



Reporting with ODS (Operational Data Store) and Cognos BI



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Session ID 2478

Session Rules of Etiquette

- Please turn off your cell phone/pager
- If you must leave the session early, please do so as discreetly as possible
- Please avoid side conversation during the session

Thank you for your cooperation!



Agenda

- Introduction to my team, institution and product history
- Discuss some terms we will be using
- Overview of what this presentation is not about
- Discuss benefit of using ODS and Cognos
- Overview of our legacy reporting methodology
- Replacing legacy reports with ODS and Cognos
- Analyze some ad hoc report generation
- Look at some complex reports requiring package modification
- Our need to modify ODS views and Cognos packages to suit our institutional needs
- Our constraints, tips, tricks, solutions and justifications for real time data
- Q & A session



WELCOME! We represent...



Seton Hall University • 400 South Orange Ave • South Orange, NJ 07079 • (973) 761-9000 •

- Meet our mascot:



About SHU

- We are a private Roman catholic University established in 1856
- Oldest Diocesan University in the USA.
- Campus locations – Main campus (South Orange) and Law school (Newark)
- Students / Faculty+Employees/ - Approx. 10,000 / 2000
- Implemented Banner in 2007
- Implemented ODS and Cognos 2012

Terminology used in presentation

BI –Business Intelligence

BI-Cognos – Business Insight v.10

BCD – Business Concept Diagram

ETL – Extraction, Transformation and Load

ODC – Operational Data store

OWB – Oracle Warehouse Builder

Oracle Streams – How information is propagated from data capture to staging to apply process also referred to as consumption

FMW – Frame Work Manager (Cognos)

SHUMOD – Seton Hall University (MOD)ifications

MGRSDAX – Composite view that helps to crosswalk rules from Banner to ODS.



Our Banner system environment

- Ellucian Internet Native Banner 8.3
- Banner 8.x modules and environment
Student, Financial Aid, Finance,
Accounts Receivable, Human Resource
Alumni and Self Service
- OS Environment: Red Hat Linux 5.x
- DB for ODS – Oracle 11g R2



Other Ellucian products

Banner Self Service – all modules

BRM (Banner Relationship Management), Workflow

Xtender (BDMS)

Eprint

Luminis

Web Tailor

Operational Data Store (ODS)

Enterprise Data warehouse (EDW)

Not in Production as yet.

RAP (Recruits Admissions performance)

SRP (Student retention Performance)



Third party products interfacing with Banner

Adirondack (Housing Director)
Axiom
AppWorx (UC4)
Blackboard
Blackbaud Razors Edge
BossCars
Clean Address
ClearingHouse,
FormFusion and Intellectcheck (Evisions)
fsaAtlas
Touchnet
Kronos,
People Admin
Resource 25 Scheduler



What this presentation is not about

- This presentation is our experience with student support services and ODS-student only and does not represent other areas on campus.
- Our presentation is not intended to make you proficient in ODS but a general overview. It is only a presentation sharing our accomplishments
- Our intention is not meant to make you a Cognos reporting expert or data modeler

What is ODS and why is it helpful for us?

ODS is a subset of a data-dump from our Banner operational system to a data repository.

It is initially a data load operation and incrementally refreshed on a nightly basis.

If not for the ODS, we would have had to develop our own Data-Mart or Data-Warehouse



Advantages we gained using ODS

- Provide quicker and better informed decisions
- Increased consistent and accurate reporting campus wide
- Reduce overhead while reporting directly out of the relational database
- Improved efficiency in reporting and cut lead time for report development
- Gave us a one-stop repository to get mostly what we “desired”.
- Banner-ODS offers more than what an average data mart would offer with data siloes and minimal cross functional reporting.
- Empowered greater access to our front end report developers/authors detracting from our traditional and centralized IT model that was in place for report development
- Able to implement, manage and maintain better security
- Since the ODS comes with many components, the portability or stacking of other DW and BI technologies for reporting was easier.
- We rely mostly on baseline technologies and limit customization to a minimum for our institutional needs
- Integrates well with our Cognos reporting tool and eliminates the need to build Cognos packages or data blocks as with other reporting tools



Our reporting tools

Cognos BI v.10 (Query, Reports, Analysis and Metric Studio)

