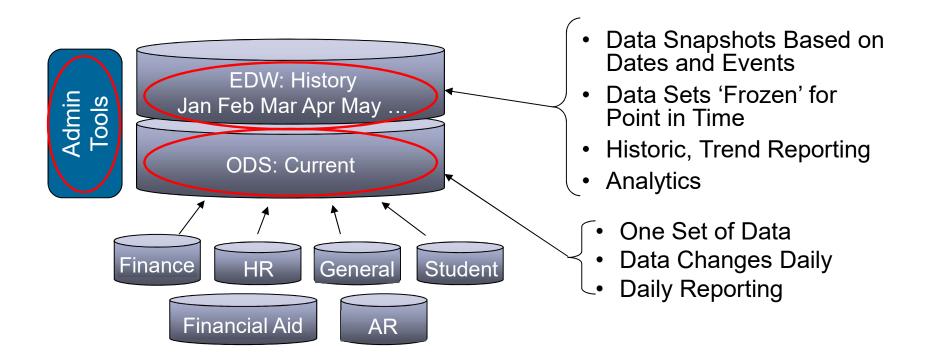
- Opportunity for More Consistent Reporting Results.
 - Common Data Source
 - Common Business Concepts
- Banner Operational Data Store (ODS): Ad-hoc querying and daily reporting.
- Enterprise Data Warehouse: Historic, trend reporting and analytics.



Business Concepts

Common

Event
Institution
Organizational 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

Human Resources

Employee
Human Resources Application
Human Resource Faculty
Payroll
Position

Business Concepts

Accounts Receivable

Receivable Customer Receivable Revenue

Student

Active Registration
Admissions Application
Advisor Student List
Audit Student
Course Catalog
Enrollment Management
Faculty Assignment
Government Reporting
Recruitment Information
Registration Plan

Residential Life

Schedule Offering

Student Detail

Financial Aid

Financial Aid Application
Financial Aid Award and
Disbursement
Financial Aid Fund
Loan Disbursement

Business Concept Diagrams

Business Concept Diagram Relationships

One to One One to Many Optionally One to Many One to Optionally Many Optional Non Identifying Subtype

Primary Key (PK) and Foreign Key (FK)

Primary Key

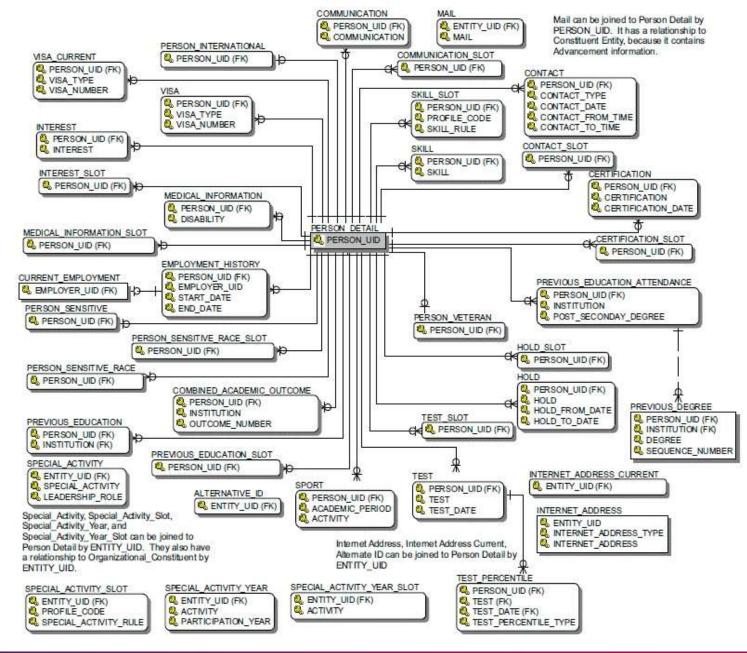
 A column or columns that uniquely identify a row or rows in a reporting view.

Foreign Key

Identifies the row or rows that are common between reporting views.

Business Concept Diagrams Common

Person Supplemental



Person Supplemental

Content

 A comprehensive gathering of person data not necessarily limited within a single business area of the institution. Although components of the data may be primarily used in one enterprise module, the nature of the data deems it as shared data.

