_SD:         | VARCHAR2(255) |
| MULTI_SOURCE_LD:         | VARCHAR2(255) |
| PROCESS_GROUP:           | VARCHAR2(255) |
| PROCESS_GROUP_SD:        | VARCHAR2(255) |
| PROCESS_GROUP_LD:        | VARCHAR2(255) |
| ADMINISTRATIVE_GROUP:    | VARCHAR2(255) |
| ADMINISTRATIVE_GROUP_SD: | VARCHAR2(255) |
| ADMINISTRATIVE_GROUP_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_01:       | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_02:       | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_03:       | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_04:       | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_05:       | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:    | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:    | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:     | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:      | DATE          |

| WDT_CONTACT           |               |
|-----------------------|---------------|
| CONTACT_KEY: NUMBER   |               |
| CONTACT_TYPE:         | VARCHAR2(63)  |
| CONTACT_TYPE_SD:      | VARCHAR2(255) |
| CONTACT_TYPE_LD:      | VARCHAR2(255) |
| USER_ATTRIBUTE_01:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD: | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:  | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:   | DATE          |

| WDT_CALENDAR_DATE      |               |
|------------------------|---------------|
| CALENDAR_DATE: DATE    |               |
| CALENDAR_YEAR:         | VARCHAR2(63)  |
| CALENDAR_QUARTER:      | VARCHAR2(63)  |
| CALENDAR_MONTH:        | VARCHAR2(63)  |
| CALENDAR_MONTH_SD:     | VARCHAR2(255) |
| CALENDAR_MONTH_LD:     | VARCHAR2(255) |
| CALENDAR_MONTH_DATE:   | DATE          |
| CALENDAR_WEEK_OF_YEAR: | VARCHAR2(63)  |
| CALENDAR_DAY:          | VARCHAR2(63)  |
| CALENDAR_DAY_OF_WEEK:  | VARCHAR2(255) |
| USER_ATTRIBUTE_01:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05:     | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:  | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:  | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:   | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:    | DATE          |

**Fact Granularity:  
Person UID,  
Contact, Contact  
Date**

| WFT_CONTACT          |              |
|----------------------|--------------|
| MULTI_SOURCE_KEY:    | NUMBER       |
| PERSON_UID:          | NUMBER       |
| DEMOGRAPHIC_KEY:     | NUMBER       |
| CONTACT_KEY:         | NUMBER       |
| CONTACT_DATE:        | DATE         |
| LATEST_CONTACT_IND:  | NUMBER       |
| USER_MEASURE_01:     | NUMBER       |
| USER_MEASURE_02:     | NUMBER       |
| USER_MEASURE_03:     | NUMBER       |
| USER_MEASURE_04:     | NUMBER       |
| USER_MEASURE_05:     | NUMBER       |
| SYSTEM_LOAD_PROCESS: | VARCHAR2(30) |
| SYSTEM_LOAD_TMSTMP:  | DATE         |
| FIRST_CONTACT_IND:   | NUMBER       |

| WDT_INDICATOR         |               |
|-----------------------|---------------|
| INDICATOR_KEY: NUMBER |               |
| INDICATOR:            | VARCHAR2(255) |
| USER_ATTRIBUTE_01:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05:    | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD: | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD: | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:  | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:   | DATE          |

| WDT_DEMOGRAPHIC                 |               |
|---------------------------------|---------------|
| DEMOGRAPHIC_KEY: NUMBER         |               |
| GENDER:                         | VARCHAR2(63)  |
| GENDER_SD:                      | VARCHAR2(255) |
| GENDER_LD:                      | VARCHAR2(255) |
| ETHNICITY_CATEGORY:             | VARCHAR2(63)  |
| ETHNICITY_CATEGORY_SD:          | VARCHAR2(255) |
| ETHNICITY_CATEGORY_LD:          | VARCHAR2(255) |
| HISPANIC_LATINO_ETHNICITY_IND:  | VARCHAR2(63)  |
| ASIAN_IND:                      | VARCHAR2(63)  |
| NATIVE_AMERICAN_OR_ALASKAN_IND: | VARCHAR2(63)  |
| BLACK_OR_AFRICAN_IND:           | VARCHAR2(63)  |
| PACIFIC_ISLANDER_IND:           | VARCHAR2(63)  |
| WHITE_IND:                      | VARCHAR2(63)  |
| ETHNICITY:                      | VARCHAR2(63)  |
| ETHNICITY_SD:                   | VARCHAR2(255) |
| ETHNICITY_LD:                   | VARCHAR2(255) |
| DECEASED_IND:                   | VARCHAR2(63)  |
| CITIZENSHIP_IND:                | VARCHAR2(63)  |
| CITIZENSHIP_TYPE:               | VARCHAR2(63)  |
| CITIZENSHIP_TYPE_SD:            | VARCHAR2(255) |
| CITIZENSHIP_TYPE_LD:            | VARCHAR2(255) |
| VISA_TYPE:                      | VARCHAR2(63)  |
| VISA_TYPE_SD:                   | VARCHAR2(255) |
| VISA_TYPE_LD:                   | VARCHAR2(255) |
| NATION_OF_CITIZENSHIP:          | VARCHAR2(63)  |
| NATION_OF_CITIZENSHIP_SD:       | VARCHAR2(255) |
| NATION_OF_CITIZENSHIP_LD:       | VARCHAR2(255) |
| NATION_OF_BIRTH:                | VARCHAR2(63)  |
| NATION_OF_BIRTH_SD:             | VARCHAR2(255) |
| NATION_OF_BIRTH_LD:             | VARCHAR2(255) |
| PRIMARY_DISABILITY:             | VARCHAR2(63)  |
| PRIMARY_DISABILITY_SD:          | VARCHAR2(255) |
| PRIMARY_DISABILITY_LD:          | VARCHAR2(255) |
| LEGACY:                         | VARCHAR2(63)  |
| LEGACY_SD:                      | VARCHAR2(255) |
| LEGACY_LD:                      | VARCHAR2(255) |
| MARITAL_STATUS:                 | VARCHAR2(63)  |
| MARITAL_STATUS_SD:              | VARCHAR2(255) |
| MARITAL_STATUS_LD:              | VARCHAR2(255) |
| RELIGION:                       | VARCHAR2(63)  |
| RELIGION_SD:                    | VARCHAR2(255) |
| RELIGION_LD:                    | VARCHAR2(255) |
| VETERAN_TYPE:                   | VARCHAR2(63)  |
| VETERAN_TYPE_SD:                | VARCHAR2(255) |
| VETERAN_TYPE_LD:                | VARCHAR2(255) |
| VETERAN_CATEGORY:               | VARCHAR2(63)  |
| VETERAN_CATEGORY_SD:            | VARCHAR2(255) |
| VETERAN_CATEGORY_LD:            | VARCHAR2(255) |
| USER_ATTRIBUTE_01:              | VARCHAR2(63)  |
| USER_ATTRIBUTE_01_SD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_01_LD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_02:              | VARCHAR2(63)  |
| USER_ATTRIBUTE_02_SD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_02_LD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_03:              | VARCHAR2(63)  |
| USER_ATTRIBUTE_03_SD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_03_LD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_04:              | VARCHAR2(63)  |
| USER_ATTRIBUTE_04_SD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_04_LD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_05:              | VARCHAR2(63)  |
| USER_ATTRIBUTE_05_SD:           | VARCHAR2(255) |
| USER_ATTRIBUTE_05_LD:           | VARCHAR2(255) |
| SYSTEM_LOAD_PROCESS:            | VARCHAR2(30)  |
| SYSTEM_LOAD_TMSTMP:             | DATE          |

## Financial Aid Application operational star

The Financial Aid Application star includes all current data related to each financial aid year status and application record. The main information included in this star is from the Banner Financial Applicant Status (RORSTAT) and the Financial Aid Application (RCRAPPx) tables.

Use the Financial Aid Application star to understand trends across multiple aid years and to analyze data related to the aid applicant gross need, expected family contribution, total income and eligibility for financial assistance from the institution.

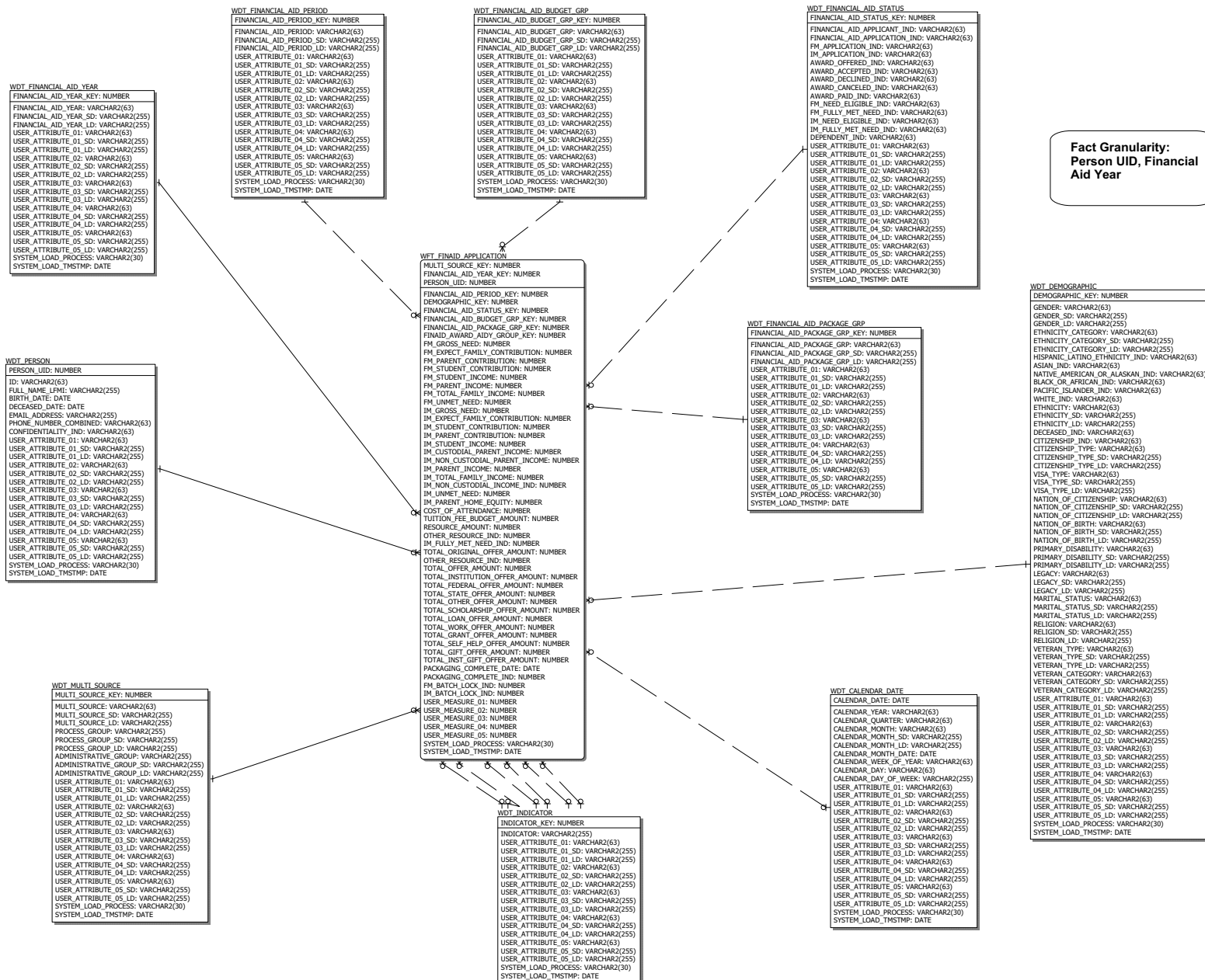
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc.)
- Budget Group
- Packaging Group
- Financial Aid Status.

The Financial Aid Application star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Financial Aid Year



## Financial Aid Award By Academic Period operational star

The Financial Aid Award By Academic Period star includes all current data related to each financial aid award made by academic period. (Refer to the [“Financial Aid Award By Aid Year operational star”](#) to see the award totaled for the aid year). The main information included in this star is from the Banner Applicant Award by Term Table (RPRATRM).

Use the Financial Aid Award By Academic Period star to understand trends across multiple aid years and to analyze data related to the award offer, accept, decline, or paid per award for the applicant by academic period.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc.)
- Financial Aid Fund
- Financial Aid Fund Status

The Financial Aid Award By Academic Period star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Financial Aid Year
- Academic Period
- Person UID
- Financial Aid Fund





## Financial Aid Award By Aid Year operational star

The Financial Aid Award By Aid Year star includes all current data related to each financial aid award made by aid year. (Refer to the [“Financial Aid Award By Academic Period operational star”](#) to see the award totaled for each separate academic period). The main information included in this star is from the Banner Applicant Award Table (RPRAWRD).

Use the Financial Aid Award By Aid Year star to understand trends across multiple aid years and to analyze data related to the award offer, accept, decline, or paid per award for the applicant for the aid year.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

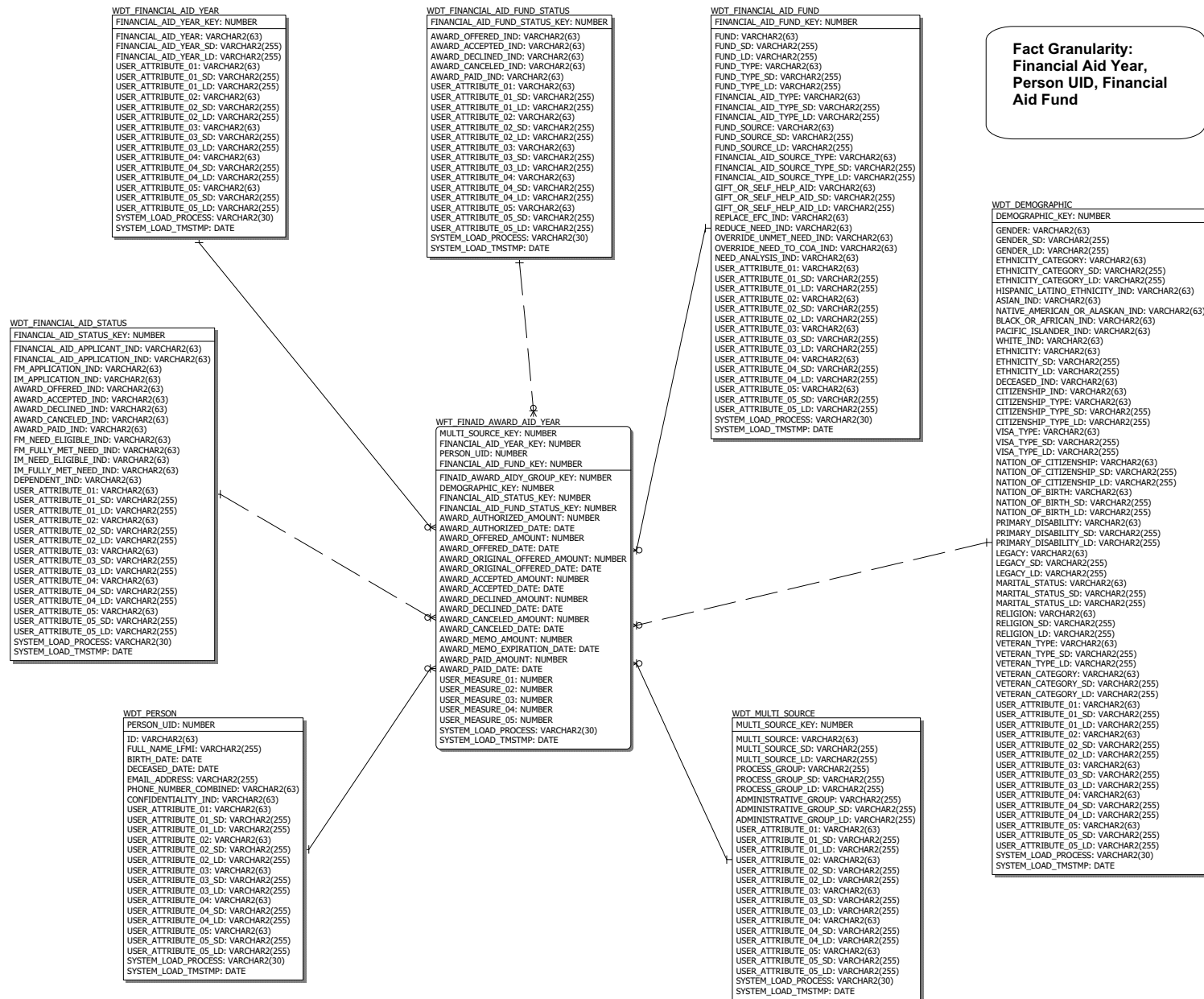
- Multi-Source
- Person
- Demographic (Gender, Race, etc.)
- Financial Aid Fund
- Financial Aid Fund Status.

The Financial Aid Award By Aid Year star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Financial Aid Year
- Person UID
- Financial Aid Fund





## Hold operational star

The Hold star includes detail information about each institution hold placed on a person. Data will include the hold from and to dates, as well what institution processing is stopped because of the hold.

Use the Hold star schema to understand the number of persons with each hold type and average days in the hold condition, institution processes held and outstanding amounts if applicable. The Hold star will be joined to other star schemas such as Prospective Student Person and Admissions Application to permit analysis of holds across academic periods and with other dimensions.

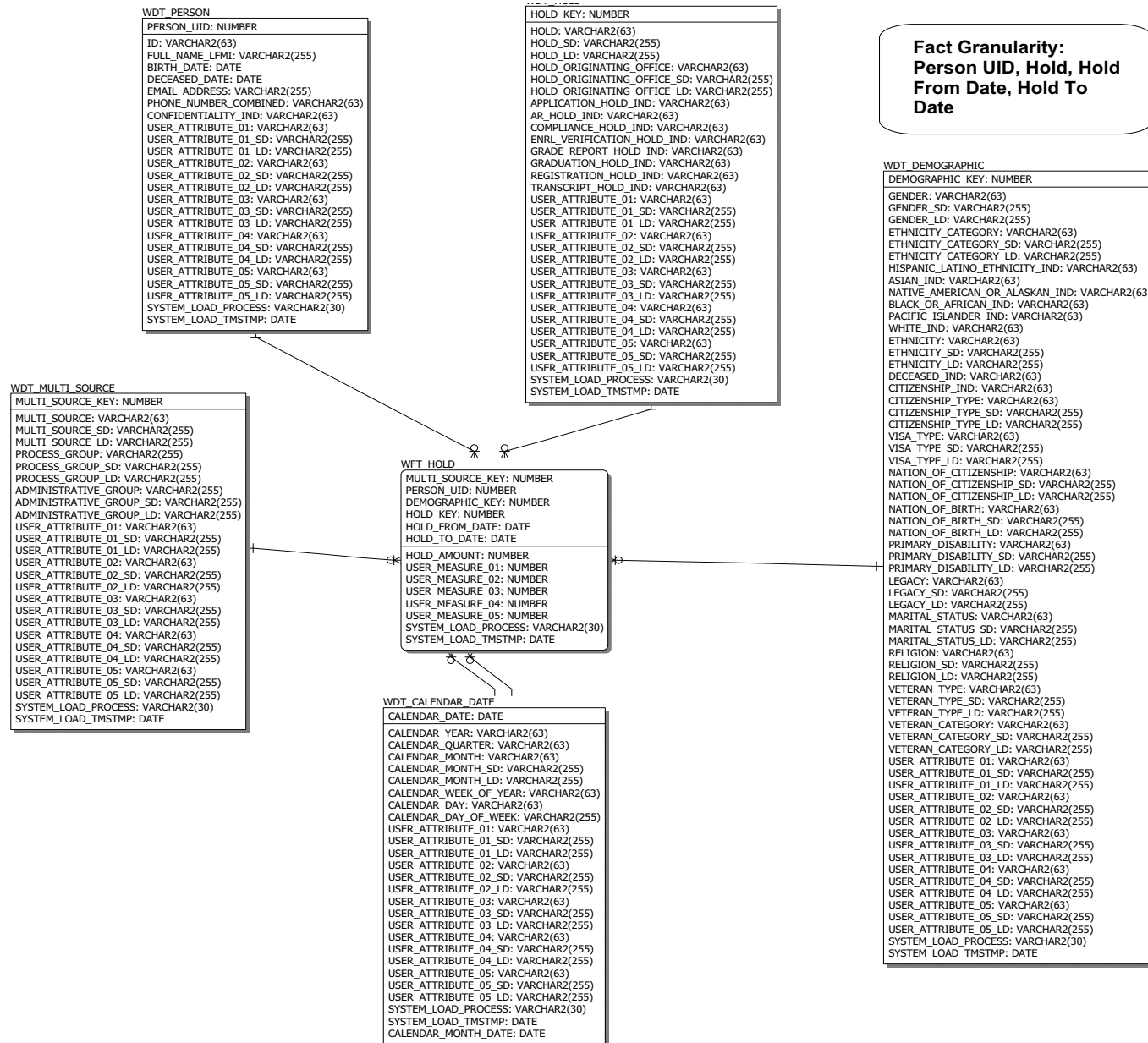
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Hold

The Hold star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Hold
- Hold From Date
- Hold To Date



## Institution operational star

The Institution star includes detail information about each institution.

Use the Institution star schema to identify all source background institutions by geographic location. The Institution star will be joined to other star schemas such as Prospective Student Person and Post Secondary School to permit analysis across academic periods and with other dimensions. This data may be joined with other star schemas for analysis.

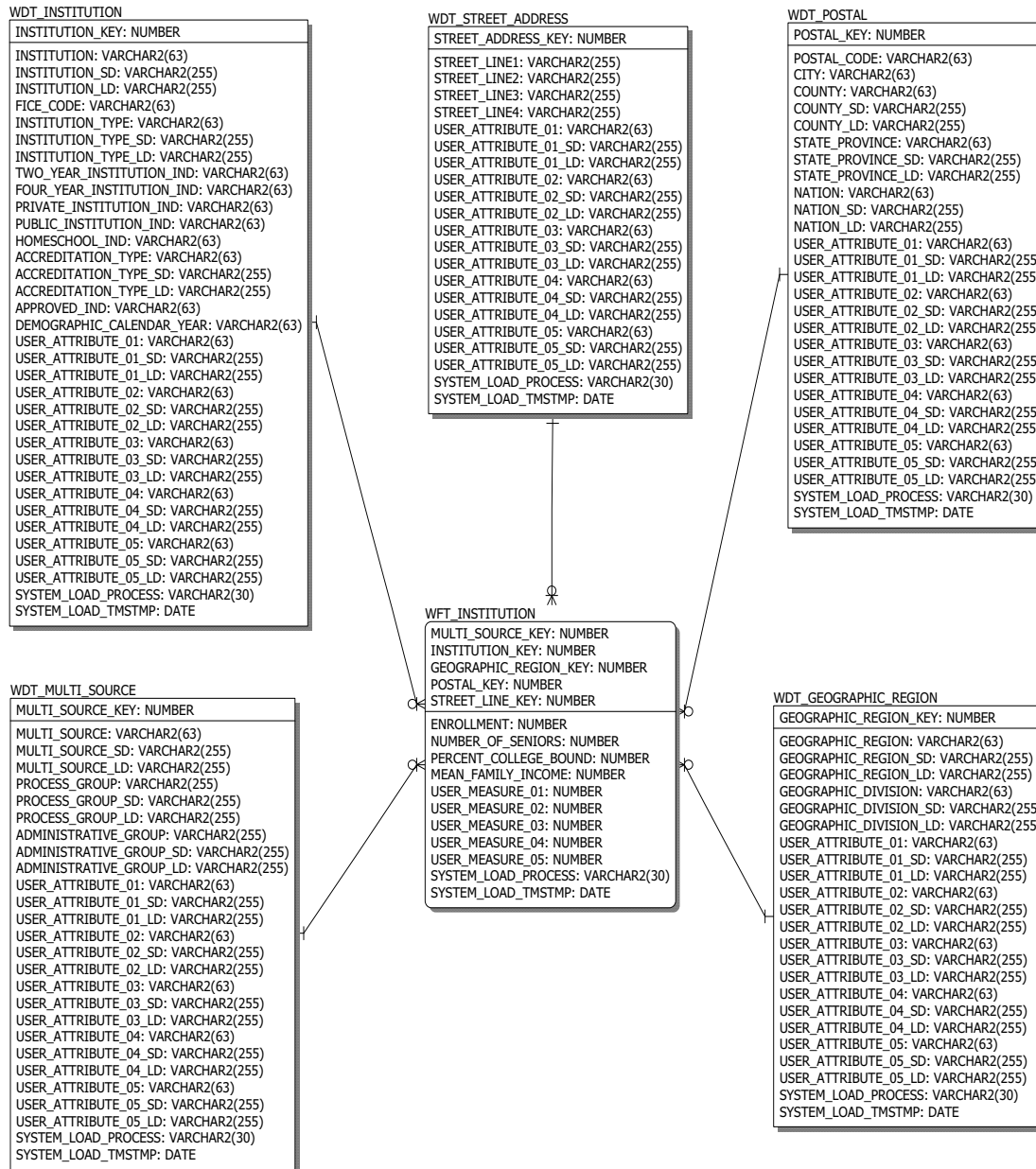
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Institution
- Geographic Region
- Postal
- Street Address

The Institution star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Institution



**Fact Granularity:  
Institution**

## Interest operational star

The Interest star includes detail information about each interest for all person listed interests.

Use the Interest star schema to understand the number of persons with each interest type. The Interest star will be joined to other star schemas such as Admissions Application and the Funnel Status History records to permit analysis of interests with other dimensions. This data may be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Interest

The Interest star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Interest

| WDT_PERSON                          |  |
|-------------------------------------|--|
| PERSON_UID: NUMBER                  |  |
| ID: VARCHAR2(63)                    |  |
| FULL_NAME_LFMI: VARCHAR2(255)       |  |
| BIRTH_DATE: DATE                    |  |
| DECEASED_DATE: DATE                 |  |
| EMAIL_ADDRESS: VARCHAR2(255)        |  |
| PHONE_NUMBER_COMBINED: VARCHAR2(63) |  |
| CONFIDENTIALITY_IND: VARCHAR2(63)   |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT_INTEREST                        |  |
|-------------------------------------|--|
| INTEREST_KEY: NUMBER                |  |
| INTEREST: VARCHAR2(63)              |  |
| INTEREST_SD: VARCHAR2(255)          |  |
| INTEREST_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

### Fact Granularity: Person UID, Interest

| WDT_DEMOGRAPHIC                              |  |
|----------------------------------------------|--|
| DEMOGRAPHIC_KEY: NUMBER                      |  |
| GENDER: VARCHAR2(63)                         |  |
| GENDER_SD: VARCHAR2(255)                     |  |
| GENDER_LD: VARCHAR2(255)                     |  |
| ETHNICITY_CATEGORY: VARCHAR2(63)             |  |
| ETHNICITY_CATEGORY_SD: VARCHAR2(255)         |  |
| ETHNICITY_CATEGORY_LD: VARCHAR2(255)         |  |
| HISPANIC_LATINO_ETHNICITY_IND: VARCHAR2(63)  |  |
| ASIAN_IND: VARCHAR2(63)                      |  |
| NATIVE_AMERICAN_OR_ALASKAN_IND: VARCHAR2(63) |  |
| BLACK_OR_AFRICAN_IND: VARCHAR2(63)           |  |
| PACIFIC_ISLANDER_IND: VARCHAR2(63)           |  |
| WHITE_IND: VARCHAR2(63)                      |  |
| ETHNICITY: VARCHAR2(63)                      |  |
| ETHNICITY_SD: VARCHAR2(255)                  |  |
| ETHNICITY_LD: VARCHAR2(255)                  |  |
| DECEASED_IND: VARCHAR2(63)                   |  |
| CITIZENSHIP_IND: VARCHAR2(63)                |  |
| CITIZENSHIP_TYPE: VARCHAR2(63)               |  |
| CITIZENSHIP_TYPE_SD: VARCHAR2(255)           |  |
| CITIZENSHIP_TYPE_LD: VARCHAR2(255)           |  |
| VISA_TYPE: VARCHAR2(63)                      |  |
| VISA_TYPE_SD: VARCHAR2(255)                  |  |
| VISA_TYPE_LD: VARCHAR2(255)                  |  |
| NATION_OF_CITIZENSHIP: VARCHAR2(63)          |  |
| NATION_OF_CITIZENSHIP_SD: VARCHAR2(255)      |  |
| NATION_OF_CITIZENSHIP_LD: VARCHAR2(255)      |  |
| NATION_OF_BIRTH: VARCHAR2(63)                |  |
| NATION_OF_BIRTH_SD: VARCHAR2(255)            |  |
| NATION_OF_BIRTH_LD: VARCHAR2(255)            |  |
| PRIMARY_DISABILITY: VARCHAR2(63)             |  |
| PRIMARY_DISABILITY_SD: VARCHAR2(255)         |  |
| PRIMARY_DISABILITY_LD: VARCHAR2(255)         |  |
| LEGACY: VARCHAR2(63)                         |  |
| LEGACY_SD: VARCHAR2(255)                     |  |
| LEGACY_LD: VARCHAR2(255)                     |  |
| MARITAL_STATUS: VARCHAR2(63)                 |  |
| MARITAL_STATUS_SD: VARCHAR2(255)             |  |
| MARITAL_STATUS_LD: VARCHAR2(255)             |  |
| RELIGION: VARCHAR2(63)                       |  |
| RELIGION_SD: VARCHAR2(255)                   |  |
| RELIGION_LD: VARCHAR2(255)                   |  |
| VETERAN_TYPE: VARCHAR2(63)                   |  |
| VETERAN_TYPE_SD: VARCHAR2(255)               |  |
| VETERAN_TYPE_LD: VARCHAR2(255)               |  |
| VETERAN_CATEGORY: VARCHAR2(63)               |  |
| VETERAN_CATEGORY_SD: VARCHAR2(255)           |  |
| VETERAN_CATEGORY_LD: VARCHAR2(255)           |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)          |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)            |  |
| SYSTEM_LOAD_TMSTMP: DATE                     |  |

| WDT_MULTI_SOURCE                       |  |
|----------------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER               |  |
| MULTI_SOURCE: VARCHAR2(63)             |  |
| MULTI_SOURCE_SD: VARCHAR2(255)         |  |
| MULTI_SOURCE_LD: VARCHAR2(255)         |  |
| PROCESS_GROUP: VARCHAR2(255)           |  |
| PROCESS_GROUP_SD: VARCHAR2(255)        |  |
| PROCESS_GROUP_LD: VARCHAR2(255)        |  |
| ADMINISTRATIVE_GROUP: VARCHAR2(255)    |  |
| ADMINISTRATIVE_GROUP_SD: VARCHAR2(255) |  |
| ADMINISTRATIVE_GROUP_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)    |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)      |  |
| SYSTEM_LOAD_TMSTMP: DATE               |  |

| WFT_INTEREST                      |  |
|-----------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER          |  |
| PERSON_UID: NUMBER                |  |
| DEMOGRAPHIC_KEY: NUMBER           |  |
| INTEREST_KEY: NUMBER              |  |
| USER_MEASURE_01: NUMBER           |  |
| USER_MEASURE_02: NUMBER           |  |
| USER_MEASURE_03: NUMBER           |  |
| USER_MEASURE_04: NUMBER           |  |
| USER_MEASURE_05: NUMBER           |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30) |  |
| SYSTEM_LOAD_TMSTMP: DATE          |  |

## Post Secondary School operational star

The Post Secondary School star includes detail information about each post secondary school attendance period recorded for a person. Data includes post secondary GPA and transfer credit (if it exists) for the attendance period.