Cognos Framework Manager

Oracle Developer (Forms and Reports),

Oracle Portal

Oracle Discoverer,

SQL Developer,

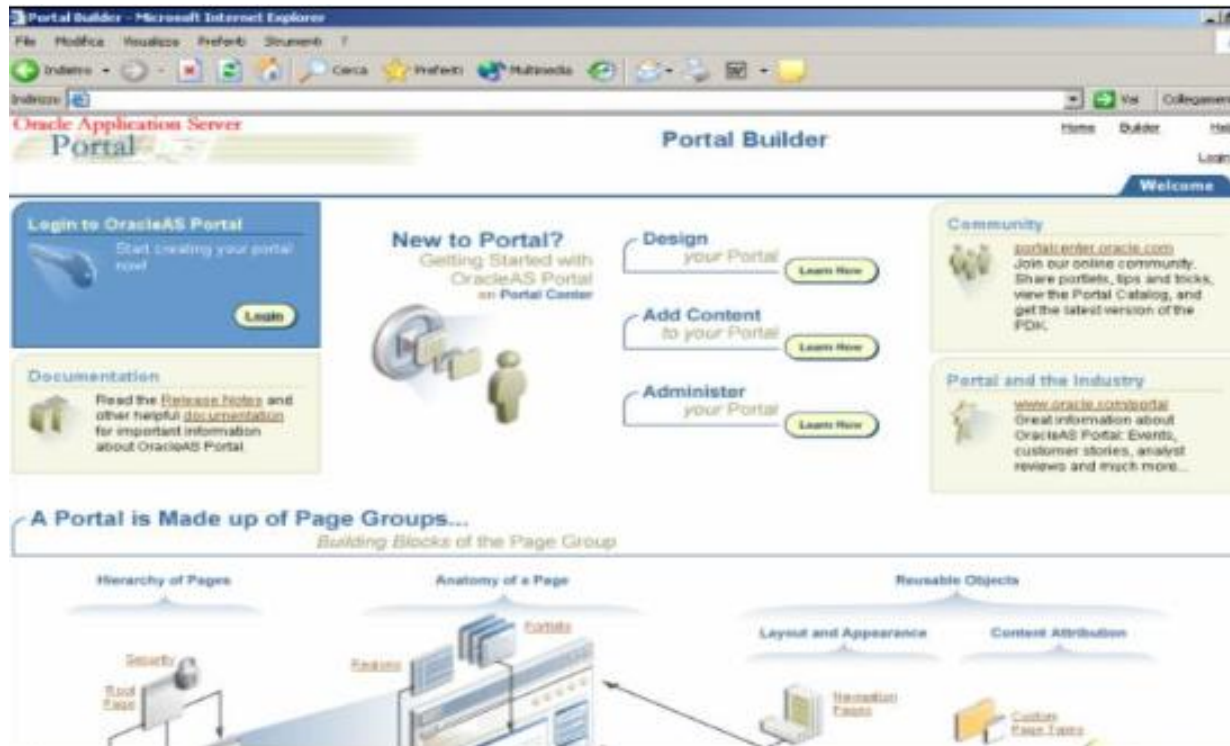
TOAD

SAS

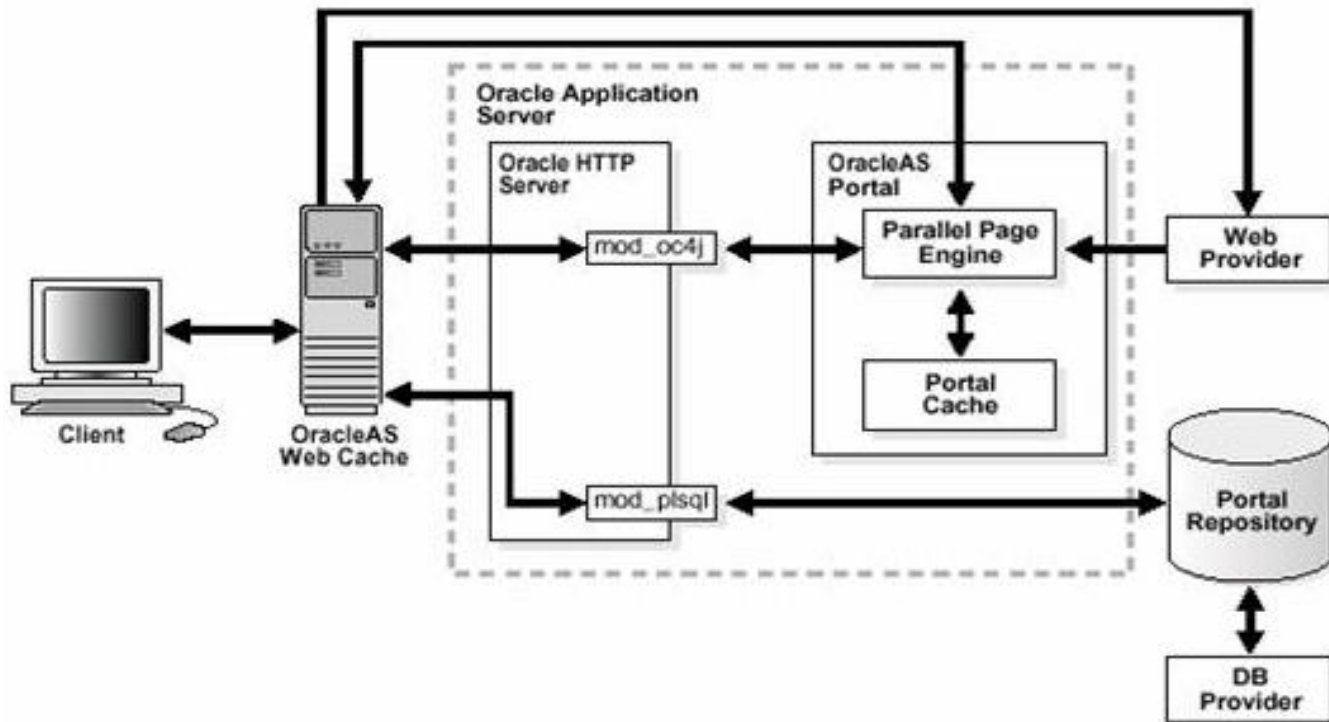
MS Access and MS excel

Legacy report deployment using Oracle portal

- Legacy Reporting Architecture – Oracle 10g OAS – Portal.

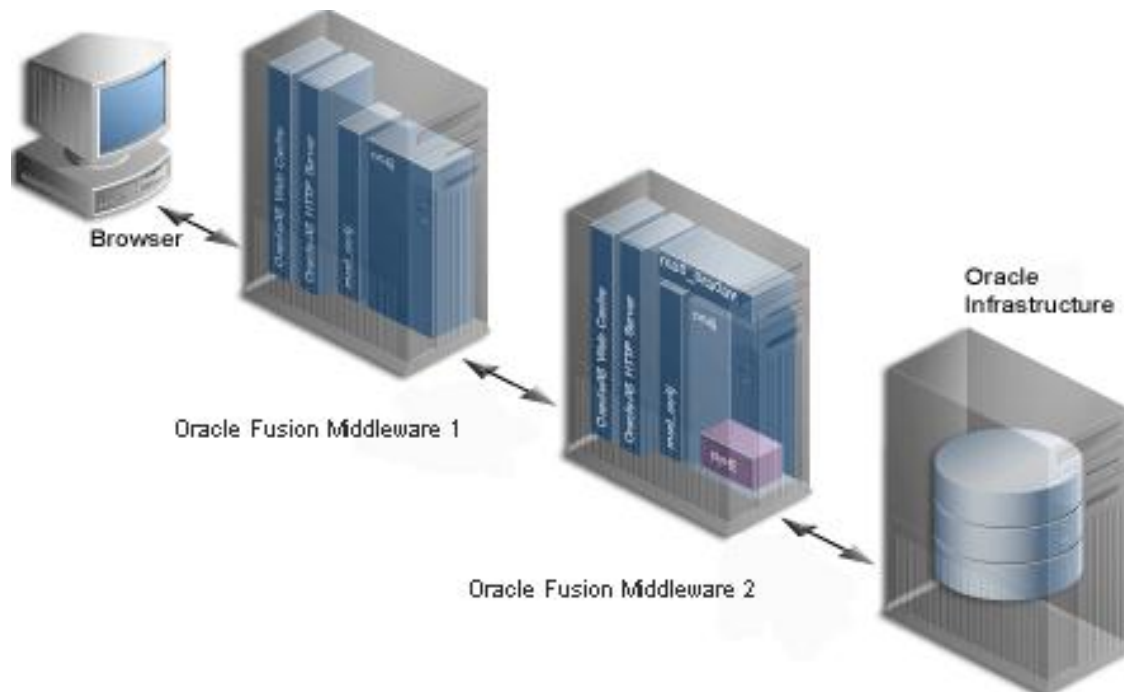


How we leveraged Oracle portal for report deployment



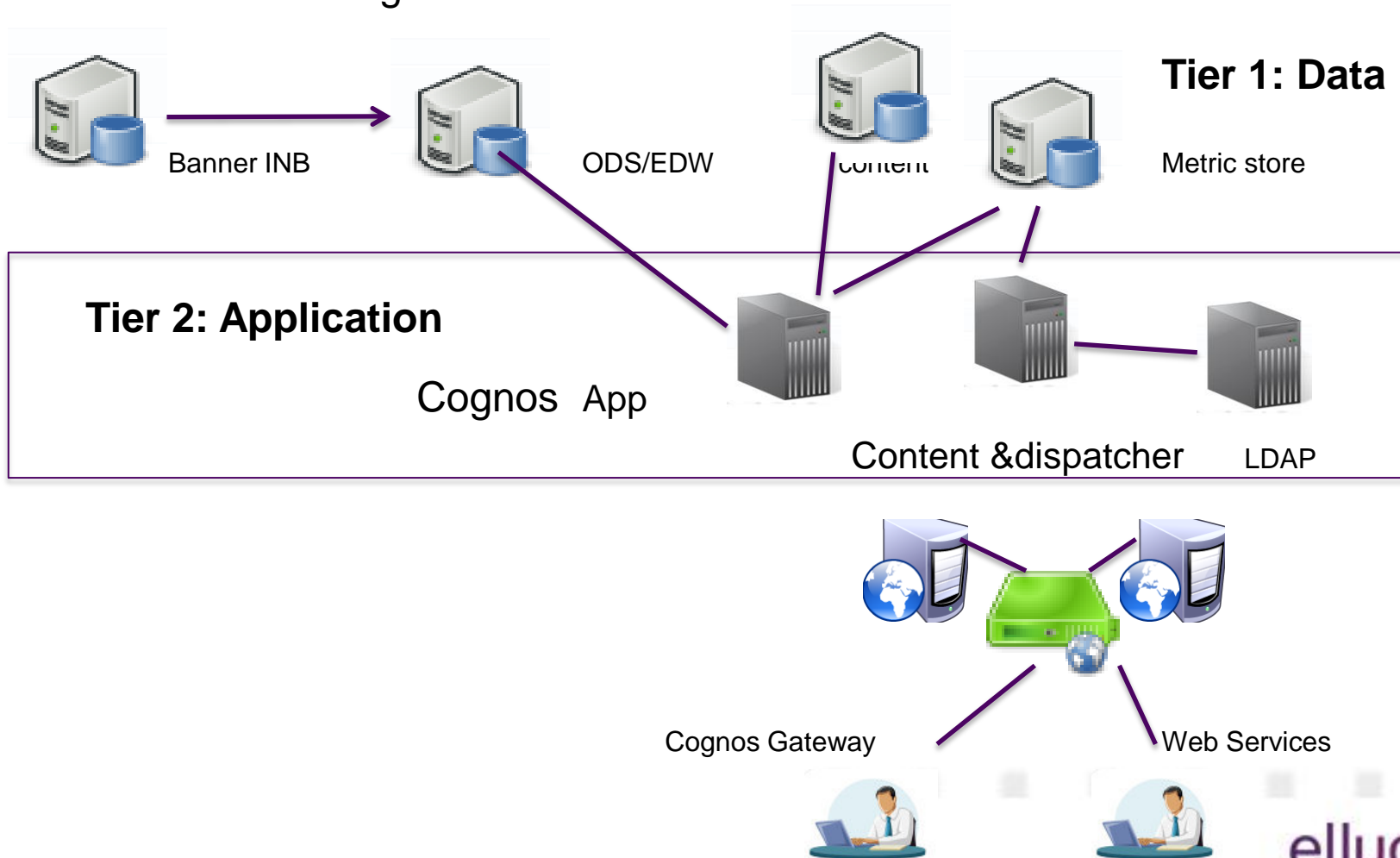
Replacing legacy architecture with ODS and Cognos BI