Uses

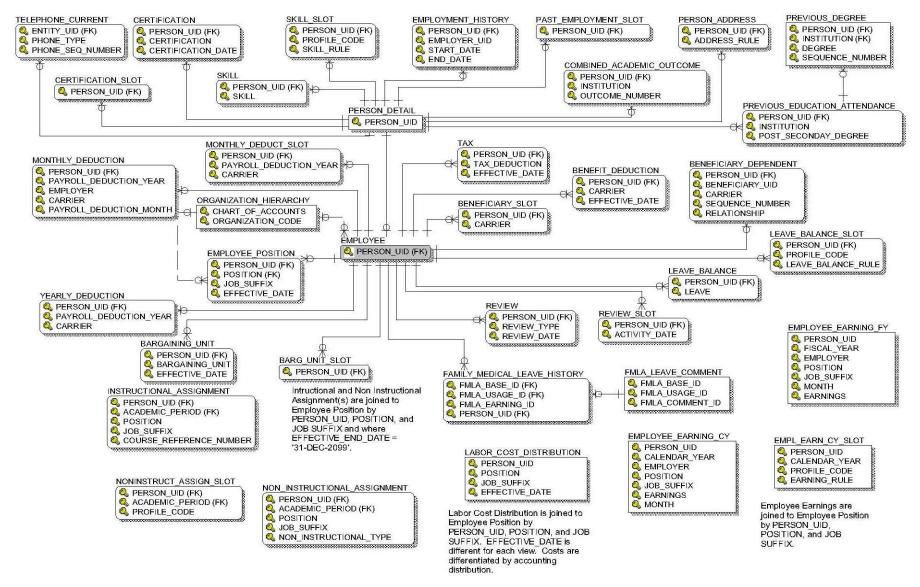
- To report comprehensively on person entities without regard to their current roles in Banner.
- To report Visa status or international information for all person entities.
- To report employment data for constituents who are persons. (This is not the same as the employee data housed in the Banner HR module.)

Primary Data Sources

SPBPERS, GOBINTL, GOREMAL, SPRIDEN, SPRMEDI

Business Concept Diagrams Human Resource

Employee



Employee

Content

 Includes most general biographic, demographic, core and summary employee data including year and month to date earnings, job assignment history, leave balances, benefits and deductions, and more.

Uses

- To create an employee list based on various criteria such as current employment, prior employment, employee type, gender, etc.
- To report biographic and/or demographic characteristics and statistics of the overall employee population or a targeted portion of the institution's workforce.
- To list all benefits and/or deductions in which employees are enrolled or participate.

Employee (continued)

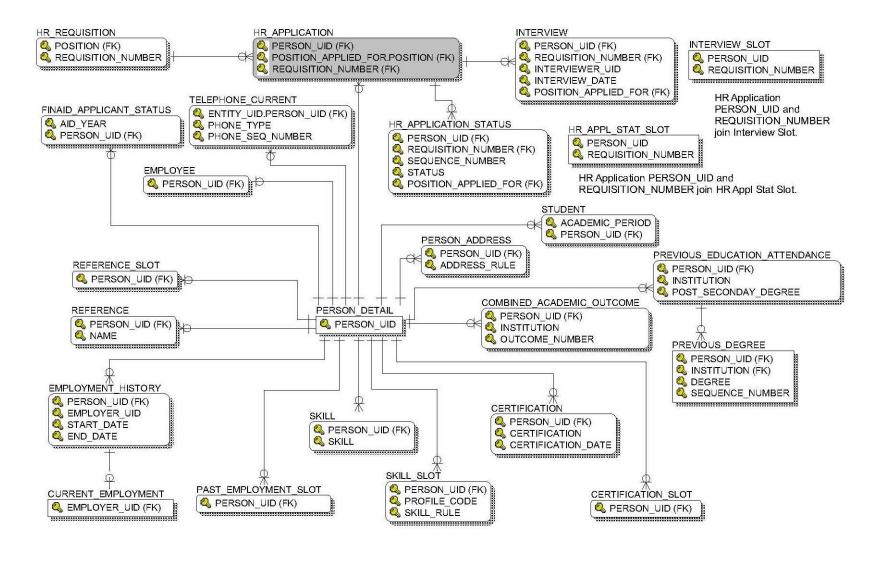
Uses

- To create monthly or annual vendor reports or data transmissions not based on a specific payroll but cumulative in nature.
- To create a faculty report including employee-specific data along with instructional and/or non-instructional data from the Student business area.
- To list skills and qualifications by employee group for accreditation, benchmark, survey, or internal audit purposes.

Primary Data Sources

PEBEMPL, NBRJOBS, NBRBJOB, PERREVW

Human Resource Application (No data available in ODS – SOU doesn't currently record this in Banner)



Human Resource Application

Content

 Includes data from Banner's HR Applicant Administration business area such as position requisition, applicants for open positions, credentials of those applicants and their progress through the application and interview process.

