


SUNGARD HIGHER EDUCATION

www.sungardhe.com

Banner Performance Reporting and Analytics

Introductions

- Name
- Title/function
- Job responsibilities
- ODS experience
- Expectations




SUNGARD HIGHER EDUCATION

www.sungardhe.com 2

Course Goal

Provide the participants with an understanding of information within the ODS, and enough introductory experience using it so that they are able to successfully support ad hoc operational reporting needs as appropriate from the ODS.



SUNGARD HIGHER EDUCATION

www.sungardhe.com 3

Agenda: Day 1

- Introductions
- Expectations
- Developing a Reporting Strategy
- An Overview of the ODS
- ODS Administration
- The ODS Metadata
- Questions and Concerns



SUNGARD HIGHER EDUCATION

www.sungardhe.com

4

Agenda: Rest of the Week

The 'Just Getting It Done' Workshop

- Identify some reports we want or need
- Choose a report for group study, and:
 - Confirm the associated issues and requirements
 - Identify the information needed, including reorganizing or manipulating current data
 - Identify requirements for presentation
 - Create it....
- Repeat
- Independent Work



SUNGARD HIGHER EDUCATION

www.sungardhe.com

5

Course Objectives

After completing this course, you will be able to:

- Answer the question "What is the ODS and how does it get built?"
- Understand the relationship between ODS administration and report writing
- Navigate knowledgeably through the ODS metadata
- Develop a reporting strategy



SUNGARD HIGHER EDUCATION

www.sungardhe.com

6

Information: The Common Component

- Information is needed to address performance obligations
- Information is needed by:
 - Executives: to monitor progress towards institutional priorities
 - Administrators: to monitor daily operations
 - IT: to provide enterprise intelligence and production reports
 - IR: to monitor institutional trends, compliance
- Information and institutional intelligence required for measurable performance improvements



SUNGARD HIGHER EDUCATION

www.sungardhe.com

7

Information: The Common Component

- 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, i.e., governmental reporting, grant applications, etc.
 - optimize accountability – legislative reporting, accreditation, budgetary reporting
 - increase competitive positioning – institutional rankings, align curriculum to constituents' demands
- The common component to these and other objectives is timely access to the information that is needed to achieve these objectives.



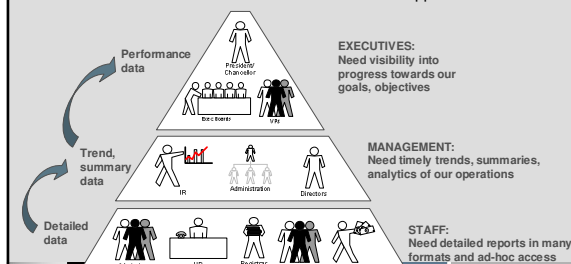
SUNGARD HIGHER EDUCATION

www.sungardhe.com

8

Information: The Common Component

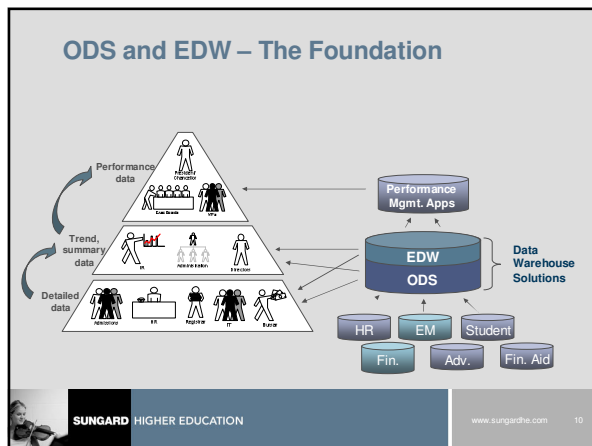
- Information needs to reach all levels of campus
- Data from lower levels must be transformed to upper levels