Use the Post Secondary School star schema to identify all previous colleges, universities, technical institutes attended by the person. The Post Secondary School star will be joined to other star schemas such as Prospective Student Person and Admissions Application to permit analysis across academic periods and with other dimensions. This data may be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Institution
- Post Secondary School

The Post Secondary School star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Post Secondary School
- Post Secondary Number



| WDT_INSTITUTION                         |  |
|-----------------------------------------|--|
| INSTITUTION_KEY: NUMBER                 |  |
| INSTITUTION: VARCHAR2(63)               |  |
| INSTITUTION_SD: VARCHAR2(255)           |  |
| INSTITUTION_LD: VARCHAR2(255)           |  |
| FICE_CODE: VARCHAR2(63)                 |  |
| INSTITUTION_TYPE: VARCHAR2(63)          |  |
| INSTITUTION_TYPE_SD: VARCHAR2(255)      |  |
| INSTITUTION_TYPE_LD: VARCHAR2(255)      |  |
| TWO_YEAR_INSTITUTION_IND: VARCHAR2(63)  |  |
| FOUR_YEAR_INSTITUTION_IND: VARCHAR2(63) |  |
| PRIVATE_INSTITUTION_IND: VARCHAR2(63)   |  |
| PUBLIC_INSTITUTION_IND: VARCHAR2(63)    |  |
| HOMESCHOOL_IND: VARCHAR2(63)            |  |
| ACCREDITATION_TYPE: VARCHAR2(63)        |  |
| ACCREDITATION_TYPE_SD: VARCHAR2(255)    |  |
| ACCREDITATION_TYPE_LD: VARCHAR2(255)    |  |
| APPROVED_IND: VARCHAR2(63)              |  |
| DEMOGRAPHIC_CALENDAR_YEAR: VARCHAR2(63) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)     |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)       |  |
| SYSTEM_LOAD_TMSTMP: DATE                |  |

| WDT_POST_SECONDARY_SCHOOL                  |  |
|--------------------------------------------|--|
| POST_SECONDARY_SCHOOL_KEY: NUMBER          |  |
| POST_SECONDARY_DEGREE: VARCHAR2(63)        |  |
| POST_SECONDARY_DEGREE_SD: VARCHAR2(255)    |  |
| POST_SECONDARY_DEGREE_LD: VARCHAR2(255)    |  |
| POST_SECONDARY_MAJOR: VARCHAR2(63)         |  |
| POST_SECONDARY_MAJOR_SD: VARCHAR2(255)     |  |
| POST_SECONDARY_MAJOR_LD: VARCHAR2(255)     |  |
| POST_SECONDARY_GPA_RANGE: VARCHAR2(63)     |  |
| POST_SECONDARY_GPA_RANGE_SD: VARCHAR2(255) |  |
| POST_SECONDARY_GPA_RANGE_LD: VARCHAR2(255) |  |
| TRANSFER_CREDIT_RANGE: VARCHAR2(63)        |  |
| TRANSFER_CREDIT_RANGE_SD: VARCHAR2(255)    |  |
| TRANSFER_CREDIT_RANGE_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)            |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)            |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)            |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)            |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)            |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)        |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)        |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)          |  |
| SYSTEM_LOAD_TMSTMP: DATE                   |  |

| WDT_INDICATOR                       |  |
|-------------------------------------|--|
| INDICATOR_KEY: NUMBER               |  |
| INDICATOR: VARCHAR2(255)            |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

**Fact Granularity: P  
UID, Post Second  
School, Post Secor  
School Number  
(Attendance Period**

| WDT_PERSON                          |  |
|-------------------------------------|--|
| PERSON_UID: NUMBER                  |  |
| ID: VARCHAR2(63)                    |  |
| FULL_NAME_LPM: VARCHAR2(255)        |  |
| BIRTH_DATE: DATE                    |  |
| DECEASED_DATE: DATE                 |  |
| EMAIL_ADDRESS: VARCHAR2(255)        |  |
| PHONE_NUMBER_COMBINED: VARCHAR2(63) |  |
| CONFIDENTIALITY_IND: VARCHAR2(63)   |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT_POST_SECONDARY_SCHOOL            |  |
|--------------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER             |  |
| PERSON_UID: NUMBER                   |  |
| DEMOGRAPHIC_KEY: NUMBER              |  |
| POST_SECONDARY_SCHOOL_KEY: NUMBER    |  |
| INSTITUTION_KEY: NUMBER              |  |
| POST_SECONDARY_NUMBER_KEY: NUMBER    |  |
| POST_SECONDARY_ATTEND_FROM: DATE     |  |
| POST_SECONDARY_ATTEND_TO: DATE       |  |
| POST_SECONDARY_DEGREE_DATE: DATE     |  |
| LAST_POST_SECONDARY_IND: NUMBER      |  |
| OUTCOME_AWARD_IND: INTEGER           |  |
| POST_SECONDARY_GPA: NUMBER           |  |
| POST_SECONDARY_TRANS_CREDITS: NUMBER |  |
| USER_MEASURE_01: NUMBER              |  |
| USER_MEASURE_02: NUMBER              |  |
| USER_MEASURE_03: NUMBER              |  |
| USER_MEASURE_04: NUMBER              |  |
| USER_MEASURE_05: NUMBER              |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)    |  |
| SYSTEM_LOAD_TMSTMP: DATE             |  |

| WDT_DEMOGRAPHIC                              |  |
|----------------------------------------------|--|
| DEMOGRAPHIC_KEY: NUMBER                      |  |
| GENDER: VARCHAR2(63)                         |  |
| GENDER_SD: VARCHAR2(255)                     |  |
| GENDER_LD: VARCHAR2(255)                     |  |
| ETHNICITY_CATEGORY: VARCHAR2(63)             |  |
| ETHNICITY_CATEGORY_SD: VARCHAR2(255)         |  |
| ETHNICITY_CATEGORY_LD: VARCHAR2(255)         |  |
| HISPANIC_LATINO_ETHNICITY_IND: VARCHAR2(63)  |  |
| NATIVE_AMERICAN_OR_ALASKAN_IND: VARCHAR2(63) |  |
| BLACK_OR_AFRICAN_IND: VARCHAR2(63)           |  |
| PACIFIC_ISLANDER_IND: VARCHAR2(63)           |  |
| WHITE_IND: VARCHAR2(63)                      |  |
| ETHNICITY: VARCHAR2(63)                      |  |
| ETHNICITY_SD: VARCHAR2(255)                  |  |
| ETHNICITY_LD: VARCHAR2(255)                  |  |
| DECEASED_IND: VARCHAR2(63)                   |  |
| CITIZENSHIP_IND: VARCHAR2(63)                |  |
| CITIZENSHIP_TYPE: VARCHAR2(63)               |  |
| CITIZENSHIP_TYPE_SD: VARCHAR2(255)           |  |
| CITIZENSHIP_TYPE_LD: VARCHAR2(255)           |  |
| VISA_TYPE: VARCHAR2(63)                      |  |
| VISA_TYPE_SD: VARCHAR2(255)                  |  |
| VISA_TYPE_LD: VARCHAR2(255)                  |  |
| NATION_OF_CITIZENSHIP: VARCHAR2(63)          |  |
| NATION_OF_CITIZENSHIP_SD: VARCHAR2(255)      |  |
| NATION_OF_CITIZENSHIP_LD: VARCHAR2(255)      |  |
| NATION_OF_BIRTH: VARCHAR2(63)                |  |
| NATION_OF_BIRTH_SD: VARCHAR2(255)            |  |
| NATION_OF_BIRTH_LD: VARCHAR2(255)            |  |
| PRIMARY_DISABILITY: VARCHAR2(63)             |  |
| PRIMARY_DISABILITY_SD: VARCHAR2(255)         |  |
| PRIMARY_DISABILITY_LD: VARCHAR2(255)         |  |
| LEGACY: VARCHAR2(63)                         |  |
| LEGACY_SD: VARCHAR2(255)                     |  |
| LEGACY_LD: VARCHAR2(255)                     |  |
| MARITAL_STATUS: VARCHAR2(63)                 |  |
| MARITAL_STATUS_SD: VARCHAR2(255)             |  |
| MARITAL_STATUS_LD: VARCHAR2(255)             |  |
| RELIGION: VARCHAR2(63)                       |  |
| RELIGION_SD: VARCHAR2(255)                   |  |
| RELIGION_LD: VARCHAR2(255)                   |  |
| VETERAN_TYPE: VARCHAR2(63)                   |  |
| VETERAN_TYPE_SD: VARCHAR2(255)               |  |
| VETERAN_TYPE_LD: VARCHAR2(255)               |  |
| VETERAN_CATEGORY: VARCHAR2(63)               |  |
| VETERAN_CATEGORY_SD: VARCHAR2(255)           |  |
| VETERAN_CATEGORY_LD: VARCHAR2(255)           |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)          |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)            |  |
| SYSTEM_LOAD_TMSTMP: DATE                     |  |

| WDT_MULTI_SOURCE                       |  |
|----------------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER               |  |
| MULTI_SOURCE: VARCHAR2(63)             |  |
| MULTI_SOURCE_SD: VARCHAR2(255)         |  |
| MULTI_SOURCE_LD: VARCHAR2(255)         |  |
| PROCESS_GROUP: VARCHAR2(255)           |  |
| PROCESS_GROUP_SD: VARCHAR2(255)        |  |
| PROCESS_GROUP_LD: VARCHAR2(255)        |  |
| ADMINISTRATIVE_GROUP: VARCHAR2(255)    |  |
| ADMINISTRATIVE_GROUP_SD: VARCHAR2(255) |  |
| ADMINISTRATIVE_GROUP_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)    |  |

| WDT_CALENDAR_DATE                   |  |
|-------------------------------------|--|
| CALENDAR_DATE: DATE                 |  |
| CALENDAR_YEAR: VARCHAR2(63)         |  |
| CALENDAR_QUARTER: VARCHAR2(63)      |  |
| CALENDAR_MONTH: VARCHAR2(63)        |  |
| CALENDAR_MONTH_DATE: DATE           |  |
| CALENDAR_MONTH_SD: VARCHAR2(255)    |  |
| CALENDAR_MONTH_LD: VARCHAR2(255)    |  |
| CALENDAR_WEEK_OF_YEAR: VARCHAR2(63) |  |
| CALENDAR_DAY: VARCHAR2(63)          |  |
| CALENDAR_DAY_OF_WEEK: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |

## Prospective Student operational star

The Prospective Student star includes the current version of all data related to each prospective student.

Use the Prospective Student star schema to understand and analyze data attributes of potential students that are independent of a specific recruitment or application number. Data available includes secondary and post secondary school, tests, and interests. This data may be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Geographic Region
- Postal
- Street Line
- Secondary School
- Institution

The Prospective Student star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period

| WDT CALENDAR DATE                   |  |
|-------------------------------------|--|
| CALENDAR_DATE: DATE                 |  |
| CALENDAR_YEAR: VARCHAR2(63)         |  |
| CALENDAR_QUARTER: VARCHAR2(63)      |  |
| CALENDAR_MONTH: VARCHAR2(63)        |  |
| CALENDAR_MONTH_DATE: DATE           |  |
| CALENDAR_MONTH_SD: VARCHAR2(255)    |  |
| CALENDAR_MONTH_LD: VARCHAR2(255)    |  |
| CALENDAR_WEEK_OF_YEAR: VARCHAR2(63) |  |
| CALENDAR_DAY: VARCHAR2(63)          |  |
| CALENDAR_DAY_OF_WEEK: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT PERSON                          |  |
|-------------------------------------|--|
| PERSON_UID: NUMBER                  |  |
| ID: VARCHAR2(63)                    |  |
| FULL_NAME_LFMI: VARCHAR2(255)       |  |
| BIRTH_DATE: DATE                    |  |
| DECEASED_DATE: DATE                 |  |
| EMAIL_ADDRESS: VARCHAR2(255)        |  |
| PHONE_NUMBER_COMBINED: VARCHAR2(63) |  |
| CONFIDENTIALITY_IND: VARCHAR2(63)   |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT STREET ADDRESS                  |  |
|-------------------------------------|--|
| STREET_ADDRESS_KEY: NUMBER          |  |
| STREET_LINE1: VARCHAR2(255)         |  |
| STREET_LINE2: VARCHAR2(255)         |  |
| STREET_LINE3: VARCHAR2(255)         |  |
| STREET_LINE4: VARCHAR2(255)         |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT POSTAL                          |  |
|-------------------------------------|--|
| POSTAL_KEY: NUMBER                  |  |
| POSTAL_CODE: VARCHAR2(63)           |  |
| CITY: VARCHAR2(63)                  |  |
| COUNTY: VARCHAR2(63)                |  |
| COUNTY_SD: VARCHAR2(255)            |  |
| COUNTY_LD: VARCHAR2(255)            |  |
| STATE_PROVINCE: VARCHAR2(63)        |  |
| STATE_PROVINCE_SD: VARCHAR2(255)    |  |
| STATE_PROVINCE_LD: VARCHAR2(255)    |  |
| NATION: VARCHAR2(63)                |  |
| NATION_SD: VARCHAR2(255)            |  |
| NATION_LD: VARCHAR2(255)            |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

## Fact Granularity: Person UID, Academic Period

| WDT MULTI SOURCE                       |  |
|----------------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER               |  |
| MULTI_SOURCE: VARCHAR2(63)             |  |
| MULTI_SOURCE_SD: VARCHAR2(255)         |  |
| MULTI_SOURCE_LD: VARCHAR2(255)         |  |
| PROCESS_GROUP: VARCHAR2(255)           |  |
| PROCESS_GROUP_SD: VARCHAR2(255)        |  |
| PROCESS_GROUP_LD: VARCHAR2(255)        |  |
| ADMINISTRATIVE_GROUP: VARCHAR2(255)    |  |
| ADMINISTRATIVE_GROUP_SD: VARCHAR2(255) |  |
| ADMINISTRATIVE_GROUP_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)    |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)      |  |
| SYSTEM_LOAD_TMSTMP: DATE               |  |

| WDT SECONDARY SCHOOL                         |  |
|----------------------------------------------|--|
| SECONDARY_SCHOOL_KEY: NUMBER                 |  |
| SECONDARY_PERCENTILE_RANGE: VARCHAR2(63)     |  |
| SECONDARY_PERCENTILE_RANGE_SD: VARCHAR2(255) |  |
| SECONDARY_PERCENTILE_RANGE_LD: VARCHAR2(255) |  |
| SECONDARY_GPA_RANGE: VARCHAR2(63)            |  |
| SECONDARY_GPA_RANGE_SD: VARCHAR2(255)        |  |
| SECONDARY_GPA_RANGE_LD: VARCHAR2(255)        |  |
| SECONDARY_DIPLOMA: VARCHAR2(63)              |  |
| SECONDARY_DIPLOMA_SD: VARCHAR2(255)          |  |
| SECONDARY_DIPLOMA_LD: VARCHAR2(255)          |  |
| COLLEGE_PREP_IND: VARCHAR2(63)               |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)          |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)            |  |
| SYSTEM_LOAD_TMSTMP: DATE                     |  |

| WDT INSTITUTION                         |  |
|-----------------------------------------|--|
| INSTITUTION_KEY: NUMBER                 |  |
| INSTITUTION: VARCHAR2(63)               |  |
| INSTITUTION_SD: VARCHAR2(255)           |  |
| INSTITUTION_LD: VARCHAR2(255)           |  |
| FICE_CODE: VARCHAR2(63)                 |  |
| INSTITUTION_TYPE: VARCHAR2(63)          |  |
| INSTITUTION_TYPE_SD: VARCHAR2(255)      |  |
| INSTITUTION_TYPE_LD: VARCHAR2(255)      |  |
| TWO_YEAR_INSTITUTION_IND: VARCHAR2(63)  |  |
| FOUR_YEAR_INSTITUTION_IND: VARCHAR2(63) |  |
| PRIVATE_INSTITUTION_IND: VARCHAR2(63)   |  |
| PUBLIC_INSTITUTION_IND: VARCHAR2(63)    |  |
| HOMESCHOOL_IND: VARCHAR2(63)            |  |
| ACCREDITATION_TYPE: VARCHAR2(63)        |  |
| ACCREDITATION_TYPE_SD: VARCHAR2(255)    |  |
| ACCREDITATION_TYPE_LD: VARCHAR2(255)    |  |
| APPROVED_IND: VARCHAR2(63)              |  |
| DEMOGRAPHIC_CALENDAR_YEAR: VARCHAR2(63) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)         |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)     |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)       |  |
| SYSTEM_LOAD_TMSTMP: DATE                |  |

| WDT GEOGRAPHIC REGION                 |  |
|---------------------------------------|--|
| GEOGRAPHIC_REGION_KEY: NUMBER         |  |
| GEOGRAPHIC_REGION: VARCHAR2(63)       |  |
| GEOGRAPHIC_REGION_SD: VARCHAR2(255)   |  |
| GEOGRAPHIC_REGION_LD: VARCHAR2(255)   |  |
| GEOGRAPHIC_DIVISION: VARCHAR2(63)     |  |
| GEOGRAPHIC_DIVISION_SD: VARCHAR2(255) |  |
| GEOGRAPHIC_DIVISION_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)       |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)   |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)       |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)   |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)       |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)   |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)       |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)   |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)       |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)   |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)     |  |
| SYSTEM_LOAD_TMSTMP: DATE              |  |

| WDT DEMOGRAPHIC                              |  |
|----------------------------------------------|--|
| DEMOGRAPHIC_KEY: NUMBER                      |  |
| GENDER: VARCHAR2(63)                         |  |
| GENDER_SD: VARCHAR2(255)                     |  |
| GENDER_LD: VARCHAR2(255)                     |  |
| ETHNICITY_CATEGORY: VARCHAR2(63)             |  |
| ETHNICITY_CATEGORY_SD: VARCHAR2(255)         |  |
| ETHNICITY_CATEGORY_LD: VARCHAR2(255)         |  |
| HISPANIC_LATINO_ETHNICITY_IND: VARCHAR2(63)  |  |
| ASIAN_IND: VARCHAR2(63)                      |  |
| NATIVE_AMERICAN_OR_ALASKAN_IND: VARCHAR2(63) |  |
| BLACK_OR_AFRICAN_IND: VARCHAR2(63)           |  |
| PACIFIC_ISLANDER_IND: VARCHAR2(63)           |  |
| WHITE_IND: VARCHAR2(63)                      |  |
| ETHNICITY: VARCHAR2(63)                      |  |
| ETHNICITY_SD: VARCHAR2(255)                  |  |
| ETHNICITY_LD: VARCHAR2(255)                  |  |
| DECEASED_IND: VARCHAR2(63)                   |  |
| CITIZENSHIP_IND: VARCHAR2(63)                |  |
| CITIZENSHIP_TYPE: VARCHAR2(63)               |  |
| CITIZENSHIP_TYPE_SD: VARCHAR2(255)           |  |
| VISA_TYPE: VARCHAR2(63)                      |  |
| VISA_TYPE_SD: VARCHAR2(255)                  |  |
| VISA_TYPE_LD: VARCHAR2(255)                  |  |
| NATION_OF_CITIZENSHIP: VARCHAR2(63)          |  |
| NATION_OF_CITIZENSHIP_SD: VARCHAR2(255)      |  |
| NATION_OF_CITIZENSHIP_LD: VARCHAR2(255)      |  |
| NATION_OF_BIRTH: VARCHAR2(63)                |  |
| NATION_OF_BIRTH_SD: VARCHAR2(255)            |  |
| NATION_OF_BIRTH_LD: VARCHAR2(255)            |  |
| PRIMARY_DISABILITY: VARCHAR2(63)             |  |
| PRIMARY_DISABILITY_SD: VARCHAR2(255)         |  |
| LEGACY: VARCHAR2(63)                         |  |
| LEGACY_SD: VARCHAR2(255)                     |  |
| LEGACY_LD: VARCHAR2(255)                     |  |
| MARITAL_STATUS: VARCHAR2(63)                 |  |
| MARITAL_STATUS_SD: VARCHAR2(255)             |  |
| MARITAL_STATUS_LD: VARCHAR2(255)             |  |
| RELIGION: VARCHAR2(63)                       |  |
| RELIGION_SD: VARCHAR2(255)                   |  |
| RELIGION_LD: VARCHAR2(255)                   |  |
| VETERAN_TYPE: VARCHAR2(63)                   |  |
| VETERAN_TYPE_SD: VARCHAR2(255)               |  |
| VETERAN_TYPE_LD: VARCHAR2(255)               |  |
| VETERAN_CATEGORY: VARCHAR2(63)               |  |
| VETERAN_CATEGORY_SD: VARCHAR2(255)           |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)          |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)            |  |
| SYSTEM_LOAD_TMSTMP: DATE                     |  |

## Recruitment Attribute operational star

The Recruitment Attribute star includes all current attributes associated with the recruitment information record.

Use the Recruitment Attribute star schema to understand trends over academic periods. Analyze the number and types of attributes being used and how the persons with those attributes perform. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Recruitment Attribute

The Recruitment Attribute star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Recruit Number
- Attribute

| WDT_ACADEMIC_TIME                   |  |
|-------------------------------------|--|
| ACADEMIC_TIME_KEY: NUMBER           |  |
| ACADEMIC_PERIOD: VARCHAR2(63)       |  |
| ACADEMIC_PERIOD_SD: VARCHAR2(255)   |  |
| ACADEMIC_PERIOD_LD: VARCHAR2(255)   |  |
| ACADEMIC_YEAR: VARCHAR2(63)         |  |
| ACADEMIC_YEAR_SD: VARCHAR2(255)     |  |
| ACADEMIC_YEAR_LD: VARCHAR2(255)     |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |
| ACADEMIC_PERIOD_BEGIN_DATE: DATE    |  |
| ACADEMIC_PERIOD_END_DATE: DATE      |  |

| WDT_PERSON                          |  |
|-------------------------------------|--|
| PERSON_UID: NUMBER                  |  |
| ID: VARCHAR2(63)                    |  |
| FULL_NAME_LFMI: VARCHAR2(255)       |  |
| BIRTH_DATE: DATE                    |  |
| DECEASED_DATE: DATE                 |  |
| EMAIL_ADDRESS: VARCHAR2(255)        |  |
| PHONE_NUMBER_COMBINED: VARCHAR2(63) |  |
| CONFIDENTIALITY_IND: VARCHAR2(63)   |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WDT_SEQUENCE                        |  |
|-------------------------------------|--|
| SEQUENCE_KEY: NUMBER                |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

| WFT_RECRUITMENT_ATTRIBUTE         |  |
|-----------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER          |  |
| ACADEMIC_TIME_KEY: NUMBER         |  |
| PERSON_UID: NUMBER                |  |
| DEMOGRAPHIC_KEY: NUMBER           |  |
| RECRUIT_NUMBER_KEY: NUMBER        |  |
| RECRUITMENT_ATTRIBUTE_KEY: NUMBER |  |
| USER_MEASURE_01: NUMBER           |  |
| USER_MEASURE_02: NUMBER           |  |
| USER_MEASURE_03: NUMBER           |  |
| USER_MEASURE_04: NUMBER           |  |
| USER_MEASURE_05: NUMBER           |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30) |  |
| SYSTEM_LOAD_TMSTMP: DATE          |  |

| WDT_MULTI_SOURCE                       |  |
|----------------------------------------|--|
| MULTI_SOURCE_KEY: NUMBER               |  |
| MULTI_SOURCE: VARCHAR2(63)             |  |
| MULTI_SOURCE_SD: VARCHAR2(255)         |  |
| MULTI_SOURCE_LD: VARCHAR2(255)         |  |
| PROCESS_GROUP: VARCHAR2(255)           |  |
| PROCESS_GROUP_SD: VARCHAR2(255)        |  |
| PROCESS_GROUP_LD: VARCHAR2(255)        |  |
| ADMINISTRATIVE_GROUP: VARCHAR2(255)    |  |
| ADMINISTRATIVE_GROUP_SD: VARCHAR2(255) |  |
| ADMINISTRATIVE_GROUP_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)        |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)    |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)    |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)      |  |
| SYSTEM_LOAD_TMSTMP: DATE               |  |

| WDT_ATTRIBUTE                       |  |
|-------------------------------------|--|
| ATTRIBUTE_KEY: NUMBER               |  |
| ATTRIBUTE: VARCHAR2(63)             |  |
| ATTRIBUTE_SD: VARCHAR2(255)         |  |
| ATTRIBUTE_LD: VARCHAR2(255)         |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)     |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255) |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255) |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)   |  |
| SYSTEM_LOAD_TMSTMP: DATE            |  |

**Fact Granularity: Person  
UID, Academic Period,  
Recruit Number, Attribute**

| WDT_DEMOGRAPHIC                              |  |
|----------------------------------------------|--|
| DEMOGRAPHIC_KEY: NUMBER                      |  |
| GENDER: VARCHAR2(63)                         |  |
| GENDER_SD: VARCHAR2(255)                     |  |
| GENDER_LD: VARCHAR2(255)                     |  |
| ETHNICITY_CATEGORY: VARCHAR2(63)             |  |
| ETHNICITY_CATEGORY_SD: VARCHAR2(255)         |  |
| ETHNICITY_CATEGORY_LD: VARCHAR2(255)         |  |
| HISPANIC_LATINO_ETHNICITY_IND: VARCHAR2(63)  |  |
| ASIAN_IND: VARCHAR2(63)                      |  |
| NATIVE_AMERICAN_OR_ALASKAN_IND: VARCHAR2(63) |  |
| BLACK_OR_AFRICAN_IND: VARCHAR2(63)           |  |
| PACIFIC_ISLANDER_IND: VARCHAR2(63)           |  |
| WHITE_IND: VARCHAR2(63)                      |  |
| ETHNICITY: VARCHAR2(63)                      |  |
| ETHNICITY_SD: VARCHAR2(255)                  |  |
| ETHNICITY_LD: VARCHAR2(255)                  |  |
| DECEASED_IND: VARCHAR2(63)                   |  |
| CITIZENSHIP_IND: VARCHAR2(63)                |  |
| CITIZENSHIP_TYPE: VARCHAR2(255)              |  |
| CITIZENSHIP_TYPE_SD: VARCHAR2(255)           |  |
| CITIZENSHIP_TYPE_LD: VARCHAR2(255)           |  |
| VISA_TYPE: VARCHAR2(63)                      |  |
| VISA_TYPE_SD: VARCHAR2(255)                  |  |
| VISA_TYPE_LD: VARCHAR2(255)                  |  |
| NATION_OF_CITIZENSHIP: VARCHAR2(63)          |  |
| NATION_OF_CITIZENSHIP_SD: VARCHAR2(255)      |  |
| NATION_OF_CITIZENSHIP_LD: VARCHAR2(255)      |  |
| NATION_OF_BIRTH: VARCHAR2(63)                |  |
| NATION_OF_BIRTH_SD: VARCHAR2(255)            |  |
| NATION_OF_BIRTH_LD: VARCHAR2(255)            |  |
| PRIMARY_DISABILITY: VARCHAR2(63)             |  |
| PRIMARY_DISABILITY_SD: VARCHAR2(255)         |  |
| PRIMARY_DISABILITY_LD: VARCHAR2(255)         |  |
| LEGACY: VARCHAR2(63)                         |  |
| LEGACY_SD: VARCHAR2(255)                     |  |
| LEGACY_LD: VARCHAR2(255)                     |  |
| MARITAL_STATUS: VARCHAR2(63)                 |  |
| MARITAL_STATUS_SD: VARCHAR2(255)             |  |
| MARITAL_STATUS_LD: VARCHAR2(255)             |  |
| RELIGION: VARCHAR2(63)                       |  |
| RELIGION_SD: VARCHAR2(255)                   |  |
| RELIGION_LD: VARCHAR2(255)                   |  |
| VETERAN_TYPE: VARCHAR2(63)                   |  |
| VETERAN_TYPE_SD: VARCHAR2(255)               |  |
| VETERAN_TYPE_LD: VARCHAR2(255)               |  |
| VETERAN_CATEGORY: VARCHAR2(63)               |  |
| VETERAN_CATEGORY_SD: VARCHAR2(255)           |  |
| VETERAN_CATEGORY_LD: VARCHAR2(255)           |  |
| USER_ATTRIBUTE_01: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_01_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_01_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_02_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_02_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_03_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_03_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_04_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_04_LD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05: VARCHAR2(63)              |  |
| USER_ATTRIBUTE_05_SD: VARCHAR2(255)          |  |
| USER_ATTRIBUTE_05_LD: VARCHAR2(255)          |  |
| SYSTEM_LOAD_PROCESS: VARCHAR2(30)            |  |
| SYSTEM_LOAD_TMSTMP: DATE                     |  |

## Recruitment Cohort operational star

The Recruitment Cohort star includes all current cohort codes associated with the recruitment information record.