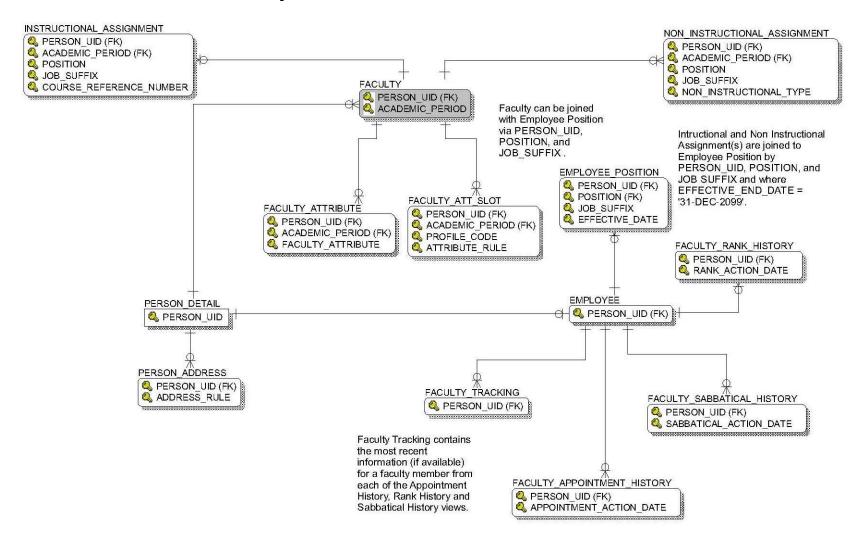
Uses

- Create list of student employee applicants.
- Gather search and hire statistics.
- To list applicant qualification comparisons.
- Analyze open or recently filled requisitions.

Primary Data Sources

PABAPPL, PABREQU

Human Resource Faculty



Human Resource Faculty

Content

This concept gathers faculty associated data from the Human Resource and Student business areas including assignments, workload, wage structure, sabbatical, rank and tenure. Note: SOU does not currently record noninstructional assignments in Banner so it is not available in the ODS.

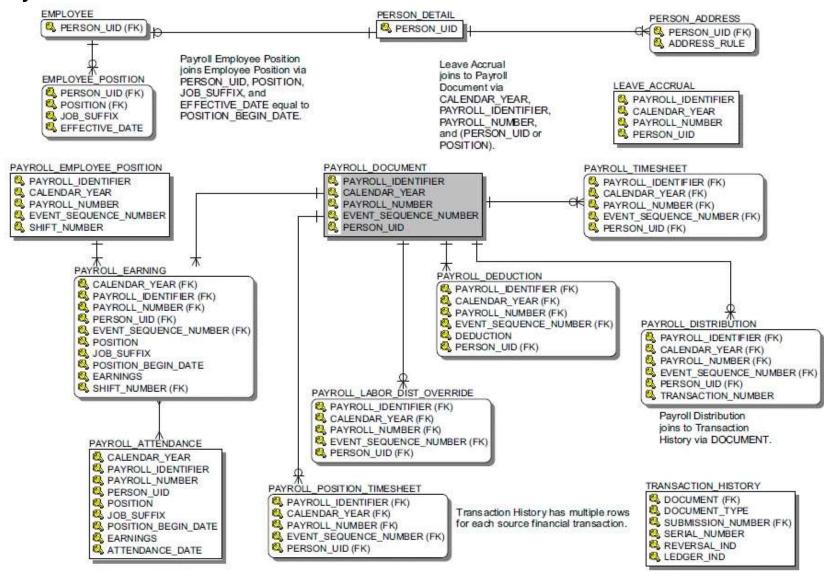
Uses

- To gather faculty assignment data in support of faculty load and compensation research.
- To track faculty tenure status and progress.
- To pull data for contract analysis and negotiation.
- To track sabbatical eligibility and use.
- To research historical faculty appointments.

Primary Data Sources

SIBFACD, SIBINST, SIRDPCL, SIRICNT, PERBFAC, NBRJOBS, STVTERM

Payroll



Payroll

Content

 Detailed payroll information including timesheet data, earnings, deductions, leave accrual, labor distribution, payroll feed to Finance, together with core employee, job assignment, and general person biographic information.