SUNGARD HIGHER EDUCATION

www.sungardhe.com

9



Developing a Reporting Strategy

- **Develop a Strategic Reporting Plan**
- **Data Standards Committee**
- **Develop a reporting team**
- **Strategic Reporting Team Members**
 - ODS Administrator – usually from IT
 - Reporting Tool Administrator
 - Key Report Writers
 - Average End Users
 - Key Administrators – The people who have a broad knowledge of the university and the ability to make or escalate key decisions regarding reporting on campus
 - IT Representative

SUNGARD HIGHER EDUCATION
www.sungardhe.com

Developing a Reporting Strategy

- **Strategic Reporting Team Responsibilities**
 - Manage expectations of reporting community
 - Make recommendations on access
 - Assist IT group with decision-making involving end users and executives
- **ODS Administrator Responsibilities**
 - Manage the ODS (loads, refreshes, security, metadata)
 - Review logs and checks for errors
 - Freeze views

SUNGARD HIGHER EDUCATION
www.sungardhe.com

Developing a Reporting Strategy

- **Organizational Experts**
 - responsible for data
 - assist with design of reports
- **Department Training**
 - Who will be responsible?
 - When will training occur?



SUNGARD HIGHER EDUCATION

www.sungardhe.com 13

Developing a Reporting Strategy

- **Who are the users?**
 - Power users
 - Business users
 - Casual users
 - IT
- **Reporting 101**



SUNGARD HIGHER EDUCATION

www.sungardhe.com 14

ODS Overview

- Simplifies information access
- Provides timely information to support all levels of management
- Improves information access performance
- Provides access to historical and summarized information
- Data refresh occurs at your specified interval
- Ensures consistent reporting results by providing a common data source and common business concepts



SUNGARD HIGHER EDUCATION

www.sungardhe.com 15

ODS Overview

- Data models and reports can be tailored to department-specific needs
- Uses Human Resources, Finance, and Student product security
- Allows use of web-based reporting tools with graphical capabilities
- The ODS Administration component is web based
- Allows you to share solutions in an open environment



SUNGARD HIGHER EDUCATION

www.sungardhe.com

16

ODS Key Features

- ODS tables are constructed specifically for reporting.
- ODS resides on a separate reporting Server.
- ODS is populated from the source system (s) using composite views.
- ODS has de-normalized* tables called composite tables.



SUNGARD HIGHER EDUCATION

www.sungardhe.com

17

What is the Operational Data Store?

- ODS reporting views provide access to the data.
 - Security
 - Display rules
 - Used to create operational and ad hoc reports
- ODS tables and reporting views were constructed with the business needs of higher education administration in mind.



SUNGARD HIGHER EDUCATION

www.sungardhe.com

18

Why use an Operational Data Store?

- Built to address reporting queries not for efficiency of data capture.
- Ability to produce reports without the overhead of a transactional system.
- Provides for the freeze of data to accommodate point in time reporting.
- Most upgrades to the administrative system do not affect the ODS.



SUNGARD HIGHER EDUCATION

www.sungardhe.com

19

ODS Definitions

- OWB – Oracle Warehouse Builder
- ODS – Operational Data Store (formerly EDM)
- EDW – Enterprise Data Warehouse
- EDM – Enterprise Datamart (now ODS)
- OLTP – Online Transaction Processing
- ETL – Extract, Transform and Load
- Source – Where the data is coming from
- Target – Where the data is going to



SUNGARD HIGHER EDUCATION

www.sungardhe.com

20

ODS Naming Conventions

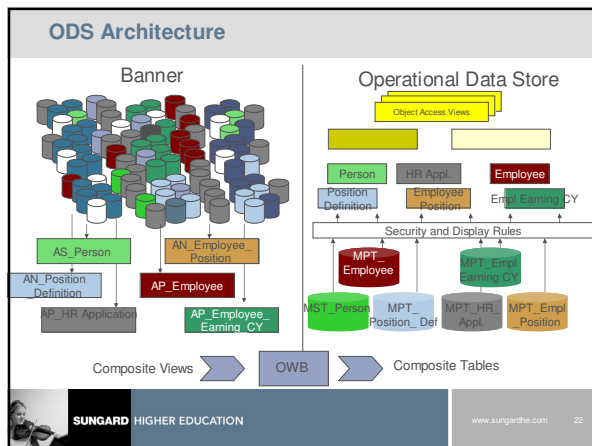
- SunGard HE Banner
 - Composite view – Ax_name
 - PERSON_UID
 - Object:Access view – Ax_name
 - PIDM_KEY
- SunGard HE Operational Data Store
 - Database tables – MxT_name
 - Reporting views – English name reports
 - Subset of Reporting views – English name_SLOT
 - Object:Access view – Ax_name



