SQL Data Staging Area - Financial Aid Data

The SQL database and schema that stores the Financial Aid data was initially designed and deployed by a third-party vendor, Regent. This application and database is currently being maintained by the SBCTC-ITD. Data that was in our legacy system (then: HP 3000, Image, SAFER database) was converted into the SQL database in 2008 when we migrated to the Regent product. Any data changes that occurred since that date have been created or updated by the Financial Aid application in either batch or on-line mode and data that has been modified by processes run by our Legacy System on the HP-UX and written to the Financial Aid SQL database using data adapters.

Meta data has been created to provide descriptions on the tables and fields in the Financial Aid database. Refer to the spreadsheet ***DSAs_FinancialAid_MetaData*** for this information.

Financial Aid Extract, Transform and Load (ETL) Process

A subset of the data from the SQL Financial Aid database is extracted nightly and loaded into the Eloquence (SAFER) database in the legacy production (HP-UX) environment. Moving data to this environment was done to support business functions that access to Financial Aid data used by other applications areas such as the Student and Financial systems. Refer to the spreadsheet, ***DSA-S SQL to Safer Map*** for details about how this data was mapped for the ETL process.

General Information

There are a few characteristics you will find common to data in most tables in the SQL Financial Aid system:

- Character fields with no value are stored using a blank value (e.g., `'  '`), they typically do not use a *null* value.

- Most character fields are defined using the data type *varchar*. The insert and update process designed by the vendor (Regent) padded all of these records so the data in the field consumes all of the storage space to match the data that was initially converted at the product implementation. These values will have padded spaces for the remainder of non-filled space.
  - The additional blank spaces can be removed by using the SQL “right trim” function when loading the extracted data at your campus

- Numeric fields with no value are stored using zero (e.g., 0, 0.00, etc.)

- Many fields that include date data are defined as *varchar*(8), not as a date field. These fields store the data using a *CCYYMMDD* format (e.g., 20120415).

- This system uses named database schemas instead of the default ‘*dbo*’ schema name in the SQL database. There are two schema names that you will frequently reference to find data in your extracts:
  - ally – used for Financial Aid and Need data
  - cntl – used for control tables

- The first part of name for each table further identifies what type of data it is. Here are some of the more common prefixes you will find with the Financial Aid data:
  - "SAF_" indicates that this data that is part of Student Financial Aid processing
  - "NED_" indicates that this data that is part of the Need Analysis processing
  - "CTL_" indicates that this data that is part of the control or code tables
  - "IDE_" indicates that this data that is part of the student identifying data

Almost every table in the Financial Aid system contains fields that help to identify when, how and by whom the data was written to the database. This includes Timestamp fields, User fields and a Program field. These are useful to determine new and changed records and are the key to determine what data has changed. Successful use of these fields eliminates the need for a full table download in your data extract processes. Here's a recap of what you will find:

Time Stamps. There are two time stamp fields that are defined as a *datetime* data type. They can be useful to identify new or updated data:

CTL_POST_TSTAMP – Records the date and time the record was initially created. This is a static value and should never change.

CTL_UPD_TSTAMP – Records date and time the record was last updated. When a record is brand new, it will match the CTL_POST_TSTAMP value; the value will change anytime data in the row has been updated.

User Identifiers. There are two fields that record the User identifier for the record.

CTL_POST_ID – Records the user login that initially created the record. This is a static value and should never change.

CTL_UPD_ID – Records the user login that processed the record when the data was last updated. When a record is brand new, it will match the CTL_POST_ID value; the value will change anytime data in the row has been updated.

There are some User IDs that you will find in the Financial Aid data that may not be familiar to you:

SAFUORA – The name of the user that was used during the implementation and data conversion from the Image SAFER databases.

NEDUORA – The name of the user that was used during the implementation and data conversion from the Image NEED*nn* databases; this user continues to be used for data that is uploaded from the Department of Education (DOE).

dbo – Indicates that the data was inserted by the SBCTC-ITD database team, typically during a product implementation or upgrade.

CTC\IntegrationSvc and ***INTPROD\IntegrationS*** – The name for the users for data that was added or changed via the Integration server (CISIS), the technology solution that connects the HP-UX processes with SQL.

Program Identifier. The field, **CTL_PROGRAM** identifies what program or screen was used for the most recent update to the record. This field will be blank if the record was inserted during the initial product conversion or upload process. When the data is modified using the Financial Aid application or by a process run on the Legacy (HP-UX) system, this field will provide details on what program modified the data.

Most of the values represent Program ID values found in the Financial Aid system. In addition, you may find values in the Financial Aid data that may not be familiar to you:

> **CISIS** – This is the program name for the Integration Server that writes data from the legacy (HP-UX) system directly to the Financial Aid system.

Student Data

The student data in the Financial Aid database is stored in several tables. This allows the capability for each student to have more than one name, address or email address. Each record will have a unique type and code that links the correct row of data to the table you are seeking the attributes for (e.g., a Type of *MAST* and Code of *DFLT* is often used to link addresses back to the Student Master). Rather than guessing what that value is, it is recommended to use these fields when you join data from the tables.

To successfully retrieve data attributes for a student's master record, you will need to join the data from more than one table. This is done by matching the Student ID, Type and Code values that are stored in the Student Master table with the corresponding table that contains the details you are looking for. Here are the connections you will want to use find all of a student's attributes:

Student Master – contains the student's ID and the values used to link to the tables listed below.

Table Name: ally.SAF_STD_MAS

Student Name – contains the student's name in a variety of formats.

Table Name: cntl.IDE_NAMES
Fields to link on when joining these tables:
ally.SAF_STD_MAS.SAF_STD_ID = cntl.IDE_NAMES.IDE_ID_NUM
ally.SAF_STD_MAS.SAF_NAME_TYPE = cntl.IDE_NAMES.IDE_NAME_TYPE
ally.SAF_STD_MAS.SAF_NAME_CODE = cntl.IDE_NAMES.IDE_NAME_CODE

Student Address – contains the student's address and phone number.

Table Name: cntl.IDE_ ADDRS
Fields to link on when joining these tables:
ally.SAF_STD_MAS.SAF_STD_ID = cntl.IDE_ADDRS.IDE_ID_NUM
ally.SAF_STD_MAS.SAF_ADDR_TYPE = cntl.IDE_ADDRS.IDE_ADDR_TYPE
ally.SAF_STD_MAS.SAF_ADDR_CODE = cntl.IDE_ADDRS.IDE_ADDR_CODE

Student Email Address – contains the student's email address.

Table Name: cntl.IDE_ELEC_ADDRS
Fields to link on when joining these tables:
ally.SAF_STD_MAS.SAF_STD_ID = cntl.IDE_ELEC_ADDRS.IDE_ID_NUM
ally.SAF_STD_MAS.SAF_ELEC_ADDRS_TYPE = cntl.IDE_ELEC_ADDRS.IDE_ELEC_ADDRS_TYPE
ally.SAF_STD_MAS.SAF_ELEC_ADDRS_CODE = cntl.IDE_ELEC_ADDRS.IDE_ELEC_ADDRS_CODE

Student Demographics– contains demographic information about the student including their birthdate, marital status and citizenship status.

***Table Name*:** cntl.IDE_PERS_DEMO
Field to link on when joining these tables:

ally.SAF_STD_MAS.SAF_STD_ID = cntl.IDE_PERS_DEMO.IDE_ID_NUM

Note: there is no type or code value to link to the demographics data as there is only one demographic record for each student