Use the Recruitment Cohort star schema to understand trends over academic periods. You can analyze the number and types of cohorts being used and how the persons with those cohorts perform. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

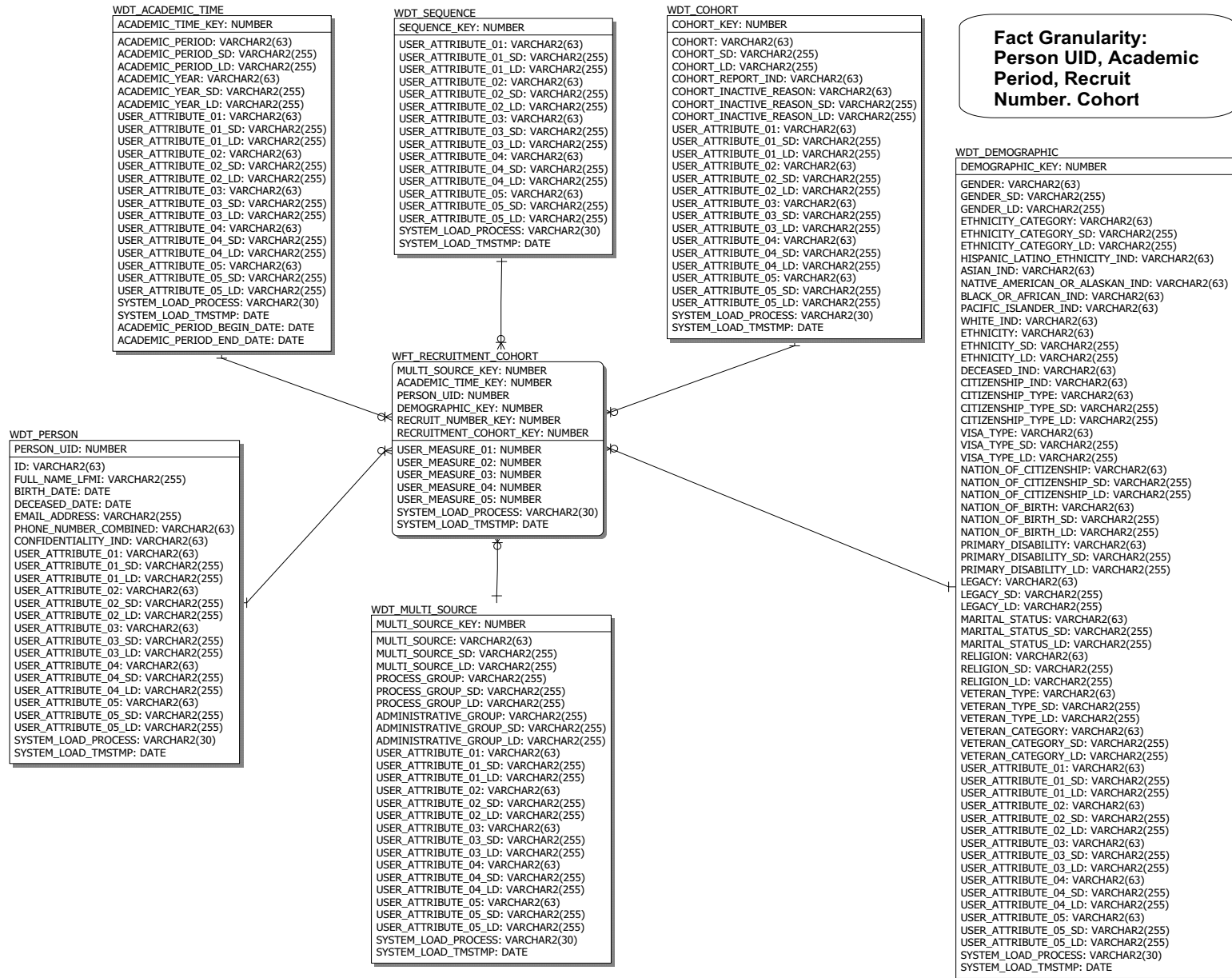
- Multi-Source
- Academic Time
- Person
- Demographic (Gender, Race, etc)
- Recruitment Cohort

The Recruitment Cohort star uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Recruit Number
- Cohort





## Secondary School Subject operational star

The Secondary School Subject star includes detail information about each secondary school subject recorded for a person.

Use the Secondary School Subject star schema to identify secondary school subjects used in the admission or placement evaluation processes. The Secondary School Subject star will be joined to other star schemas such as Prospective Student Person and Admissions Application to permit analysis across academic periods and with other dimensions. This data will be joined with other star schemas for analysis.

You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Institution
- Secondary School Subject

The Secondary School Subject uses an accumulating refresh process. This means when you refresh the star, table changes are not tracked but rather updated to current information.

The fact table granularity includes:

- Person UID
- Academic Period
- Secondary School
- Secondary School Subject



#### WDT\_INSTITUTION

INSTITUTION\_KEY: NUMBER  
 INSTITUTION: VARCHAR2(63)  
 INSTITUTION\_SD: VARCHAR2(255)  
 INSTITUTION\_LD: VARCHAR2(255)  
 FICE\_CODE: VARCHAR2(63)  
 INSTITUTION\_TYPE: VARCHAR2(63)  
 INSTITUTION\_TYPE\_SD: VARCHAR2(255)  
 INSTITUTION\_TYPE\_LD: VARCHAR2(255)  
 TWO\_YEAR\_INSTITUTION\_IND: VARCHAR2(63)  
 FOUR\_YEAR\_INSTITUTION\_IND: VARCHAR2(63)  
 PRIVATE\_INSTITUTION\_IND: VARCHAR2(63)  
 PUBLIC\_INSTITUTION\_IND: VARCHAR2(63)  
 HOMESCHOOL\_IND: VARCHAR2(63)  
 ACCREDITATION\_TYPE: VARCHAR2(63)  
 ACCREDITATION\_TYPE\_SD: VARCHAR2(255)  
 ACCREDITATION\_TYPE\_LD: VARCHAR2(255)  
 APPROVED\_IND: VARCHAR2(63)  
 DEMOGRAPHIC\_CALENDAR\_YEAR: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02: VARCHAR2(63)  
 USER\_ATTRIBUTE\_02\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03: VARCHAR2(63)  
 USER\_ATTRIBUTE\_03\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04: VARCHAR2(63)  
 USER\_ATTRIBUTE\_04\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05: VARCHAR2(63)  
 USER\_ATTRIBUTE\_05\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05\_LD: VARCHAR2(255)  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

#### WDT\_SECONDARY\_SCHOOL\_SUBJECT

SECONDARY\_SCHOOL\_SUBJECT\_KEY: NUMBER  
 SECONDARY\_SCHOOL\_SUBJECT: VARCHAR2(63)  
 SECONDARY\_SCHOOL\_SUBJECT\_SD: VARCHAR2(255)  
 SECONDARY\_SCHOOL\_SUBJECT\_LD: VARCHAR2(255)  
 SECONDARY\_SUBJECT\_GRADE: VARCHAR2(63)  
 SECONDARY\_SUBJECT\_GRADE\_SD: VARCHAR2(255)  
 SECONDARY\_SUBJECT\_GRADE\_LD: VARCHAR2(255)  
 SECONDARY\_SUBJECT\_GPA\_RANGE: VARCHAR2(63)  
 SECONDARY\_SUBJECT\_GPA\_RANGE\_SD: VARCHAR2(255)  
 SECONDARY\_SUBJECT\_GPA\_RANGE\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02: VARCHAR2(63)  
 USER\_ATTRIBUTE\_02\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03: VARCHAR2(63)  
 USER\_ATTRIBUTE\_03\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04: VARCHAR2(63)  
 USER\_ATTRIBUTE\_04\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05: VARCHAR2(63)  
 USER\_ATTRIBUTE\_05\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05\_LD: VARCHAR2(255)  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

**Fact Granularity: Person  
 UID, Secondary School,  
 Secondary School Subject**

#### WDT\_SECONDARY\_SCHOOL\_SUBJECT

MULTI\_SOURCE\_KEY: NUMBER  
 PERSON\_UID: NUMBER  
 DEMOGRAPHIC\_KEY: NUMBER  
 INSTITUTION\_KEY: NUMBER  
 SECONDARY\_SCHOOL\_SUBJECT\_KEY: NUMBER  
 YEARS\_TAKEN: NUMBER  
 SECONDARY\_SCHOOL\_SUBJECT\_GPA: NUMBER  
 USER\_MEASURE\_01: NUMBER  
 USER\_MEASURE\_02: NUMBER  
 USER\_MEASURE\_03: NUMBER  
 USER\_MEASURE\_04: NUMBER  
 USER\_MEASURE\_05: NUMBER  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

#### WDT\_DEMOGRAPHIC

DEMOGRAPHIC\_KEY: NUMBER  
 GENDER: VARCHAR2(63)  
 GENDER\_SD: VARCHAR2(255)  
 GENDER\_LD: VARCHAR2(255)  
 ETHNICITY\_CATEGORY: VARCHAR2(63)  
 ETHNICITY\_CATEGORY\_SD: VARCHAR2(255)  
 ETHNICITY\_CATEGORY\_LD: VARCHAR2(255)  
 HISPANIC\_LATINO\_ETHNICITY\_IND: VARCHAR2(63)  
 ASIAN\_IND: VARCHAR2(63)  
 NATIVE\_AMERICAN\_OR\_ALASKAN\_IND: VARCHAR2(63)  
 BLACK\_OR\_AFRICAN\_IND: VARCHAR2(63)  
 PACIFIC\_ISLANDER\_IND: VARCHAR2(63)  
 WHITE\_IND: VARCHAR2(63)  
 ETHNICITY: VARCHAR2(63)  
 ETHNICITY\_SD: VARCHAR2(255)  
 ETHNICITY\_LD: VARCHAR2(255)  
 DECEASED\_IND: VARCHAR2(63)  
 CITIZENSHIP\_IND: VARCHAR2(63)  
 CITIZENSHIP\_TYPE: VARCHAR2(63)  
 CITIZENSHIP\_TYPE\_SD: VARCHAR2(255)  
 CITIZENSHIP\_TYPE\_LD: VARCHAR2(255)  
 VISA\_TYPE: VARCHAR2(63)  
 VISA\_TYPE\_SD: VARCHAR2(255)  
 VISA\_TYPE\_LD: VARCHAR2(255)  
 NATION\_OF\_CITIZENSHIP: VARCHAR2(63)  
 NATION\_OF\_CITIZENSHIP\_SD: VARCHAR2(255)  
 NATION\_OF\_CITIZENSHIP\_LD: VARCHAR2(255)  
 NATION\_OF\_BIRTH: VARCHAR2(63)  
 NATION\_OF\_BIRTH\_SD: VARCHAR2(255)  
 NATION\_OF\_BIRTH\_LD: VARCHAR2(255)  
 PRIMARY\_DISABILITY: VARCHAR2(63)  
 PRIMARY\_DISABILITY\_SD: VARCHAR2(255)  
 PRIMARY\_DISABILITY\_LD: VARCHAR2(255)  
 LEGACY: VARCHAR2(63)  
 LEGACY\_SD: VARCHAR2(255)  
 LEGACY\_LD: VARCHAR2(255)  
 MARITAL\_STATUS: VARCHAR2(63)  
 MARITAL\_STATUS\_SD: VARCHAR2(255)  
 MARITAL\_STATUS\_LD: VARCHAR2(255)  
 RELIGION: VARCHAR2(63)  
 RELIGION\_SD: VARCHAR2(255)  
 RELIGION\_LD: VARCHAR2(255)  
 VETERAN\_TYPE: VARCHAR2(63)  
 VETERAN\_TYPE\_SD: VARCHAR2(255)  
 VETERAN\_TYPE\_LD: VARCHAR2(255)  
 VETERAN\_CATEGORY: VARCHAR2(63)  
 VETERAN\_CATEGORY\_SD: VARCHAR2(255)  
 VETERAN\_CATEGORY\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02: VARCHAR2(63)  
 USER\_ATTRIBUTE\_02\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03: VARCHAR2(63)  
 USER\_ATTRIBUTE\_03\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04: VARCHAR2(63)  
 USER\_ATTRIBUTE\_04\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05: VARCHAR2(63)  
 USER\_ATTRIBUTE\_05\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05\_LD: VARCHAR2(255)  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

#### WDT\_PERSON

PERSON\_UID: NUMBER  
 ID: VARCHAR2(63)  
 FULL\_NAME\_LFMI: VARCHAR2(255)  
 BIRTH\_DATE: DATE  
 DECEASED\_DATE: DATE  
 EMAIL\_ADDRESS: VARCHAR2(255)  
 PHONE\_NUMBER\_COMBINED: VARCHAR2(63)  
 CONFIDENTIALITY\_IND: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02: VARCHAR2(63)  
 USER\_ATTRIBUTE\_02\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03: VARCHAR2(63)  
 USER\_ATTRIBUTE\_03\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04: VARCHAR2(63)  
 USER\_ATTRIBUTE\_04\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05: VARCHAR2(63)  
 USER\_ATTRIBUTE\_05\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05\_LD: VARCHAR2(255)  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

#### WDT\_MULTI\_SOURCE

MULTI\_SOURCE\_KEY: NUMBER  
 MULTI\_SOURCE: VARCHAR2(63)  
 MULTI\_SOURCE\_SD: VARCHAR2(255)  
 MULTI\_SOURCE\_LD: VARCHAR2(255)  
 PROCESS\_GROUP: VARCHAR2(255)  
 PROCESS\_GROUP\_SD: VARCHAR2(255)  
 PROCESS\_GROUP\_LD: VARCHAR2(255)  
 ADMINISTRATIVE\_GROUP: VARCHAR2(255)  
 ADMINISTRATIVE\_GROUP\_SD: VARCHAR2(255)  
 ADMINISTRATIVE\_GROUP\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01: VARCHAR2(63)  
 USER\_ATTRIBUTE\_01\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_01\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02: VARCHAR2(63)  
 USER\_ATTRIBUTE\_02\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_02\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03: VARCHAR2(63)  
 USER\_ATTRIBUTE\_03\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_03\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04: VARCHAR2(63)  
 USER\_ATTRIBUTE\_04\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_04\_LD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05: VARCHAR2(63)  
 USER\_ATTRIBUTE\_05\_SD: VARCHAR2(255)  
 USER\_ATTRIBUTE\_05\_LD: VARCHAR2(255)  
 SYSTEM\_LOAD\_PROCESS: VARCHAR2(30)  
 SYSTEM\_LOAD\_TMSTMP: DATE

## Test operational star

The Test star includes a detail history of each test type, score and test date for all persons with test data. Tests are tracked with all detail data so that critical time reporting (daily, weekly, and monthly) is possible. The highest and latest test score of a test type is available for important reporting.

Use the Test star schema to understand the number of persons within in various test score ranges. The Test star will be joined to other star schemas such as Admissions Application and the Funnel Status History records to permit analysis of test scores across academic periods and with other dimensions. This data will be joined with other star schemas for analysis.

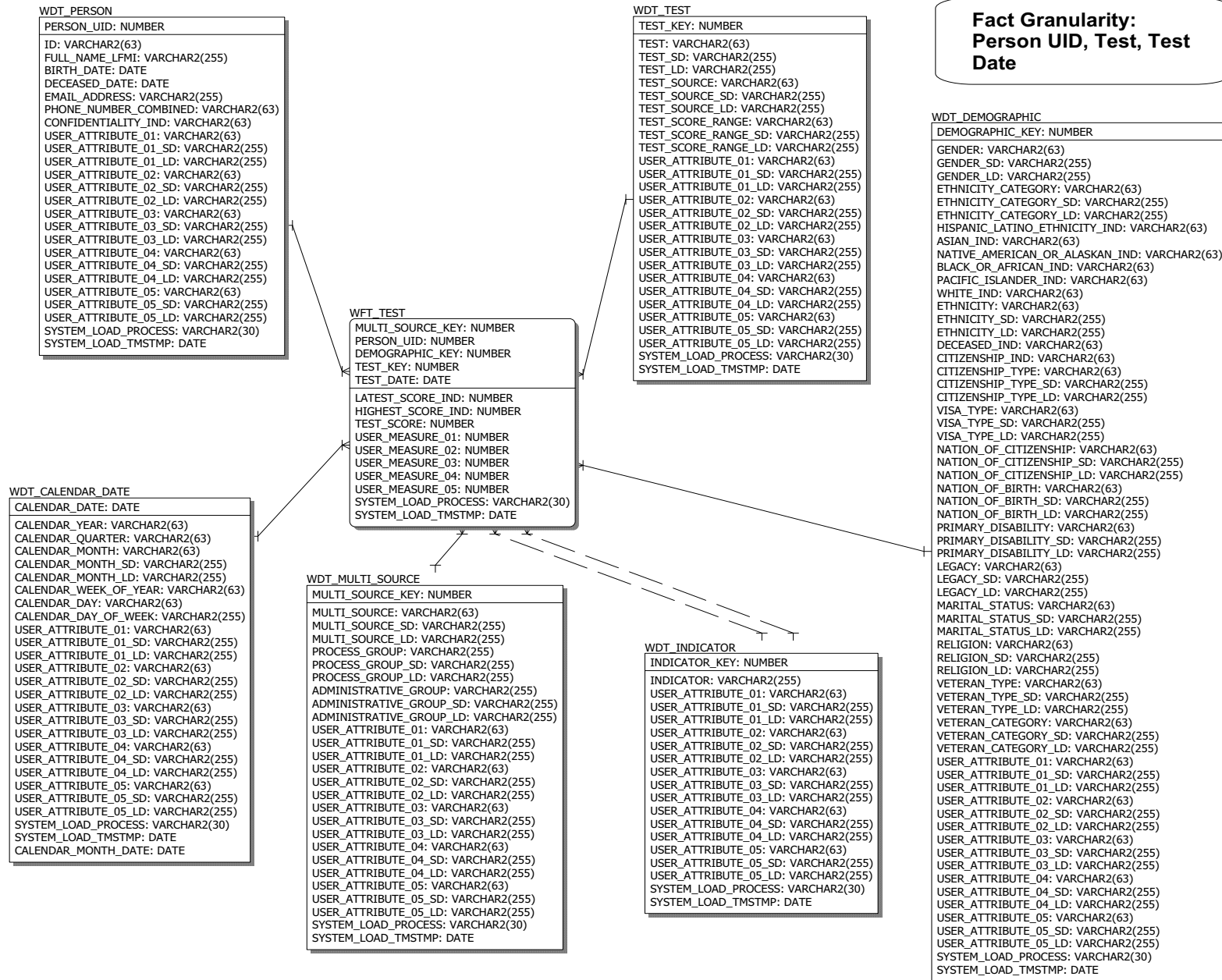
You can use this information to analyze the measures in this star using attributes from any of the following dimension attributes:

- Multi-Source
- Person
- Demographic (Gender, Race, etc)
- Test

The Test star uses the transactional refresh process. This means when you refresh the star, fact table changes are tracked by date and in detail.

The fact table granularity includes:

- Person UID
- Test
- Test Date





## 8 Cubes (Banner EDW)



Cubes are basically precalculated reports with data that you can rearrange and reformat. They enable predefined facts (measures or calculated values) and dimensions (attributes or descriptions) to be manipulated in various formats to provide different business perspectives. Using Analysis Studio, Report Studio and Query Studio, you can analyze data contained within each cube. Because the data within the cubes is presorted and preaggregated, data retrieval is markedly improved and analysis is more flexible than with typical relational database structures.

Cubes are defined using Cognos Transformer. Through Cognos Transformer, you can design the contents of a cube including measures, attributes and hierarchies, along with their associated data sources. Once a model is defined, Cognos provides the Cognos Extract, Translate and Load (ETL) equivalent of Oracle Warehouse Builder (OWB) to load the Cognos cubes, and provides the ability to define relationships within your data warehouse and pre-aggregates the measures presented to users within the cubes.

### Load Cubes

The load process serves two purposes. It generates the cubes, and then deploys the cubes to the Cognos BI server. You can load all the cubes, or load one cube at a time. The deploy process loads the .mdc (multidimensional cube) files to the Cognos BI Server.



#### Warning

Every time you update the Banner EDW, you *must* rerun the loading process to update the cubes.

### Load Process

Loading the cubes enables you to load one cube at a time. You run the first script, and it will automatically run the second script.

Load script buildEDWCube (UNIX) or buildEDWCube.bat (Windows). This script contains the cube names and descriptions, and then passes this information to the second script buildCognosCube (UNIX) or buildCognosCube.bat (Windows) script one cube at a time. This second script loads the business names for the cubes, and deploys individual cubes.

 **Warning**

Every time you update the Banner EDW, you must rerun the loading process to update the cubes. ■

## Build Individual Cubes

You may want to reload individual cubes rather than all the cubes. To load individual cubes, follow the steps below:

1. Open script buildEDWCube (UNIX) or buildEDWCube.bat (Windows).
2. (UNIX) Delete the '#' (number sign) comment indicator in front of each individual cube you *want* to load.  
(Windows) Delete the 'REM' comment indicator in front of each individual cube you *want* to load.
3. Rerun the script.

## Modify Delivered Cubes

---

Banner EDW cubes contain all available attributes and measures to serve the needs of the widest possible audience. There are some institutions, however, that may find these cubes to be too cluttered or overwhelming. Therefore, institutions may choose to pare down the delivered models to better suit their needs. High level instructions appear below for institutions choosing to do so:

 **Note**

You *must* have a Cognos Transformer license. ■

# Modify a Cube

---

1. Open Cognos.
2. Open the Cognos model file (.mdl file) to be modified.
3. Click the data source used in the cube.
4. Select **Modify Columns** from the pull-down list.
5. From the Source, click the check boxes for the new query subjects or columns to add to the cube.
6. Click **OK**.
7. Open the data source in Transformer.
8. Select the column(s).
9. Add where appropriate in the Cognos model.
10. Save the new Transformer model.
11. When all of the columns are added to the Transformer model, select **Insert PowerCube** from the pull-down list.
12. Type a Power Cube name.
13. Type the PowerCube file name.



## Note

The name should not have spaces. Use underscore as in all file naming standards. ■

14. Click the **Dimensions** tab.
15. Identify the dimensions used for the cube being defined.

To display in the cube, use the view *All Categories*. To not display in the cube, use view *Omit Dimension*.

16. Click the **Measures** tab.
17. Click the measures to include and exclude in the cube being defined.
18. Click **Create Selected PowerCube** from the pull-down list and wait for it to capture all the dimensions and measures.

The message 'Cube created successfully' appears.

19. Click **Publish PowerCube as Data Source and Package** from the pull-down list.
20. A confirmation message displays.

You can now place the cube in the proper directory and open it from Cognos Connection. Or, you can use a local version of Cognos to open the cube on your desktop.

## Hide Attributes in a Cube

You can use security to hide data that is used behind the scenes to determine the value for the measure (s).

1. Open Cognos Transformer.
2. Open the .mdl file to use to modify or create a new cube.
3. Type a Power Cube name for the cube where you are hiding attributes.
4. Type PowerCube file name.



### Note

The name should have no spaces. Use underscore as in all file naming standards. ■

5. Click the **Dimensions** tab.
6. Identify the dimensions used for the cube being defined.
7. To display in cube, use view *All Categories*. To not display in the cube, use view *Omit Dimension*.



8. Click the **Measures** tab.
9. Identify the measures to include and exclude in the cube being defined.
10. Select **Create Selected PowerCube** from the pull-down menu and wait for it to capture all the dimensions and measures.  
  
It reads as Cube created successfully.
11. Select **Publish PowerCube as Data Source and Package** from the pull-down menu.
12. A confirmation message appears.
13. Click **OK**.

You can now place the cube in the proper directory and open it from Cognos Connection.

## Delete an Attribute in Cognos Model File

1. Open Cognos.
2. Open the Cognos model file (.mdl file) to be modified.
3. Create a backup of the delivered model file.

### *Example:*

Save baseline as WFT\_ENROLLMENT\_sungardhe.mdl)

- 3.1. Replace delivered .mdl file with updated model file with institution-specific changes. This ensures that the automated build processes via the Administrative User Interface is not affected.
4. Select the Dimension Map window.
  - 4.1. Select the attribute that you would like to eliminate.
  - 4.2. Press the delete key.

5. Save the updated institution-specific model file.
6. Reload data into the cube as appropriate.

## Add/Change a Hierarchy within Delivered Cognos Model File

1. Open Cognos Transformer.
2. Open the Cognos Transformer model file (.mdl file) to be modified.
3. Create a backup of the delivered model file

### *Example:*

Save baseline as WFT\_ENROLLMENT\_sungardhe.mdl)

- 3.1. Replace the delivered .mdl file with the updated model file with institution-specific changes. This ensures that the automated build processes via the Administrative User Interface is not affected.
4. Select the Dimension Map window.
  - 4.1. Select the attribute that you would like to move within a hierarchy.
  - 4.2. Drag the selected attribute beneath its desired parent within the hierarchy.
5. Save the updated institution-specific model file.
6. Reload data into the cube as appropriate.

For more detailed information about using Cognos Transformer, refer to the Cognos documentation “Step-by-Step Transformer.”

## Category Counts in Cubes

---

Category functionality is used in some of the Banner EDW cubes to create an unduplicated count (such as applicant count, application count, employee count, etc.) in the Cognos Transformer model file. Category count uses the

PERSON\_UID dimensions to create measures within the cubes. They are empty dimensions. Nothing appears for these dimensions if they are selected using the Cognos reporting tools.

## Use Reports to View Cubes

---

The cube is similar to a storage container for all the data connection points between the dimension attributes and the measures in the cube. It is available to create many different reporting views of the data stored within the cube.

Follow the steps below:

1. Open your Web browser.
2. Log in to the Cognos Connect page.
3. Select the tab, or select the folder to display the desired cube report or cube package.
4. Click the Launch drop-down link in the top right hand corner of the page to open the desired reporting tool.  
Typically cubes are opened using Analysis Studio.

You can save reports to the appropriate folder within the My Folders tab in the Cognos Connection. You can also assign privileges to specific groups as a way to share the reports.

Refer to your Cognos documentation for additional information on Cognos products.

## Cube Reports

---

Each cube in the Banner EDW corresponds to a star schema. The table below lists the cube name, the corresponding business/star schema name and a brief description.

| Cube Business Name                                  | Star Schema Fact Table Name                  | Purpose/Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Academic Program Course                             | WFT_ACADEMIC_PROGRAM_COURSE                  | Academic Program Course Information by academic period to compare the courses enrolled by students with specific majors, combinations of majors, etc.                                                                                                                                                                                                                                                                                               |
| Admissions Counselor Cube                           | Cube Package Name:<br>PM Manage Applicant    | Admissions Counselor Cube uses the Manage Applicant business concept information rather than a single star schema to provide information on the number of applicants and applications by a variety of quality attributes                                                                                                                                                                                                                            |
| Admissions Counselor Cube - Current Academic Period | Cube Package Name:<br>PM Manage Applicant    | Admissions Counselor Cube uses the Manage Applicant business concept information rather than a single star schema to provide information on the number of applicants and applications by a variety of quality attributes for a single academic period defined as the current academic period.                                                                                                                                                       |
| Advancement Gift                                    | WFT_ADVANCEMENT_GIFT                         | Advancement Gift Information by calendar or fiscal year to compare giver as well as gift attributes.                                                                                                                                                                                                                                                                                                                                                |
| Aid Impact Analysis                                 | Cube Package Name:<br>PM Aid Impact Analysis | This cube uses the Impact Of Aid On New Enrollment business concept information rather than a single star schema. It provides information related to the financial need of prospective students along with attributes that permit you to look at need ranges, diversity, quality, and program data. Total Award Offered along with attributes identifying the composition of that total award by aid source and aid type are included in this cube. |

| Cube Business Name                            | Star Schema Fact Table Name                                            | Purpose/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aid Impact Analysis - Current Academic Period | Cube Package Name:<br>PM Aid Impact Analysis - Current Academic Period | This cube uses the Impact Of Aid On New Enrollment business concept information rather than a single star schema. It provides information related to the financial need of prospective students along with attributes that permit you to look at need ranges, diversity, quality, and program data. Total Award Offered along with attributes identifying the composition of that total award by aid source and aid type are included in this cube.<br><br>Contains only data for the current academic period |
| Award Analysis                                | Cube Package Name:<br>PM Award Analysis                                | This cube uses the Impact Of Aid On New Enrollment business concept information rather than a single star schema. It provides information about aid award amounts that your institution has allocated for new student enrollments either by aid year or by academic period.                                                                                                                                                                                                                                   |
| Award Analysis - Current Academic Period      | Cube Package Name:<br>PM Award Analysis - Current Academic Period      | This cube uses the Impact Of Aid On New Enrollment business concept information rather than a single star schema. It provides information about aid award amounts that your institution has allocated for new student enrollments for the current academic period.<br><br>Contains only data for the current academic period.                                                                                                                                                                                 |
| Course Registration                           | WFT_COURSE_REGISTRATION                                                | Course Registration Information by academic year and period to compare course as well as student attributes.                                                                                                                                                                                                                                                                                                                                                                                                  |
| Employee                                      | WFT_EMPLOYEE                                                           | Employee Information by calendar year to count employees and employee attributes regardless of their position(s).                                                                                                                                                                                                                                                                                                                                                                                             |
| Employee Degree                               | WFT_EMPLOYEE_DEGREE                                                    | Employee Degree Information by calendar year and month to compare degree information by employee attributes.                                                                                                                                                                                                                                                                                                                                                                                                  |

| Cube Business Name        | Star Schema Fact Table Name | Purpose/Description                                                                                                                                       |
|---------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Employee Position         | WFT_EMPLOYEE_POSITION       | Employee Position Information by calendar year and month to compare employee attributes by positions as appropriate.                                      |
| Employment Application    | WFT_EMPLOYMENT_APPLICATION  | Employment Application Information by calendar year to compare employment application counts by potential employee attributes.                            |
| Enrollment                | WFT_ENROLLMENT              | Enrollment Information by academic year and period to compare enrolled student attributes.                                                                |
| Financial Aid Pre-Student | WFT_FINANCIAL_PRE_STUDENT   | Financial Aid Pre-Student Information by aid year to measure the impact of financial aid types and source offers and amounts on the new applicant funnel. |
| Financial Aid Student     | WFT_FINANCIAL_AID_STUDENT   | Financial Aid Information by aid year to compare the student attributes by financial aid types and source offers and amounts.                             |
| General Ledger            | WFT_GENERAL_LEDGER          | General Ledger Information by fiscal year, quarter and period year to date information comparing beginning and ending balances.                           |
| General Ledger By Event   | WFT_GENERAL_LEDGER          | General Ledger By Event Information by fiscal year, quarter, period and a time slice compare the information by funds and or accounts.                    |
| Graduation Completion     | WFT_GRADUATION_COMPLETION   | Graduation Information or rates by academic year and academic period and graduation and academic outcome attributes.                                      |
| Grant and Project         | WFT_GRANT_AND_PROJECT       | Grants and Projects Information by fiscal year, quarter and period to compare the usage of funding by ledger accounting and or grant program attributes.  |

| Cube Business Name       | Star Schema Fact Table Name  | Purpose/Description                                                                                                                                                         |
|--------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Ledger         | WFT_OPERATING_LEDGER         | Operating Ledger Information by fiscal year, quarter and period to compare original adopted budget and adjustments, etc. by ledger accounting attributes.                   |
| Receivable Customer      | WFT_RECEIVABLE_CUSTOMER      | Customer Information by academic year and period to compare number of customers by accounting categories or groupings as well as student attributes.                        |
| Receivable Revenue       | WFT_RECEIVABLE_REVENUE       | Revenue Information by academic year to compare by ledger accounting attributes.                                                                                            |
| Recruiting and Admission | WFT_RECRUITING_AND_ADMISSION | Recruiting and Admission Information by academic year and period to compare and measure applicant to student conversion rates by academic study and pre student attributes. |

The following sections include a sample report for each cube that you can view using the Enterprise Data Warehouse Analytical Reports link when in the Cognos Connection. The sample, or template, reports show the data by one of the time dimensions and display all or most of the measures available with your Banner EDW solution. The default report format is only an example to begin exploring the data presented in a specific cube. Each institution (and or user) can tailor these reports to meet their needs to save privately or share with others. Refer to the Cognos documentation for details.

