SA Reporting Open Forum

January 18, 2007

Polydata Web site – http://polydata.calpoly.edu

Send questions to: polydata@calpoly.edu
Agenda

- Data Warehouse Strategy
- Data Warehouse Upgrade Status
- PeopleSoft 8.9 Upgrade
- Enrollment Data Model
  - Star schema design
- Historical Data
- New Deliverables
Data Warehouse Strategy

- Deploy data warehouse solutions to support critical SA reporting needs
- Begin developing data models in a ‘best practices’ design (architecture by data warehouse guru Ralph Kimball)
  - Star Schema
- Develop new security model
  - Data classification
  - Business process based
- Deploy and support web-based query & reporting tools
  - Discoverer
  - BI Publisher (tool evaluation in February)
- Integrate data warehouse solutions with Enterprise Portal
Data Warehouse Upgrade

- Upgrading data warehouse environment to latest Oracle 10g version
- Migrating data warehouse to new dedicated servers
- Upgrading Oracle Warehouse Builder tool for better functionality and integration with Discoverer infrastructure
- Estimated production cut-over is February ‘07
PeopleSoft 8.9 Upgrade

- Current version of P/S is 8.0
- P/S 8.9 will be in production in January ’08
  - Project to run from Feb – Dec ‘07
- Data warehouse will need to upgrade
  - Impact not yet known
  - Includes both HR and SA data warehouse solutions
  - Current functionality will be available with 8.9
  - Will begin analysis in March time frame
Enrollment Data Model

- Pilot group identified
- Requirements gathered
  - Series of interviews held
  - Requirements documented
- Data model designed
  - Star schema
  - Includes historical data
- Coding to start after data warehouse upgrade to 10g complete
- Implementation targeted for June ‘07
What is a Star Schema?

The **star schema** is perhaps the simplest data warehouse schema. It is called a star schema because the diagram of this schema resembles a star, with points radiating from a central table. The center of the star consists of a large fact table and the points of the star are the dimension tables.
Example Star Schema

- Fact tables contain process activity located in the center (quantitative data). Some example facts are grade, SCU, and fee amount.

- Dimensions tell the story and provide the detail to the facts. What student grade? When did the student get charged that fee amount?
Star Schema Benefits

- Schema is easy to understand
  - Based on business process
- Easy to define hierarchies
  - Major-Department-College
  - Day-Month-Calendar Year
  - Day-Term-Academic Year
- Easy to navigate
  - Number of table joins reduced
  - Star schema recognized by leading query tools
- Low maintenance
  - Dimension tables shared between data models
  - Can add new fact tables which use existing dimensions
## When to Use the Star Schema

<table>
<thead>
<tr>
<th>Type of Reporting</th>
<th>Source</th>
<th>Example</th>
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| **Operational**   | PeopleSoft/Other Data Warehouse Systems | - What happened to my department today that I need to resolve by the end of day?  
- What is the current state of enrollment as of 2:00pm today? |
| **Tactical**      | PolyData Data Warehouse | - How has enrollment changed over the past week?  
- What colleges have classes set up without a class time? |
| **Strategic**     | PolyData Data Warehouse | - What are my student retention rates over the last 3 years?  
- What students are prone to perform poorly? |
Historical Data

- **Approach to delivering historical information**
  - Snapshots at the end of the term (day before next term)
  - Fall 2068 term forward
  - Data remains static from that point forward

- **Known issues**
  - Status of the student’s program stack has changed (completed/discontinued)
  - We lose the ability to associate the student with their most recent active program stack (college, dept, major, etc)
  - Will redeploy historical data once issue is resolved

- **Queries affected**
  - Class list
    - For students with an inactive program stack, missing plan information
  - Dean’s list
    - Will redeploy using an extract from the SA system to ensure accuracy
New SA Deliverables

Data Elements & Queries

- New data elements added to enrollment views and queries
  - Term gpa
  - Term earned hours
  - Last graded term

- New data elements added to class list views and queries
  - Primary career code and description
  - Primary college and description
  - Primary degree code and description

- New repository queries
  - Commence
  - AP/DQ
  - Grades added to class list views and queries

- Future Deliverables
  - Degree information
  - Grade report repository query
  - Primary mailing address
New SA Deliverables
Processes

- PolyData Table and Data Element Request Form
  - Used to request new data elements
  - Form located on the PolyData web site: www.polydata.calpoly.edu see Request Forms

- Send questions to polydata@calpoly.edu

- SA Reporting Open Forums
  - Will be combined with monthly SA Open Forums to allow for regular updates
Questions?