SUNGARD HIGHER EDUCATION

www.sungardhe.com

21

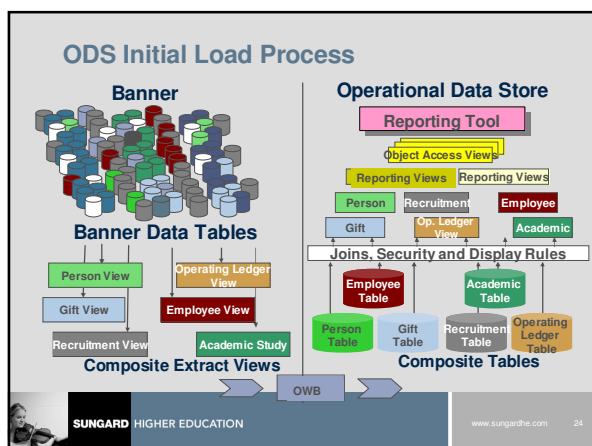


When to Load and Update Data

- Initial Load
- Refresh data in ODS on a regular basis
 - Nightly? Weekly?
- Update specific area as needed when there is a data change in source system.

SUNGARD HIGHER EDUCATION

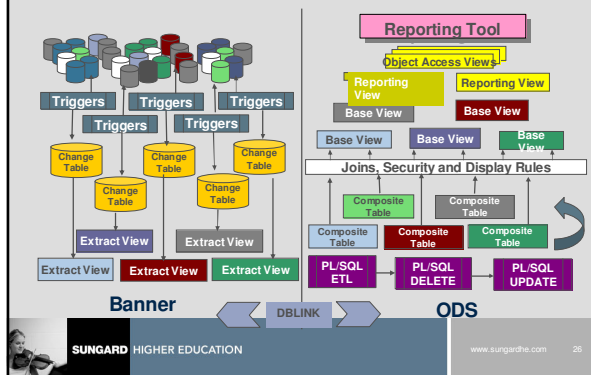
www.sungardhe.com 23



ODS Load Process Flow

- Load job submitted to execute LOAD scripts for all processes identified in the Job Submission Menu
- PL/SQL script reads views via DBLINK which accesses the ODSMGR schema in Banner
- Data is written to ODS composite tables on a separate database
- When all jobs have completed, the log file is verified for successful load and completion of all jobs.

ODS Incremental Refresh

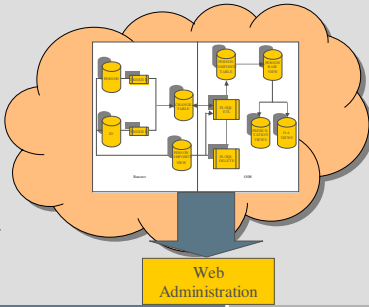


ODS Incremental Refresh Process Flow

- Refresh job submitted to execute DELETE and UPDATE scripts for all identified processes.
- Reads and/or updates of Banner database are performed via DBLINK which access Banner ODSMGR user schema
- DELETE processes run before UPDATES to set the update flag on records in Banner Change Tables
- Data is written to, or deleted from, the ODS composite tables on separate database.
- When all jobs have completed, the log file is verified for successful load and completion of all jobs.