## Academic Program Course

| Description                                                                             | Measures     | Attributes           | Default Filter |
|-----------------------------------------------------------------------------------------|--------------|----------------------|----------------|
| To review the number of students by major, major, etc. sequence registered for courses. | Head Count   | Major                | Latest Event   |
|                                                                                         | Course Count | Majors in Sequence   |                |
|                                                                                         |              | Academic Year        |                |
|                                                                                         |              | Academic Period Type |                |
|                                                                                         |              | Course College       |                |



Insertable Objects

EDW Academic Program Course  
cube Academic Program Course (40 of 56)

+ Multi Source  
+ Academic Year  
+ Academic Period Type  
+ Latest Event Ind  
+ Event  
+ Admissions Population  
+ Age Range  
+ Award Category  
+ Concentrations for Major  
+ Concentrations in Sequence  
+ Course By ID  
+ Course By Subject  
+ Course By Title  
+ Course Campus  
+ Course College  
+ Course Department  
+ Course Division  
+ Course Level  
+ Course Program Classification  
+ Current Time Status  
+ Degree  
+ Enrollment Status  
+ Ethnicity Category  
+ Final Grade  
+ Gender  
+ Grade Type  
+ Instructor

Rows:

Major

Majors In Seque...

Columns:

Academic Year

Academic Perio

Context:

Yes

|              |                           | 2006-2007                    |              |                |              |           |              |
|--------------|---------------------------|------------------------------|--------------|----------------|--------------|-----------|--------------|
|              |                           | Fall                         |              |                |              |           |              |
|              |                           | Adult & Professional Studies |              | Arts & Science |              | Business  |              |
|              |                           | Headcount                    | Course Count | Headcount      | Course Count | Headcount | Course Count |
| Accounting   | First                     | 2                            | 4            | 29             | 42           | 73        |              |
|              | Second                    | 0                            | 0            | 3              | 11           | 3         |              |
|              | Third                     | 0                            | 0            | 0              | 0            | 9         |              |
|              | Fourth                    | 0                            | 0            | 0              | 0            | 0         |              |
|              | <b>Majors In Sequence</b> | <b>2</b>                     | <b>4</b>     | <b>32</b>      | <b>51</b>    | <b>85</b> |              |
| Agriculture  | First                     | 0                            | 0            | 2              | 3            | 1         |              |
|              | Second                    | 0                            | 0            | 0              | 0            | 0         |              |
|              | Third                     | 0                            | 0            | 0              | 0            | 0         |              |
|              | Fourth                    | 0                            | 0            | 0              | 0            | 0         |              |
|              | <b>Majors In Sequence</b> | <b>0</b>                     | <b>0</b>     | <b>2</b>       | <b>3</b>     | <b>1</b>  |              |
| Anthropology | First                     | 1                            | 4            | 18             | 11           | 13        |              |
|              | Second                    | 0                            | 0            | 1              | 2            | 0         |              |
|              | Third                     | 0                            | 0            | 0              | 0            | 0         |              |
|              | Fourth                    | 0                            | 0            | 0              | 0            | 0         |              |
|              | <b>Majors In Sequence</b> | <b>1</b>                     | <b>4</b>     | <b>19</b>      | <b>11</b>    | <b>13</b> |              |
| Art          | First                     | 0                            | 0            | 2              | 4            | 0         |              |
|              | Second                    | 0                            | 0            | 0              | 0            | 0         |              |
|              | Third                     | 0                            | 0            | 0              | 0            | 0         |              |

Information

Academic Program Course

## Admissions Counselor

| Description                                                                                                                                                                                                                                                                                                                                                                                                                                            | Measures            | Attributes    | Default Filter |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------|----------------|
| Determines the number of current applicants by the different qualifications and performs analysis on the quality of the applicant pool across academic periods. Counselors would know the number of applicants in each of the various range of qualifications and be able to compare that to prior academic periods. This helps determine what qualifications to use a cutoff when making admit and reject decisions for the current application pool. | Application Count   | Academic Year | None           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Applicant Headcount |               | None           |

**Insertable Objects**

- PM Admissions Counselor Cube
  - All Academic Time
  - All Academic Period Type
  - All Student Level
  - All Student Population
  - All Admissions Population
  - All Program
  - All College
  - All Rater
  - All Application Rating Type
  - All Application Rating Range
  - All Secondary Percentile Range
  - All Secondary GPA Range
  - All Secondary School Subject
  - All Secondary School Subject Grade
  - All Secondary School Subject Years Taken
  - Test Score Range
  - Not For Use
  - Not For Use 1
  - Measures
    - Application Count
    - Applicant Headcount

Rows: Measures (list)

Columns: All Academic Pe... All Academ

Context filter:

|                     |           |           |           |           |           |           |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                     | Fall      |           |           |           |           |           |
| Application Count   | 2007-2008 | 2006-2007 | 2005-2006 | 2004-2005 | 2003-2004 | 2002-2003 |
| Application Count   | 379       | 665       | 672       | 837       | 247       | 123       |
| Applicant Headcount | 360       | 635       | 641       | 816       | 240       | 118       |

## Admissions Counselor – Current Academic Period

| Description                                                                                                                              | Measures            | Attributes              | Default Filter |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|----------------|
| Contains the same information as the Admissions Counselor Cube except that it only displays information for the current academic period. | Application Count   | Current Academic Period | None           |
|                                                                                                                                          | Applicant Headcount |                         | None           |

### Insertable Objects

- PM Admissions Counselor Cube - Current Acader
  - All Academic Time
  - All Academic Period Type
  - All Student Level
  - All Student Population
  - All Admissions Population
  - All Program
  - All College
  - All Rater
  - All Application Rating Type
  - All Application Rating Range
  - All Secondary Percentile Range
  - All Secondary GPA Range
  - All Secondary School Subject
  - All Secondary School Subject Grade
  - All Secondary School Subject Years Taken
  - Test Score Range
  - Not For Use
  - Not For Use 1
  - Measures
    - Application Count
    - Applicant Headcount

Rows:

Measures (list) ▼

Columns:

2006-2007 ▼

|                     |           |            |
|---------------------|-----------|------------|
|                     | Fall 2006 | 2006-2007  |
| Application Count   | 665       | <b>665</b> |
| Applicant Headcount | 635       | <b>635</b> |

## Advancement Gift

| Description                                                                                                                   | Measures                       | Attributes    | Default Filter |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------|----------------|
| Displays the number of donors and number of gifts given (and all available measures) by fiscal year filtered by latest event. | Donor Count                    | Calendar Year | Latest Event   |
|                                                                                                                               | Gift Count                     |               |                |
|                                                                                                                               | Pledge Count                   |               |                |
|                                                                                                                               | Gift Amount                    |               |                |
|                                                                                                                               | Original Pledge Amount         |               |                |
|                                                                                                                               | Outstanding Pledge Amount      |               |                |
|                                                                                                                               | Average Gift Amount            |               |                |
|                                                                                                                               | Average Gift Auxiliary Amount  |               |                |
|                                                                                                                               | Average Original Pledge Amount |               |                |
|                                                                                                                               |                                |               |                |

### Insertable Objects

- EDW Advancement Gift
  - cube Advancement Gift
    - Multi Source
    - Calendar Year
    - Calendar Month
    - Fiscal Year
    - Latest Event Ind
    - Event
    - Active Constituent Ind
    - Age Range
    - Campaign
    - Designation College
    - Designation Purpose
    - Designation Type
    - Entity Type
    - Ethnicity Category
    - Ethnicity
    - Final Install Year
    - Gender
    - Gift Auxiliary Type
    - Gift Type
    - Gift Vehicle
    - Giving Toward Goal Ind
    - Match Ind
    - Nation of Citizenship
    - Original Pledge Range
    - Outstanding Pledge Range
    - Pledge Payment Ind
    - Pledge Type
    - Pledge Vehicle

Rows:

Measures (list)

Columns:

Calendar Year

Context:

Yes

| Donor Count                    | 2002      | 2003       | 2004          | 2005          | 2006       | Calendar Year |
|--------------------------------|-----------|------------|---------------|---------------|------------|---------------|
| Donor Count                    | 4         | 36         | 71            | 56            | 54         | 183           |
| Gift Count                     | 11        | 47         | 484           | 172           | 122        | 1058          |
| Pledge Count                   | 29        | 16         | 116           | 47            | 33         | 354           |
| Gift Amount                    | 89,700.00 | 400,060.98 | 12,408,313.49 | 10,160,741.46 | 259,999.01 | 27,521,573.95 |
| Original Pledge Amount         | 89,560.00 | 115,470.00 | 14,020,817.00 | 1,412,991.00  | 158,560.65 | 17,358,433.65 |
| Outstanding Pledge Amount      | 45,210.00 | 58,980.00  | 3,352,156.98  | 268,081.00    | 140,302.15 | 5,139,343.22  |
| Average Gift Amount            | 8,154.55  | 8,511.94   | 25,637.01     | 59,074.08     | 2,131.14   | 26,012.83     |
| Average Original Pledge Amount | 3,088.28  | 7,216.88   | 120,869.11    | 30,063.64     | 4,804.87   | 49,035.12     |

Information

Advancement Gift

## Aid Impact Analysis Cube

| Description                                                                                                                                                                                                     | Measures                                 | Attributes           | Default Filter |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------|----------------|
| Permits analysis on need ranges with percent of need met in total or by a variety of attributes like aid source and aid type as well as groups like gift and self help aid comparing multiple academic periods. | Prospective Student Headcount            | Aid Year Description |                |
|                                                                                                                                                                                                                 | Aid Status Headcount                     |                      |                |
|                                                                                                                                                                                                                 | Aid Applicant Headcount                  |                      |                |
|                                                                                                                                                                                                                 | Aid Offered Headcount                    |                      |                |
|                                                                                                                                                                                                                 | Average Cost Of Attendance               |                      |                |
|                                                                                                                                                                                                                 | Average Total Resource Amount            |                      |                |
|                                                                                                                                                                                                                 | Average Total Offer                      |                      |                |
|                                                                                                                                                                                                                 | Average Total Gift Aid Offer             |                      |                |
|                                                                                                                                                                                                                 | Average Total Self Help Aid Offer        |                      |                |
|                                                                                                                                                                                                                 | Average Total Institution Gift Aid Offer |                      |                |
|                                                                                                                                                                                                                 | Admitted Headcount                       |                      |                |
|                                                                                                                                                                                                                 | Enrolled Headcount                       |                      |                |
|                                                                                                                                                                                                                 | Enrolled Yield                           |                      |                |



| Insertable Objects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |              |                  |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|------------------|-------------------------|
| <div> <div>PM Aid Impact Analysis Cube</div> <div> <div>All Academic Time</div> <div>All Academic Period Type</div> <div>All Aid Year</div> <div>All Aid Status Ind</div> <div>All Aid Applicant Ind</div> <div>All FM Aid Applicant Ind</div> <div>All IM Aid Applicant Ind</div> <div>All Other Resource Ind</div> <div>All Aid Offered Ind</div> <div>All Aid Accepted Ind</div> <div>All Aid Declined Ind</div> <div>All Aid Paid Ind</div> <div>All Aid Canceled Ind</div> <div>All Dependent Ind</div> <div>All Budget Group</div> <div>All Packaging Group</div> <div>All Gift Aid Offered Ind</div> <div>All Self Help Aid Offered Ind</div> <div>All Federal Aid Offered Ind</div> </div> </div> |  |              |                  |                         |
| Rows:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Columns:     |                  | Context filter:         |
| Measures (list)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | All Aid Year |                  |                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | End of Time  | Aid Year JUL 199 | Aid Year JUL 1995 - JUN |
| Prospective Student Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | 13           | 29               | 59                      |
| Aid Status Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 1            | 1                | 20                      |
| Aid Applicant Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 0            | 0                | 19                      |
| Aid Offered Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | 1            | 1                | 20                      |
| Average Cost Of Attendance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |              |                  | \$16,155.00             |
| Average Total Resource Amount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |              |                  | \$1,016.67              |
| Average Total Offer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |              |                  | \$4,759.70              |
| Average Total Gift Aid Offer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |              |                  | \$2,357.50              |
| Average Total Self Help Aid Offer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |              |                  | \$7,676.53              |
| Average Total Institution Gift Aid Offer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |              |                  |                         |
| Admitted Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 4            | 7                | 52                      |
| Enrolled Headcount                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 3            | 3                | 21                      |
| Enrolled Yield                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | 75.00%       | 42.86%           | 40.38%                  |

## Aid Impact Analysis Cube - Current Academic Period

| Description                                                                                                                                                                                            | Measures                                 | Attributes           | Default Filter |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------|----------------|
| Permits analysis on need ranges with percent of need met in total or by a variety of attributes like aid source and aid type as well as groups of gift and self help aid for a single academic period. | Prospective Student Headcount            | Aid Year Description |                |
|                                                                                                                                                                                                        | Aid Status Headcount                     |                      |                |
|                                                                                                                                                                                                        | Aid Applicant Headcount                  |                      |                |
|                                                                                                                                                                                                        | Aid Offered Headcount                    |                      |                |
|                                                                                                                                                                                                        | Average Cost Of Attendance               |                      |                |
|                                                                                                                                                                                                        | Average Total Resource Amount            |                      |                |
|                                                                                                                                                                                                        | Average Total Offer                      |                      |                |
|                                                                                                                                                                                                        | Average Total Gift Aid Offer             |                      |                |
|                                                                                                                                                                                                        | Average Total Self Help Aid Offer        |                      |                |
|                                                                                                                                                                                                        | Average Total Institution Gift Aid Offer |                      |                |
|                                                                                                                                                                                                        | Admitted Headcount                       |                      |                |
|                                                                                                                                                                                                        | Enrolled Headcount                       |                      |                |
|                                                                                                                                                                                                        | Enrolled Yield                           |                      |                |

## Insertable Objects

PM Aid Impact Analysis Cube - Current Ac

- + All Academic Time
- + All Academic Period Type
- + All Aid Year
- + All Aid Status Ind
- + All Aid Applicant Ind
- + All FM Aid Applicant Ind
- + All IM Aid Applicant Ind
- + All Other Resource Ind
- + All Aid Offered Ind
- + All Aid Accepted Ind
- + All Aid Declined Ind
- + All Aid Paid Ind
- + All Aid Canceled Ind
- + All Dependent Ind
- + All Budget Group
- + All Packaging Group
- + All Gift Aid Offered Ind
- + All Self Help Aid Offered Ind

Rows:

Measures (list)

Columns:

All Aid Year

Context filter:

|                                          | 2007-2008 Aid Year | All Aid Year       |
|------------------------------------------|--------------------|--------------------|
| Prospective Student Headcount            | 683                | <b>683</b>         |
| Aid Status Headcount                     | 155                | <b>155</b>         |
| Aid Applicant Headcount                  | 154                | <b>154</b>         |
| Aid Offered Headcount                    | 154                | <b>154</b>         |
| Average Cost Of Attendance               | \$16,436.83        | <b>\$16,436.83</b> |
| Average Total Resource Amount            | \$922.20           | <b>\$922.20</b>    |
| Average Total Offer                      | \$9,107.96         | <b>\$9,107.96</b>  |
| Average Total Self Help Aid Offer        | \$7,006.88         | <b>\$7,006.88</b>  |
| Average Total Gift Aid Offer             | \$5,320.15         | <b>\$5,320.15</b>  |
| Average Total Institution Gift Aid Offer | \$2,077.72         | <b>\$2,077.72</b>  |
| Admitted Headcount                       | 417                | <b>417</b>         |
| Enrolled Headcount                       | 318                | <b>318</b>         |
| Enrolled Yield                           | 76.26%             | <b>76.26%</b>      |

## Award Analysis Cube

| Description                                                                                                                                                                                              | Measures                       | Attributes           | Default Filter |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|
| Permits analysis on the awards total or by a variety of attributes including fund, aid source and aid type as well as groupings of awards by gift and self help aid comparing multiple academic periods. | Award Offered Headcount        | Aid Year Description |                |
|                                                                                                                                                                                                          | Award Accepted Headcount       |                      |                |
|                                                                                                                                                                                                          | Award Declined Headcount       |                      |                |
|                                                                                                                                                                                                          | Award Canceled Headcount       |                      |                |
|                                                                                                                                                                                                          | Award Paid Headcount           |                      |                |
|                                                                                                                                                                                                          | Highest ACT Composite          |                      |                |
|                                                                                                                                                                                                          | Highest SAT Combined           |                      |                |
|                                                                                                                                                                                                          | Admitted Headcount             |                      |                |
|                                                                                                                                                                                                          | Enrolled Headcount             |                      |                |
|                                                                                                                                                                                                          | Enrolled Yield                 |                      |                |
|                                                                                                                                                                                                          | Average Original Award Offered |                      |                |
|                                                                                                                                                                                                          | Average Award Offered          |                      |                |
|                                                                                                                                                                                                          | Average Award Accepted         |                      |                |
|                                                                                                                                                                                                          | Average Award Declined         |                      |                |
|                                                                                                                                                                                                          | Average Award Canceled         |                      |                |

| Insertable Objects                                                                |                               |
|-----------------------------------------------------------------------------------|-------------------------------|
|  | PM Award Analysis Cube        |
|  | All Academic Time             |
|  | All Academic Period Type      |
|  | All Aid Year                  |
|  | All Aid Applicant Ind         |
|  | All FM Aid Applicant Ind      |
|  | All IM Aid Applicant Ind      |
|  | All Aid Fund                  |
|  | All Aid Source                |
|  | All Aid Type                  |
|  | All Gift Or Self Help Aid     |
|  | All Award Offered Ind         |
|  | All Award Accepted Ind        |
|  | All Award Declined Ind        |
|  | All Award Canceled Ind        |
|  | All Award Paid Ind            |
|  | All Dependent Ind             |
|  | All Budget Group              |
|  | All Packaging Group (28)      |
|  | All Gift Aid Offered Ind      |
|  | All Self Help Aid Offered Ind |
|  | All Federal Aid Offered Ind   |

Rows:

Measures (list)

Columns:

All Aid Year (...)

Context filter:

|                                | 2006-2007 Aid Year | 2005-2006 Aid Year | Total      |
|--------------------------------|--------------------|--------------------|------------|
| Award Offered Headcount        | 148                | 193                | 336        |
| Award Accepted Headcount       | 142                | 193                | 330        |
| Award Declined Headcount       | 16                 | 24                 | 40         |
| Award Canceled Headcount       | 0                  | 1                  | 1          |
| Award Paid Headcount           | 98                 | 83                 | 178        |
| Highest ACT Composite          | 26.30              | 26.88              | 26.63      |
| Highest SAT Combined           | 1803.29            | 1787.05            | 1796.15    |
| Admitted Headcount             | 140                | 169                | 308        |
| Enrolled Headcount             | 132                | 149                | 281        |
| Enrolled Yield                 | 94.29%             | 88.17%             | 91.23%     |
| Average Original Award Offered | \$1,125.23         | \$1,025.81         | \$1,071.81 |
| Average Award Offered          | \$1,142.13         | \$990.75           | \$1,060.78 |
| Average Award Accepted         | \$1,161.33         | \$979.48           | \$1,063.09 |
| Average Award Declined         | \$508.03           | \$560.76           | \$541.89   |
| Average Award Canceled         | \$0.00             | \$171.40           | \$155.82   |

## Award Analysis Cube - Current Academic Period

| Description                                                                                                                                                                                       | Measures                       | Attributes           | Default Filter |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|
| Permits analysis on the awards total or by a variety of attributes including fund, aid source and aid type as well as groupings of awards by gift and self help aid for a single academic period. | Award Offered Headcount        | Aid Year Description |                |
|                                                                                                                                                                                                   | Award Accepted Headcount       |                      |                |
|                                                                                                                                                                                                   | Award Declined Headcount       |                      |                |
|                                                                                                                                                                                                   | Award Canceled Headcount       |                      |                |
|                                                                                                                                                                                                   | Award Paid Headcount           |                      |                |
|                                                                                                                                                                                                   | Highest ACT Composite          |                      |                |
|                                                                                                                                                                                                   | Highest SAT Combined           |                      |                |
|                                                                                                                                                                                                   | Admitted Headcount             |                      |                |
|                                                                                                                                                                                                   | Enrolled Headcount             |                      |                |
|                                                                                                                                                                                                   | Enrolled Yield                 |                      |                |
|                                                                                                                                                                                                   | Average Original Award Offered |                      |                |
|                                                                                                                                                                                                   | Average Award Offered          |                      |                |
|                                                                                                                                                                                                   | Average Award Accepted         |                      |                |
|                                                                                                                                                                                                   | Average Award Declined         |                      |                |
|                                                                                                                                                                                                   | Average Award Canceled         |                      |                |

| Insertable Objects                        |  | Rows:                          | Columns:           | Context filter    |
|-------------------------------------------|--|--------------------------------|--------------------|-------------------|
| PM Award Analysis Cube - Current Academic |  | Measures (list)                | All Aid Year       |                   |
|                                           |  |                                | 2006-2007 Aid Year | All Aid Year      |
|                                           |  | Award Offered Headcount        | 139                | <b>139</b>        |
|                                           |  | Award Accepted Headcount       | 134                | <b>134</b>        |
|                                           |  | Award Declined Headcount       | 14                 | <b>14</b>         |
|                                           |  | Award Canceled Headcount       | 0                  | <b>0</b>          |
|                                           |  | Award Paid Headcount           | 91                 | <b>91</b>         |
|                                           |  | Highest ACT Composite          | 26.25              | <b>26.25</b>      |
|                                           |  | Highest SAT Combined           | 1801.35            | <b>1801.35</b>    |
|                                           |  | Secondary School GPA           | 3.07               | <b>3.07</b>       |
|                                           |  | Secondary School Percentile    | 90.63              | <b>90.63</b>      |
|                                           |  | Post Secondary GPA             | 3.15               | <b>3.15</b>       |
|                                           |  | Admitted Headcount             | 130                | <b>130</b>        |
|                                           |  | Enrolled Headcount             | 122                | <b>122</b>        |
|                                           |  | Enrolled Yield                 | 93.85%             | <b>93.85%</b>     |
|                                           |  | Average Original Award Offered | \$1,123.75         | <b>\$1,123.75</b> |
|                                           |  | Average Award Offered          | \$1,144.12         | <b>\$1,144.12</b> |
|                                           |  | Average Award Accepted         | \$1,161.03         | <b>\$1,161.03</b> |
|                                           |  | Average Award Declined         | \$517.03           | <b>\$517.03</b>   |
|                                           |  | Average Award Canceled         | \$0.00             | <b>\$0.00</b>     |
|                                           |  | Average Award Paid             | \$1,096.26         | <b>\$1,096.26</b> |

## Course Registration

| Description                                                                                                                                    | Measures                  | Attributes           | Default Filter |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------|----------------|
| Displays the generated credits and number of seats (and all available measures) by academic year and academic period filtered by latest event. | Seat Count                | Academic Year        | Latest Event   |
|                                                                                                                                                | Credits Generated         | Academic Period Type |                |
|                                                                                                                                                | GPA                       |                      |                |
|                                                                                                                                                | Credits Attempted         |                      |                |
|                                                                                                                                                | Credits Earned            |                      |                |
|                                                                                                                                                | Credits Passed            |                      |                |
|                                                                                                                                                | Average Credits Generated |                      |                |
|                                                                                                                                                | Average GPA               |                      |                |
|                                                                                                                                                | Average Credits Attempted |                      |                |
|                                                                                                                                                | Average Credits Earned    |                      |                |
|                                                                                                                                                | Average Credits Passed    |                      |                |



**Insertable Objects**  
 EDW Course Registration  
 cube Course Registration (40 of 50)  

- + Multi Source
- + Academic Year
- + Academic Period Type
- + Latest Event Ind
- + Event
- + Academic Outcome Enrolled Ind
- + Age Range
- + Award Category
- + Course By ID
- + Course By Subject
- + Course By Title
- + Course Campus
- + Course College
- + Course Department
- + Course Division
- + Course Level
- + Course Program Classification
- + Current Time Status
- + Degree
- + Enrolled Ind
- + Enrollment Status
- + Ethnicity Category
- + Ethnicity
- + Final Grade
- + Gender
- + Grade Type
- + Housing Ind
- + Instructor

Rows: Measures (list)
Columns: Academic Year Fall
Context: Yes

|                           | 1998-1999 | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 | 2006-2007 |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                           | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      |
| Seats Count               | 338       | 311       | 297       | 219       | 448       | 771       | 2097      | 1679      |           |
| Credits Generated         | 1285.000  | 679.000   | 845.000   | 655.000   | 1336.000  | 2124.000  | 8952.500  | 5524.700  | 2427.     |
| GPA                       | 3.11258   | 3.22219   | 3.26554   | 3.15682   | 3.16303   | 3.06312   | 2.85572   | 2.95482   | 2.86      |
| Credits Attempted         | 306.000   | 345.000   | 433.000   | 273.000   | 375.000   | 2028.000  | 8897.500  | 4674.500  | 162.      |
| Credits Earned            | 302.000   | 326.000   | 425.000   | 261.000   | 351.000   | 1929.000  | 8510.500  | 4528.500  | 147.      |
| Credits Passed            | 302.000   | 326.000   | 425.000   | 261.000   | 351.000   | 1929.000  | 8510.500  | 4528.500  | 147.      |
| Average Credits Generated | 3.802     | 2.183     | 2.845     | 2.991     | 2.982     | 2.755     | 4.269     | 3.290     | 2.        |
| Average GPA               | 3.11258   | 3.22219   | 3.26554   | 3.15682   | 3.16303   | 3.06312   | 2.85572   | 2.95482   | 2.86      |
| Average Credits Attempted | 0.905     | 1.109     | 1.458     | 1.247     | 0.837     | 2.630     | 4.243     | 2.784     | 0.        |
| Average Credits Earned    | 0.893     | 1.048     | 1.431     | 1.192     | 0.783     | 2.502     | 4.058     | 2.697     | 0.        |
| Average Credits Passed    | 0.893     | 1.048     | 1.431     | 1.192     | 0.783     | 2.502     | 4.058     | 2.697     | 0.        |

**Information**
**Course Registration**

## Employee

| Description                                                                                     | Measures                          | Attributes    | Default Filter |
|-------------------------------------------------------------------------------------------------|-----------------------------------|---------------|----------------|
| Displays employee count (and all available measures) by calendar year filtered by latest event. | Employee Count                    | Calendar Year | Latest Event   |
|                                                                                                 | Years of Service                  |               |                |
|                                                                                                 | Annual Salary                     |               |                |
|                                                                                                 | Total Earnings                    |               |                |
|                                                                                                 | Regular Earnings                  |               |                |
|                                                                                                 | Overtime Earnings                 |               |                |
|                                                                                                 | Other Earnings                    |               |                |
|                                                                                                 | Employer Deduction Amount         |               |                |
|                                                                                                 | Employee Deduction Amount         |               |                |
|                                                                                                 | Encumbrance Amount                |               |                |
|                                                                                                 | Leave Benefits Amount             |               |                |
|                                                                                                 | Average Years of Service          |               |                |
|                                                                                                 | Average Total Earnings            |               |                |
|                                                                                                 | Average Regular Earnings          |               |                |
|                                                                                                 | Average Overtime Earnings         |               |                |
|                                                                                                 | Average Employer Deduction Amount |               |                |
|                                                                                                 | Average Employee Deduction Amount |               |                |
|                                                                                                 | YTD Employer Deduction Amount     |               |                |

| Description | Measures                              | Attributes | Default Filter |
|-------------|---------------------------------------|------------|----------------|
|             | YTD Employee Deduction Amount         |            |                |
|             | Average YTD Employer Deduction Amount |            |                |
|             | Average YTD Employee Deduction Amount |            |                |
|             | Average Encumbrance Amount            |            |                |
|             | Average Leave Benefits Amount         |            |                |
|             | Hourly FTE                            |            |                |
|             | Salaried FTE                          |            |                |

| Insertable Objects      |  | Rows:           | Columns:      | Context: |
|-------------------------|--|-----------------|---------------|----------|
| EDW Employee            |  | Measures (list) | Calendar Year | Yes      |
| cube Employee           |  |                 |               |          |
| Multi Source            |  |                 |               |          |
| Calendar Year           |  |                 |               |          |
| Calendar Month          |  |                 |               |          |
| Latest Event Ind        |  |                 |               |          |
| Event                   |  |                 |               |          |
| Age Range               |  |                 |               |          |
| Annual Salary Range     |  |                 |               |          |
| Active Position Ind     |  |                 |               |          |
| Employee Class          |  |                 |               |          |
| Employer Code           |  |                 |               |          |
| Employee EEO Skill      |  |                 |               |          |
| Employee Grouping       |  |                 |               |          |
| Employee Status         |  |                 |               |          |
| Employee Time Status    |  |                 |               |          |
| Ethnicity Category      |  |                 |               |          |
| Ethnicity               |  |                 |               |          |
| Faculty Member Categor  |  |                 |               |          |
| Faculty Staff Ind       |  |                 |               |          |
| Gender                  |  |                 |               |          |
| Home Organization       |  |                 |               |          |
| Home Organization Chart |  |                 |               |          |
| Nation Of Citizenship   |  |                 |               |          |
| Primary Disability      |  |                 |               |          |
| Tenure                  |  |                 |               |          |
| Veteran Type            |  |                 |               |          |
| Visa Type               |  |                 |               |          |
| Not For Use             |  |                 |               |          |

|                                       | 2001          | 2002          | 2003          | 2004          | 2005          | 2006          |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Employee Count                        | 67            | 64            | 83            | 119           | 175           | 168           |
| Years Of Service                      | 5099          | 5587          | 6318          | 7149          | 8336          | 6102          |
| Annual Salary                         | 33,981,070.34 | 33,294,436.75 | 34,718,431.60 | 56,804,372.40 | 68,442,399.19 | 56,894,477.84 |
| Total Earnings                        | 2,783,921.61  | 2,762,920.47  | 2,875,421.67  | 4,731,055.65  | 5,714,465.69  | 4,739,826.65  |
| Regular Earnings                      | 2,556,112.92  | 2,591,946.66  | 2,672,730.90  | 4,448,987.50  | 5,365,346.84  | 4,540,743.13  |
| Overtime Earnings                     | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Other Earnings                        | 227,808.69    | 170,973.81    | 199,721.13    | 266,864.15    | 313,184.35    | 198,248.39    |
| Employer Deduction Amount             | 444,532.25    | 444,820.65    | 461,855.99    | 962,180.97    | 1,162,554.58  | 979,142.62    |
| Employee Deduction Amount             | 880,670.16    | 834,058.85    | 870,418.21    | 1,548,413.18  | 1,880,070.37  | 1,583,814.97  |
| YTD Employer Deduction Amount         | 2,792,695.37  | 2,844,016.14  | 2,914,257.07  | 6,172,993.64  | 6,910,375.47  | 4,383,700.66  |
| YTD Employee Deduction Amount         | 5,494,061.15  | 5,301,365.72  | 5,416,667.67  | 9,885,439.91  | 11,214,573.39 | 7,032,405.75  |
| Encumbrance Amount                    | 34,494,079.79 | 36,326,099.13 | 37,096,932.75 | 60,386,272.65 | 77,061,262.61 | 61,952,623.18 |
| Leave Benefits Amount                 | 259,763.29    | 263,819.34    | 290,469.91    | 355,246.27    | 386,147.29    | 261,354.20    |
| Average Years Of Service              | 7.07          | 7.84          | 8.51          | 6.07          | 5.77          | 5.01          |
| Average Total Earnings                | 3,861.20      | 3,875.06      | 3,875.23      | 4,019.59      | 3,957.39      | 3,888.29      |
| Average Regular Earnings              | 3,545.23      | 3,635.27      | 3,602.06      | 3,779.94      | 3,715.61      | 3,724.97      |
| Average Overtime Earnings             | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Average Employer Deduction Amount     | 616.55        | 623.87        | 622.45        | 817.49        | 805.09        | 803.23        |
| Average Employee Deduction Amount     | 1,221.46      | 1,169.79      | 1,173.07      | 1,315.56      | 1,301.99      | 1,299.27      |
| Average YTD Employer Deduction Amount | 3,873.36      | 3,988.80      | 3,927.57      | 5,244.68      | 4,785.58      | 3,596.14      |
| Average YTD Employee Deduction Amount | 7,620.06      | 7,435.30      | 7,300.09      | 8,398.84      | 7,766.33      | 5,769.00      |