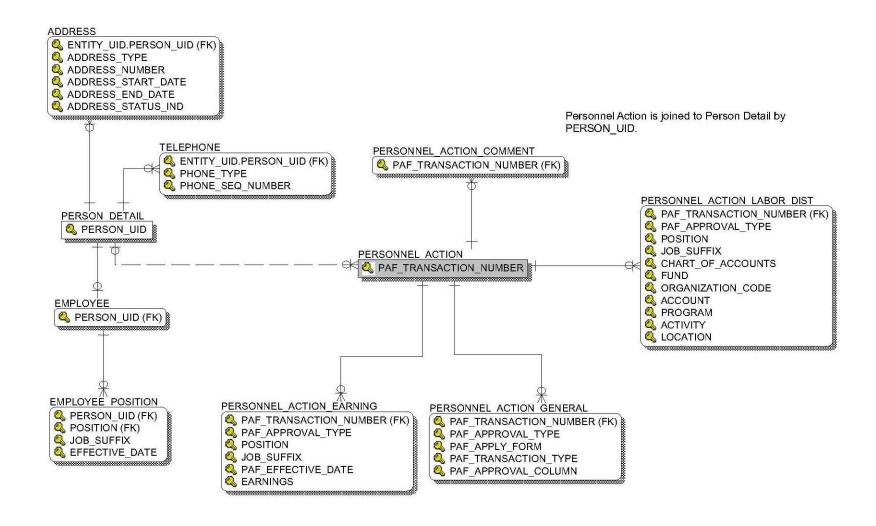
Uses

- Extract vendor remittance detail.
- To provide Finance with reconciliation detail.
- To validate payroll data entry and calculations.
- Track budget expenditures from a detailed perspective.
- To validate leave policy compliance.

Primary Data Sources

PHRDOCM

Personnel Action Audit (No data available in ODS – SOU doesn't currently record this in Banner)



Personnel Action Audit

Content

 This business concept revolves around personnel action. (SOU does not record personnel actions in Banner so there are no records in ODS.)

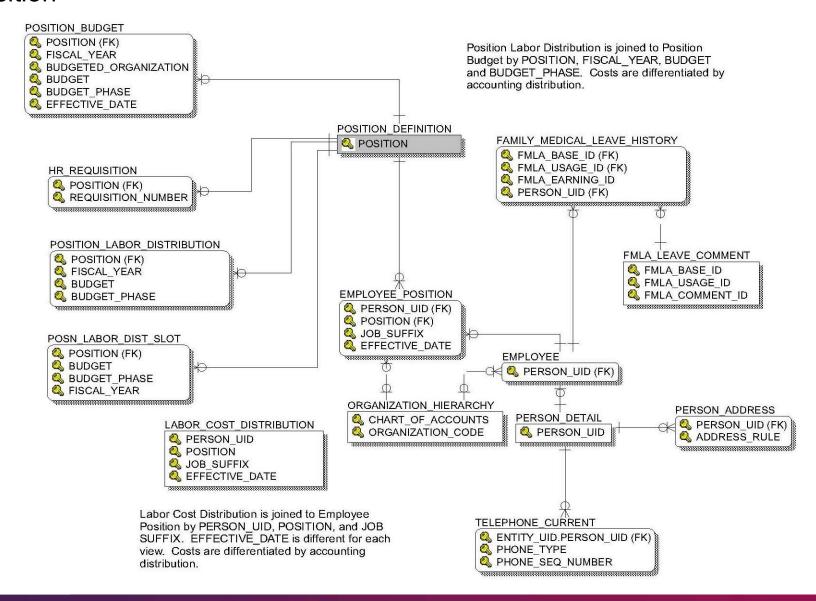
Uses

Electronic Personnel Action review

Primary Data Sources

NOBTRAN (NOAEPAF)

Position



Position

Content

 This business concept centers around position data as defined on NBAPOSN and NBAPBUD of Banner's Position Control module and also includes base employee and job assignment detail as well as general person biographic and demographic information.

Uses

- To report on open requisitions including position budget data.
- Create audit report comparing position definition characteristics with characteristics at the job assignment level.
- For labor budget analysis and planning.
- Provide workforce survey information and statistics.

Primary Data Sources

NBBPOSN, NTRPCLS

Banner and Banner ODS Making the Connection

The Meta Data

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.

All the business logic is included in the view itself.

Column names are generic.

- Term becomes Academic Period.
- PIDM becomes UID (unique ID).

Reporting views are divided into the various Banner systems.

- Accounts Receivable
- Common
- Finance
- Financial Aid
- Human Resources
- Student

The Meta Data

Reporting View Structure

Target Column

Column name in the reporting view target.

Business Definition

Defines the target column in business terms.

Database Data Type

Used for formatting purposes when writing reports.

Source Name

Source table, FUNCTION, CONSTANT, or CALCULATION.