ODS Administration

- ✓ View the ODS metadata
- ✓ Schedule the incremental refresh, reload
- ✓ Schedule a table freeze
- ✓ Review logs from the incremental refresh/load
- ✓ Update user security for fine grained access

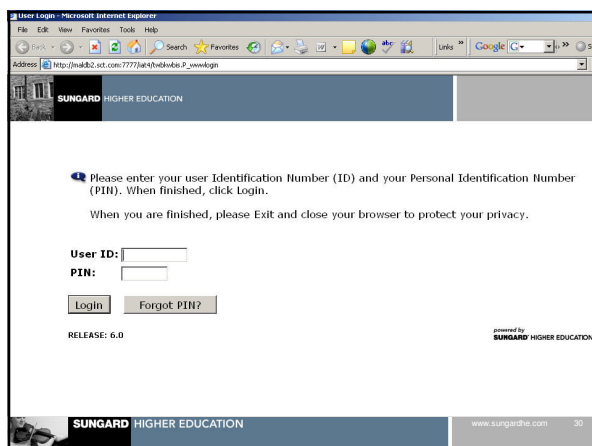


SUNGARD HIGHER EDUCATION www.sungardhe.com 28

Operational Data Store Administration

- Place where you set up and maintain the ODS
- Primarily a technical responsibility *BUT users be aware of*

SUNGARD HIGHER EDUCATION www.sungardhe.com 29



SUNGARD HIGHER EDUCATION

Please enter your user Identification Number (ID) and your Personal Identification Number (PIN). When finished, click Login.


When you are finished, please Exit and close your browser to protect your privacy.

User ID:

PIN:

RELEASE: 6.0 powered by **SUNGARD** HIGHER EDUCATION

SUNGARD HIGHER EDUCATION www.sungardhe.com 30




SUNGARD

HIGHER EDUCATION

www.sungardhe.com
34

Data Display Rules

- Enable you to control and customize how data is stored in your ODS composite tables and displayed in your 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 all Slotted views.
 - "Hierarchical" display rules are required for a sub-set of (nonslotted) Reporting views.




SUNGARD

HIGHER EDUCATION

www.sungardhe.com
35

Data Display Rules

- MGRSDAX in the ODS is copy of the Crosswalk validation table (GTVSDAX) in Banner.
- MGRSDAX specifies the display rules that define code values loaded into the ODS.
 - Internal Groups, Internal Codes, and Sequences set by SunGard (eg. Address, ADMSADDR, 1)
 - External Codes set by users (eg. PR)
- Need to review all delivered Display Rules.
 - Edit to reflect your institution's specific code values.
 - They will be used by your ODS reporting users.



SUNGARD

HIGHER EDUCATION

www.sungardhe.com
36

[Preferences & Security](#)
[Information Access Options](#)
[Information Access Meta Data](#)
[New Web Tailor Administration](#)

Search

Go

[RETURN TO PREFERENCES & SECURITY MENU](#)
[SITE MAP](#)
[HELP](#)
[EXIT](#)

Set Up a Display Rule

Click Create to add a new Display Rule.

Create

Select the Internal Group and/or Internal Code for the Display Rules you want to modify, then click Search.

Show All Business Profiles


Show All Internal Groups

Show All Internal Codes

Search

RELEASE: ODS 3.1

powered by
SUNGARD HIGHER EDUCATION


SUNGARD HIGHER EDUCATION


[Preferences & Security](#)
[Information Access Options](#)
[Information Access Meta Data](#)
[New Web Tailor Administration](#)

Search
[RETURN TO PREFERENCES & SECURITY MENU](#)
[SITE MAP](#)
[HELP](#)
[EXIT](#)


Select an Existing Display Rule

Click an External Code in the table below to select the Display Rule you want to update or delete, or change the search criteria and click Search.

Business Profile	Internal Group	Internal Code	Internal Code Sequence	Reporting Date	External Code
INSTITUTION	ACTIVITY CATEGORY	ALUMACCG			UNGRD
INSTITUTION	ADDRESS	1042ADDR	1		PR
INSTITUTION	ADDRESS	ADMSADDR	1		PR
INSTITUTION	ADDRESS	ADMSADDR	2		LO
INSTITUTION	ADDRESS	ALUMADDR	1		BU
INSTITUTION	ADDRESS	ALUMADDR	2		MA
INSTITUTION	ADDRESS	ARADDR	1		MA