Oracle Developer Reports directly go against Banner INB

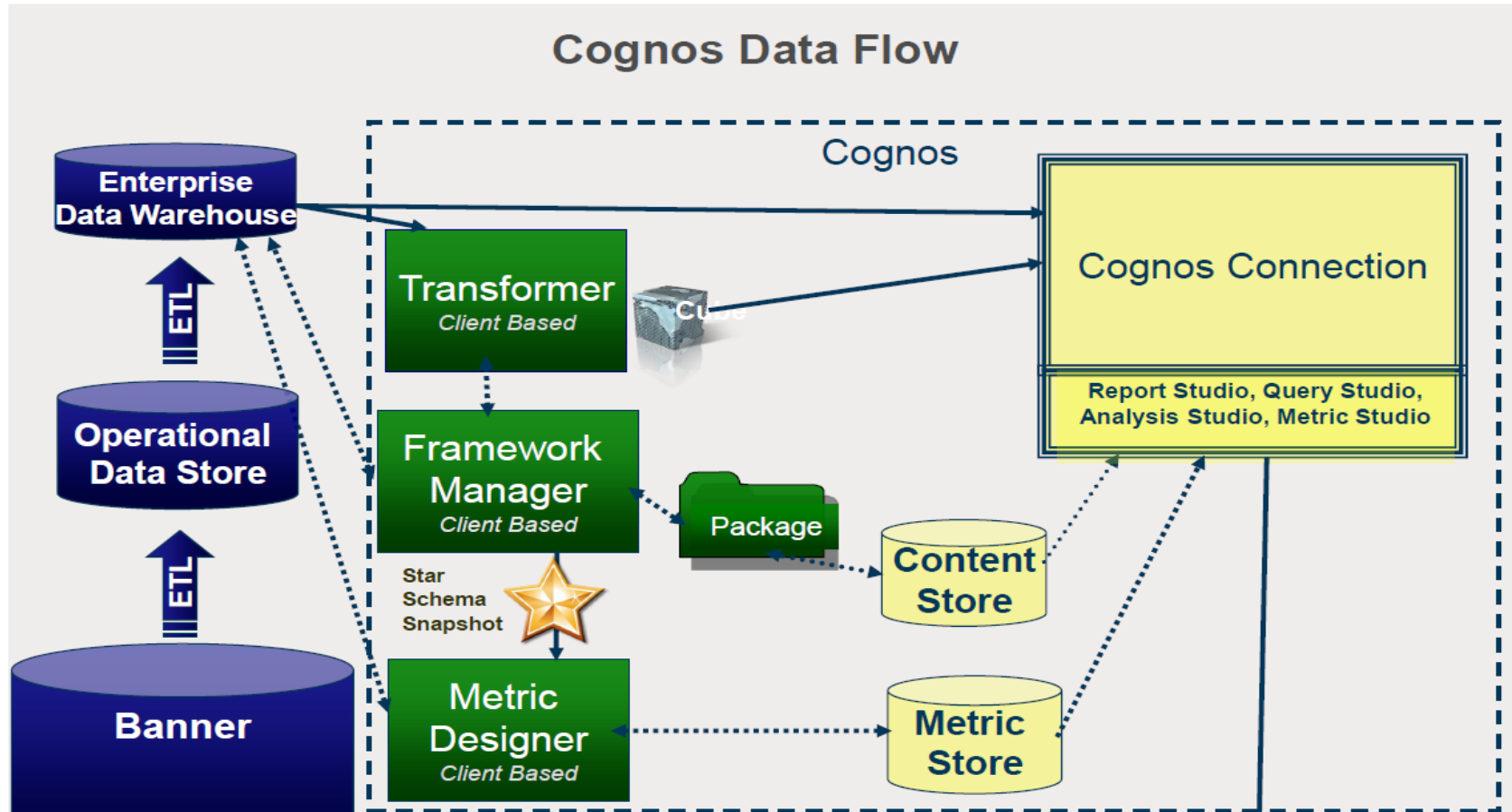


New reporting architecture with ODS (Operational Data Store) and Cognos BI

- Our ODS and Cognos architecture



Here's how Cognos fits into ODS and EDW



Main ODS reporting components

- Composite tables/views
- Reporting views
- Cognos Packages
- Metadata information
- ETL processes
- OWB
- BCD



Quick look inside ODS

Go To View: -- Select a View --

[CLOSE META DATA REPORTS WINDOW](#)
[Banner ODS Composite View Meta Data Reports](#)
[Banner EDW Meta Data Reports](#)

SGHE Banner Performance Reporting and Analytics

Banner Operational Data Store Reporting View Meta Data Reports

[Accounts Receivable](#)
[Advancement](#)
[Common](#)
[Finance](#)
[Financial Aid](#)
[Human Resources](#)
[Student](#)
[Travel and Expense](#)

[Banner ODS Business Concept Diagrams](#)

Ver: 8.3

-- Select a View --

AS_ACADEMIC_HISTORY_EVENT

AS_ACADEMIC_OUTCOME

AS_ACADEMIC_STANDING

AS_ACTIVE_TERMS

AS_ADDRESS

AS_ADMINISTRATOR

AS_ADMISSIONS_APPLICATION

AS_ADMISSIONS_ATTRIBUTE

AS_ADMISSIONS_COHORT

AS_ADMISSIONS_DECISION

AS_ADMISSIONS_RATING

AS_ADMISSIONS_REQUIREMENT

AS_ADMISSIONS_SOURCE

AS_ADVISOR

AS_CONTACT

AS_COURSE_ATTRIBUTE

AS_COURSE_CATALOG

AS_COURSE_COREQ

AS_COURSE_LEVEL

AS_COURSE_OFFERING

AS_COURSE_OFFERING_FEES

AS_COURSE_PREREQ

AS_COURSE_SCHEDULE

AS_COURSE_SUPPLEMENTAL

AS_CURRICULUM

AS_CURRICULUM_FOS

Quick look at the BCD

[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](#)

Finance Travel &

Expenses

[Authorization](#)
[Reimbursement](#)

Financial Aid

[Financial Aid Application](#)
[Financial Aid Award and Disburse](#)
[Financial Aid Fund](#)