Information

Employee

## Employee Degree

| Description                                                                                       | Measures       | Attributes            | Default Filter |
|---------------------------------------------------------------------------------------------------|----------------|-----------------------|----------------|
| Displays the total employees by calendar year and post secondary degree filtered by latest event. | Employee Count | Calendar Year         | Latest Event   |
|                                                                                                   |                | Post Secondary Degree |                |
|                                                                                                   |                |                       |                |
|                                                                                                   |                |                       |                |

**Insertable Objects**

- EDW Employee Degree
  - cube Employee Degree
    - Multi Source
    - Calendar Year
    - Calendar Month
    - Latest Event Ind
    - Event
    - Age Range
    - Annual Salary Range
    - Active Position Ind
    - Employee Class
    - Employer Code
    - Employee Grouping
    - Employee EEO Skill
    - Employee Status
    - Employee Time Status
    - Ethnicity Category
    - Ethnicity
    - Faculty Staff Ind
    - Final Degree Ind
    - Gender
    - Home Organization
    - Home Organization Chart
    - Nation Of Citizenship
    - Post Secondary Degree
    - Post Secondary Major
    - Post Secondary School
    - Primary Disability
    - Tenure
    - Veteran Type

Rows: Post Secondary ...
Columns: Calendar Year
Current: Yes

| Employee Count               | 2000      | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | Calendar Year |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| 5 yr Bachelors and Masters   | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1             |
| Associate in Applied Science | 1         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 1             |
| Associate in Arts            | 2         | 2         | 2         | 2         | 3         | 3         | 3         | 3         | 3             |
| Associate in Science         | 1         | 0         | 0         | 0         | 1         | 1         | 1         | 1         | 2             |
| Bachelor of Arts             | 5         | 6         | 6         | 8         | 10        | 10        | 10        | 10        | 11            |
| Bachelor of Business Admin.  | 1         | 1         | 1         | 1         | 0         | 0         | 0         | 0         | 1             |
| Bachelor of Commerce         | 0         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1             |
| Bachelor of Science          | 6         | 6         | 6         | 6         | 7         | 7         | 6         | 6         | 8             |
| Certificate Program          | 1         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 1             |
| Doctor of Medicine           | 1         | 1         | 1         | 0         | 0         | 0         | 0         | 0         | 1             |
| Doctorate/PhD                | 1         | 0         | 0         | 1         | 0         | 0         | 0         | 0         | 2             |
| Master of Arts               | 1         | 1         | 1         | 2         | 4         | 4         | 4         | 4         | 4             |
| Master of Science            | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1             |
| Ph.D.                        | 3         | 3         | 3         | 3         | 7         | 8         | 7         | 7         | 8             |
| Undeclared                   | 0         | 0         | 0         | 0         | 1         | 1         | 1         | 1         | 1             |
| <b>Post Secondary Degree</b> | <b>20</b> | <b>18</b> | <b>18</b> | <b>21</b> | <b>25</b> | <b>26</b> | <b>24</b> | <b>24</b> | <b>35</b>     |

**Information**

**Employee Degree**

## Employee Position

| Description                                                                                                        | Measures                           | Attributes    | Default Filter |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|----------------|
| Displays the earnings and years of service (and all available measures) by calendar year filtered by latest event. | Employee Count, YTD Total Earnings | Calendar Year | Latest Event   |
|                                                                                                                    | Position Count                     |               |                |
|                                                                                                                    | Total Years of Service             |               |                |
|                                                                                                                    | Annual Salary                      |               |                |
|                                                                                                                    | Hourly FTE                         |               |                |
|                                                                                                                    | Salaried FTE                       |               |                |
|                                                                                                                    | YTD Total Earnings                 |               |                |
|                                                                                                                    | YTD Regular Earnings               |               |                |
|                                                                                                                    | YTD Overtime Earnings              |               |                |
|                                                                                                                    | YTD Other Earnings                 |               |                |
|                                                                                                                    | YTD Employer Deduction Amount      |               |                |
|                                                                                                                    | YTD Employee Deduction Amount      |               |                |
|                                                                                                                    | Encumbrance Amount                 |               |                |
|                                                                                                                    | Average Total Years of Service     |               |                |
|                                                                                                                    | Average Annual Salary              |               |                |
|                                                                                                                    | Average YTD Total Earnings         |               |                |
|                                                                                                                    | Average YTD Regular Earnings       |               |                |

| Description | Measures                              | Attributes | Default Filter |
|-------------|---------------------------------------|------------|----------------|
|             | Average YTD Overtime Earnings         |            |                |
|             | Average YTD Other Earnings            |            |                |
|             | Average YTD Employer Deduction Amount |            |                |
|             | Average YTD Employee Deduction Amount |            |                |
|             | Average Encumbrance Amount            |            |                |



### Insertable Objects

- EDW Employee Position
  - cube Employee Position
    - Multi Source
    - Calendar Year
    - Calendar Month
    - Latest Event Ind
    - Event
    - Active Position Ind
    - Age Range
    - Annual Salary Range
    - Employee Class
    - Employee EEO Skill
    - Employee Grouping
    - Employee Status
    - Employee Time Status
    - Employer Code
    - Ethnicity Category
    - Ethnicity
    - Faculty Member Category
    - Gender
    - Home Organization
    - Home Organization Chart
    - Nation Of Citizenship
    - Position
    - Position Campus
    - Position Class
    - Position Contract Type
    - Position EEO Skill
    - Position Status
    - Primary Disability

Rows:
Measures (list)

Columns:
Calendar Year

Context:
Yes

|                                       | 2006         | Calendar Year |
|---------------------------------------|--------------|---------------|
| Employee Count                        | 92           | 92            |
| Position Count                        | 42           | 42            |
| Total Years Of Service                | 337.23       | 337.23        |
| Annual Salary                         | 4,695,319.30 | 4,695,319.30  |
| Hourly FTE                            | 1.000        | 1.000         |
| Salaried FTE                          | 92.000       | 92.000        |
| YTD Total Earnings                    | 3,476,882.73 | 3,476,882.73  |
| YTD Regular Earnings                  | 3,340,848.37 | 3,340,848.37  |
| YTD Overtime Earnings                 | 0.00         | 0.00          |
| YTD Other Earnings                    | 136,034.36   | 136,034.36    |
| YTD Employer Deduction Amount         | 563,132.10   | 563,132.10    |
| YTD Employee Deduction Amount         | 916,271.06   | 916,271.06    |
| Encumbrance Amount                    | 4,798,982.43 | 4,798,982.43  |
| Average Total Years Of Service        | 3.67         | 3.67          |
| Average Annual Salary                 | 49,950.21    | 49,950.21     |
| Average YTD Total Earnings            | 36,988.11    | 36,988.11     |
| Average YTD Regular Earnings          | 35,540.94    | 35,540.94     |
| Average YTD Overtime Earnings         | 0.00         | 0.00          |
| Average YTD Other Earnings            | 1,447.17     | 1,447.17      |
| Average YTD Employer Deduction Amount | 5,990.77     | 5,990.77      |
| Average YTD Employee Deduction Amount | 9,747.56     | 9,747.56      |
| Average Encumbrance Amount            | 51,053.00    | 51,053.00     |

Information

Employee Position

## Employment Application

| Description                                                                                                        | Measures                           | Attributes    | Default Filter |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|----------------|
| Displays the earnings and years of service (and all available measures) by calendar year filtered by latest event. | Applied Count                      | Calendar Year | Latest Event   |
|                                                                                                                    | Interview Offered Count            |               |                |
|                                                                                                                    | Interviewed Count                  |               |                |
|                                                                                                                    | Employment Offered Count           |               |                |
|                                                                                                                    | Accepted Count                     |               |                |
|                                                                                                                    | Employed Count                     |               |                |
|                                                                                                                    | Previous Yearly Salary             |               |                |
|                                                                                                                    | Pervious Months Of Service         |               |                |
|                                                                                                                    | Desired Hourly Salary              |               |                |
|                                                                                                                    | Desired Yearly Salary              |               |                |
|                                                                                                                    | Average Previous Yearly Salary     |               |                |
|                                                                                                                    | Average Previous Months Of Service |               |                |
|                                                                                                                    | Average Desired Hourly Salary      |               |                |
|                                                                                                                    | Average Desired Yearly Salary      |               |                |

### Insertable Objects

- EDW Employment Application
  - cube Employment Application (40 of 47)
    - Multi Source
    - Calendar Year
    - Calendar Month
    - Latest Event Ind
    - Event
    - Age Range
    - Alumnus Ind
    - Appointment Percentage
    - Current Employee Ind
    - Days Requisition Open
    - Employer Code
    - Employer Industrial Type
    - Employer Name
    - Ethnicity Category
    - Ethnicity
    - Final Degree Ind
    - Gender
    - Home Organization
    - Home Organization Chart
    - Intend Employee Time Status
    - Minimum Degree Level
    - Nation Of Citizenship
    - Position
    - Position Campus
    - Position Class
    - Position Contract Type
    - Position EEO Skill
    - Position Status

Rows: Measures (list)
Columns: Calendar Year
Context: Yes

|                                    | 2001       | 2002      | 2003      | 2004       | 2005       | 2006         | Calendar Year |
|------------------------------------|------------|-----------|-----------|------------|------------|--------------|---------------|
| Applied Count                      | 4          | 2         | 2         | 19         | 26         | 25           | 69            |
| Interview Offered Count            | 0          | 1         | 0         | 1          | 5          | 7            | 13            |
| Interviewed Count                  | 0          | 0         | 1         | 3          | 5          | 5            | 15            |
| Employment Offered Count           | 0          | 0         | 0         | 0          | 0          | 1            | 2             |
| Accepted Count                     | 0          | 0         | 1         | 0          | 2          | 2            | 5             |
| Employed Count                     | 0          | 1         | 0         | 2          | 1          | 3            | 7             |
| Previous Yearly Salary             |            |           |           |            |            |              | 30,000.00     |
| Previous Months Of Service         |            |           |           |            |            |              | 2             |
| Desired Hourly Salary              |            |           |           | 77.40      | 61.10      | 43.25        | 181.75        |
| Desired Yearly Salary              | 218,250.00 | 60,000.00 | 48,000.00 | 694,000.00 | 580,000.00 | 2,091,166.00 | 3,760,916.00  |
| Average Previous Yearly Salary     |            |           |           |            |            |              | 30,000.00     |
| Average Previous Months Of Service |            |           |           |            |            |              | 2.00          |
| Average Desired Hourly Salary      |            |           |           | 12.90      | 15.28      | 10.81        | 12.98         |
| Average Desired Yearly Salary      | 54,562.50  | 60,000.00 | 48,000.00 | 53,384.62  | 64,444.44  | 67,456.97    | 61,654.36     |

### Information

### Employment Application

## Enrollment

| Description                                                                                     | Measures                        | Attributes    | Default Filter |
|-------------------------------------------------------------------------------------------------|---------------------------------|---------------|----------------|
| Displays enrolled count (and all available measures) by academic year filtered by latest event. | Registered count                | Academic Year | Latest Event   |
|                                                                                                 | Enrolled count                  |               |                |
|                                                                                                 | Total Credits Generated         |               |                |
|                                                                                                 | Student FTE                     |               |                |
|                                                                                                 | GPA                             |               |                |
|                                                                                                 | Credits Attempt                 |               |                |
|                                                                                                 | Credits Earned                  |               |                |
|                                                                                                 | Credits Passed                  |               |                |
|                                                                                                 | Tuition Charges                 |               |                |
|                                                                                                 | Financial Aid Amount            |               |                |
|                                                                                                 | Average Tuition Charges         |               |                |
|                                                                                                 | Average Financial Aid Amount    |               |                |
|                                                                                                 | Academic Outcome Enrolled Count |               |                |
|                                                                                                 | Total Billing Units             |               |                |
|                                                                                                 | Total CEU                       |               |                |
|                                                                                                 | Total CEU Billing               |               |                |

### Insertable Objects

- EDW Enrollment
  - cube Enrollment
    - Multi Source
    - Academic Year
    - Academic Period Type
    - Latest Event Ind
    - Event
    - Academic Outcome Enrolled Ind
    - Age Range
    - Award Category
    - Campus
    - College
    - Current Time Status
    - Department
    - Degree
    - Enrolled Ind
    - Enrollment Status
    - Ethnicity Category
    - Ethnicity
    - Gender
    - Housing Ind
    - Intended Time Status
    - Major
    - Nation of Citizenship
    - Primary Disability
    - Program
    - Major Program Classification
    - Registered Ind
    - Residency
    - Residency Ind

Rows: Measures (list) ▼
Columns: Academic Year ▼
Context: Yes ▼

|                                 | 2000-2001  | 2001-2002  | 2002-2003  | 2003-2004  | 2004-2005    | 2005-2006    | 2006-2007  |
|---------------------------------|------------|------------|------------|------------|--------------|--------------|------------|
| Registered Count                | 72         | 55         | 113        | 199        | 642          | 549          | 266        |
| Enrolled Count                  | 77         | 57         | 124        | 211        | 678          | 581          | 282        |
| Total Credits Generated         | 724.000    | 650.000    | 1745.390   | 2858.750   | 11488.000    | 6750.600     | 2733.300   |
| Student FTE                     |            |            |            |            |              |              |            |
| Total Contact Hours             |            |            |            |            |              |              |            |
| GPA                             | 3.25582    | 3.08112    | 10.76948   | 3.93911    | 10.08010     | 4.73922      | 42.55892   |
| Credits Attempted               | 558.000    | 298.000    | 656.390    | 2561.750   | 10813.000    | 4795.500     | 195.000    |
| Credits Earned                  | 535.000    | 292.000    | 635.390    | 2441.750   | 10335.500    | 4631.500     | 186.000    |
| Credits Passed                  | 535.000    | 292.000    | 635.390    | 2441.750   | 10335.500    | 4631.500     | 186.000    |
| Tuition Charges                 | 286,000.00 | 328,438.00 | 421,679.23 | 552,626.44 | 2,251,806.23 | 1,283,448.41 | 980,900.70 |
| Financial Aid Amount            | 33,104.94  | 48,271.97  | 139,501.08 | 107,039.68 | 302,717.96   | 237,689.28   | 111,616.00 |
| Average Tuition Charges         | 4,028.17   | 6,196.94   | 3,373.43   | 3,036.41   | 3,842.67     | 2,516.57     | 4,283.41   |
| Average Financial Aid Amount    | 2,069.06   | 2,298.67   | 3,671.08   | 2,326.95   | 2,802.94     | 2,242.35     | 2,426.43   |
| Academic Outcome Enrolled Count | 70         | 53         | 111        | 196        | 628          | 502          | 250        |
| Total Billing Units             | 97.00      | 296.00     | 1013.00    | 112.00     | 85.00        | 1607.50      | 2481.50    |
| Total CEU                       |            |            |            |            | 26.00        | 70.60        | 15.80      |
| Total CEU Billing Units         | 0.00       | 0.00       | 0.00       | 0.00       | 0.00         | 3.00         | 11.00      |

### Information

### Enrollment

## Financial Aid Pre-Student

| Description                                                                                                                                             | Measures                        | Attributes | Default Filter |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------|----------------|
| Displays inquired, applied, admitted, accepted, and enrolled counts for pre-students (and all available measures) by aid year filtered by latest event. | Award Authorized Amount         | Aid Year   | Latest Event   |
|                                                                                                                                                         | Award Offered Amount            |            |                |
|                                                                                                                                                         | Award Accepted Amount           |            |                |
|                                                                                                                                                         | Award Declined Amount           |            |                |
|                                                                                                                                                         | Award Canceled Amount0          |            |                |
|                                                                                                                                                         | Award Paid Amount               |            |                |
|                                                                                                                                                         | Average Award Authorized Amount |            |                |
|                                                                                                                                                         | Average Award Offered Amount    |            |                |
|                                                                                                                                                         | Average Award Accepted Amount   |            |                |
|                                                                                                                                                         | Average Award Declined Amount   |            |                |
|                                                                                                                                                         | Average Award Canceled Amount   |            |                |
|                                                                                                                                                         | Average Award Paid Amount       |            |                |
|                                                                                                                                                         | Inquired Count                  |            |                |
|                                                                                                                                                         | Applied Count                   |            |                |
|                                                                                                                                                         | Admitted Count                  |            |                |
|                                                                                                                                                         | Accepted Count                  |            |                |
|                                                                                                                                                         | Enrolled Count                  |            |                |
|                                                                                                                                                         | Award Offered Count             |            |                |

| Description | Measures             | Attributes | Default Filter |
|-------------|----------------------|------------|----------------|
|             | Award Accepted Count |            |                |
|             | Award Declined Count |            |                |
|             | Award Canceled Count |            |                |
|             | Award Paid Count     |            |                |

**Insertable Objects**

- EDW Financial Aid Pre-Student
  - cube Financial Aid Pre-Student
    - Multi Source
    - Aid Year
    - Academic Year
    - Academic Period Type
    - Latest Event Ind
    - Event
    - Age Range
    - Ethnicity Category
    - Ethnicity
    - Financial Aid Source Type
    - Financial Aid Type
    - Fund Source
    - Fund Type
    - Gender
    - Nation Of Citizenship
    - Primary Disability
    - Veteran Type
    - Visa Type
      - Not in use 1
      - Not in use 2
      - Not in use 3
      - Not in use 4
      - Not in use 5
      - Not in use award 1
      - Not in use award 2
      - Not in use award 3
      - Not in use award 4
      - Not in use award 5

Rows: Measures (list)

Columns: Aid Year

Context: Yes

|                                 | 2003-2004 Aid Year | 2004-2005 Aid Year | 2005-2006 Aid Year | 2006-2007 Aid Year | Aid Year            |
|---------------------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Award Authorized Amount         | 10,450.00          | 140,349.30         | 77,216.00          | 35,251.50          | <b>295,123.80</b>   |
| Award Offered Amount            | 734,499.00         | 2,550,728.00       | 1,676,181.67       | 1,103,869.00       | <b>7,866,639.67</b> |
| Award Accepted Amount           | 610,743.00         | 2,070,631.00       | 1,415,862.67       | 901,208.00         | <b>6,509,990.67</b> |
| Award Declined Amount           | 15,362.00          | 74,447.00          | 47,674.00          | 26,047.00          | <b>183,430.00</b>   |
| Award Canceled Amount           | 6,200.00           | 0.00               | 3,427.00           | 0.00               | <b>30,952.00</b>    |
| Award Paid Amount               | 107,039.68         | 312,417.66         | 256,538.18         | 133,877.00         | <b>1,073,891.59</b> |
| Average Award Authorized Amount | 1,306.25           | 1,179.41           | 1,016.00           | 903.88             | <b>1,081.04</b>     |
| Average Award Offered Amount    | 1,047.79           | 1,182.54           | 1,000.11           | 1,164.42           | <b>1,136.80</b>     |
| Average Award Accepted Amount   | 1,077.15           | 1,185.25           | 979.16             | 1,181.14           | <b>1,140.50</b>     |
| Average Award Declined Amount   | 640.08             | 791.99             | 567.55             | 766.09             | <b>669.45</b>       |
| Average Award Canceled Amount   | 1,033.33           | 0.00               | 155.77             | 0.00               | <b>499.23</b>       |
| Average Award Paid Amount       | 1,039.22           | 1,136.06           | 912.95             | 1,195.33           | <b>1,066.43</b>     |
| Inquired Count                  | 66                 | 24                 | 120                | 68                 | <b>357</b>          |
| Applied Count                   | 73                 | 178                | 182                | 80                 | <b>614</b>          |
| Admitted Count                  | 72                 | 175                | 166                | 73                 | <b>584</b>          |
| Accepted Count                  | 72                 | 175                | 155                | 73                 | <b>573</b>          |
| Enrolled Count                  | 65                 | 166                | 147                | 67                 | <b>535</b>          |
| Award Offered Count             | 19                 | 61                 | 43                 | 33                 | <b>186</b>          |
| Award Accepted Count            | 86                 | 226                | 249                | 107                | <b>694</b>          |
| Award Declined Count            | 5                  | 8                  | 3                  | 1                  | <b>20</b>           |
| Award Canceled Count            | 1                  | 0                  | 0                  | 0                  | <b>6</b>            |

**Information**

**Financial Aid Pre Student**



## Financial Aid Student

| Description                                                                       | Measures                        | Attributes | Default Filter |
|-----------------------------------------------------------------------------------|---------------------------------|------------|----------------|
| Displays all available measures by aid year information filtered by latest event. | Student Count                   | Aid Year   | Latest Event   |
|                                                                                   | Award Authorized Amount         |            |                |
|                                                                                   | Award Offered Amount            |            |                |
|                                                                                   | Award Accepted Amount           |            |                |
|                                                                                   | Award Declined Amount           |            |                |
|                                                                                   | Award Canceled Amount           |            |                |
|                                                                                   | Award Paid Amount               |            |                |
|                                                                                   | Average Award Authorized Amount |            |                |
|                                                                                   | Average Award Offered Amount    |            |                |
|                                                                                   | Average Award Accepted Amount   |            |                |
|                                                                                   | Average Award Declined Amount   |            |                |
|                                                                                   | Average Award Canceled Amount   |            |                |
|                                                                                   | Average Award Paid Amount       |            |                |
|                                                                                   |                                 |            |                |
|                                                                                   |                                 |            |                |

**Insertable Objects**

- EDW Financial Aid Student
  - cube Financial Aid Student (40 of 41)
    - Multi Source
    - Aid Year
    - Academic Year
    - Academic Period Type
    - Latest Event Ind
    - Event
    - Academic Outcome Enrolled Ind
    - Age Range
    - Award Category
    - Degree
    - Campus
    - College
    - Current Time Status
    - Department
    - Enrolled Ind
    - Enrollment Status
    - Ethnicity Category
    - Ethnicity
    - Family Income Range
    - Financial Aid Source Type
    - Financial Aid Type
    - Fund Source
    - Fund Type
    - Gender
    - Housing Ind
    - Intended Time Status
    - Major
    - Nation Of Citizenship

Rows: Measures (list)

Columns: Aid Year

Context: Yes

|                                 | 2005-2006 Aid Year | 2006-2007 Aid Year | Aid Year JUL 1995 - JUN 1996 | Aid Year     |
|---------------------------------|--------------------|--------------------|------------------------------|--------------|
| Student Count                   | 249                | 113                | 31                           | 742          |
| Award Authorized Amount         | 77,216.00          | 35,251.50          | 1,170.00                     | 296,293.80   |
| Award Offered Amount            | 1,676,181.67       | 1,103,869.00       | 120,183.00                   | 7,986,822.67 |
| Award Accepted Amount           | 1,415,862.67       | 901,208.00         | 82,635.00                    | 6,592,625.67 |
| Award Declined Amount           | 47,674.00          | 26,047.00          |                              | 183,430.00   |
| Award Canceled Amount           | 3,427.00           | 0.00               | 8,003.00                     | 38,955.00    |
| Award Paid Amount               | 256,538.18         | 133,877.00         | 30,305.00                    | 1,104,196.59 |
| Average Award Authorized Amount | 1,016.00           | 903.88             | 585.00                       | 1,077.43     |
| Average Award Offered Amount    | 1,000.11           | 1,164.42           | 1,178.26                     | 1,137.40     |
| Average Award Accepted Amount   | 979.16             | 1,181.14           | 1,252.05                     | 1,141.78     |
| Average Award Declined Amount   | 567.55             | 766.09             |                              | 669.45       |
| Average Award Canceled Amount   | 155.77             | 0.00               | 1,333.83                     | 572.87       |
| Average Award Paid Amount       | 912.95             | 1,195.33           | 1,122.41                     | 1,067.89     |

**Information**

**Financial Aid Student**

## General Ledger

| Description                                                                                                                         | Measures          | Attributes         | Default Filter                                         |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------|--------------------------------------------------------|
| Displays the debits, credits beginning balance, activity and ending balances by fiscal year and account type level by latest event. | Debits            | Fiscal Year        | Latest Event is the only data available via this cube. |
|                                                                                                                                     | Credits           | Account Type Level |                                                        |
|                                                                                                                                     | Beginning Balance |                    |                                                        |
|                                                                                                                                     | Activity          |                    |                                                        |
|                                                                                                                                     | Ending Balance    |                    |                                                        |

Insertable Objects

EDW General Ledger

cube General Ledger

Multi Source

Fiscal Year

Fiscal Period

Account

Account Level

Account Pool

Account Type Level

Chart of Accounts

Fund

Fund Level

Fund Pool

Fund Type Level

Internal Account Type

Measures

Debits

Credits

Beginning Balance

Activity

Ending Balance

cube General Ledger by Event

Information

Rows:

Fiscal Year

Account Type Le..

Columns:

Measures (list)

Context:

|      |                       | Debits         | Credits        | Beginning Balance | Activity      | Ending Balance  |
|------|-----------------------|----------------|----------------|-------------------|---------------|-----------------|
| 2005 | 10 - Assets           | 17,896,420.64  | 17,674,474.05  | 61,696,847.97     | 221,946.59    | 61,918,322.56   |
|      | 20 - Liabilities      | 8,100,263.78   | 13,006,904.02  | -101,088,053.70   | -4,906,640.24 | -105,994,617.94 |
|      | 30 - Control Accounts | 366,886,612.62 | 360,761,274.60 | 31,905,066.03     | 6,125,338.02  | 38,030,404.67   |
|      | 40 - Fund Balance     | 130,800.73     | 1,572,209.90   | 7,365,322.90      | -1,441,409.17 | 5,923,913.73    |
|      | 50 - Revenues         | 0.00           | 0.00           | 112,404.00        | 0.00          | 112,404.00      |
|      | 60 - Labor            |                |                |                   |               |                 |
|      | 90 - Fund Additions   |                |                |                   |               |                 |
|      | Account Type Level    | 393,014,097.77 | 393,014,862.57 | -8,412.80         | -764.80       | -9,118.80       |
| 2006 | 10 - Assets           | 59,387,459.13  | 42,663,624.83  | 243,514,409.91    | 16,723,834.30 | 260,238,244.24  |
|      | 20 - Liabilities      | 11,067,806.11  | 18,214,947.22  | -169,647,590.63   | -7,147,141.11 | -176,794,737.96 |
|      | 30 - Control Accounts | 280,532,516.67 | 289,974,282.18 | -146,722,264.44   | -9,441,765.51 | -156,164,006.27 |
|      | 40 - Fund Balance     | 60,562.61      | 195,490.29     | 72,733,863.56     | -134,927.68   | 72,598,935.88   |
|      | 50 - Revenues         | 0.00           | 0.00           | 112,404.00        | 0.00          | 112,404.00      |
|      | 60 - Labor            |                |                |                   |               |                 |
|      | 90 - Fund Additions   |                |                |                   |               |                 |
|      | Account Type Level    | 351,048,344.52 | 351,048,344.52 | -9,177.60         | 0.00          | -9,177.60       |
| 2007 | 10 - Assets           | 3,163,342.22   | 3,511,119.08   | 64,073,889.07     | -347,776.86   | 63,726,112.21   |
|      | 20 - Liabilities      | 1,876,844.49   | 2,978,159.23   | -56,067,016.26    | -1,101,314.74 | -57,168,910.76  |
|      | 30 - Control Accounts | 86,021,370.98  | 84,541,685.79  | 2,208,619.35      | 1,479,685.19  | 3,688,304.54    |
|      | 40 - Fund Balance     | 6,124.04       | 36,717.63      | -10,245,887.56    | -30,593.59    | -10,276,070.15  |
|      | 50 - Revenues         | 0.00           | 0.00           | 28,101.00         | 0.00          | 28,101.00       |

General Ledger

## General Ledger by Event

| Description                                                                                                                                                                                                                        | Measures          | Attributes         | Default Filter |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------|----------------|
| Displays debits, credits, beginning balance, activity and ending balances by fiscal year and account type level. This cube might have multiple events for the same cube. The original report template is filtered by latest event. | Debit             | Fiscal Year        | Latest Event   |
|                                                                                                                                                                                                                                    | Credits           | Account Type Level |                |
|                                                                                                                                                                                                                                    | Beginning Balance |                    |                |
|                                                                                                                                                                                                                                    | Activity          |                    |                |
|                                                                                                                                                                                                                                    | Ending Balance    |                    |                |

**Insertable Objects**

- EDW General Ledger
  - cube General Ledger
  - cube General Ledger by Event
    - Multi Source
    - Fiscal Year
    - Fiscal Period
    - Latest Event Ind
    - Event
    - Account
    - Account Level
    - Account Pool
    - Account Type Level
    - Chart of Accounts
    - Fund
    - Fund Level
    - Fund Pool
    - Fund Type Level
    - Internal Account Type
    - Measures
      - Debits
      - Credits
      - Beginning Balance
      - Activity
      - Ending Balance