SUNGARD HIGHER EDUCATION

[www.sungardhe.com](#)
37



SUNGARD HIGHER EDUCATION

Composite Tables and Slotted Tables

- Composite Table
 - Include the main data that is extracted from source system and stored in ODS
- Slotted Table
 - Store data values for a specific code related to a base table
 - Optimizes the speed of queries
- Need to keep these synchronized



SUNGARD HIGHER EDUCATION

[www.sungardhe.com](#)
38


SUNGARD HIGHER EDUCATION

Viewing Control Reports

- When process runs a control report is created to show details of status of the process
- Make sure someone is viewing these immediately each day
- View Messages
 - View individual error messages
 - Select lines of report using Filter option
 - Save report to a CSV file


SUNGARD HIGHER EDUCATION

[www.sungardhe.com](#)
39

Freezing ODS Data

- Allows the saving of snapshots of data tables and/or views at a point-in-time
- Need to come up with a naming convention for frozen tables and views
- Freeze multiple related tables/views at once
 - Create list of tables/views
 - Schedule a process to freeze them all
- Freeze single table or view



SUNGARD HIGHER EDUCATION

www.sungardhe.com 40

Why is my Data out of Sync?

- Currency of data in the ODS
 - Timing of a query and when ODS refreshed
- Display Rule Definitions
 - Rules may differ between two systems
- Security Rule Definitions
 - Rules may differ between two systems



SUNGARD HIGHER EDUCATION

www.sungardhe.com 41

Self-Service Reporting

- Provides simple, ad hoc access to the information in the ODS
- Delivered with report templates that provide examples of various common data retrieval needs across your institution
- Uses a filter – list – detail approach



SUNGARD HIGHER EDUCATION

www.sungardhe.com 42

List of Values View

New for ODS 3.1

- The 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.
- The Cognos ReportNet model and Oracle Discoverer End User Layer have been updated to reference the list of value views for parameters and conditions.
- Self-Service Reporting also uses the list of value views for search criteria.



SUNGARD HIGHER EDUCATION

www.sungardhe.com 43

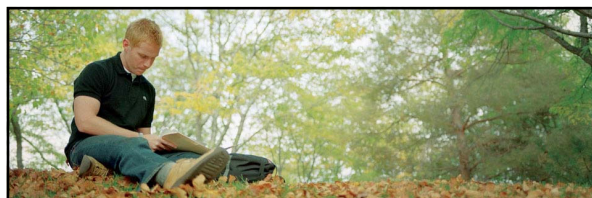
Related Documentation

- Operational Data Store Implementation Guides
- Operational Data Store Handbook
- Banner to the Operational Data Store User Guide
- Operational Data Store Release Guide
- GTVSDAX Handbook



SUNGARD HIGHER EDUCATION

www.sungardhe.com 44



SUNGARD HIGHER EDUCATION

www.sungardhe.com

Banner and the ODS – Making the Connection

Starting From Banner...

- Learn your Banner forms and where data is entered
- Use dynamic help query in Banner to look up table and field names.



Oracle Developer Forms Runtime - Web

File Edit Options Block Item Record Query Tools Help Window

Constituent Information APACONS 5.3 (SCUNC)

Name: Ms. Marilyn Gayle Zuba
ID: 88888888
Spouse: @00000040 Mr. A. James Baldwin

Class: 1990
Class Year: 1990

Category: ALUM
Donor Category: Alumnus

Class Year: 1990
College: AS
Address: MA
Region Address: MA

Dynamic Help Query

Record: 1/1

Oracle Developer Forms Runtime - Web

File Edit Options Block Item Record Query Tools Help Window

Constituent Information APACONS 5.3 (SCUNC)

Name: Ms. Marilyn Gayle Zuba
ID: 88888888
Spouse: @00000040 Mr. A. James Baldwin

Class: 1990
Class Year: 1990

Category: ALUM
Donor Category: Alumnus

Class Year: 1990
College: AS
Address: MA
Region Address: MA

Help Form GUAHELP 5.2 (SCUNC)

Form: APACONS
Block: APBCONS
Field: APBCONS_PREF_CLAS

SCT Banner Local Help Exist?

Display Clear Cancel

Help Type: press NOTBLK to display the help.

Record: 1/1