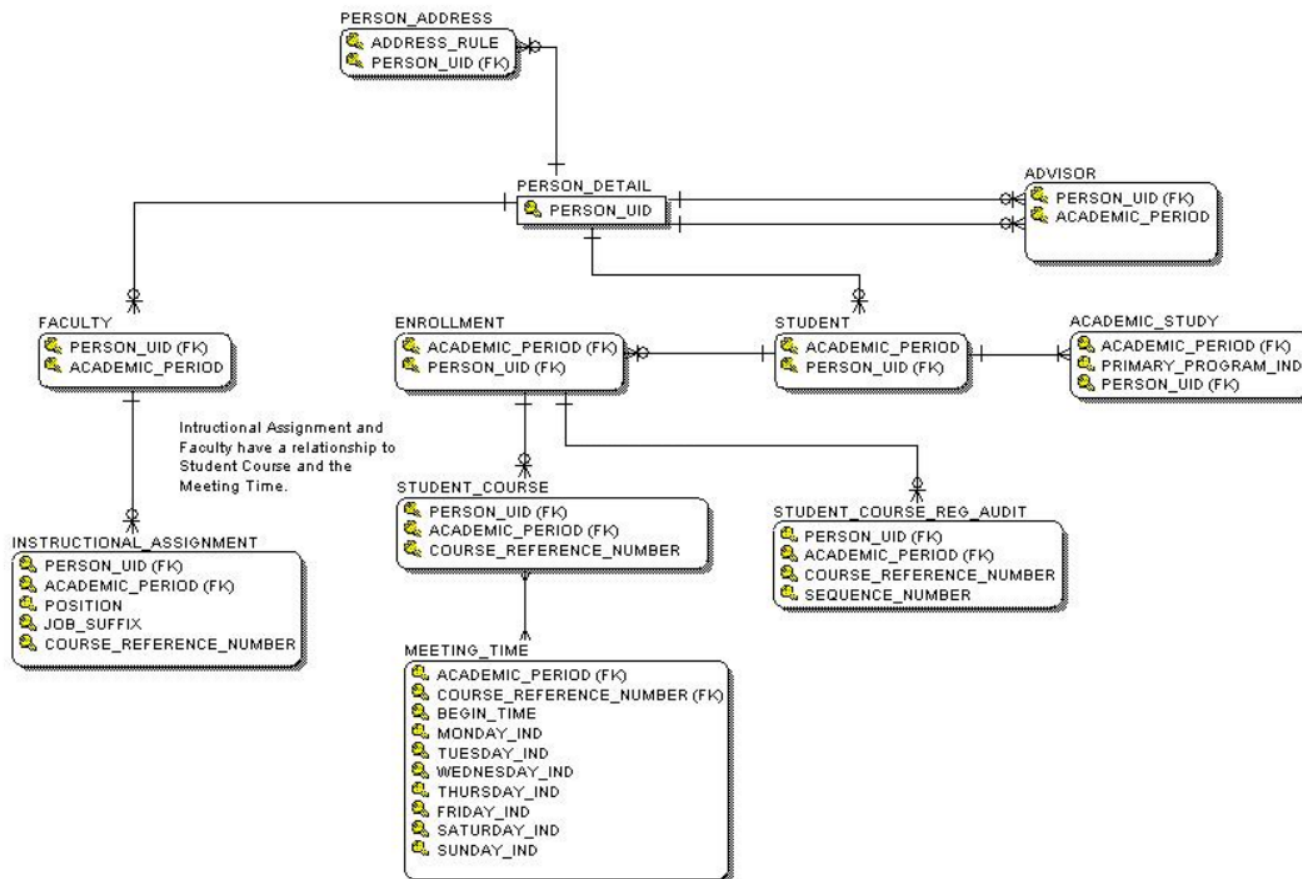
Human Resources

[Employee](#)
[Human Resource Application](#)
[Human Resource Faculty](#)
[Payroll](#)
[Position](#)

Student

[Active Registration](#)
[Admissions Application](#)
[Advisor Student List](#)
[Course Catalog](#)
[Enrollment Management](#)
[Faculty Assignment](#)
[Government Reporting](#)

Active Registration Business Concept



Cross cut of MGRSDAX

Our MGRSDAX |

Address

Business Profile	Internal Group	Internal Code	Internal Code Sequence	Reporting Date	External Code
INSTITUTION	ACTIVITY CATEGORY	ALUMACCG			UNGRD
INSTITUTION	ADDRESS	ADMSADDR	1		PR
INSTITUTION	ADDRESS	ADMSADDR	2		MA
INSTITUTION	ADDRESS	ALUMADDR	1		BU
INSTITUTION	ADDRESS	ALUMADDR	2		MA
INSTITUTION	ADDRESS	ARADDR	1		MA
INSTITUTION	ADDRESS	ARADDR	2		PR
INSTITUTION	ADDRESS	ARADDR	3		TD
INSTITUTION	ADDRESS	ARADDR	4		FR

Test

Business Profile	Internal Group	Internal Code	Internal Code Sequence	Reporting Date	External Code
INSTITUTION	TEST	ADMSTEST	1		S01
INSTITUTION	TEST	ADMSTEST	2		S02
INSTITUTION	TEST	ADMSTEST	3		S03
INSTITUTION	TEST	ADMSTEST	4		A01
INSTITUTION	TEST	ADMSTEST	5		A02
INSTITUTION	TEST	ADMSTEST	6		A05
INSTITUTION	TEST	ADMSTEST	7		S07

Initializing Cognos Studios

The screenshot displays the IBM Cognos Connection web interface. At the top, the header bar shows the user 'ameenmoh' and a 'Log Off' link. Below the header, there are tabs for 'Public Folders' and 'My Folders'. The 'Public Folders' section is active, showing a list of folders with their creation dates and a 'More...' link for each. The folders listed are:

- Budget Managers (January 16, 2013 2:36:12 PM)
- Finance (January 16, 2013 6:55:54 PM)
- EDW Packages (January 16, 2013 2:36:02 PM)
- Test Folders (January 16, 2013 2:36:24 PM)
- SGHE Recruiting Admissions Performance (January 4, 2013 4:25:38 PM)
- Human Resources (January 16, 2013 2:35:44 PM)
- Performance Management Packages (January 29, 2013 2:43:13 PM)
- Student (February 1, 2013 8:13:02 AM)
- Institutional Research (January 16, 2013 2:35:52 PM)
- SGHE Student Retention Performance (January 4, 2013 4:25:03 PM)

A dropdown menu is open, showing the 'Launch' button and a list of available Cognos Studio applications:

- Business Insight
- Business Insight Advanced
- Query Studio
- Analysis Studio
- Report Studio
- Event Studio































Locating Cognos package for reporting

Recently used packages:

[Active Registration](#)

List of all packages:

[Cognos](#) > [Public Folders](#) > [Student](#) > [A Student Packages](#)

Name	
 Active Registration	
 Admissions Application	
 Advisor Student List	
 Course Catalog	
 Enrollment Management	
 Enrollment Management Subset	
 Faculty Assignment	
 Faculty Subset	
 Financial Aid Application	
 Financial Aid Award and Disbursement	
 Financial Aid Fund	
 Government Reporting	
 Loan Disbursement	
 Receivable Customer	
 Receivable Revenue	

Cancel

Building an Adhoc report - example

- Requirement: All students (their id, names, address(both PR & MA), student level, college, major1 & 2, minor 1 & 2, GPA, Hours earned) for registered undergrads from business college for spring term 2013.
- Information location in Banner Tables:
spriden – id, ssn, last/first/mi names,
spraddr – street (1,2,3), city, state and zip
Sfrstcr – term, registration flags
sgbstdn - student level, college

If a Parameterized report: hard coded values.