Source Column

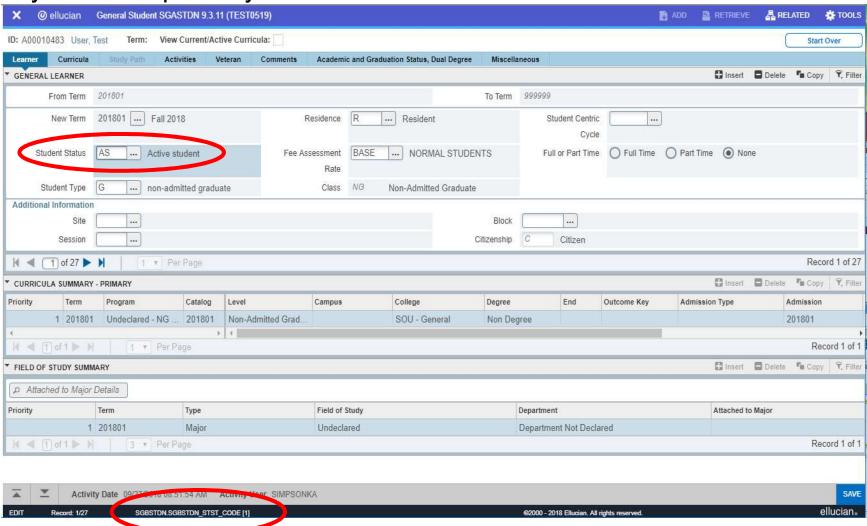
 Source column name from the source table or view, if the source is a table or view. Name of the PL/SQL function if the source is FUNCTION, description of the constant if the source is CONSTANT, or description of the calculation used if the source is CALCULATION.

Making the Connection

Simple Steps

- Know the Banner form you need data from.
- Get into the field in Banner to identify the table and field names.
- Use the Metadata to crosswalk from Banner to Banner ODS.
- Identify the Banner ODS views and fields needed.

Dynamic Help Query from the Banner Form



Match the Table Name...

Source Reports:

FUNCTION NA SABAUDF SABSUPL SARAATT SARADAP SARAPPD SARCHKL SARCHRT SARRRAT SARRSRC SCBCRSE SCBDESC SCBSUPP SCRATTR SCRCORQ SCRGMOD SCRLEVL SCRRTST SCRSCHD SFBETRM SFRAREG SFRSTCA SFRSTCR

SFBETRM SFRAREG SFRSTCA SFRSTCR SFRTHST SGBSTDN SGRADVR SGRCHRT SGRCOOP SGRDISA SGRSACT SGRSATT SGRSPRT SGRVETN SHBDIPL



- ✓In the web interface or via your reporting tool access the Meta Data
- √ Select the appropriate business area, e.g. Student
- √ Select the appropriate business reporting view
- ✓ Locate the Source Reports and select the table

Locate the Field Name

	No. of the last of				
		VIEW	STUDENT_EXTENDED	ORIENTATION_SESSION	
			GOVERNMENT_STUDENT	ORIENTATION_SESSION	
SGBSTDN_PIDM	NA	REPORTING VIEW	ACADEMIC_STUDY GOVERNMENT FINANCIAL AID	PERSON_UID PERSON_UID	NA
			ACADEMIC_STUDY_EXTENDED	PERSON_UID	
SGBSTDN_PREV_CODE	SGASTDN	REPORTING VIEW	STUDENT	PROGRESS_EVALUATION	NA
			STUDENT_EXTENDED	PROGRESS_EVALUATION	
SGBSTDN_RESD_CODE	SGASTDN	REPORTING VIEW	GOVERNMENT_STUDENT	RESIDENCY	NA
			STUDENT_EXTENDED	RESIDENCY	
SGBSTDN_SESS_CODE	SGASTDN	REPORTING VIEW	ACADEMIC_STUDY	STUDENT_MEETING_TIME	NA
			ACADEMIC STUDY EXTENDED	STUDENT MEETING TIME	
SGBSTDN_STST_CODE	SGASTDN	REPORTING VIEW	ACADEMIC_STUDY	STUDENT_STATUS	NA
			ACADEMIC_STUDY_EXTENDED	STUDENT_STATUS	
			STUDENT	STUDENT_STATUS	
			STUDENT_EXTENDED	STUDENT_STATUS	
SGBSTDN_TERM_CODE_ASTD	SGASTDN	REPORTING VIEW	ACADEMIC_STUDY	ACADEMIC_STANDING_ACAD_PERIOD	NA
			ACADEMIC STUDY EXTENDED	ACADEMIC_STANDING_ACAD_PERIOD	
SGBSTDN_TERM_CODE_CAST	SGASTDN	REPORTING VIEW	STUDENT_EXTENDED	COMBINED ACAD STANDING PERIOD	
	11	Constitution of the consti	STUDENT	COMBINED_ACAD_STANDING_PERIOD	
CODOTON TERM CODE FEE	OOLOTON	DEDODTINO	OTUDENT	ACADEMIA DEDICE	A L A