Rows:
Fiscal Year
Account Type Le..
Columns:
Measures (list)
Context:
Yes

|      |                           | Debits                | Credits               | Beginning Balance | Activity       | Ending Balance |
|------|---------------------------|-----------------------|-----------------------|-------------------|----------------|----------------|
| 2005 | 10 - Assets               | 17,896,420.64         | 17,674,474.05         | 61,696,847.97     | 221,946.59     | 61,918,...     |
|      | 20 - Liabilities          | 8,100,263.78          | 13,006,904.02         | -101,088,053.70   | -4,906,640.24  | -105,994,...   |
|      | 30 - Control Accounts     | 366,886,612.62        | 360,761,274.60        | 31,905,066.03     | 6,125,338.02   | 38,030,...     |
|      | 40 - Fund Balance         | 130,800.73            | 1,572,209.90          | 7,365,322.90      | -1,441,409.17  | 5,923,...      |
|      | 50 - Revenues             | 0.00                  | 0.00                  | 112,404.00        | 0.00           | 112,...        |
|      | 60 - Labor                |                       |                       |                   |                |                |
|      | 90 - Fund Additions       |                       |                       |                   |                |                |
|      | More & hidden             |                       |                       |                   |                |                |
|      | <b>Account Type Level</b> | <b>393,014,097.77</b> | <b>393,014,862.57</b> | <b>-8,412.80</b>  | <b>-764.80</b> | <b>-9,1...</b> |
| 2006 | 10 - Assets               | 59,387,459.13         | 42,663,624.83         | 243,514,409.91    | 16,723,834.30  | 260,238,...    |
|      | 20 - Liabilities          | 11,067,806.11         | 18,214,947.22         | -169,647,590.63   | -7,147,141.11  | -176,794,...   |
|      | 30 - Control Accounts     | 280,532,516.67        | 289,974,282.18        | -146,722,264.44   | -9,441,765.51  | -156,164,...   |
|      | 40 - Fund Balance         | 60,562.61             | 195,490.29            | 72,733,863.56     | -134,927.68    | 72,598,...     |
|      | 50 - Revenues             | 0.00                  | 0.00                  | 112,404.00        | 0.00           | 112,...        |
|      | 60 - Labor                |                       |                       |                   |                |                |
|      | 90 - Fund Additions       |                       |                       |                   |                |                |
|      | More & hidden             |                       |                       |                   |                |                |
|      | <b>Account Type Level</b> | <b>351,048,344.52</b> | <b>351,048,344.52</b> | <b>-9,177.60</b>  | <b>0.00</b>    | <b>-9,1...</b> |
| 2007 | 10 - Assets               | 3,163,342.22          | 3,511,119.08          | 64,073,889.07     | -347,776.86    | 63,726,...     |
|      | 20 - Liabilities          | 1,876,844.49          | 2,978,159.23          | -56,067,016.26    | -1,101,314.74  | -57,168,...    |
|      | 30 - Control Accounts     | 86,021,370.98         | 84,541,685.79         | 2,208,619.35      | 1,479,685.19   | 3,688,...      |

**Information**

**General Ledger by Event**

## Graduation Completion

| Description                                                                                             | Measures                        | Attributes     | Default Filter |
|---------------------------------------------------------------------------------------------------------|---------------------------------|----------------|----------------|
| Displays the number of students (and all available measures) by academic year filtered by latest event. | Student Count                   | Academic Year  | Latest Event   |
|                                                                                                         | Degree Awarded Count            | Award Category |                |
|                                                                                                         | GPA                             |                |                |
|                                                                                                         | Active Academic Periods         |                |                |
|                                                                                                         | Credits Attempted               |                |                |
|                                                                                                         | Credits Earned                  |                |                |
|                                                                                                         | Credits Passed                  |                |                |
|                                                                                                         | Average Student Age             |                |                |
|                                                                                                         | Average GPA                     |                |                |
|                                                                                                         | Average Active Academic Periods |                |                |
|                                                                                                         | Average Credits Attempted       |                |                |
|                                                                                                         | Average Credits Earned          |                |                |
|                                                                                                         | Average Credits Passed          |                |                |
|                                                                                                         |                                 |                |                |

Insertable Objects

EDW Graduation Completion

cube Graduation Completion

Multi Source

Academic Year

Academic Period Type

Latest Event Ind

Event

Age Range

Award Category

Campus

Cohort

College

Completion Time Status

Degree

Department

Ethnicity Category

Ethnicity

Gender

Graduation Campus

Housing Ind

Intended Time Status

Major

Nation of Citizenship

Outcome Graduation Date

Primary Disability

Program

Major Program Classification

Residency

Residency Ind

Student Classification

Information - Award Category

Graduation Completion

Rows: Measures (list)

Columns: Academic Year

Context: Award Catego

Yes

|                                 | 2004-2005            |                 | 2005-2006        |                      |                 |
|---------------------------------|----------------------|-----------------|------------------|----------------------|-----------------|
|                                 | Baccalaureate Degree | Doctoral Degree | Associate Degree | Baccalaureate Degree | Doctoral Degree |
| Student Count                   | 1                    | 0               | 2                | 3                    | 1               |
| Degree Awarded Count            | 1                    | 0               | 1                | 1                    | 1               |
| GPA                             | 66.16667             | /0              | 3.32099          | 3.21839              | /0              |
| Active Academic Periods         | 4                    |                 | 7                | 29                   | 3               |
| Credits Attempted               | 360.000              |                 | 43.500           | 90.000               | 0.000           |
| Credits Earned                  | 360.000              |                 | 40.500           | 83.000               | 0.000           |
| Credits Passed                  | 360.000              |                 | 40.500           | 83.000               | 0.000           |
| Average Student Age             | 21.00                |                 | 21.00            | 23.00                | 22.00           |
| Average GPA                     | 66.16667             | /0              | 3.32099          | 3.21839              | /0              |
| Average Active Academic Periods | 4.00                 |                 | 3.50             | 9.67                 | 3.00            |
| Average Credits Attempted       | 360.000              |                 | 21.750           | 45.000               | 0.000           |
| Average Credits Earned          | 360.000              |                 | 20.250           | 41.500               | 0.000           |
| Average Credits Passed          | 360.000              |                 | 20.250           | 41.500               | 0.000           |



## Grant and Project

| Description                                                                                      | Measures               | Attributes  | Default Filter |
|--------------------------------------------------------------------------------------------------|------------------------|-------------|----------------|
| Displays all available measures for a grant or other project by fiscal filtered by latest event. | Adopted Budget         | Fiscal Year | Latest Event   |
|                                                                                                  | Budget Adjust          |             |                |
|                                                                                                  | Direct Expend          |             |                |
|                                                                                                  | Matching Costs         |             |                |
|                                                                                                  | Indirect Costs         |             |                |
|                                                                                                  | Memo Costs             |             |                |
|                                                                                                  | Direct Revenue         |             |                |
|                                                                                                  | Activity               |             |                |
|                                                                                                  | Reservations           |             |                |
|                                                                                                  | Encumbrances           |             |                |
|                                                                                                  | Remaining Balance      |             |                |
|                                                                                                  | Average Adopted Budget |             |                |
|                                                                                                  | Average Budget Adjust  |             |                |
|                                                                                                  | Average Direct Expend  |             |                |
|                                                                                                  | Average Matching Costs |             |                |
|                                                                                                  | Average Indirect Costs |             |                |
|                                                                                                  | Average Memo Costs     |             |                |
|                                                                                                  | Average Direct Revenue |             |                |

| Description | Measures                  | Attributes | Default Filter |
|-------------|---------------------------|------------|----------------|
|             | Average Activity          |            |                |
|             | Average Reservations      |            |                |
|             | Average Encumbrances      |            |                |
|             | Average Remaining Balance |            |                |

### Insertable Objects

- EDW Grant and Project
  - cube Grant and Project
    - Multi Source
    - Fiscal Year
    - Fiscal Period
    - Latest Event Ind
    - Event
    - Account
    - Account Level
    - Internal Account Type
    - Account Pool
    - Account Type
    - Agency
    - Category
    - Chart Of Accounts
    - Fund
    - Fund Level
    - Fund Pool
    - Fund Type
    - Grant Type
    - Location
    - On Campus Ind
    - Organization
    - Organization Level
    - Organization Pool
    - Principal Investigator Name
    - Program
    - Program Level
    - Research Purpose
    - Responsible Organization

Rows: Measures (list)
Columns: Fiscal Year
Context: Yes

|                        | 2001       | 2002       | 2003         | 2004         | 2005          | 2006          | 2007          |
|------------------------|------------|------------|--------------|--------------|---------------|---------------|---------------|
| Adopted Budget         | 370,704.68 | 761,016.14 | 5,565,338.70 | 9,463,350.38 | 14,795,881.14 | 27,054,000.49 | 33,885,610.35 |
| Budget Adjust          | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Direct Expend          | 83,750.52  | 86,147.72  | 88,952.36    | 100,706.46   | 133,722.83    | 679,877.26    | 99,915.73     |
| Matching Costs         | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Indirect Costs         | 0.00       | 0.00       | 0.00         | 54.88        | 192.84        | 25,544.35     | 2,114.25      |
| Memo Costs             | 0.00       | 0.00       | 0.00         | 0.00         | 45.36         | 11,434.49     | 549.20        |
| Direct Revenue         | 83,750.52  | 86,147.72  | 88,952.36    | 96,843.91    | 135,691.15    | 703,790.31    | 101,669.73    |
| Activity               | 167,501.04 | 172,295.44 | 177,904.72   | 198,472.68   | 270,181.34    | 1,413,843.22  | 204,059.96    |
| Reservations           | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Encumbrances           | 0.00       | 23,382.00  | 0.00         | 0.00         | 48,259.33     | 4,691.83      | 444,163.81    |
| Remaining Balance      | 203,203.64 | 565,338.70 | 5,387,433.98 | 9,264,877.70 | 14,477,440.47 | 25,635,465.44 | 33,237,386.58 |
| Average Adopted Budget | 772.30     | 1,585.45   | 10,082.14    | 10,656.93    | 8,503.38      | 8,350.00      | 10,576.03     |
| Average Budget Adjust  | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Average Direct Expend  | 174.48     | 179.47     | 161.15       | 113.41       | 76.85         | 209.84        | 31.18         |
| Average Matching Costs | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Average Indirect Costs | 0.00       | 0.00       | 0.00         | 0.06         | 0.11          | 7.88          | 0.66          |
| Average Memo Costs     | 0.00       | 0.00       | 0.00         | 0.00         | 0.03          | 3.53          | 0.17          |
| Average Direct Revenue | 174.48     | 179.47     | 161.15       | 109.06       | 77.98         | 217.22        | 31.73         |
| Average Activity       | 348.96     | 358.95     | 322.29       | 223.51       | 155.28        | 436.37        | 63.69         |
| Average Reservations   | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          |
| Average Encumbrances   | 0.00       | 48.71      | 0.00         | 0.00         | 27.74         | 1.45          | 138.63        |

### Information

### Grant and Project

## Operating Ledger

| Description                                                                                                                                                                                                                         | Measures                       | Attributes   | Default Filter |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------|----------------|
| Displays the fiscal year adopted budget, fiscal year budget adjustments and the fiscal Year total budget as well as the adjustments, reservations, encumbrances, activity by fiscal year and account type filtered by latest event. | Fiscal Year Adopted Budget     | Fiscal Year  | Latest Event   |
|                                                                                                                                                                                                                                     | Fiscal Year Budget Adjustments | Account Type |                |
|                                                                                                                                                                                                                                     | Fiscal Year Total Budget       |              |                |
|                                                                                                                                                                                                                                     | Adopted Budget                 |              |                |
|                                                                                                                                                                                                                                     | Adjustments                    |              |                |
|                                                                                                                                                                                                                                     | Reservations                   |              |                |
|                                                                                                                                                                                                                                     | Encumbrances                   |              |                |
|                                                                                                                                                                                                                                     | Activity                       |              |                |
|                                                                                                                                                                                                                                     | Remaining Balance              |              |                |

**Insertable Objects**

- EDW Operating Ledger
  - cube Operating Ledger
    - Multi Source
    - Fiscal Year
    - Fiscal Period
    - Latest Event Ind
    - Event
    - Account
    - Account Level
    - Internal Account Type
    - Account Pool
    - Account Type
    - Chart Of Accounts
    - Fund
    - Fund Level
    - Fund Pool
    - Fund Type
    - Organization
    - Organization Level
    - Organization Pool
    - Program
    - Program Level
    - Measures
      - Fiscal Year Adopted Budget
      - Fiscal Year Budget Adjustments
      - Fiscal Year Total Budget
      - Adopted Budget
      - Adjustments
      - Reservations
      - Encumbrances

**Information**

Rows: Measures (list) Columns: Fiscal Year Account Type Context: Yes

|                                | 2007           |                |                          |                |                       |
|--------------------------------|----------------|----------------|--------------------------|----------------|-----------------------|
|                                | 50 - Revenues  | 60 - Labor     | 70 - Direct Expenditures | 80 - Transfers | Account Type          |
| Fiscal Year Adopted Budget     | 132,480,790.56 | 250,808,967.48 | 332,282,787.00           | 0.00           | <b>715,572,545.04</b> |
| Fiscal Year Budget Adjustments | 0.00           | -558,429.84    | 0.00                     | 0.00           | <b>-558,429.84</b>    |
| Fiscal Year Total Budget       | 132,480,790.56 | 250,250,537.64 | 332,282,787.00           | 0.00           | <b>715,014,115.20</b> |
| Adopted Budget                 | 11,040,065.88  | 20,900,747.29  | 27,690,232.25            | 0.00           | <b>59,631,045.42</b>  |
| Adjustments                    | 0.00           | -46,535.82     | 0.00                     | 0.00           | <b>-46,535.82</b>     |
| Reservations                   | 0.00           | 0.00           | 18,111.27                | 0.00           | <b>18,111.27</b>      |
| Encumbrances                   | 0.00           | 8,392,712.99   | -121,201.35              | 0.00           | <b>8,271,511.64</b>   |
| Activity                       | 124,405.35     | 1,526,499.22   | 75,388.56                | -2,202.76      | <b>1,724,090.37</b>   |
| Remaining Balance              | 10,915,660.53  | 10,934,999.26  | 27,717,933.77            | 2,202.76       | <b>49,570,796.32</b>  |

**Operating Ledger**

## Receivable Customer

| Description                                                                                        | Measures           | Attributes           | Default Filter |
|----------------------------------------------------------------------------------------------------|--------------------|----------------------|----------------|
| Displays the all available measures by academic year and academic period filtered by latest event. | Customer count     | Academic Year        | Latest Event   |
|                                                                                                    | Balance            | Academic Period Type |                |
|                                                                                                    | Amount Due         |                      |                |
|                                                                                                    | Average Balance    |                      |                |
|                                                                                                    | Average Amount Due |                      |                |

**Insertable Objects**

- EDW Receivable Customer
  - cube Receivable Customer
    - Multi Source
    - Academic Year
    - Academic Period Type
    - Latest Event Ind
    - Event
    - Award Category
    - Bill Date Aging
    - Category
    - Collection Ind
    - College
    - Degree
    - Delinquency
    - Department
    - Detail Code
    - Effective Date Aging
    - Major
    - NSF Count
    - Program
    - Major Program Classification
    - Student Level
    - Not for use
    - Measures
      - Customer Count
      - Balance
      - Amount Due
      - Average Balance
      - Average Amount Due

Academic Year
Fall
Measures (list)
Yes

|                      |             | Customer Count | Balance             | Amount Due          | Average Balance | Average Amount Due |
|----------------------|-------------|----------------|---------------------|---------------------|-----------------|--------------------|
| 1999-2000            | Fall        | 76             | 70,394.50           | 57,559.00           | 926.24          | 757.36             |
| 2000-2001            | Fall        | 80             | 241,886.00          | 133,328.50          | 3,023.58        | 1,666.61           |
| 2001-2002            | Fall        | 51             | 258,873.08          | 275,170.58          | 5,075.94        | 5,395.50           |
| 2002-2003            | Fall        | 129            | 234,724.75          | 335,820.25          | 1,819.57        | 2,603.26           |
| 2003-2004            | Fall        | 185            | 313,599.92          | 330,157.48          | 1,695.13        | 1,784.64           |
| 2004-2005            | Fall        | 586            | 1,674,653.36        | 1,635,605.80        | 2,857.77        | 2,791.14           |
| 2005-2006            | Fall        | 845            | 898,579.85          | 767,708.79          | 1,063.41        | 908.53             |
| 2006-2007            | Fall        | 280            | 727,387.29          | 741,166.38          | 2,597.81        | 2,647.02           |
| More & hidden        | Fall        |                |                     |                     |                 |                    |
| <b>Academic Year</b> | <b>Fall</b> | <b>1728</b>    | <b>4,420,098.75</b> | <b>4,276,516.78</b> | <b>2,557.93</b> | <b>2,474.84</b>    |

**Information**

**Receivable Customer**

## Receivable Revenue

| Description                                                                                    | Measures           | Attributes           | Default Filter |
|------------------------------------------------------------------------------------------------|--------------------|----------------------|----------------|
| Displays all available measures by academic year and academic period filtered by latest event. | Customer count     | Academic Year        | Latest Event   |
|                                                                                                | Balance            | Academic Period Type |                |
|                                                                                                | Amount Due         |                      |                |
|                                                                                                | Average Balance    |                      |                |
|                                                                                                | Average Amount Due |                      |                |



### Insertable Objects

- EDW Receivable Revenue
  - cube Receivable Revenue
    - Multi Source
    - Academic Year
    - Academic Period Type
    - Latest Event Ind
    - Event
    - Account
    - Account Level
    - Account Type
    - Bill Date Aging
    - Category
    - Chart Of Accounts
    - Detail Code
    - Effective Date Aging
    - Fund
    - Fund Level
    - Fund Type
    - Organization
    - Organization Level
    - Program
    - Program Level
    - Measures
      - Balance
      - Amount Due
      - Average Balance
      - Average Amount Due

Rows: Academic Year

Columns: Measures (list)

Context: Yes

|                      | Balance             | Amount Due          | Average Balance  | Average Amount Due |
|----------------------|---------------------|---------------------|------------------|--------------------|
| 1998-1999            | 50.00               | 50.00               | 50.00            | 50.00              |
| 1999-2000            | 62,536.50           | 97,370.00           | 2,084.55         | 3,245.67           |
| 2000-2001            | 259,286.00          | 310,898.04          | 8,102.69         | 9,715.56           |
| 2001-2002            | 275,623.08          | 380,735.34          | 18,374.87        | 25,382.36          |
| 2002-2003            | 309,011.02          | 595,975.58          | 3,961.68         | 7,640.71           |
| 2003-2004            | 397,504.86          | 615,526.41          | 6,973.77         | 10,798.71          |
| 2004-2005            | 2,147,200.59        | 3,837,150.35        | 22,136.09        | 39,558.25          |
| 2005-2006            | 1,141,336.63        | 2,476,815.75        | 8,646.49         | 18,763.76          |
| 2006-2007            | 808,770.51          | 1,206,331.63        | 10,929.33        | 16,301.78          |
| <b>Academic Year</b> | <b>5,401,319.19</b> | <b>9,520,853.10</b> | <b>10,467.67</b> | <b>18,451.27</b>   |

Information

Receivable Revenue

## Recruiting and Admission

| Description                                                                  | Measures             | Attributes           | Default Filter |
|------------------------------------------------------------------------------|----------------------|----------------------|----------------|
| Displays all available measures by academic period filtered by latest event. | Inquired Count       | Academic Period      | Latest Event   |
|                                                                              | Applied Count        | Academic Period Type |                |
|                                                                              | Admitted Count       |                      |                |
|                                                                              | Accepted Count       |                      |                |
|                                                                              | Enrolled Count       |                      |                |
|                                                                              | Award Offered Count  |                      |                |
|                                                                              | Award Accepted Count |                      |                |
|                                                                              | Award Declined Count |                      |                |
|                                                                              | Award Canceled Count |                      |                |
|                                                                              | Award Paid Count     |                      |                |
|                                                                              |                      |                      |                |

**Insertable Objects**

- EDW Recruiting and Admission
  - cube Recruiting and Admission (40 of 100)
  - Multi Source
  - Academic Year
  - Academic Period Type
  - Latest Event Ind
  - Event
  - Academic Percentile Range
  - Admissions Population
  - Age Range
  - Award Category
  - Campus
  - Cohort
  - College
  - County Admit
  - Degree
  - Department
  - Employer Industrial Type
  - Employer Name
  - Ethnicity Category
  - Ethnicity
  - Family Income Range
  - First Contact
  - Gender
  - Intended Time Status
  - Major
  - Nation Admit
  - Nation Of Citizenship
  - Post Secondary Degree

Measures (list)
 Academic Year
 Fall
 Yes

|                      | 2000-2001 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 | 2005-2006 | 2006-2007 | 2007-2008 | Academic Year |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
|                      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall      | Fall          |
| Inquired Count       | 67        | 27        | 173       | 202       | 251       | 300       | 235       | 5         | 1296          |
| Applied Count        | 70        | 35        | 119       | 237       | 809       | 609       | 335       | 10        | 2220          |
| Admitted Count       | 62        | 24        | 97        | 190       | 627       | 455       | 233       | 7         | 1720          |
| Accepted Count       | 61        | 23        | 94        | 186       | 622       | 448       | 230       | 7         | 1696          |
| Enrolled Count       | 44        | 22        | 72        | 143       | 483       | 323       | 183       | 0         | 1297          |
| Award Offered Count  | 3         | 2         | 14        | 9         | 44        | 35        | 20        | 0         | 141           |
| Award Accepted Count | 19        | 20        | 57        | 71        | 175       | 186       | 72        | 0         | 601           |
| Award Declined Count | 0         | 0         | 3         | 3         | 6         | 3         | 1         | 0         | 16            |
| Award Canceled Count | 0         | 0         | 3         | 1         | 0         | 0         | 0         | 0         | 4             |
| Award Paid Count     | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0             |

Information

Recruiting and Admission



# Self-Service Reporting (Banner ODS)



Self-Service Reporting (SSR) provides simple, ad hoc access to information within Banner ODS.

SSR is delivered with report templates that provide examples of various common data retrieval needs across your institution. Each report template is based on the functional data relationships set forth in the Business Concept Diagrams found in Banner ODS published meta data. The template design for SSR uses a Filter - List - Detail approach. This approach includes a Search Criteria page where you select the various filters for executing a query, a List page that displays the results of that query, and a Detail Reports page where you access additional information specific to any individual result on the List page.

The information on the List and Detail Reports pages can be viewed online or exported to a .csv file (Microsoft Excel format, for example) or XML file for printing or additional manipulation. The Email icon enables you to send email to everyone on the List page. If you select an individual address from the List page, you can send email to that individual. Optionally, the search criteria may be saved as a Search Rule.

You can save a set of defined search criteria filters for a report template as a search rule for future use. For select templates, you can also save the unique primary identifier(s) for your List page results to Banner ODS as a population to use in custom reports developed with your third party reporting tool.

The following tasks are available to help you create a self-service report:

- View, select and execute search criteria
- View, sort, email or export the List results
- View, sort or export Detail reports
- Create, view, rename, change criteria for, or delete a Search Rule

For a Search Rule, optionally save the unique primary identifier(s) for a result set to Banner ODS using Population Selection

Before you can use the SSR, you *must* set up security. SSR requires authentication and authorization access to your Oracle database security. See the [“Security” on page 9-38](#) section at the end of this chapter for additional information.



## Note

By default, SSR uses Oracle user accounts for authentication and authorization. If you choose to use this default, then SSR will adhere to all

Business Profiles and Fine Grain Access Security rules established for your Banner ODS users. Therefore, the data results returned for any SSR report template mirror the accessible data as defined for that SSR/Banner ODS user. If an SSR report template uses a particular Banner ODS Reporting view to which a user has been denied access via your Oracle Access Controls, then the entire report template is not accessible to the user. ■

## Navigation Quick Reference

---

All SSR web pages use the same basic navigation techniques. The following table describes each navigation feature. You may want to print this page until you become familiar with how to navigate throughout the web pages.

| This navigation. . .                                                                                                  | Does this . . .                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  View this Population Selection icon | Used to maintain Banner ODS populations. <ul style="list-style-type: none"><li>• When selected from the top right corner of the home page: Opens the View Search Rules window showing all search rules with existing Banner ODS populations, for all templates.</li><li>• When selected from the View Search Rules window, it opens the Population Detail window for the specified search rule.</li></ul> |
| Home link                                                                                                             | Returns you to the Home page.                                                                                                                                                                                                                                                                                                                                                                             |
| Help link                                                                                                             | Opens the help pages.                                                                                                                                                                                                                                                                                                                                                                                     |
| Breadcrumbs                                                                                                           | Located at the top of the page, below the tabs. These indicate the levels you passed through to arrive at the current page.<br><br><i>Example</i><br>Home>Student Templates>Advisor’s Student Search Criteria>Advisor’s Student List<br><br>Select any breadcrumb level to return to that level.                                                                                                          |
| Subject Area tabs at the top                                                                                          | To access a different subject area, select that tab at the top of the page.                                                                                                                                                                                                                                                                                                                               |

| This navigation. . .                                                                                                                 | Does this . . .                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headings that are underlined                                                                                                         | <p>On the Search Criteria page, select any headings that are underlined (for example, any of the individual search criteria filter headings) to open the online help window. The help contains either instructional or meta data related information.</p> <p>On the List and Detail Reports pages, any underlined column headings can be selected to resort the results in ascending or descending order.</p>                             |
|  Go to Search Rule icon                             | Select to load, view or maintain an existing search rule. Opens the View Search Rules window showing all existing search rules for the report template in context.                                                                                                                                                                                                                                                                        |
|  Save Search Rule and Run Population Selection icon | Select to save a new, or resave an existing search rule. Opens the Save Search Rule window with optional save/refresh Banner ODS population functionality.                                                                                                                                                                                                                                                                                |
| <b>Search</b> button                                                                                                                 | Executes a query based on the selected search criteria filters.                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Reset Search</b> button                                                                                                           | Resets all search criteria filters to their default state.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Show link</b>                                                                                                                     | Displays filters for any search criteria category.                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Hide link</b>                                                                                                                     | Hides all sets of grouped search criteria categories.                                                                                                                                                                                                                                                                                                                                                                                     |
| >                                                                                                                                    | Shows or hides an individual set of grouped search criteria filters for a report template.                                                                                                                                                                                                                                                                                                                                                |
| <b>Show SQL</b> button                                                                                                               | <p>Select to view the actual SQL used to execute a query on the Search Criteria page.</p> <p>Select from the Detail Reports page to view the actual SQL used to generate the detail reports on the Detail Reports page.</p> <p><b>Note:</b> This button only appears if you have been granted access. See the “Customize Parameters” section of the SSR Installation Guide to allow or deny access for all users or individual users.</p> |
|  View Detail icon                                 | Opens the Detail Reports page for the displayed list results or the Search Rule Detail window.                                                                                                                                                                                                                                                                                                                                            |

# Search Criteria Page

---

The Search Criteria page is the filter portion of a report template. You can use this page to review and select the filters or search criteria on which to report.

Filters are grouped into logical search criteria categories. Each filter label is hyperlinked to Banner ODS meta data providing reporting view and column source information for each filter.

When you access a report template, it opens in its default state with a Search Rule setting of none. You can create a new query by selecting the desired search criteria filters, or load a previously saved query (see [“Search Rules” on page 9-9](#) section). When finished, select the **Search** button to execute the query.

The Search Criteria page retains all defined filters as long as the report template is within a current session (moving between Search Criteria, List and Detail Reports pages). This allows you to easily alter or add search criteria. If you want to execute a different query, select the **Reset Search** button to clear all filter selections and return the Search Criteria page to its default settings or load a different Search Rule.



## Tip

To select multiple, random values from a list box, select the first value, then hold down the **Ctrl** key while selecting the remaining values.

To select multiple values in sequence from a list box, select the first criteria then hold down the **Shift** key and select the last criteria.

A list box with a (defaulted) value of 'ALL' means the filter is ignored, unless a value/values are selected.

For Range filters, leaving either range blank acts as a wildcard. ■

The following options are available from the Search Criteria pages:

- View and select the desired search criteria filters and execute a query
- Save, load, modify or delete search rules and optionally save, refresh or delete Banner ODS Populations for the template in context (See the [“Search Rules” on page 9-9](#) section)
- View the SQL used to execute a defined query and generate the List Page report

## Recommended and Required Search Criteria

Some report templates include a Recommended Search Criteria category that contains the filters most commonly selected when using a particular template. These may also include



one or more 'required' filters. A required filter must be selected to execute a query. Examples of required filters are Academic Periods or Chart of Accounts.



**Note**

Required filters are preceded with an asterisk. ■

## Dependant Search Criteria Filters

Several report templates contain one or more list of values (LOV) filters that must be manually populated after you select a required filter. To load these filters for use in your query, choose your value(s) for the required filter and select the **Populate Search Criteria for...** button. You need to reload these filters any time you change the corresponding required filter for a new query. See the [“Report Templates” on page 9-18](#) section for additional information.



**Note**

In their default state, dependant filters will display the following: “Select [required filter name] and Populate.” ■

## List of Values Search Criteria Filters

The list of values (LOV) search criteria filters found in the various SSR reporting templates contain a set of valid values for a corresponding column in a Banner ODS reporting view. These filters are generated from a series of LOV views contained within the ODSLOV schema within Banner ODS. The ODSLOV views obtain their information from Banner ODS composite table called MGT\_VALIDATION, which in turn is populated with validation table values found in your Banner database.

Since these LOV filters are sourced from your Banner validation tables, querying on certain values may produce no results, if those value(s) are not currently associated with any records in your Banner ODS database.

## Show SQL

Select the **Show SQL** button to view the actual SQL used to execute a query on the Search Criteria page, and to display the SQL in a pop-up window. This button only appears if you have been granted access. See the “Customize Parameters” section of the SSR Installation Guide to allow or deny access for all users or individual users.

## List Page

---

The List page shows the results of the query that was executed on the Search Criteria page, and includes a predefined set of information for each result. The following procedures can be performed from this page:

- View and sort the results
- Export the List page report as a .csv file (Microsoft Excel format, for example) or an .xml file (except for the Employee List page)
- Send emails
- Save, load, modify or delete search rules and optionally save, refresh or delete Banner ODS Populations for the template in context (See the [“Search Rules” on page 9-9](#) section)
- Change the ‘Records Per Page’ display setting
- Display the Search Criteria used to generate the List page results
- Access the Detail Reports page

## Export

List results can be saved to format, print or further manipulate in another reporting tool by exporting the results as a .csv file (Microsoft Excel format, for example) or an .xml file. Select the **Excel** icon (for a .csv file) or the **XML** icon (for another application). The File Download window opens. Indicate whether you want to save or open the file.

### Note

Some List page reports contain significantly more columns of information when they are exported to .csv and .xml files than are viewable on the web page. Review the “Report Templates” section for information specific to each template. ■

## Email

The email option enables you to send an email message to any individual on the List page, or to send an email to the entire list. Each option is explained below:

### Individual

To send an email to an individual on the List page, select the email address link in the **Email Address** column for that person. Your local email program opens with the individual’s email address already entered.

### Entire List

To send an email to the entire list, select the envelope icon at the top of the List page. The SSR email utility opens. All recipient email addresses (the individuals on the list report) load into the **Blind Copy** field to ensure that recipients’ cannot see the other email addresses on the distribution list. If you have set up each SSR user as an APEX user, then

the user's email address loads into the **To** field. If you are not using the APEX user accounts, the user must manually enter (their) email address in the **To** field.

## Sort

Any underlined column in the list report can be used to toggle between sorting the results in ascending or descending order. Select the column name by which you want to sort. An up arrow appears if the column is sorting in ascending order. A down arrow appears if the column is sorting in descending order.