Will pass user entered term, student level and college when modifyng in Cognos



Adhoc report's SQL code - example

```
select  SPRIDEN_ID shu_id, spriden_first_name FName, spriden_last_name LName,
Address1, Address2, City, State, Zip,
sgbstdn_majr_code_1 major1, sgbstdn_majr_code_1_2 MAJOR2, SGBSTDN_MAJR_CODE_MINR_1 MINOR1,
SGBSTDN_MAJR_CODE_MINR_1_2 MINOR2, GPA, Hours_Earned
from SGBSTDN, spriden,
      (SELECT spraddr_PIDM, SPRADDR_STREET_LINE1 ADDRESS1, SPRADDR_STREET_LINE2 ADDRESS2,
      SPRADDR_city CITY, SPRADDR_stat_code STATE, SPRADDR_zip ZIP, SPRADDR_atyp_code, SPRADDR_NATN_CODE
      FROM spraddr A
      WHERE SPRADDR_ATYP_CODE = (SELECT MAX(SPRADDR_ATYP_CODE)
      FROM SPRADDR
      WHERE SPRADDR_ATYP_CODE IN ('MA', 'PR')
      AND SPRADDR_PIDM = A.SPRADDR_PIDM
      AND SPRADDR_STATUS_IND IS NULL
      AND (TRUNC(spraddr_to_date) > SYSDATE OR SPRADDR_TO_DATE IS NULL) )
      AND SPRADDR_SEQNO = (SELECT MAX(SPRADDR_SEQNO)
      FROM SPRADDR
      WHERE SPRADDR_PIDM = A.SPRADDR_PIDM
      AND SPRADDR_STATUS_IND IS NULL
      AND (TRUNC(spraddr_to_date) > SYSDATE OR SPRADDR_TO_DATE IS NULL)
      AND SPRADDR_ATYP_CODE = (SELECT MAX(SPRADDR_ATYP_CODE)
      FROM SPRADDR
      WHERE SPRADDR_ATYP_CODE IN ('MA', 'PR')
      AND SPRADDR_PIDM = A.SPRADDR_PIDM
      AND SPRADDR_STATUS_IND IS NULL
      AND (TRUNC(spraddr_to_date) > SYSDATE OR SPRADDR_TO_DATE IS NULL) )) ) ADDRINFO,
      (select shrllgpa_pidm, shrllgpa_hours_earned Hours_Earned, round(shrllgpa_gpa,3) GPA
      from shrllgpa
      where shrllgpa_gpa_type_ind = 'O'
      and shrllgpa_lvl_code = 'UG'),
      (select sfrstcr_pidm
      from sfrstcr
      where sfrstcr_term_code = '201310'
      and sfrstcr_rsts_code in ('RE', 'RW')
      group by sfrstcr_pidm)
where spriden_pidm = SPRADDR_PIDM(+)
AND SPRIDEN_PIDM = sfrstcr_pidm
and spriden_pidm = sgbstdn_pidm
and spriden_pidm = shrllgpa_pidm(+)
and spriden_change_ind is null
AND sgbstdn_lvl_code = 'UG'
and sgbstdn_COLL_code_1 = 'BU'
and sgbstdn_term_code_eff = (select max(sgbstdn_term_code_eff) from sgbstdn where sgbstdn_pidm = spriden_pidm
and sgbstdn_term_code_eff <= '201310');
```

Example of an ad hoc report in Cognos

Registration

<%ParamDisplay...%>

<ACADEMIC_PERIOD>

ACADEMIC_PERIOD_ADMITTED	COLLEGE	COLLEGE_DESC	COURSE_IDENTIFICATION	COURSE_TITLE_SHORT	DEGREE	ID	NAME	PROGRAM
<ACADEMIC_PERIOD_ADMITTED>	<COLLEGE>	<COLLEGE_DESC>	<COURSE_IDENTIFICATION>	<COURSE_TITLE_SHORT>	<DEGREE>	<ID>	<NAME>	<PROGRAM>
<ACADEMIC_PERIOD_ADMITTED>	<COLLEGE>	<COLLEGE_DESC>	<COURSE_IDENTIFICATION>	<COURSE_TITLE_SHORT>	<DEGREE>	<ID>	<NAME>	<PROGRAM>
<ACADEMIC_PERIOD_ADMITTED>	<COLLEGE>	<COLLEGE_DESC>	<COURSE_IDENTIFICATION>	<COURSE_TITLE_SHORT>	<DEGREE>	<ID>	<NAME>	<PROGRAM>

Cognos Report Studio - Windows Internet Ex

Query Explorer

- Queries
 - Registration Report
 - Level
 - College

Registration Report

Enter a Term Code:

Select a Level:

Report example requiring a data modeling

--Query Active sgtudents Registration Pin Report

```
select 'Active Students with No Registration PIN', 'Term: '||:term, spriden_id STU_ID, spriden_last_name LNAME, spriden_first_name FNAME,
spriden_mi MI,
sgbstdn_lvl_code SLevel, sgbstdn_majr_code_1 MAJOR, ShortName, substr(NVL(spbpers_ssn, 'XXXXXXXXX'), 6, 4) SSN, Email
FROM SPRIDEN, sgbstdn, spbpers,
```

```
(SELECT goremal_pidm, substr(goremal_email_address, 1, instr(goremal_email_address, '@', 1)-1) ShortName
from goremal
where goremal_email_code = 'SHU'
and goremal_status_ind = 'A') a,
```

```
(SELECT goremal_pidm, goremal_email_address Email
from goremal
where goremal_email_code = 'SHUL'
and goremal_status_ind = 'A') b
```

```
WHERE SPRIDEN_PIDM = sgbstdn_pidm
and spriden_pidm = spbpers_pidm
AND SPRIDEN_CHANGE_IND IS NULL
AND SPRIDEN_PIDM = a.GOREMAL_PIDM (+)
AND SPRIDEN_PIDM = b.GOREMAL_PIDM (+)
and sgbstdn_stst_code = 'AS'
and sgbstdn_lvl_code in ('GR')
and not exists (select 1 from sprapin
                where sprapin_pidm = spriden_pidm
                and sprapin_process_name = 'TREG'
                and sprapin_term_code = :term)
and sgbstdn_term_code_eff = (select max(sgbstdn_term_code_eff) from sgbstdn
                             where sgbstdn_pidm = spriden_pidm
                             and sgbstdn_term_code_eff <= :term)
order by major, lname;
```

Reporting scenario requiring modified views and packages

Script

Create Banner/Staging view:

```
-- run this as SHUDEVL
create or replace view SHU_AS_STUDENT_ALTERNATE_PIN as
select
  sprapin_pidm          PERSON_UID,
  sprapin_term_code     TERM_CODE,
  sprapin_process_name  PROCESS_NAME,
  sprapin_pin           PIN
from sprapin;
GRANT SELECT ON SHUDEVL.SHU_AS_STUDENT_ALTERNATE_PIN TO ODSMGR;
CREATE PUBLIC SYNONYM SHU_AS_STUDENT_ALTERNATE_PIN FOR
SHUDEVL.SHU_AS_STUDENT_ALTERNATE_PIN;
```

Create ODSMGR table:

```
CREATE TABLE SHU_MST_STUDENT_ALTERNATE_PIN
(
  PERSON_UID          NUMBER NOT NULL,
  TERM_CODE           VARCHAR2(63) NOT NULL,
  PROCESS_NAME        VARCHAR2(63),
  PIN                 VARCHAR2(63)
);|
CREATE INDEX SHU_MST_STUDENT_ALT_PIN_INDEX
ON ODSMGR.SHU_MST_STUDENT_ALTERNATE_PIN(PERSON_UID, TERM_CODE)
TABLESPACE INDX;
```

Create ODSMGR reporting view:

```
CREATE OR REPLACE VIEW SHU_STUDENT_ALTERNATE_PIN
AS
SELECT
  PERSON_UID,
  TERM_CODE,
  PROCESS_NAME,
  PIN
FROM SHU_MST_STUDENT_ALTERNATE_PIN;
```

Reporting with modified views and packages

Example of SRARPIN information that was lacking in ODS:

Justification for SHUMOD:

SPRAPIN_Term_ Code	TERM_C ODE
SPRAPIN_PIDM	PERSON _UID
SPRAPIN_Proce ss_Name	PROCES S NAME
SPRAPIN_PIN	PIN

The SRARPIN table was added from an existing ODS view that was created when ODS was first being rolled out.

Package: Student Detail

View/Package: SHU_STUDENT_ALTERNATE_PIN

Joins: 1.1 Join on Pidm to Person UID with the Student view/package.