Drill to the Target Report

551		-		
STODENT_LEVEL_DESC	Stadent level description.	(255)	TONCHON	GOKODSI I GET DESC
STUDENT_MEETING_TIME	Student's normal attendance time. May be either day, evening, weekend, etc.	VARCHAR2 (63)		SGBSTDN_SESS_CODE
STUDENT_MEETING_TIME_DESC	Student's meeting session description.	VARCHAR2 (255)	STVSESS	STVSESS_DESC
STUDENT_POPULATION	Student population or type for reporting. May include populations like new freshman, transfer, continuing, etc.	VARCHAR2 (63)	CALCULATION	NVL(SORLCUR_STYP_CODE,SGBSTDN_STYP_CODE)
STUDENT_POPULATION_DESC	Student population or type description.	VARCHAR2 (255)	STVSTYP	STVSTYP_DESC
STUDENT_RATE	Identifies any specific assessment rate to be used to determine the charges for this student.	VARCHAR2 (63)	CALCULATION	NVL(SORLCUR_RATE_CODE, SGBSTDN_RATE_CODE)
STUDENT_RATE_DESC	Description for the rate code.	VARCHAR2 (255)	STVRATE	STVRATE_DESC
STUDENT_STATUS	Student's current status for the academic period. May include active and permitted to register, inactive and stop registration, graduated, etc.	VARCHAR2 (63)	SGBSTDN	SGBSTDN_STST_CODE
STUDENT_STATUS_DESC	Student's status description.	VARCHAR2 (255)	STVSTST	STVSTST_DESC
SUB_ACADEMIC_PERIOD	A session, portion or part of the academic period.	VARCHAR2 (63)	NA	<u>NA</u>
SUB_ACADEMIC_PERIOD_ADMITTED	Session or part of the academic period associated with the information on the academic study information record.	VARCHAR2 (63)	NA	<u>NA</u>
SUB_ACADEMIC_PERIOD_ADMIT_DESC	Description of the session or part of the academic period associated	VARCHAR2 (255)	NA	<u>NA</u>

The Meta Data

- Meta Data is information about the structure of the ODS data itself, such as the columns or fields in the data source, the format or the location of the data sources.
- Two perspectives are available
 - ODS Composite Views.
 - ODS Reporting Views (this is the view used most often).
- Some terminology
 - Target view ODS reporting views that contain information from the related Banner tables.
 - Source Table Tables from the Banner database.
 - Source Function Functions that use data from Banner tables to create new data that is stored in the ODS.

Display Rules

Banner ODS Concepts

Display Rules

- Enable you to control and customize how data is:
 - Stored in the Banner ODS composite tables.
 - Displayed in certain Banner ODS Reporting Views.
 - Example test scores or address types.
- 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 many of the Slotted views.
 - "Hierarchical" display rules are required for a sub-set of Reporting views.
- In most cases the query must be 'filtered' by a RULE in order to avoid Cartesian-effect results.

Display Rules

Human Resources

Internal Group	Internal Code	Rule Definition	Used In: (Slotted Table or View)
ADDRESS	PAYRADDR	1: PY	Address By Rule, Person Address
BARGAINING UNIT	PAYRBARG	(not used at SOU)	Barg Unit Slot
DEDUCTION/BENEFIT	PAYRPROF PAYRYEAR **Remove the Date in the Reporting Date for the report to include all inclusive data. This date will include data from this date forward.	(field not used) 2015	Benefit Deduction View
EARNING	CDIFEARN Classified - Differential	1: DCS 2: DLW 3:DEL 4: DWC 5: DPP 6: DSH 7: DSU 8: DBL	Empl Earn CY Slot
EARNING	CERNEARN Classified – Earned Time	1: LEF 2: LEE 3: LEC	Empl Earn CY Slot
EARNING	CLEAEARN Classified – Leave Taken	1: LW3 2:LW7 3: LTV 4: LTS 5: LTP 6: LTF 7: LTX 8: LPV	Empl Earn CY Slot
EARNING	COVTEARN Classified - Overtime	1: OTS 2: OTP 3: OTM 4: OTD	Empl Earn CY Slot