## Records Per Page (Display Setting)

The List page displays the total count of all records found for any given query as well as a "Records Per Page" display setting. This setting indicates the maximum number of records to be displayed on the List page.

If the total records returned for a query exceeds the Records Per Page display setting, a sequence of pagination links appear above the List results page. You must select the pagination link to retrieve the (next) set of results. If the total records returned for a query is less than the Records Per Page display setting, all records appear in the List results page.

This feature helps query performance, or more specifically, the amount of time it takes to render the results for HTML display. The delivered default display setting is 100 records per page. This default setting can be changed at the institution level. You may also change the display setting for your current session by selecting the **Records Per Page** hyperlink.

### Note

This display setting applies to the HTML List page only. The .csv/.xml export and Banner ODS Population features save all results, as applicable. ■

## Access Detail Reports

Each report template provides detail reports for all results displayed on the List page. To drill to the Detail Reports page, select  in the left column for any result on the list report.

### Note

For the Finance templates (in addition to the View Detail icon) you can also drill into the respective detail reports by clicking the hyperlinked amount totals in the result set. ■

## Detail Reports Page

---

The Detail Reports page displays all reports for the result selected from the List page. The following procedures can be performed from this page:

- Review the detail reports for the result selected from the List page and select a different detail report
- Export a detail report as a .csv file (Microsoft Excel format, for example)
- View the SQL used to generate the detail reports

### Detail Reports Drop-down List

The Detail Reports page has a drop-down list located at the top of the page. Use this list to select and display any individual detail report.

### Sort

Any underlined column in a detail report can be used to toggle between sorting the results in ascending or descending order. Select the column name by which you want to sort. An up arrow appears if the column is sorting in ascending order. A down arrow appears if the column is sorting in descending order.

### Export

Detail reports can be saved as a .csv file to format, print or further manipulate in another reporting tool. Select the **Excel** icon. The File Download window opens. Indicate whether you want to save or open the file.

#### Note

On the Detail Reports page, only reports with an Excel icon can be exported. This option is provided for any report that can display more than one row of information.

Some Detail reports may contain more columns of information when they are exported than are viewable on the web page. Review the [“Report Templates” on page 9-18](#) section for details about each template. ■

## Query Search Criteria

---

Self-Service Reporting (SSR) provides ad hoc access to information within Banner ODS. You can use the report templates to access commonly retrieved data from across your

institution. Each report template is based on the functional data relationships set forth in the Business Concept Diagrams found in Banner ODS published meta data.

You can query search criteria on a one time basis or saved as a search rule for future reuse. See [“Search Rules” on page 9-9](#) for additional information.

1. Select a business area from the Home page.
2. Select a template.
3. Select your search criteria filters From the Search Criteria page.

The Search Criteria page opens. Use this page to review and select the filters or search criteria on which to report.

For additional information on how to move throughout the SSR pages, see the [“Navigation Quick Reference” on page 9-2](#).

4. Click **Search**.

The List page opens showing the results of the query that was executed on the Search Criteria page. It includes a predefined set of information for each result. From this point, you can continue to:

- View, select and execute search criteria
- View, sort, email or export the List results
- View, sort or export Detail reports

## Search Rules

---

Self-Service Reporting (SSR) enables you to select information that you frequently search on within a template (called search criteria filters), then name and save the filters as a search rule under a user-defined name. This makes it easy to reuse sets of search criteria filters.

### **Note**

You can only access the search rules that are saved under your user name.

You also have the option to indicate whether to create/refresh Banner ODS populations each time you save a search rule. See [“Banner ODS Populations” on page 9-14](#) for additional information.

## Create and Save a Search Rule

Use this procedure to save groups of search criteria that you want to reuse. Search rules can be created from the Search Criteria page or from the List page.

Populations can also be created for search rules. See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations.

1. Select a business area from the Home page.
2. Select a template.
3. Select your search criteria filters from the Search Criteria page.
4. Click . (The Save Search Rule and Run Population Selection icon is also available from the List page.)
5. Enter the name of the search rule,
6. (optional) Select the **Create/Refresh Banner ODS Population** check box to save the Banner ODS population for this search rule.

See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations.



Populations cannot be saved for the Finance templates. ■

7. Click **Save**.

## Load a Search Rule

Use this procedure to load and display a different search rule. Search rules can be loaded from the Search Criteria page or from the List page. (If a population exists for the search rule, then the page can also be accessed using the View this Population Selection icon  on the Home page. See [“Banner ODS Populations” on page 9-14](#) for additional information.)

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Select the search rule to load.

The Search Criteria page returns automatically with the search rule loaded.

## Update a Search Rule

Update a search rule after you have changed or added search criteria filters for an existing rule, and want to save those changes.

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)

4. Select the search rule you want to update.

The screen returns to the Search Criteria page with the rule loaded.

5. Change the search criteria filters.

6. Click . (The Save Search Rule and Run Population Selection icon is also available from the List page.)

The Save a Search Rule window opens.

7. (optional) Select the **Create/Refresh Banner ODS Population** check box. See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations.

### Note

If the existing search rule has a population saved to Banner ODS, you *must* select the **Create/Refresh Banner ODS Population** check box to update and refresh the population. If this box is not selected for an existing search rule, any previously saved population is deleted. See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations. ■

### Note

Populations cannot be saved for the Finance templates. ■

8. Click **Save**.

## Save as Another Search Rule (Save As)

Use this procedure to create a new search rule with the same search criteria as an existing search rule, but with a different name.

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Select the search rule you want to load and save under a different name.

The screen returns to the Search Criteria page with the rule loaded.

5. Click . (The Save Search Rule and Run Population Selection icon is also available from the List page.)

The Save a Search Rule window opens.

6. Enter the new name.
7. (optional) Select the **Create/Refresh Banner ODS Population** check box. See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations.

### Note

If the existing search rule has a population saved to Banner ODS, you *must* select the **Create/Refresh Banner ODS Population** check box to also save a population for this rule. See [“Banner ODS Populations” on page 9-14](#) for additional information on Banner ODS populations. ■

### Note

Populations cannot be saved for the Finance template. ■

8. Click **Save**.

## Rename a Search Rule

Use this procedure to change the name of an existing search rule. You do not have to load the search rule to rename it.

Search rules are renamed from the Search Rule Detail window which can be accessed from the View Search Rules window. If a population exists for the search rule, then the



page can also be accessed from the Home page. (See [“Banner ODS Populations” on page 9-14](#) for additional information.)

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available on the List page.)
4. Click  to open the Search Rule Detail window.

#### **Note**

If the rule has a population, you can also click the  from the Home page to open the View Search Rules window. See [“Banner ODS Populations” on page 9-14](#) for additional information. ■

5. Enter the new name in the **Rule Name** field.
6. Click **Rename**.

The search rule is saved under the new name.

## Delete a Search Rule

Use this procedure to delete an existing search rule. Search rules are deleted from the View Search Rules window or from the Search Rule Detail window. (If a population exists for the search rule, then the page can also be accessed from the Home page. See [“Banner ODS Populations” on page 9-14](#) for additional information.)

#### **Note**

If you delete a search rule with Banner ODS a Banner ODS population, you also delete the populations. ■

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Use any of the following methods from the View Search Rules window:
  - Click **Delete** to remove the search rule
  - Click  to delete the search rule from the Search Rule Detail window

5. From the corresponding Detail window, click **Delete** and indicate that you want to delete the rule.

The search rule is deleted.

## Banner ODS Populations

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Banner ODS populations are predefined primary identifier(s) found within List page results that can be saved to Banner ODS to populate reports developed using a third party reporting tool. (See [“Use Populations with Banner ODS” on page 9-17](#) for information on retrieving population detail from the ODS\_Population reporting view in Banner ODS.)

Below is a list of Banner ODS population characteristics:

- Finance report templates cannot save populations.
- Banner ODS population is optional, and can be disabled when SSR is installed
- Populations are associated with a search rule.
- A search rule must be created before you can create a Banner ODS population for that rule. (See [“Create and Save a Search Rule” on page 9-10](#) for additional information.)
- Only one population is allowed per search rule
- Populations can be used for custom reporting with other reporting tools against the Banner ODS.
- Populations cannot be reused within SSR.

## Create Banner ODS Populations

Use this procedure to create populations for a search rule. You can create populations while you are creating the search rule, or from any page or window that contains a  icon.

### ***Prerequisites***

A search rule must be created before you can create Banner ODS populations for that rule. See [“Create and Save a Search Rule” on page 9-10](#) for additional information.

### ***Create a Population with a Search Rule Loaded***

1. Select a business area from the Home page.
2. Select a template.

3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)

4. Select the search rule to load.

The Search Criteria page returns automatically with the search rule loaded.

5. Click  on the Search Criteria page. (The Save Search Rule and Run Population Selection icon is also available from the List page.)

6. Select the **Create/Refresh Banner ODS Population** check box.

7. Click **Save**.

The population is added to the selected search rule.

#### *Create a Population without a Search Rule Loaded*

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Select  in the **Populations Details** column that corresponds to the search rule for which you want to create a population.

The number next to the  indicates the number of rows of populations available for that search rule. If this number is zero, then a **Create** button displays on the Banner ODS Population Detail window. (If rows are available, then the displayed buttons are **Refresh**, **Delete** and **SQL** display.)

5. Click **Create**.

A population is created for the search rule.

## **Refresh (Update) Banner ODS Populations**

Use this procedure to refresh a population because information has been added or removed (for example, alumni were added). Three possible ways to refresh your populations appear below.

### ***Prerequisites***

At least one population must exist for a search rule. See [“Create Banner ODS Populations” on page 9-14](#) for additional information.

#### *Refresh with a Search Rule Loaded*

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Select the search rule to load.

The Search Criteria page returns automatically with the search rule loaded.

5. Click  on the Search Criteria page. (The Save Search Rule and Run Population Selection icon is also available from the List page.)
6. Select the **Create/Refresh Banner ODS Population** check box.
7. Click **Save**.

The population is refreshed for the selected search rule.

#### *Refresh without a Search Rule Loaded*

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Click the  that corresponds to the search rule whose population you want to refresh.
5. Click **Refresh**.

The population is refreshed (updated).

#### *Refresh from the Home page*

1. Click  in the upper right hand corner of the page.
2. Click the  that corresponds to the search rule whose population you want to refresh.
3. Click **Refresh**.

The population is refreshed (updated).

## Delete a Banner ODS Population

Use this procedure to delete a population associated with a search rule.

### **Note**

Deleting the population does not delete the associated search rule. ■

Two possible methods of deleting a population appear below.

#### *Delete with a Search Rule not Loaded*

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Click the  that corresponds to the search rule whose population you want to delete.
5. Click **Delete**.

The population is deleted.

#### *Delete from the Home page*

1. Click  in the upper right hand corner of the Home page.
2. Click the  that corresponds to the search rule whose population you want to delete.
3. Click **Delete**.

The population is deleted.

## Use Populations with Banner ODS

Banner ODS populations contain the predefined primary identifier(s) for the List page results of any given report template query. These populations can be saved to Banner ODS and used for generating reports developed using a third party reporting tool. (See [“Banner ODS Populations” on page 9-14](#) for additional information.)

Banner ODS contains a schema called SSRMGR. The tables in this schema store search rule and population data. A view in this schema, called ODS\_POPULATION, contains the unique identifiers for each saved population along with the distinguishing characteristics of the corresponding search rule and user.

The search rule parameters below are required to retrieve a population from the ODS\_POPULATION view for reporting purposes. They are used in the sql statement to retrieve the desired population.

- TEMPLATE\_NAME
- RULE\_NAME
- USER\_ID

The **SQL** button in the Banner ODS Population Detail window generates a SQL statement containing these parameters that can be used to retrieve a saved population from the ODS\_POPULATION reporting view.

#### *Access from the View Search Rules Page*

1. Select a business area from the Home page.
2. Select a template.
3. Click  from the Search Criteria page. (The Go to Search Rule icon is also available from the List page.)
4. Click the  link that corresponds to the search rule whose population you want to select.
5. Click **SQL**.

The unique identifiers for the saved population and the characteristics of the corresponding search rule and user display. You can use this information to create additional reports.

#### *Access from the Home page*

1. Click  in the upper right hand corner of the Home page.
2. Click the  that corresponds to the search rule whose population you want to select.
3. Click **SQL**.

The unique identifiers for the saved population and the characteristics of the corresponding search rule and user display. You can use this information to create additional reports.

## Report Templates

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This section contains the following information for each delivered report template:

- Search criteria
- List reports
- Detail reports
- Notes

## Accounts Receivable Report Templates

Use the Accounts Receivable report template to obtain reports from Receivable Customer.

### Receivable Customer

Use this report template to:

- Obtain a list of students or organizations and their current balances
- Obtain a list of students or organizations that have transactions that meet a specific transaction category within an academic period
- Determine which students that have holds on their accounts or have bills due within a specific date range
- Obtain a list of students or organizations that have a range of current amounts dues on their account
- Determine current balances of accounts where students are in specific programs, departments, degrees and majors
- Determine the contracts or exemptions with which a student is associated or an organization is associated
- Review all charges and payments on a students or organization's account
- Review the accounting information sent to Finance for all charges, payments, and application of payments for a selected student or organization

### Search Criteria

Required Search filters: At least one Academic Period

Recommended Search filters: Category Detail Code, or Source

### Search Criteria Notes

Certain list of values (LOV) search criteria filters in this template require the selection of one or more Academic Periods to display a specific list of values for that filter. To load these filters to use in your query, choose the desired Academic Period(s) and select the **Populate Search Criteria for Academic Period(s) Selected** button. You need to reload these filters any time you change the Academic Period(s) for a new query.

## List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, current amount due, account balance, delinquency, hold count, non-sufficient funds count, collection agency count and city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the List page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page.
- **Banner ODS Population:** A population saved for this template includes the distinct Entity UUIDs for your query result set.

## Detail Reports

The following detail information can be accessed for any student or organization on the list report as appropriate:

- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Receivable Summary By Category
- Receivable Summary
- Customer Account Details
- Customer Account Detail Accounting
- Customer Accounting Summary
- Application of Payment Detail Accounting
- Application of Payment Detail Accounting Summary
- Receivable Tax Detail History
- Receivable Tax Detail History Summary
- Deposit History
- Deposit History Summary
- Contract History
- Exemption History
- Installment Plan History
- Collection Agency Assignment



- Holds

## Notes

The Receivable Customer reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.

## Advancement Report Templates

Use the Advancement report template to obtain reports from Advancement Person.

### Advancement Person

Use this report template to:

- Locate constituents in a particular geographic area
- Analyze participation or giving trends
- Profile or segment your constituent population

### Search Criteria

Required Search filters: None

Recommended Search filters: None

### List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, spouse name, various constituent indicators, email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- Export Options: More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page. These include the Entity UID and formatted (preferred) mailing address.
- Banner ODS Population: A population saved for this template includes the distinct Entity UIDs for your query result set.

### Detail Reports

Access the following detail information for any individual on the list report:

- Constituent Detail
- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Demographics
- Medical Information
- Veteran Status
- Employment History
- Relationships
- Degree Summary
- Activities and Leadership Roles
- Donor Categories
- Giving History
- Membership
- Mailings
- Exclusions

### Notes

The Advancement Person reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.

## Finance Report Templates

Use the Finance report templates to obtain financial reports from the General Ledger or Operating Ledger.

### General Ledger

Use this report template to:

- Quickly determine if your fund is in balance
- Obtain an asset balance at any fund level
- Obtain fund reports by financial manager or principal investigator
- Create a general ledger report by specific reporting attributes

- Roll up general ledger balances to a higher level within fund and/or account hierarchy

## Search Criteria

Required Search filters: At least one Chart of Accounts and at least one Fiscal Year

Recommended Search filters: Fiscal Period

## Search Criteria Notes

Certain list of values (LOV) search Criteria filters in this template require you to select one or more charts to display a specific list of values for that filter. To load these filters to use in your query, choose the desired Chart(s) and select the **Populate Search Criteria for Chart(s) Selected** button. You need to reload these filters any time you change the Chart(s) for a new query.

When including fund, fund type, account or account type attributes, and not selecting specific attributes as a filter, the lines displayed on the List Page may occur more than once for each unique combination of fund and account. This is based on the number of attributes assigned to each fund, fund type, account, and/or account type within the source system. When the lines are not unique for each fund and account, this affects the total of the amounts displayed in the General Ledger List Summary Report. To avoid duplicate lines, select the specific attributes on which you wish to report.

## Working with Roll Fund or Roll Account Search Criteria

Leave the radio button defaulted to *E* and select a specific level value to report on all funds that report to a specific level fund or fund type, as well as to report on all accounts that report to a specific level account or account type.

If you choose one of the level radio buttons, the list report totals the amounts to that level and displays it at that level. The lower levels no longer display as columns in the list report.

### Example for level 1

You might choose to list amounts for all level 1 fund types with all their level 2 account types.

If you choose one of the level radio buttons and choose specific fund level values, fund type level values, account level values, or account type level values, the list report displays the selected values with the amounts totaled for that unique combination of selected filters.

### Example for level 2

You might choose *Restricted* for a fund type level 2. Select the radio button of 1 for Roll Fund Type and choose Roll Account Type Level 2 with the values. This

generates a list report of amounts totaled to the Restricted Fund Level 1 for all account type level 2 values.

If you select the roll radio button for any level other than *E*, the fund and account being rolled to will display in the fund and account column in the General Ledger list report.

## List

The General Ledger List report is dynamically built according to selected search criteria to support reporting attributes and roll-up features. This prevents the normal sort feature from being used. Thus, you will not see any underlined columns in the List report for sorting.

This list report provides two sets of results based on the entered search criteria:

**General Ledger List:** Data includes beginning balance, current actual and ending balance for each fund and account or selected levels of fund and account and /or reporting attributes.

**General Ledger List Summary:** Provides a summary of all fund and account amounts displayed in the General Ledger List with a beginning balance, current actual, and an ending balance.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page.

Additionally, when a List report is generated using the roll-up feature, more rows are exported with the CSV or XML file than what is viewable online. This is because the online version summarizes information such as chart columns from the general ledger for display on the List page. The data in the export file is not summarized; but instead includes each detail line that meets the queried search criteria.

- **Banner ODS Population:** Not available for finance report templates.

## Detail Reports

These reports provide full access to supporting detail for any general ledger line on the list report:

- **General Ledger Line:** detail report includes one or more detail general ledger lines with report totals. Multiple detail general ledger lines may exist if a search was performed for a report roll-up.
- **Transaction Detail:** report lists information supporting the general ledger line(s). This data includes the fund, organization, account, program, activity, and location

as well as field code, journal type, journal description, and source document key information.

- Transaction Detail Total

More fields of information are provided with the exportable .csv file detail reports than are viewable on the web page.

## Notes

- The General Ledger reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- The only transaction detail lines that currently display are those that directly update the general ledger. Thus, operating ledger transaction detail and encumbrance ledger transaction detail do not display within this report.

## Operating Ledger

Use this report template to:

- Obtain departmental reports by department financial manager
- Obtain reports by financial manager or principal investigator
- Quickly determine departmental budget available balance
- Create a departmental report by reporting attributes
- Roll up operating ledger available balances to a higher level within organization, fund, account, and program and/or location hierarchy
- Obtain a list of all expense or revenue transactions

## Search Criteria

Required Search filters: At least one Chart of Accounts and one Fiscal Year

Recommended Search filters: Fiscal Period

### Search Criteria Notes

Certain list of values (LOV) search Criteria filters in this template require the selection of one (or more) Charts to display a specific list of values for that filter. To load these filters to use in your query, choose the desired Chart(s) and select the **Populate Search Criteria for Chart(s) Selected** button. You need to reload these filters any time you change the Chart(s) for a new query.

When including fund, fund type, account, account type, organization, or program attributes, and not selecting specific attributes as a filter, the lines displayed on the List

Page may occur more than once for each unique combination of organization, fund, account, program, activity and location. This is based on the number of attributes assigned to each accounting distribution element within the source system. When the lines are not unique for each FOAPAL combination, this affects the total of the amounts displayed in the Organization Budget Status Summary Report. To avoid duplicate lines, select the specific attributes on which you wish to report.

### **Working with Roll Search Criteria**

Leave the radio button defaulted to *E*, and select a specific level value to report on all organizations that report to a specific level organization, specific level fund or fund type, specific level account or account type, specific level program, as well as to report on all locations that report to a specific level location.

If you select one of the level radio buttons, the list report totals the amounts to that level and displays it at that level. The lower levels no longer display as columns in the list report.

#### **Example**

You might choose to list amounts for all level 1 organizations with all their level 2 account types.

If you choose one of the level radio buttons and choose specific organization level values, fund level values, fund type level values, account level values, account type level values, program level values, or location level values, the list report displays the selected values with the amounts totaled for that unique combination of selected filters.

#### **Example**

You might choose *Restricted* for a fund type level 2. Select the radio button of *I* for Roll Fund Type and choose *Roll Account Type Level 2* with the values. This generates a list report of amounts totaled to the Restricted Fund Level 1 for all account type level 2 values.

If you select the roll radio button for any level other than *E*, the organization, and/or fund, and/or account, and/or program, and/or location being rolled to displays in their respective columns in the Organization Budget Status list report.

### **List**

This list report provides results based on the entered search criteria:

Organization Budget Status List: Current Period Activity. Year-to-date remaining balance, year-to-date adjusted budget, year-to-date activity, and year-to-date commitments for each accounting distribution or selected levels of the accounting distribution and/or reporting attributes.

**Organization Budget Status Summary:** Provides a summary by organization only of the chart, fiscal year and period, current period activity, year-to-date remaining balance, year-to-date adjusted budget, year-to-date activity, and year-to-date commitments displayed in the Organization Budget Status List. The report total takes into consideration the normal balance of the account summarized within the department. If the normal balance of an account is a C for credit, the amount is multiplied by a -1, and then added into the summary total.

**Suppress Zero Activity Detail Report Lines:** To control the number of lines that appear in the Operating Ledger Lines Detail Reports page, select *Yes* from the **Suppress Zero Activity Detail Report Lines** drop-down list. The operating ledger lines that do not have current activity are not listed on the Detail Reports page. If you select *No*, then all operating ledger lines that support the selected List line display regardless of activity. This feature is useful when a List report was requested at a roll-up level, then listing the supporting operating ledger lines on the Detail Reports page. There may be hundreds of departments that had no activity for the period. Reporting to a higher level organization and listing them on the Detail Report page makes it difficult to view the organizations that did have activity.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page.

Additionally, when a List report is generated using the roll-up feature, more rows are exported with the CSV or XML file than what is viewable online. This is because the online version summarizes information such as chart columns from the operating ledger for display on the List page. The data in the export file is not summarized; but instead includes each detail line that meets the queried search criteria.

- **Banner ODS Population:** Not available for finance report templates.

**Selecting Current Period Detail or Fiscal Year to-date Detail:** A detail report can only be created for the current period selected by selecting the bolded amount under the **Curr Prd Activity** column. To obtain a detail report of all fiscal periods up to and including the current period, select the bolded amount under the **YTD Remaining Balance** column. If you select the latter amount, the number of lines in your detail report will increase. This is another reason why the **Suppress Zero Activity Detail Report Lines** drop-down list defaults to *Yes*.

#### **Note**

The Organization Budget Status List report is dynamically built according to selected search criteria in order to support reporting attributes and roll-up features. This prevents the normal sort feature from being used. Thus, you will not see any underlined columns in the List report for sorting. ■

## Detail Reports

These reports provide full access to supporting detail for any Organization Budget Status line on the list report:

- The Operating Ledger Lines detail report includes one or more detail operating ledger lines with current period activity and report totals. If the normal balance of the line's account is a 'C'redit, the amount displayed is multiplied by a -1. Thus a positive amount may display in the List Report, but that same amount may display as a negative in the Detail Report. This is to ensure the Report Totals are correct by considering the normal balance of the various accounts.
- The Transaction Detail report lists information supporting the operating ledger line(s). This data includes the fund, organization, account, program, activity, and location as well as journal type, journal description, and source document key information. The amount of the transaction is multiplied by a -1 if the normal balance of the account is a 'C'redit. To allow for improved reconciliation between the transaction detail and the operating ledger lines, the field code is broken out into respective amount columns that updated the operating ledger. Thus, if the transaction had a field\_code of '04', the amount is displayed in the **Curr Prd Encumbrances** column. The breakdown of field code is as follows:
  - 01 = Curr Prd Adopted Budget
  - 02 = Curr Prd Budget Adjustments
  - 03 = Curr Prd Activity
  - 04 = Curr Prd Encumbrances
  - 05 = Curr Prd Budget Reservations
  - 06 = Curr Prd Accumulated Budget
  - 07 = Curr Prd Temporary Budget

## Notes

- The Operating Ledger reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- The only transaction detail lines that currently display are those that directly update the operating ledger. Thus, general ledger transaction detail and encumbrance transaction detail do not display within this report. If an Operating Ledger line was selected that did not have any current activity, no transaction detail lines will display.

## Financial Aid Report Templates

Use the Financial Aid report template to obtain Financial Aid Award and Disbursement reports.



## Financial Aid Awards

Use this report template to:

- Determine who has been awarded a specific Financial Aid fund (or group of funds) during a particular Academic Period (or group of Academic Periods)
- Determine who has had financial aid disbursed during a particular academic period (or group of academic periods)
- Determine the status of a particular award (or group of awards) during a particular academic period (or group of academic periods)
- Answer demographic questions about the populations of students awarded financial aid during a particular academic period (or group of academic periods)

### Search Criteria

Required Search filters: At least one Academic Period

Recommended Search filters: Fund, Fund Source Type, Financial Aid Type

### List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, academic period, financial aid information, student status information email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- Export Options: More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page. These include the Entity UID and formatted (preferred) mailing address.
- Banner ODS Population: A population saved for this template will include the distinct combinations of Entity UIDs and Academic Periods for your query result set.

### Detail Reports

The following detail information can be accessed for any student on the list report:

- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Applicant Status

- Award By Person
- Award Disbursement
- Academic Study
- Enrollment Information
- Financial Aid Enrollment
- Academic Information
- Academic Standing
- Satisfactory Academic Progress
- Holds
- Demographics
- Medical Information
- Veteran Status
- International Details

## Notes

The Financial Aid Awards reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.

## Human Resources Report Templates

Use the Human Resources report template to obtain employee reports.

### Employee

Use this report template to:

- Analyze employee demographics
- Download contact, demographic and primary position information about an employee
- Look up detailed information about a particular employee

### Search Criteria

Required Search filters: None

**Recommended Search filters:** Employee Status, Employee Class, Leave Category, and Benefit Category.

## List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, demographic and employee status information, email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page.
- **Banner ODS Population:** A population saved for this template will include the distinct Entity UUIDs for your query result set.

## Detail Reports

The following detail information can be accessed for any employee on the list report:

- Current Addresses
- Other Phone Numbers
- Current Internet Addresses
- Benefits (Current Year)
- Beneficiaries
- Leave Balances
- Bargaining Units
- Certifications
- Skills
- Tax Deductions (Current Year)
- Review History
- Position History
- Earning History
- Demographics
- Medical Information
- Veteran Status
- International Details
- Employment History

## Notes

- The Human Resources reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- Do not use this report template if you expect to retrieve information pertaining to an employee's secondary position(s).

## Student Report Templates

Use the Student report templates to obtain reports relating students to Advisors, students applying for admission or student enrollment.

### Advisor's Students

Use this report template to:

- Retrieve information for specific advisees when meeting with a group of advisees
- Identify a group of students that fit a set of criteria to contact that group of students, such as:
  - Students within an advising type responsibility
  - Students from a geographic region (Nation, State/Province)
  - Students who are international students
  - Students in academic difficulty
  - Students receiving financial assistance
  - Review the assignments made to a group of advisors

### Search Criteria

Required Search filters: At least one Academic Period and the student grouping you wish to see. This will be the group of students currently assigned to an advisor, the group that has never been assigned to an advisor or the group that does not have a current advisor assignment.

Recommended Search filters: Varies based on the group to be reviewed by the advisor.

### Search Criteria Notes

Certain list of values (LOV) search criteria filters in this template require the selection of one (or more) Academic Periods to display a specific list of values for that filter. To load these filters to use in your query, choose the desired Academic Period(s) and select the Populate Search Criteria for Academic Period(s) Selected button. You will need to reload these filters any time you change the Academic Period(s) for a new query.

## List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, academic period, assigned advisor, summary student information, email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page. These include the Entity UID, formatted (preferred) mailing address and Advisor UID.
- **Banner ODS Population:** A population saved for this template will include the distinct combinations of Entity UIDs and Academic Periods for your query result set.

## Detail Reports

The following detail information can be accessed for any student on the list report:

- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Student Advisor(s)
- Academic Study
- Enrollment Information
- Academic Information
- Academic Standing
- Holds
- Student Courses
- Student Course Grades
- Student Course Attributes
- Student Course Meeting Times
- Demographics
- Medical Information
- Veteran Status
- International Details

- Activities
- Latest Secondary School
- Latest Post Secondary School
- Test Scores
- Employment History

## Notes

- The Advisor's Students reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- The Advisor's Students List can be used to download the contact and summary information for the selected group of students advised.
- The Advisor's Students List is designed to retrieve the students being advised for a specified academic period. Therefore, you would not use this to retrieve all the students ever advised by a specific advisor.
- Selection must include one of the following groups of students:
  - Currently assigned to an advisor
  - Never been assigned to an advisor
  - Does not have a current advisor assigned.
- Search Criteria filters in this template require an Academic Period to display a specific list of values for that filter. To load these filters to use in your query, select or change to the desired Academic Period and select the Populate Search **Criteria** button.
- Detail reports display data for the students selected for all academic period independent of the academic period in the selection criteria.

## Admissions Application

Use this report template to:

- Identifying admissions applications that are complete and ready for review
- Monitor application status and review admission application details
- Compile details of applicants matching a set of criteria for further review
- Track admissions application decisions by college and or department

## Search Criteria

Required Search filters: At least one Academic Period

Recommended Search filters: None

## List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, academic period, student level, application complete indicator, program, degree, college, major, department, campus, site, enrolled indicator, latest decision, email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page. These include the Entity UID and formatted (preferred) mailing address.
- **Banner ODS Population:** A population saved for this template will include the distinct combinations of Entity UIDs and Academic Periods for your query result set.

## Detail Reports

The following detail information can be accessed for any student on the list report:

- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Admissions Application
- Application Academic Study
- Admissions Rating
- Admissions Decisions
- Application Deposit Detail
- Financial Aid Information
- Admissions Attributes
- Admissions Cohorts
- Admissions Requirements
- Additional Information Counts
- Recruitment Information Detail
- Application Additional Information

- Demographics
- Medical Information
- Veteran Status
- International Details
- Latest Secondary School
- Latest Post Secondary School
- Test Scores
- Employment History

## Notes

- The Admission's Application reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- Multiple persons at the institution will need to review the data supplied by an applicant for admission and this report template is primarily to pull together for that administrator, reviewer, rater, all the data stored in the system for the applicant into a concise report of the information.
- While multiple academic periods may be used for selection criteria, it is recommended that the admissions applications be looked at for a single academic period at a time. This would correspond to normal application business processing.