Reporting with modified views and packages

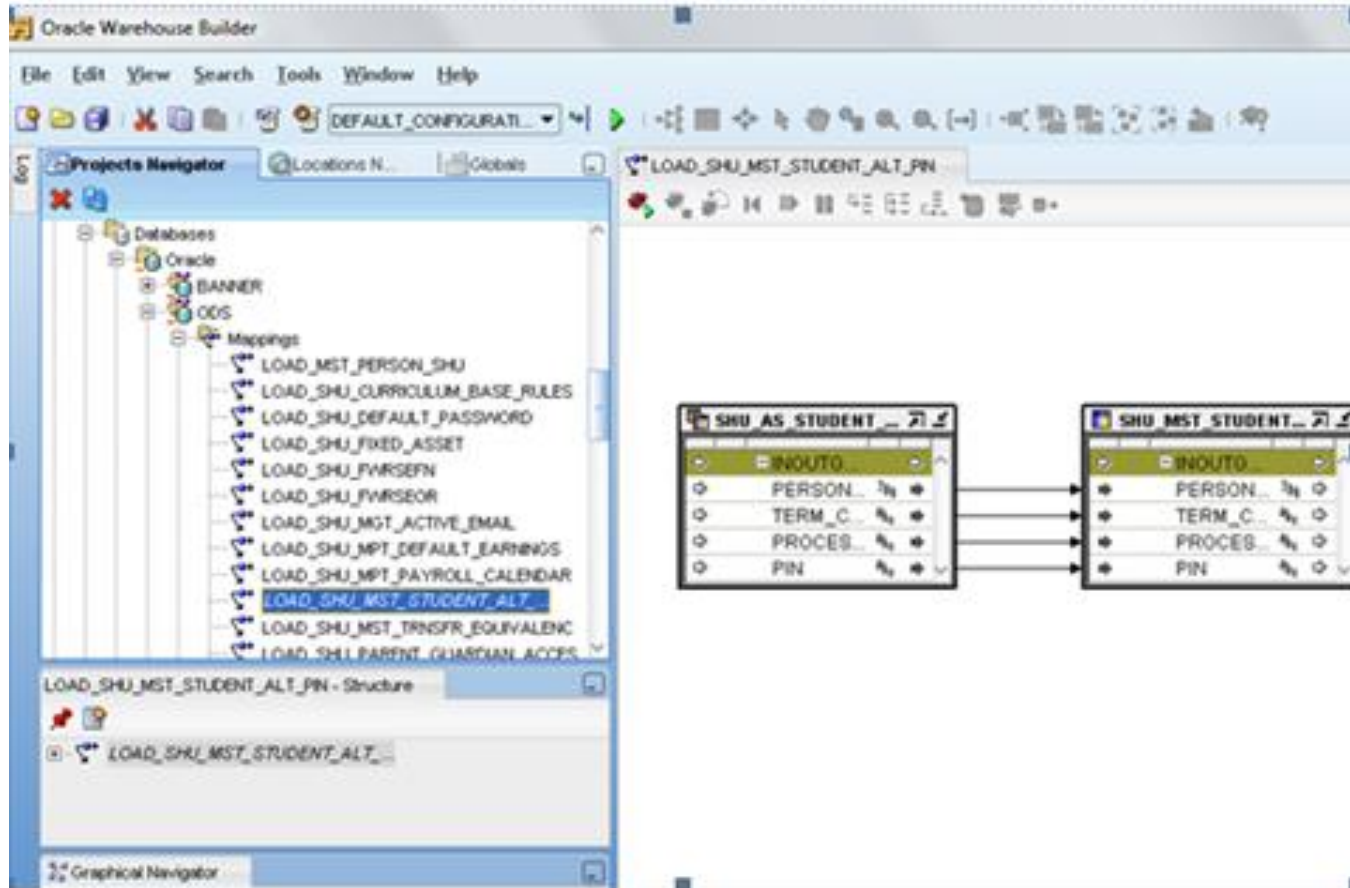
What we accomplished by modifying:

- SPRAPIN had to be modified to bring this information into a modified Cognos package we most frequently like Student Detail package
- Take care of the outer joins and uniqueness of data populated in INB

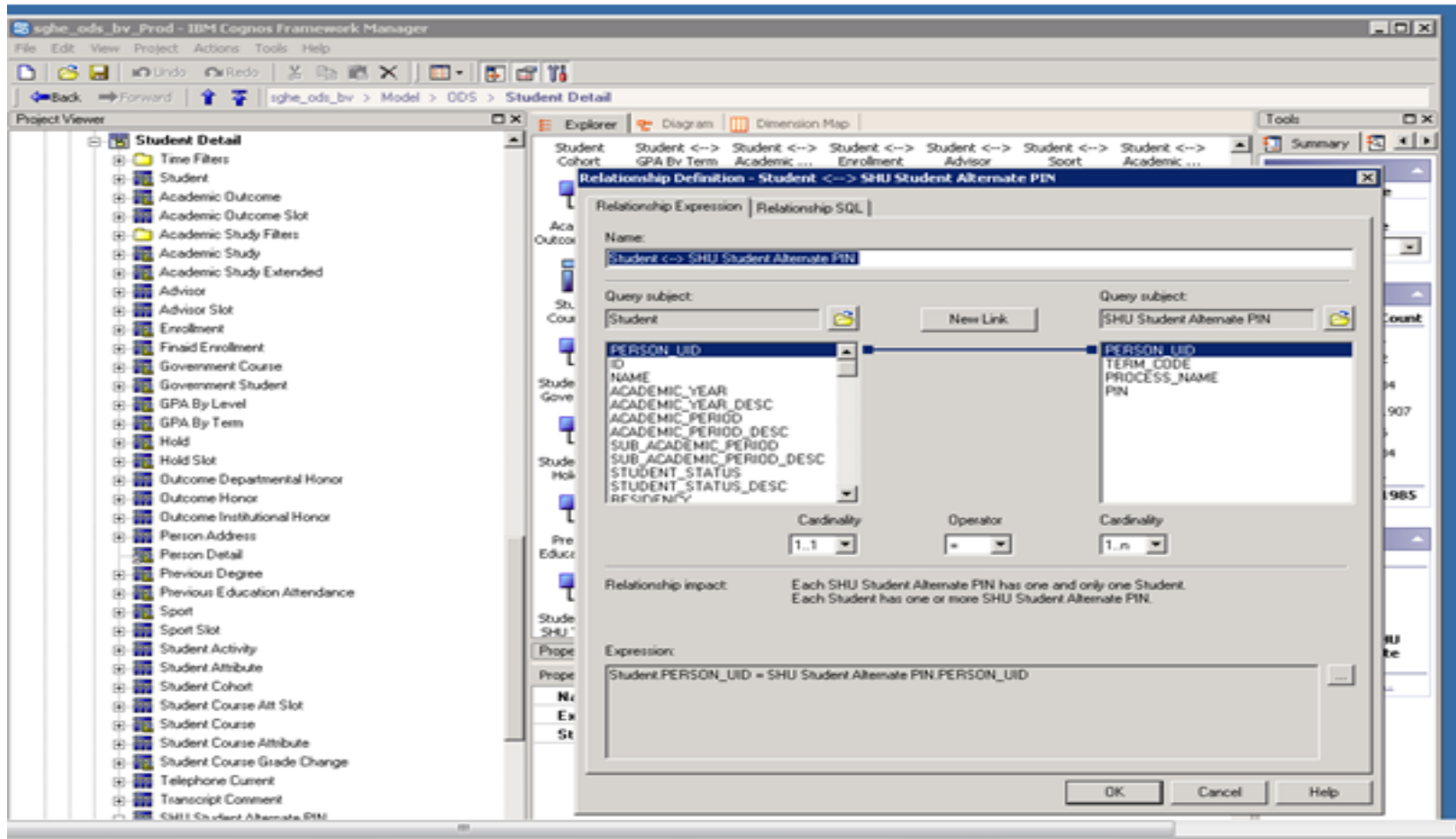
1.1 Join on Pidm to Person UID with the Student view/packet.