Internal Group	Internal Code	Rule Definition	Used In: (Slotted Table or View)
EARNING	CREGEARN Classified – Regular Pay	1: REG 2: RGP 3: RRP 4: OCH 5: OCP 6: DOC 7: RAD 8: ADJ	Empl Earn CY Slot
EARNING	FLEAEARN Faculty – Leave Taken	1: LW3 2: LW7 3: LTS 4: LTX	Emple Earn CY Slot
EARNING	FOVLEARN Faculty - Overload	1: OVX 2: OVP	Empl Earn CY Slot
EARNING	FREGEARN Faculty – Regular Pay	1: SAL 2: SLP 3: OAP 4: SUM 5: STI 6: SAB 7: UDO 8: UDA	Empl Earn CY Slot
EARNING	PAYREARN	Not currently used at SOU	Empl Earn CY Slot
EARNING	SGRDEARN Student – Graduate Assistant	1: GTA 2: GRA 3: GOP 4: GAA	Empl Earn CY Slot
EARNING	SOVTEARN Student - Overtime	1: OTS 2: OTP 3: OTM	Empl Earn CY Slot
EARNING	SREGEARN Student – Regular Pay	1: RW1 2: RW2 3: RWS 4: RST 5: RS1 6: RS2 7: RSU 8: RGP	Empl Earn CY Slot

Internal Group	Internal Code	Rule Definition	Used In: (Slotted Table or View)
EARNING	TOVTEARN Classified Temporary - Overtime	1: OTS 2: OTP 3: OTM	Emple Earn CY Slot
EARNING	TREGEARN Classified Temporary	1: REG 2: RGP 3: DOC	Empl Earn CY Slot
EARNING	UERNEARN Unclassified – Earned Time	1: LEF	Empl Earn CY Slot
EARNING	ULEAEARN Unclassified – Leave Taken	1: LW3 2:LW7 3: LTV 4: LTS 5:LTO 6: LTF 7: LTX 8: LPV	Empl Earn CY Slot
EARNING	UOVTEARN Unclassified - Overtime	1: OTS 2: OTP 3: OTM 4: OVX 5: OVP	Empl Earn CY Slot
EARNING	UREGEARN Unclassified - Regular Pay	1: SAL 2: SLP 3: OAP 4: SUM 5: STI 6: DOC 7: FPV 8: RAD	Empl Earn CY Slot
EARNING	WOVLEARN Wage Agreements - Overload	1: OVX 2: OVP	Empl Earn CY Slot
EARNING	WREGEARN Wage Agreements – Regular Pay	1: ONB 2: OAP 3: SLP	Empl Earn CY Slot

Internal Group	Internal Code	Rule Definition	Used In: (Slotted Table or View)
EMPLOYMENT VERIFIC	PAYRPROF PAYRYEAR **Entering a Date in Reporting Date passes that date to the reporting view as the Profile Date	(field not used) 2015	Employee Position View
LEAVE	CEXMLEAV Leave – Classified Exempt	1: ASIC 2: AVAC 3: PERS 4: XCHG 5: COMP	Leave Balance Slot
LEAVE	CREGLEAV Leave – Classified Regular	1: ASIC 2: AVAC 3: PERS 4: FLSA 5: NFLS	Leave Balance Slot
LEAVE	FREGLEAV Leave - Faculty	1: ASIC 2: XSPE 3: XFUR 4: XBRV	Leave Balance Slot
LEAVE	PAYRLEAV Leave	1: ASIC 2: AVAC 3: PERS 4: XFUR 5: XSPE	Leave Balance Slot
LEAVE	UEXMLEAV Leave – Unclassified Exempt	1: ASIC 2: AVAC 3: XSPE 4: XFUR 5: XBRV	Leave Balance Slot
LEAVE	UOTELEAV Leave – Unclassified OT Eligible	1: ASIC 2: AVAC 3: FLSA 4: XSPE 5: XBRV	Leave Balance Slot

Internal Group	Internal Code		Used In: (Slotted Table or View)
NEW EMPLOYEE	SERVICE_YEARS	0.5	Employee
SKIL	PAYRSKIL	(not used at SOU)	Skill Slot

Reporting Views

 Includes the main data that is extracted from source system and stored in Banner ODS.

Slotted Views

- Stores data values for a specific code related to a base reporting view.
- Optimizes the speed of queries.
- Population is often controlled by Display Rules the Institution defines.