## Enrolled Students

Use this report template to:

- Review student enrollments by academic period and program attributes
- Track student course registration activity
- Retrieve a list of students registered in courses with missing scheduling details

## Search Criteria

Required Search filters: At least one Academic Period

Recommended Search filters: None

## Search Criteria Notes

Certain list of values (LOV) search criteria filters in this template require the selection of one (or more) Academic Periods to display a specific list of values for that filter. To load these filters to use in your query, choose the desired Academic Period(s) and select the



Populate Search Criteria for Academic Period(s) Selected button. You will need to reload these filters any time you change the Academic Period(s) for a new query.

The Student Course Search Criteria filters are for course registrations at your institution only. Transfer courses are excluded from queries.

## List

This list report provides one set of results based on the entered search criteria. Data includes ID, name, academic period, sub-academic period, enrollment status, current time status, total credits, enrolled, registered and deceased indicators, email address and the city, state/province, postal code, county, nation, telephone, and address type for a preferred address.

Additional information applicable to the list page for this report template is available using the following:

- **Export Options:** More fields of information are provided with the exportable .csv and .xml files than are viewable on the List page. These include the Entity UID and formatted (preferred) mailing address.
- **Banner ODS Population:** A population saved for this template will include the distinct combinations of Entity UIDs and Academic Periods for your query result set.

## Detail Reports

The following detail information can be accessed for any student on the list report:

- Current Addresses
- Other Phone Numbers
- Current Internet Address
- Academic Study
- Enrollment Information
- Academic Information
- Academic Standing
- Holds
- Student Courses
- Student Course Meeting Times
- Demographics
- Medical Information
- Veteran Status

- International Details

## Notes

- The Student Course reporting template provides a broad array of query opportunities. Performance, or the time it takes to retrieve a list of results, may vary based on the complexity of your query or the size of a potential result set.
- Search Criteria filters in this template require an Academic Period to display a specific list of values for that filter. To load these filters to use in your query, select or change to the desired Academic Period(s) and select the Populate Search Criteria button.
- The Student Course Search Criteria filters and the Registered Courses Detail report do not include transfer course information (STUDENT\_COURSE records where TRANSFER\_COURSE\_IND = Y are excluded).
- Detail reports containing Academic Period based information are for the Academic Period in context for the row selected from the List page.

## Self-Service Reporting Configuration Parameters

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See the “Customize Parameters” section of the Self-Service Reporting Installation Guide for steps on how to set up Administrative User Interface parameters used within SSR.

## Security

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There are various security options available for SSR. This section discusses authentication and authorization access to your Oracle database. It does not cover security configuration such as firewall placement or securing your application server. Information on those topics is available from Oracle at the Oracle Application Express (APEX) home page: [http://www.oracle.com/technology/products/database/application\\_express/index.html](http://www.oracle.com/technology/products/database/application_express/index.html).

APEX first performs application authentication. This determines whether a user has access to an application, such as SSR. To determine which components a user has access to, APEX performs authorization.

APEX provides several methods for authentication. You can choose from a series of preconfigured authentication schemes, copy an existing scheme from another APEX application that you have already developed, or create your own custom authentication scheme. A description of the various methods appears below:

- Oracle Account Security

The default SSR security method uses Oracle accounts. If you are already using Oracle accounts for security at your reporting layer, particularly if you have implemented Fine Grained Access in Banner ODS, this option may be the simplest way to implement SSR, and would allow you to bring up SSR without adding to your security maintenance.

- APEX Built-in Authentication

If you have already set up security in Banner ODS for a reporting tool such as Oracle Business Intelligence Discoverer or ReportNet, you may want to establish a similar security scheme for SSR. User accounts for SSR are created and maintained using the APEX Administrative User Interface.

- Use an Existing Security Scheme

If you have already created your own APEX application and have devised your security scheme to govern it, you may be able to use that same security scheme for SSR.

- Create Your Own Custom Authentication Scheme

APEX provides a wizard creates an authentication scheme from scratch.

- Other Security Options

APEX enables you to integrate SSR with an LDAP server or with Oracle's Single Sign-On technology.

For more information on authentication, refer to the Oracle Application Express User's Guide release 2.2 (Oracle document B28550-01).

## Oracle Account Security

### Authentication

The default SSR security method uses Oracle accounts. If you are already using Oracle accounts for security at your reporting layer, particularly if you have implemented Fine Grained Access in Banner ODS, this may be the simplest way to implement SSR, and would allow you to bring up Self-Service Reporting (SSR) without adding to your security maintenance.

APEX runs on the PL/SQL module of Oracle's Application Server. The PL/SQL module uses a database access descriptor (DAD) and a SQL\*Net connection to log into your Oracle database. The default APEX URL, <http://localhost/pls/apex>, includes the default APEX DAD "apex". The APEX DAD stores a username and password with which to log into the database. However, to use Oracle account security you need to configure the DAD so that it does not store a user name and password. The user is prompted for these values. The user name is then made available in the APEX substitution variable called APP\_USER.

## Authorization

The SSRMGR.SCK\_COMMON package includes the F\_getSSRPermissions function which uses the Oracle User ID to determine which SSR reporting templates that each user is authorized to access.

The function call for F\_getSSRPermissions is located in the SSR application on Page 1 for all report templates, then again in a “Branch” on each report template page to prevent access to the page via a bookmark or URL manipulation.

### Navigate to Page 1:

1. Log into APEX as an SSR Workspace Administrator.
2. Select Application Builder.
3. Select the SSR application.
4. Navigate to the Page Definition for page 1.
5. The call to F\_getSSRPermissions is located in “SET\_PERMISSIONS” under “Processes” in the “Page Rendering” column. Each call to F\_getSSRPermissions sets permission for a single report template. F\_getSSRPermissions calls F\_getSSRPermissionsViewList to retrieve the list of views for which a user must be granted SELECT permission in order to run a given report template.

If you add or delete a report template or add or delete any views for a report template, you *must* change SSRMGR.SCK\_COMMON.F\_getSSRPermissions and/or F\_getSSRPermissionsViewList.

SSR is delivered with scripts which can be used to issue the grants that are required to access each of the SSR report templates. These scripts are located in the `ssr/security` install directory.

### Add Security for a New Report Template

1. Log into APEX as an SSR Workspace Administrator using the URL format: `http://hostname:port/pls/database_access_descriptor/f?p=4550:1`
  - *hostname* is the name of the system where Oracle HTTP Server is installed.
  - *port* is the is the port number assigned to Oracle HTTP Server. In a default installation, this number is 7777. For more information, see “Accessing the Oracle Application Express Login Page” in the APEX Installation Guide.
  - *database\_access\_descriptor* describes how Oracle HTTP Server connects to the database server so that it can fulfill an HTTP request. The default value is *apex*.
  - The remainder of the URL indicates to display the login page for a Workspace Administrator.

2. You will now be presented with the APEX Login page. Login using “SSR” as the Workspace and use the administrator ID and password.
3. Select Application Builder.
4. Select the SSR application.
5. Navigate to the Page Definition for page 1.
6. In the “Items” section, add a new Item for the new report template. For example, an existing security Item is P1\_STU\_ADVISOR\_STUDENT.
7. In the “Processes” section at the bottom of the “Page Rendering” column, select “SET\_PERMISSIONS”.
8. Using the existing code as an example, add the code to set the value of the new Item you just created. Note that permissions are set for each template and for each menu group, i.e., Student, Advancement, etc. and that you need to add code to set the permission for the new report template and add code to set the permission for the menu where your new report template will appear.
9. Edit the function SSRMGR.SCK\_COMMON.F\_getSSRPermissionsViewList, using the existing code as an example, add the new report template name and associated list of views. Compile SSRMGR.SCK\_COMMON.

### **Delete Security for a Report Template**

1. To login to SSR and locate page 1, follow the first 5 instructions in the above section, “Add Security for a New Report Template”.
2. In the “Processes” section at the bottom of the “Page Rendering” column, select “SET\_PERMISSIONS”.
3. Comment out references to the item associated with the report template.
4. Navigate to the Page Definition for the Search Criteria page in the Report Template for which you are modifying security. In the “Branches” section at the bottom of the “Page Processing” column, delete the security “Branch” to page 1 from the report template.

### **Change the List of Views for a Report Template**

1. Edit the function SSRMGR.SCK\_COMMON.F\_getSSRPermissionsViewList.
2. Change the list of views associated with the template(s) you are changing.
3. Compile SSRMGR.SCK\_COMMON.

## APEX Built-in Authentication

If you have already set up security in Banner ODS for a reporting tool such as Oracle Business Intelligence Discoverer or ReportNet, you may want to establish a similar security scheme for SSR. This is accomplished using the APEX Administrative User Interface.

### Change the Authentication Scheme

1. Log into APEX as an SSR Workspace Administrator using the URL format: `http://hostname:port/pls/database_access_descriptor/f?p=4550:1`
  - 1.1. *hostname* is the name of the system where Oracle HTTP Server is installed.
  - 1.2. *port* is the is the port number assigned to Oracle HTTP Server. In a default installation, this number is 7777. For more information, see “Accessing the Oracle Application Express Login Page” in the APEX Installation Guide.
  - 1.3. *database\_access\_descriptor* describes how Oracle HTTP Server connects to the database server so that it can fulfill an HTTP request. The default value is *apex*.
  - 1.4. The remainder of the URL indicates to display the login page for a Workspace Administrator.
2. You will now be presented with the APEX Login page. Login using “SSR” as the Workspace and use the administrator ID and password.
3. Select Application Builder.
4. Select the SSR application.
5. Select “Edit Attributes”.
6. Select “Security”.
7. Select “Define Authentication Schemes.”
8. On the right side of the page, select “Change Current”
9. Change the value of “Available Authentication Schemes” to “Application Express”.
10. On the confirmation page, select “Make Current.”

## Application Express User Account Authentication

APEX performs authentication and authorization using information stored in its own tables. The user accounts are those that are created in the SSR workspace. You can set up user accounts one of two ways.

1. Create a user account through the APEX Administrator interface:
  - 1.1. Login to APEX as an APEX Administrator.
  - 1.2. Select “Manage Workspaces”.
  - 1.3. Select “Manage Developers and Users”.
  - 1.4. Select the “Create” button.
  - 1.5. Enter the required information and when done select either the “Create” button or the “Create and Create Another” button.
2. Create a user account through the APEX Workspace Administrator interface:
  - 2.1. Login to APEX as an SSR Workspace Administrator.
  - 2.2. On the Home page, select the link “Manage Application Express Users” in the “Administration” box on the right side of the page.
  - 2.3. Select “Create End User”.
  - 2.4. Enter the information except for “User Groups” and when done select either the “Create” button or the “Create and Create Another” button.

## Create User Groups

Authorization is accomplished by assigning end users to User Groups. Create a User Group for each SSR Report Template:

1. Login to APEX as an SSR Workspace Administrator.
2. On the Home page, select the link “Manage Application Express Users” in the “Administration” box on the right side of the page.
3. Select “Create Group” and create a group for each of the following Report Templates. Be sure to enter each name **exactly** as listed below:
  - Admissions Application
  - Advancement Person
  - Advisor Student Listing
  - Employee

- Enrolled Students
- Financial Aid Awards
- General Ledger
- Operating Ledger
- Receivable Customer

## Application Express User Account Authorization

Authorization is accomplished by assigning end users to User Groups. SSR is delivered with a User Group defined for each Report Template. To assign end users to SSR User Groups:

1. Login to APEX as an SSR Workspace Administrator.
2. On the Home page, select the link “Manage Application Express Users” in the “Administration” box on the right side of the page.
3. Select “Existing Users”.
4. Select a user from the list.
5. Under “User Groups”, select the appropriate User Groups for that user and select “Apply Changes”.



### Note

Be certain to assign all User Groups to all users who are listed as Developers and/or Workspace Administrators. ■

## Change the Authentication Scheme application item

An APEX application item, or global variable, called “F1\_SECURITY\_TYPE” has been created to direct the SSR permissions function, SCK\_COMMON.F\_getSSRPermissions, to use either Oracle User Account Security or Application Express User Account Security. To change the value of this item:

1. From the SSR Workspace Administrator Home page, select “Application Builder”.
2. Select the SSR application.
3. Select “Shared Components”.
4. In the section called “Logic”, select “Application Items”.
5. At the bottom of the page, select the arrow next to “Existing Application Level Computations”. That will display the list of application items.



6. Select the edit icon in column 1 to edit F1\_SECURITY\_TYPE.
7. In the “Computation” attribute change the value of “ORACLE” to “APEX” and select “Apply Changes”.

Refer to the Oracle Application Express User's Guide release 2.0 (Oracle document B16373-01) for additional details.

## Other Security Options

Oracle allows you to configure the SSR application as a partner application with the Single Sign-on (SSO) infrastructure using Oracle Internet Directory (OID). To learn more about this option, visit the Oracle APEX Home Page URL (noted at the beginning of this section), select the link to “How-To’s,” then select from the various papers available in the “Security” section.

Any LDAP server can be used for APEX authentication. In the Shared Components section of the SSR application, APEX provides a wizard which allows you to define the access parameters to your LDAP server. The wizard assumes that the server already exists and that it can respond to a SIMPLE\_BIND\_S call for credentials verification. Refer to the same above-mentioned “Security” section at the Oracle Web site.

APEX also allows you to use an existing authentication scheme of your own, or to create a new one. To implement a custom scheme, you must provide a PL/SQL function returning a Boolean value that APEX will execute before processing each page request. As with the setup for an LDAP server, APEX provides a wizard in the Shared Components of the SSR application with which to define a custom authentication scheme.





Indexes are added based on the reporting needs of the Banner ODS and Banner EDW tables as well as performance for the incremental refresh process. For tracking and documentation purposes, a listing of the delivered indexes is stored in the IA\_ADMIN.MGBINDX table. This table is populated using the following query for a release:

```
SELECT &sysid, x.table_name, x.index_name, column_name, uniqueness,
descend, column_position, &relno, 'NO', SYSDATE, 1
FROM user_indexes x, user_ind_columns y
WHERE x.table_name = y.table_name AND
 x.index_name = y.index_name AND
 x.table_name LIKE 'M%' AND
 x.table_name NOT IN
 (SELECT DISTINCT table_name
 FROM all_tab_columns
 WHERE column_name LIKE '%FREEZE_EVENT%')
ORDER BY x.table_name, x.index_name, column_position;
```

The MGBINDX table is also used in the Banner ODS Checks and Balances process to verify that baseline indexes are valid and present. If your institution has created additional indexes, the differences are reported in the control report as warnings. To have your new indexes included in the Banner ODS Checks and Balances process, insert the new index information into the IA\_ADMIN.MGBINDX table using SQL (refer to the MGBINDX\_DATA\_ODS.SQL script in the dbscripts directory for a syntax example). Set the LOCAL\_IND = 'YES' to identify this as your institution's index. The local records in this table will be preserved with future upgrades. We recommend that baseline rows are *not* deleted from MGBINDX.

The Banner ODS metadata also uses the delivered indexes when documenting the Recommended Search Columns. The script *update\_recsearchconds.sql* (in the dbscripts/utility\_scripts directory) is used to generate that information based on the actual indexes in the database. If additional local indexes are added, it is recommended that this script is rerun (from the IA\_ADMIN account) so the list of Recommended Search Columns accurately reflects the database.





# Glossary

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## Attribute

A building block of information within a view. Many of the attributes in a view come directly from fields in the source database. Other attributes are derived from database fields either through calculations or the logic defined in a function.

## Base View

A view of a primary or secondary composite table, which. A base view is used to add fields not extracted from the source database, or ERP, but required for the view, such as counts or other function-based values. In addition, the base view serves to insulate the user from changes to the architecture of the composite tables. Any changes to the underlying table can be handled through the creation of the base view.

The Banner ODS builds all access to data via the base views

## Business Intelligence

A term adopted within the technology industry to represent a broad category of applications for gathering, storing, analyzing, and providing access to data to help users make better business decisions. Applications within a business intelligence environment allow users to monitor the operations and financial soundness of the institution – they may preserve the organization’s fiscal history, display its current state, and forecast future results using business intelligence data.

## Change File

A file that captures and records key information about the updates, additions, and deletions of data in a master file. The creation of the Change File starts the incremental refresh process in the Banner ODS.

## Change Tables

In Banner, Oracle tables that capture key information when data is changed. Change tables drive the incremental refresh of the Banner ODS process. They identify which information needs to be updated in the Banner ODS.

## Cleansing

The process of translating, decoding, or resolving anomalies within source information that resides in Banner Operational Data Store.

## **Composite Table**

A table within the Banner ODS that groups information from the source system's database tables to form the foundation from which views will be built.

## **Composite View**

Views within Banner that contain the information that will be extracted into the Banner ODS. The ETL process pulls the information from the composite views into the composite tables of the Banner ODS.

## **Control report**

In the Banner ODS, a report generated after a refresh process that indicates the status of the refresh. The report identifies whether the refresh process was successful, the elapsed time of the refresh, and any errors that might have occurred.

## **CSV**

Comma Separated Values file. CSV is a normal format for files as they are downloaded or exported from an application. A CSV file can be opened and manipulated in common tools like Microsoft Excel.

## **Cube**

A cube is a multidimensional data structure used to store presorted information that has been aggregated based on an underlying data relationship. Data structured in this way can be quickly processed and analyzed, because multiple dimensions can be examined at one time.

## **Customer Support Center**

The Customer Support Center is our centralized support site where clients can access support resources for SunGard Higher Education (SGHE) products, and where they can go for support of UDC solutions. The support center itself is not part of the Unified Digital Campus.

## **Data**

Recording facts or instructions on a storage medium for communication, retrieval, processing, or presentation.

## **Data Element**

The smallest individual component part of data. A field's literal, technical name.

## **Data Link**

A reference to a remote database, located on a completely different system from the local database.

## Data Mart

A subset of a data warehouse that is designed for a particular subject area or branch of the organization's business, such as for the Admissions or Human Resource areas. Data marts are typically built and controlled by a single department in an organization.

## Data Model

A map that displays the data elements that are included in the Banner ODS and Banner EDW, and the transition of each data element from its origin in the ERP database to its location in the Banner ODS composite tables and views and Banner EDW star schemata.

## Data Store

Also called Banner Operational Data Store (Banner ODS). A place that stores significant types and pieces of information for an organization, in a format that promotes ease of retrieval and analysis. Banner Operational Data Store (Banner ODS) facilitates operational ad hoc reporting by gathering, transforming, and storing data. The Data Store deals with information that is transactional in nature. It's short-lived, and may be here today and gone tomorrow. See Data Warehouse.

## Data Transformation

The process of converting pieces of raw data into information that is logical, such as by decoding production data and merging information from multiple sources and formats.

## Data Warehouse

Also called Enterprise Data Warehouse (Banner EDW). An informational database that stores data provided and shared by multiple databases. It enables an institution to keep "time slices" of data over time, over history, stored for easy retrieval and comparison. The data warehouse is an extension of the Data Store, which is the primary source of aggregated and detailed data. Partner applications can also be used to feed detailed data into the Banner EDW through the Banner ODS. The data warehouse is separated from the transaction stores, offering scalable performance, product independence and a streamlined extraction process to support the reporting, query or uses of the data warehouse.

Of an Enterprise Data Warehouse (Banner EDW) an institution can ask the question, "How are we doing this month as compared to last month?" See Data Store.

## Denormalized

Describes data that does not conform to any "normalized" form. Normalized data is data in its simplest format, without redundant attributes or keys. Data is normalized for ease when transporting it to another environment, or retrieving it for reporting purposes.

## **Dimension**

A structural attribute of data that consists of pieces of information of a similar type. A Geography dimension, for example, may contain data about regions, countries, cities, states. A time dimension contains year, month, day and hour members. A multidimensional data structure allows data to be organized and analyzed in a concise, efficient way.

## **Dimension Table**

A table that contains all the attributes (dimensions) or characteristics that describe observations and their associated measures (related numbers).

Characteristics of the people, places, or things represented in the data are stored in the dimension tables. One row represents a unique combination of the characteristics in a particular dimension table. The unique combination is assigned a surrogate (sequential) key.

## **Dynamic Data**

Data that is automatically updated every time something changes in the Oracle database.

## **Banner EDW (Banner Enterprise Data Warehouse)**

See Data Warehouse.

## **Enterprise Resource Planning (ERP)**

ERP is the term used to describe the transactional system. It's the combination of the major components of these systems (Student, Financial Aid, Human Resource, Finance, and Alumni/Advancement). It provides the core of information for the Banner ODS and the EDW.

## **Extract, Transform and Load (ETL)**

In managing databases, Extract, Transformation, Load (ETL) refers to three separate functions combined into a single programming tool.

The Extract function reads the data from a specified source database, and extracts a desired subset of data. Next, the Transformation function works with the acquired data, using rules or lookup tables, or creating combinations with other data to convert it to the desired state. Finally, the Load function writes the resulting data (either all of the subset or just the changes) to a target database, which may or may not previously exist.

The ETL process is used to populate Banner Operational Data Store (Banner ODS) from the source database. Another set of ETL processes is used to populate the enterprise data warehouse (Banner EDW) from Banner Operational Data Store (Banner ODS).



## ETL Map Package Parameter

In the Administration tool, a parameter used to group mappings together into a job.

## Facts/Measures

Numbers that are related to the attributes. Facts and measures (the terms are synonymous) generally represent counts, sums or percentages and other ratios. They may be stored and retrieved. They may be calculated from stored measures as the query is executed. Examples of facts/measures are total enrollment, or the number of employees, or the amount of all gifts to the institution.

## Fact Table

A table that contains measures or numerical information used to perform an analysis.

Detailed Fact tables store the most granular level detail in the data warehouse, and support information audit when linked to the source database. Summary Fact tables provide faster responses for queries.

## Fine Grained Access

Terminology used by Oracle to identify how security can be applied to different tables and views. The Banner ODS and Banner EDW use fine grained access security to manage user profile access.

## Freeze Process

A process maintained within the Administration tool that allows you to identify what file(s) to capture at a specific moment in time, or “freeze,” and store inside the Banner ODS as new tables for later access. You can use the freeze process to create ad hoc or scheduled “snapshot” database tables.

## Function

A small piece of code that uses specified logic to get information from the source database that isn’t stored as a single field. For example, “Age” may not be stored as a field. Using a function that subtracts birth date from today’s date and then determines whether the birth month has passed, Age can be provided as an attribute in a view.

The Banner ODS is designed to use functions where practical to calculate values, or determine the location of information within the Presentation Views.

## Grant, Revoke and Privileges

While DDL statements such as Grant and Revoke can’t be used directly in PL/SQL, they do have an effect on which SQL statements are legal. In order to Insert or Delete information on an Oracle table, you need permission. Permissions are manipulated via the Grant and Revoke SQL commands.

## Job Killer

Gives you the ability to stop a process while it is running using the JOB KILLER parameter.

## Key Attribute

Attributes that determine the level of information returned by the view. It is important for you to know the level at which information in a view is returned. For example, key attributes can determine whether a view returns one row of information for each person per condition, or simply one row for each person.

## Incremental Refresh

Data in the Banner ODS is updated, or refreshed, at predetermined intervals of time. Only the data that has changed in the source database since the last refresh is updated.

## Information

Data that human beings assimilate and evaluate to solve problems or make decisions.

## Mapping

The activity of associating elements in the source system with their corresponding elements in the Banner ODS. When you run a job (schedule a process via the Administration Tool), it calls the related mappings and loads or updates the data defined by them.

The Banner ODS includes two main categories of mappings:

- **LOAD mappings:** load data from the source system into the Banner ODS. These mapping names have the prefix `LOAD_`.
- **REFRESH mappings:** update the Banner ODS with data that has changed in the source database. Mappings in this category have the prefix `UPDATE_` or `DELETE_`.

Typically, these mappings exist in pairs. To completely refresh the data, run the `DELETE` mapping followed by its associated `UPDATE` mapping.

SunGard Higher Education delivers the Banner ODS with hundreds of mappings already defined. `LOAD` and `REFRESH` mappings exist for each composite table in the Banner ODS. To make them easier to work with, they are organized into groups by product areas. This gives you the ability to run one job that includes a group of mappings, say all of the Finance-related mappings, at one time. You can also run a single mapping, if desired.

## Master Instance

The database where production data are located. This is also the location where the snapshot logs are run. The master instance is also called the master database or the production database.

## **Measure/Fact**

See Facts/Measures.

## **Meta data**

Literally, data about data. Descriptions of what kind of information is stored where, how it is encoded, how it is related to other information, where it comes from, and how it is related to your institution. The information describes data and other structures, such as objects, business rules, and processes.

## **Multidimensional Cube**

See Cube.

## **Multidimensional Database**

A Database Management System (DBMS) optimized to support multi-dimensional data.

## **Normalize**

See Denormalized.

## **ODBC**

Open Database Connectivity. A product is considered to be ODBC compliant if it allows you to access a relational database in a client/server environment. An example would be using your PC in your office to retrieve information in a database stored in another location.

## **Online Analytical Processing (OLAP)**

Dynamic, multi-dimensional analysis of historical data which supports activities such as:

- Calculating across dimensions and through hierarchies
- Analyzing trends
- Drilling up and down through hierarchies
- Rotating to change the dimensional orientation

## **Banner Operational Data Store (Banner ODS)**

See Data Store.

## **Banner ODS Instance**

The database where all the Banner ODS functions, composite tables, and views are run.

## **OLAP**

Online Analytical Processing. OLAP enables you to perform multi-dimensional analysis by allowing you to drill up, down, across and through information to see varying levels of detail.

## **Oracle Data Dictionary**

Oracle stores information about the structure of the database in the Oracle data dictionary. The data itself is located in other areas and the data dictionary describes how the actual data is organized. The dictionary consists of tables and views that you can query in the same way you query any other database tables or views (the views are owned by Oracle user SYS).

## **Oracle Warehouse Builder (OWB)**

OWB is the ETL tool used to extract data from the ERP and move it to composite tables in the Banner ODS. It is also the tool used to extract the data from the Banner ODS and load it into the Banner EDW.

It is designed to move and transform data, develop and implement data warehouses, perform meta data management, or create and manage Oracle databases and meta data. In addition to its graphical user interface (GUI), Warehouse Builder provides an API in the form of Oracle MetaBase Plus (OMB Plus), where all Warehouse Builder functionality can be accessed using the OMB Scripting Language.

## **Package**

A collection of functions and/or procedures that are managed and owned by a single object.

## **Physical Table**

A table where data is actually stored in a database.

## **PL/SQL**

The 3GL Oracle procedural language extension of SQL. PL/SQL enables you to mix SQL statements with procedural constructs. PL/SQL combines the ease and flexibility of SQL with the procedural functionality of a structured programming language, such as IF...THEN, WHILE, and LOOP. Even when PL/SQL is not stored in the database, applications can send blocks of PL/SQL to the database rather than individual SQL statements, thereby reducing network traffic. With PL/SQL, you can define and execute PL/SQL program units such as procedures, functions, and packages. PL/SQL is interpreted and parsed at runtime; it does not need to be compiled.

## **Presentation View**

A view that joins together multiple base views to make the information easier to access and report from. The primary purpose of a presentation view is to eliminate the

need to join base views, and add in display defaults when present. The presentation view invokes Oracle's fine grained access to ensure proper access to data by a user.

Presentation View and Reporting View are synonymous terms.

### **Primary Composite Table**

A composite table that manages its stored data using a "unique row per key" format. Typically, these tables are the owners of data, and are supported by secondary composite tables.

### **Privilege: Object vs. System**

An object privilege allows an operation on a particular object (such as a table). A system privilege allows operations on an entire class of objects.

### **Procedure**

A database object that is designed to perform a designated process. A procedure is similar to a function -- it is written using rules that are typically difficult for a report developer to create within a reporting tool. The primary difference between a procedure and a function is that a procedure is used to update data in the database whereas functions can only return values.

The Banner ODS uses procedures within the ETL process of populating the Composite Tables.

### **Reporting Views**

See Presentation View.

### **Relational Online Analytical Processing (ROLAP)**

A form of Online Analytical Processing (OLAP) that performs dynamic multi-dimensional analysis of data stored in a relational database rather than in a multi-dimensional database (which is usually considered the OLAP standard).

### **Role Based Security**

Security provided within the Banner ODS that permits you to control who can access reporting information based on each person's role at the institution. The Banner ODS uses Oracle's fine grained access to implement its security.

### **Secondary Composite Table**

A composite table that manages its information on a "many per key" format. Typically, these tables are used to support primary composites because the data can be associated with a specific value within the primary composite tables.

A secondary composite view is also referred to as a repeating view. It is a building block that contains a defined set of data that has an unlimited number of records in the ERP. It is passed through a display rule filter that slots a limited number of the repeating items for use in reporting. It is usually used in combination with other base composite views, but it may be used alone.

**Slotted View** A view that brings back user-defined information from the source database rather than all information.

## Source Code

The all\_source, dba\_source, and user\_source views contain the source code for stored procedures, functions, packages, and package bodies. Trigger source code is in the all\_triggers, dba\_triggers, and user\_triggers views. If the stored object is wrapped, these views contain the encoded source rather than clear text.



### Note

Within the Banner ODS DED, when you view source code, you see the encoded source. ■

## Star Join

An optimal, denormalized form of organizing data to access a group of people, usually a department. Star joins are usually associated with data marts.

## Star Schema

A standard technique for designing the tables of a data warehouse. It is a collection of related database objects, including logical structures such as tables, views, sequences, stored procedures, synonyms, indexes, clusters, and database links.

Star schemata are made up of fact tables, dimension tables and surrogate or calculate keys.

Fact tables each join to a larger number of independent dimension tables. The tables may be partially denormalized for performance, but most queries still need to join in one or more of the star tables.

A schema is owned by a database user and has the same name as that user; relational schemata are grouped by database user ID.

## Synonym

A renaming of a table reference, similar to an alias for a select list item. A synonym is a data dictionary object and is created by the CREATE SYNONYM DDL statement.

## Table

The object within the database where data is stored in a row and column format.

## Translating Code

A code that associates a code in the source database with different code values in the Banner EDW. A translating code can translate one-to-one, or by range. More than one code in the source database can be associated with one code in the Banner EDW.

## Trigger

Triggers are used to populate the change tables which aid in the incremental refresh process.

## View

A grouping of information, also called “logical view.” A view is “logical” because the information in the view is grouped in a logical order, putting related information in the same section of the view. For instance, in the people-related views, you find all the name information together at the beginning of the view, followed by personal, biographical, and demographic information.

Most of the information in a view comes from fields within the source database tables. Some information is calculated from database fields or retrieved using an Oracle function. A single view can include up to 255 pieces of information, called attributes.





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