Create a mapping in OWB



Adding new mapping to package using FMW



Reporting with modified views and packages

Registration PINs

Select a Term:

- ☒ Spring 2013
- ☐ Summer 2013
- ☐ Fall 2013
- ☐ Spring 2012
- ☐ Summer 2012
- ☐ Fall 2012
- ☐ Spring 2011
- ☐ Summer 2011
- ☐ Fall 2011
- ☐ Spring 2010
- ☐ Summer 2010
- ☐ Fall 2010
- ☐ Spring 2009
- ☐ Summer 2009
- ☐ Fall 2009
- ☐ Spring 2008
- ☐ Summer 2008
- ☐ Fall 2008
- ☐ Spring 2007
- ☐ Summer 2007
- ☐ Fall 2007
- ☐ Spring 2006
- ☐ Summer 2006
- ☐ Fall 2006
- ☐ Spring 2005
- ☐ Summer 2005

Select a College:

- ☐ Academic Programs
- ☐ Col of Education and Human Srv
- ☐ College of Arts and Sciences
- ☐ College of Nursing
- ☐ Div of Cont Ed and Prof Stu
- ☐ Immac Concep Sch of Theology
- ☐ Internal Off Use - Registrar
- ☐ Law School
- ☐ No College Designated
- ☐ Non-Matriculated
- ☐ Sch of Diplomacy and Intl Rel
- ☐ Sch of Health and Medical Sci
- ☐ Special Programs
- ☒ Stillman School of Business
- ☐ University Library

Select a Student Level:

- ☐ Continuing Education
- ☐ Graduate
- ☐ Graduate Law
- ☐ Professional
- ☐ Undeclared
- ☒ Undergraduate

Select a Major (Optional):

Keywords:
Type one or more keywords separated by spaces.

Options ▾
Results:

[Select all](#) [Deselect all](#)

Choice:

[Select all](#) [Deselect all](#)

Select an Admit Type (Optional):

- ☐ 2nd Bachelor Degree Applicant
- ☐ Alternate App (Conv Only)
- ☐ Graduate Applicant
- ☐ Law Graduate Applicant
- ☐ Law School Applicant
- ☐ Law School Returning Applicant
- ☐ Law School Transfer Applicant
- ☐ New Freshman Applicant
- ☐ Non-Matriculated Applicant
- ☐ Returning Student Applicant
- ☐ Transfer Applicant
- ☐ Transfer Applicant - Graduate
- ☐ Transfer Applicant - Law Grad

Reporting with modified views and packages

BM Cognos Viewer - Registration PIN

Registration PINS

ID	Name	Short Email	Pin	Long Email	Major
312171	Abdelhady,			elhady@student.shu.edu	BFIN
398760	Abraham			zadeh@student.shu.edu	BFIN
795798	Abra			abrams@student.shu.edu	BACC
797946	Ace			cevedo@student.shu.edu	BACC
726599	Ad			adams@student.shu.edu	BFIN
399489	A			admani@student.shu.edu	BACC
794460	Adri			adrien@student.shu.edu	BUND
781340				ahmad@student.shu.edu	BUND
363288	A			ahmed@student.shu.edu	BUND
385708	A			y.aiello@student.shu.edu	BMKT
700582	Alar			alarcon@student.shu.edu	BFIN
359286	Ala			e.alario@student.shu.edu	ECON
703344				ily.alati@student.shu.edu	BMGN
799498				h.allen@student.shu.edu	ECON
311933	Al			s.allen@student.shu.edu	BFIN
386182				n.allen@student.shu.edu	BSPM
300498				,alvino@student.shu.edu	BACC
365454	Am			amador@student.shu.edu	BFIN
389527	Am			amato@student.shu.edu	BFIN
363880				amato@student.shu.edu	BMKT

Cognos report with package mods, pg2

Select a package (Navigate)

Select which package to use.

Recently used packages:

None

List of all packages:

[Cognos](#) > [Public Folders](#)

Name
Budget Managers
SGHE Recruiting Admissions Performance
Student
Finance
Human Resources
Institutional Research
EDW Packages
Performance Management Packages
SGHE Student Retention Performance
Test Folders

Cancel

IBM Cognos Connection

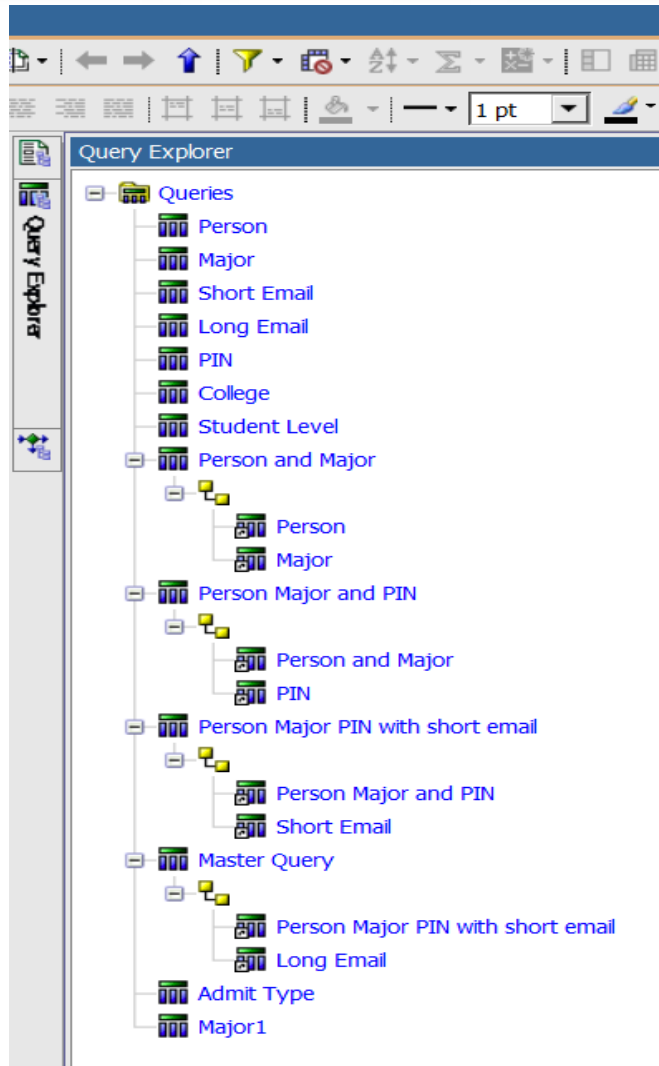
Public Folders
 My Folders

Public Folders > Enrollment Services > A ES Reports

		Name
<input type="checkbox"/>		Low Enrollment Courses v2
<input type="checkbox"/>		Mailing List
<input type="checkbox"/>		Major Count By Term
<input type="checkbox"/>		Missing Checklist Item Report
<input type="checkbox"/>		Mom Report
<input type="checkbox"/>		Pirate Net Login Information
<input type="checkbox"/>		Plus Historical Tenure
<input type="checkbox"/>		Project Acceleration Report
<input type="checkbox"/>		Registration PIN
<input type="checkbox"/>		Registration Report
<input type="checkbox"/>		Section Summary
<input type="checkbox"/>		Standard List of Enrolled Student
<input type="checkbox"/>		Students with Failed Grades
<input type="checkbox"/>		Tenure
<input type="checkbox"/>		Transcripts

Cognos report – Design View and Runtime

Cognos report – Design View



Cognos report – Runtime view

Enter Term:
*

Select a Student Level:
*

Optional Select a Major:

Registration PINs
Select a College:
*

Optional Select an Admit Type:



Registration PINs

ID	NAME	Short EMAIL	PIN	Long EMAIL	MAJOR
	Abbot	bottd@shu.edu	983592	de bott@student.shu.edu	DIPL
	Adam	amitda@shu.edu	969483	danie tis@student.shu.edu	DIPL
	Adams, Al	msale@shu.edu	909537	alexand ms@student.shu.edu	DIPL

Examples of other modification done by Enrollment Services

- SORHSCH ADMR CODE
- SGBSTDN_RATE_CODE
- SGBSTDN_TERM_CODE_CTLG_1
- SHRTRTK Table - The SHRTRTK Table was created as SHU_TRANSFER_EQUIVLANCY and added to the admission application package



Our reasons for in-house modification

- Limitation of data in ODS that's extracted from INB
- Baseline ODS calculation in the ETL was a limitation
- Data resides in ancillary systems outside of Banner
- Performance issues with baseline ODS views that needed better optimization
- Better clarity of information and management of operational terms better suited for our institution
- Make reporting easier with certain packages having institutional specific data to deal with our unique ways of storing information in INB

Example of another Cognos package modification with emails in GOREMAL

Reason for mod.