Common (61)

Activity Employment_History

Address Event

Address_By_Rule Event_Invitee

Address_Current Geographic_Region

Address_Preferred Geographic_Region_Institution

Calendar_Date_Hierarchy Hold

Certification Hold_Slot

Certification Slot Institution

Combined_Academic_Outcome Institution_Characteristic

Communication (Mailing) Inst_Characteristic_Slot

Communication_Slot Institution_Demographic

Contact Interest

Contact_Slot Interest_Slot

Current_Employment Internet_Address

Cross Reference Slot Internet Address Current

Common (61)

Mail

Mail_Slot

Medical_Information

Medical_Information_Slot

Organization_Entity

Organization_Entity_Address

Past_Employment_Slot

Person

Person Address

Person Detail

Person International

Person_Sensitive

Person Sensitive Race

Person Sensitive Race Slot

Person Veteran

Previous_Degree

Previous_Education

Previous Education Slot

Previous Education Attendance

Relationship

Salutation

Secondary School Subject

Skill

Skill_Slot

Telephone

Common (61)

```
Test
Test_Slot
Validation
Visa
Visa_Current
Year_Type_Definition
```

Human Resource (45)

Bargaining_Unit

Barg_Unit_Slot

Beneficiary Dependent

Beneficiary_Slot

Benefit_Deduction

Employee

Employee_Earning_CY

Employee_Earning_FY

Employee_Position

Empl_Earn_CY_Slot

Faculty_Appointment_History

Faculty Rank History

Faculty_Sabbatical_History

Faculty_Tracking

HR_Application

HR_Application_Status

HR Appl Stat Slot

HR_Requisition

Interview

Interview_Slot

Labor Cost Distribution

Leave_Accrual

Leave_Balance

Leave Balance Slot

Monthly_Deduction

Monthly_Deduct_Slot

Payroll_Attendance

Payroll_Deduction

Payroll_Distribution

Payroll Document

Human Resource (45)

```
Payroll_Earning
Payroll_Employee_Position
Payroll Labor Distribution Override
Payroll_Position_Timesheet
Payroll_Timesheet
Position_Budget
Position Definition
Position_Labor_Distribution
Posn_Labor_Dist_Slot
Reference
Reference_Slot
Review
Review_Slot
Tax
Yearly_Deduction
```

Questions

Questions

Banner ODS Documentation

http://inside.sou.edu/it/banner/index-banner-ods.html

Contact the Helpdesk

Send an email to <u>data-warehouse-support@sou.edu</u>

Glossary

Glossary

Attribute

A building block of information within a view. Many attributes in a view come directly from fields in the source database (Banner). Other attributes are derived either through calculations or the logic defined in a function.

Banner Enterprise Data Warehouse (Banner EDW)

An informational database that enables an institution to keep "time slices" of data over time, over history, stored for easy retrieval and comparison. The Enterprise Data Warehouse is an extension of the Operational Data Store, which is the primary source of aggregated and detailed data.

Banner Operational Data Store (Banner ODS)

The primary source of aggregated and detailed data is comprised of over 300 reporting views containing data across subject areas applicable to higher education. 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. The data models are grouped into the following sections: Accounts Receivable, Common, Finance, Financial Aid, Human Resources and Student.

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.

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 or calculated from stored measures as the query is executed.

Filter

A filter is used to defined or restrict the data that is shown on a report.

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 (Banner) since the last refresh is updated.

List of Values

A list of values is a set of valid values (codes) for a column in a reporting view. A List of Values generally includes the description along with the code.

ODS Business Concepts

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.

ODS Composite View Meta Data

The composite views gather Banner source data necessary to populate and maintain the information stored in the Banner ODS.

ODS Reporting View Meta Data

Meta data in Banner ODS tells what data columns are in Banner ODS, 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.)

Package

A package is a subset of data in Cognos designed to support a specific set of reporting needs. They are used by Report Studio to access data for the reports being built. Within the various Cognos tools you can report against only one package at a time. When creating a new report, you are prompted to select which package to use.

Prompts

A prompt is used to create a list of values that can be selected from. The report will be built (or filtered) based on the prompts selected.

Slotted View

Slotted views group similar information in one row instead of multiple rows to make reporting simpler. An example could be Student holds. Instead of having separate rows for each hold a student has, there would be one row with up to 5 holds in separate fields. Which holds show in the slotted view is based on Display Rules that are defined by the Institution. The number of slots in different slotted view varies.

Source Function

Functions that use data from the Banner tables to create new data that is stored in the Banner ODS.

Source Table

Tables from the Banner database where the data is coming from.

Target View

Banner ODS reporting views that contain information from the related Banner tables.