- We keep two or more active emails in GOREMAL.
- Therefore, we wanted to flatten out data and report multiple active emails.

i.e: Shu_Email, shu_email_long,
Personal_email



Example of a Cognos package modification

New Banner/Staging composite view:

```
CREATE OR REPLACE VIEW SHUDEVL.SHU_AG_ACTIVE_EMAIL
as
SELECT PERSON_UID, SHU_EMAIL, PERS_EMAIL, SHORTNAME, SHU_LONG_EMAIL, SYSDATE
CURRENT_DATE
FROM
  (select spriden_pidm PERSON_UID,
    (select goremal_email_address from goremal B
     where B.rowid = SHU_F_GET_GOREMAL_ROWID (spriden_pidm, 'SHU') ) SHU_EMAIL,
    (select goremal_email_address from goremal C
     where C.rowid = SHU_F_GET_GOREMAL_ROWID (spriden_pidm, 'PERS') ) PERS_EMAIL,
    gobtpac_external_user SHORTNAME,
    (select goremal_email_address from goremal D
     where D.rowid = SHU_F_GET_GOREMAL_ROWID (spriden_pidm, 'SHUL') ) SHU_LONG_EMAIL
  from spriden,
    gobtpac
  where spriden_pidm = gobtpac_pidm (+)
    and spriden_change_ind is null
  )
WHERE SHU_EMAIL IS NOT NULL
  OR PERS_EMAIL IS NOT NULL
  OR SHORTNAME IS NOT NULL
  OR SHU_LONG_EMAIL IS NOT NULL;
```

Example of a Cognos package modification

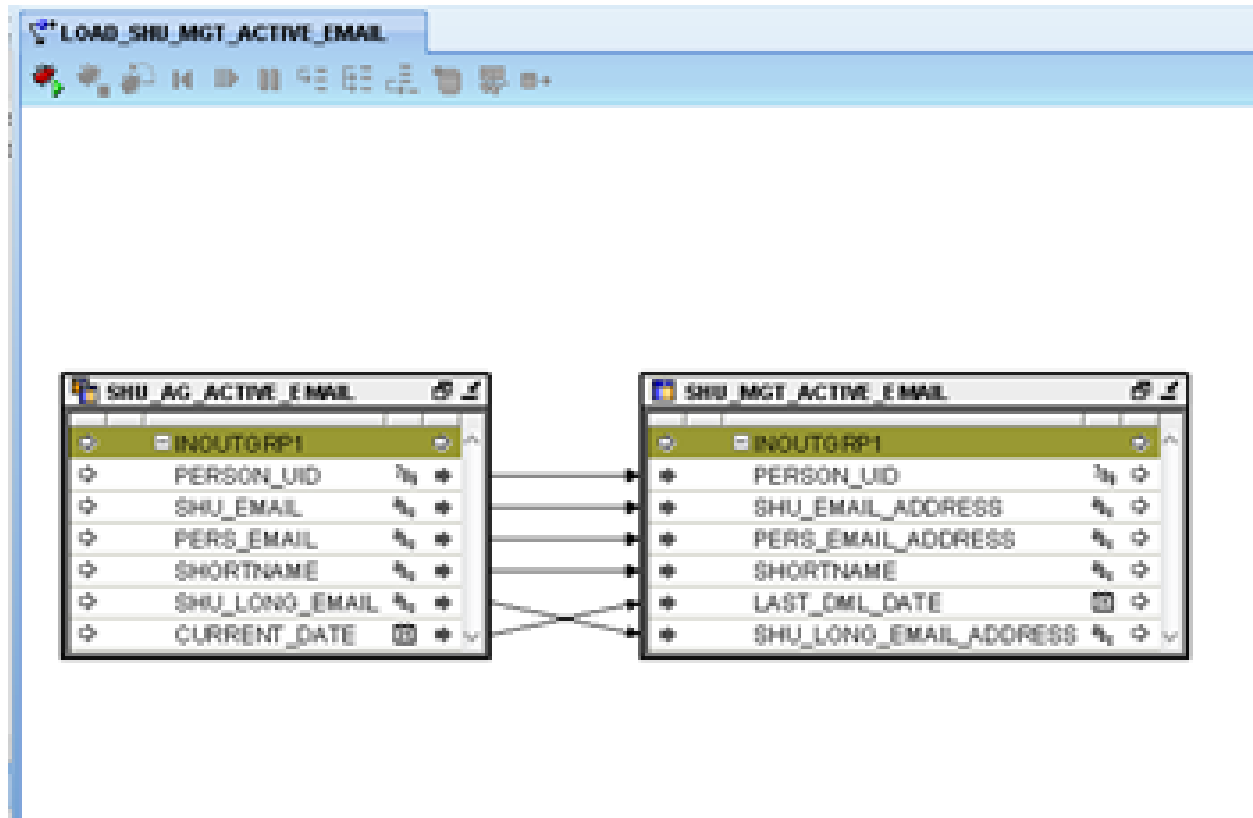
New ODS table:

```
CREATE TABLE ODSMGR.SHU_MGT_ACTIVE_EMAIL
(  
  person_uid      number,  
  shu_email_address  varchar2(255),  
  pers_email_address varchar2(255),  
  shortname       varchar2(63),  
  last_dml_date    date  
);
```



Example of a Cognos package modification

OWB Mapping to load to SHU_MGT_ACTIVE_EMAIL:



Example of a Cognos package modification

Updated PESON_DETAIL view in ODSMGR

```
CREATE OR REPLACE FORCE VIEW PERSON_DETAIL
(PERSON_UID,
 ID,
 ID_SOURCE,
 ID2,
 . EMPLOYMENT_TYPE,
 EMPLOYMENT_TYPE_DESC,
 FOREIGN_SSN,
 CHILDREN_NUMBER,
 MIF_VALUE,
 MIF_DESC,
 ZONE_VALUE,
 DOMAIN_VALUE,
-- SHUMOD: ADD COLUMNS
SHU_EMAIL_ADDRESS,
PERS_EMAIL_ADDRESS,
SHORTNAME,
SHU_LONG_EMAIL_ADDRESS
FROM MST_PERSON,
-- SHUMOD: ADD JOIN
SHU_MGT_ACTIVE_EMAIL
WHERE MST_PERSON.PERSON_UID = SHU_MGT_ACTIVE_EMAIL.PERSON_UID (+);
```

Example of a Cognos package modification

Framework Manager, Update Person Detail query subject in Supplemental package

The screenshot displays the IBM Cognos Framework Manager interface for the 'sghe_odis_bv' package. The 'Project Viewer' on the left lists various data sources, with a group of items circled in red: 'ADMINISTRATIVE_GROUP', 'SHU_EMAIL_ADDRESS', 'PERG_EMAIL_ADDRESS', 'SHORTNAME', and 'SHU_LONG_EMAIL_ADDRESS'. The 'Properties' pane at the bottom shows details for the 'Person Detail' query subject, including its description, last changed date, and status.

Class	Count
Namespace	77
Folder	205
Query Subject	1923
Query Item	82155
Query Item Folder	38
Filter	537
Relationship	1028
Shortcut	48
Data Source	2
Package	71
Parameter Map	21
Total	86105

Name	Person Detail
Description	
Last Changed	2012-08-27T12:03:49
Last Changed By	ouapom
Model Comments	
Screen Tip	
Security Filters	<Click to edit>
Externalize Method	default
Externalize Auto Summary	false
Status	Valid

Challenges and lessons learned with ODS and Cognos

- ODS reporting view column names differ from Banner. Some naming conventions are confusing and impractical.
- Ancillary databases and systems that sit outside of ODS needed new ETL process
- Slicing and dicing for better informed decisions are not straight forward
- Some departments justify the need for up to the minute transactional information
- Data originally mapped in the default reporting views were not how Data remained in Banner
- Many Oracle functions needed to be re-checked for the logical code for data integrity
- Limitation of Cognos licenses across campus wide
- Our need to justify additional intellectual resources for IT and departmental IT



Justification for real time transactional data

- Data freezing or snap shot capture
- Cognos open licenses – Strictly limited
- Opt for materialized views refreshed on demand



Questions & Answers

Open discussion



Thank You!


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[Reporting with ODS
\(Operational Data
Store\) and Cognos BI](#)



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