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The EDW: An Overview For Foothill-De Anza Community College District

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October, 2009

The Agenda

Objective: Set the stage for a successful implementation of the Enterprise Data Warehouse (EDW)

- An Overview and Demonstration
- The Installation
 - The Hardware and Software
- The Implementation
 - Training
 - Testing
 - Data quality
 - Information completeness
- Moving Forward



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The EDW

The EDW complements the ODS by providing business-event focused snapshots of institutional characteristics and measures to further support an aligned, information-based management support environment.

The EDW enables decision makers at every level of the institution to have ready access to enterprise-wide comparative data so that they can proactively evaluate and manage the state of the organization.

The expected training audience for the EDW implementation is the EDW's technical support team, and power report writers from across the orientation given the high level of functional and technical inter-dependents involved in the EDW's delivery.





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The EDW in Pictures

EDW Overview

Subject Content

Advancement	Financial Aid	Accounts Receivables	Financials Management	Human Resources	Student/Academic
Gift Summary	Pre-student Financial Aid	AR Customer	General Ledger	Employee	Recruiting And Admissions
	Student Financial Aid	AR Revenue	Operating Ledger	Employee Position	Course Registration
			Grants and Projects	Employee Application	Academic Program Course
				Employee Degree	Enrollment
					Graduation Completion

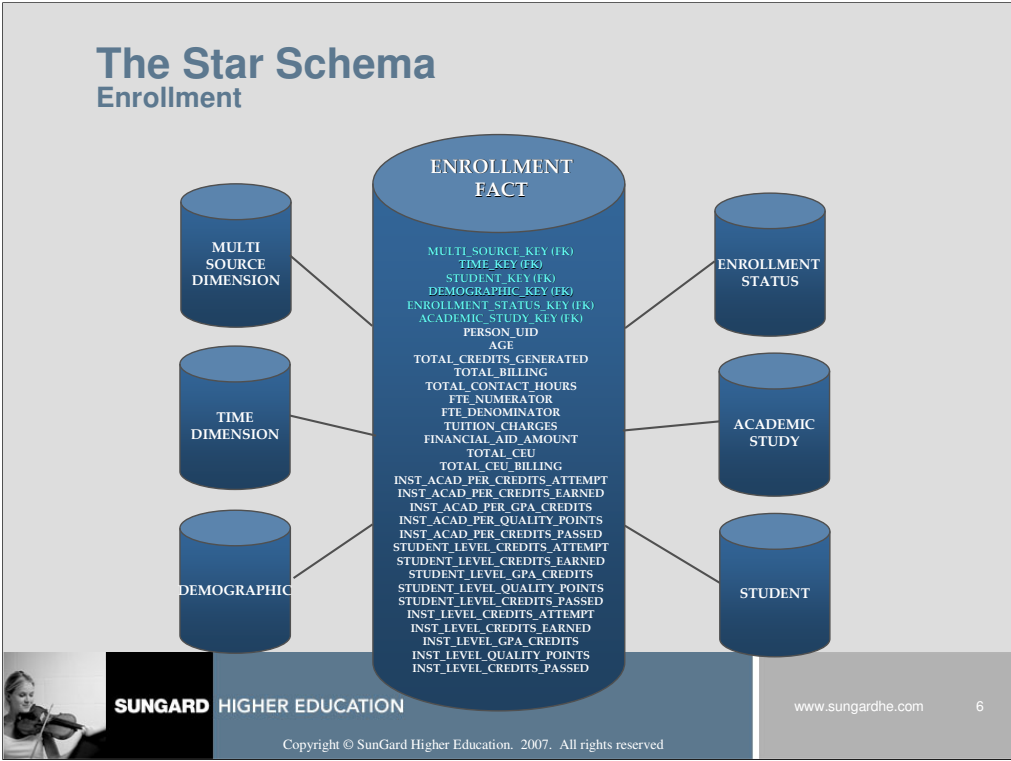
- **Broad Analytics Coverage**
 - Conformed, shared dimensions enable cross-functional analysis
 - Provides best flexibility for satisfying broad, diverse standard and ad-hoc reporting requirements
- **Specifically Designed for Multi-Dimensional Analysis**
 - Star Schemas
 - ** Optional** Cognos FM metadata packages and PowerPlay cubes
- **Captures Historical Information**
 - Event Snapshots Based on Institutional Business Need
 - Enables Trend Analysis, Forecasting



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Insertable Objects		Rows:		Columns:		Contexts:	
		Measures (list)		Academic Year		Yes	
<ul style="list-style-type: none"> EDW Enrollment <ul style="list-style-type: none"> Multi Source Academic Year Academic Period Type Latest Event Ind Event Academic Outcome Enrolled Ind Age Range Award Category Campus College Current Time Status Department Degree Enrolled Ind Enrollment Status Ethnicity Category Ethnicity Gender Housing Ind Intended Time Status Major Nation of Citizenship Primary Disability Program Major Program Classification Registered Ind Residency Residency Ind Student Classification 							

File Edit View Settings Run Help							
Insertable Objects							
<ul style="list-style-type: none"> Program <ul style="list-style-type: none"> Major Program Classification Registered Ind Residency Residency Ind Student Classification Student Level Student Population Veteran Type Visa Type Not for Use 1 Not for Use 2 Not for Use 3 Measures <ul style="list-style-type: none"> Registered Count Enrolled Count Total Credits Generated Student FTE Total Contact Hours GPA Credits Attempted Credits Earned Credits Passed Tuition Charges Financial Aid Amount Average Tuition Charges Average Financial Aid Amount Academic Outcome Enrolled Count Total Billing Units Total CEU Total CEU Billing Units 							
Rows: Measures (list)		Columns: Academic Year					Context: Yes
	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	Academic Year	
Registered Count	20	28	34	69	61	108	
Enrolled Count	20	28	34	69	61	108	
Total Credits Generated	655.000	871.000	1082.000	2018.000	800.000	5426.000	
Student FTE							
Total Contact Hours							
GPA	3.19355	2.83871	2.87500	3.19565		3.01946	
Credits Attempted	31.000	62.000	72.000	95.000		260.000	
Credits Earned	31.000	62.000	72.000	95.000		260.000	
Credits Passed	31.000	62.000	72.000	95.000		260.000	
Tuition Charges				1,012,400.00	423,200.00	1,435,600.00	
Financial Aid Amount					30,305.00	30,305.00	
Average Tuition Charges				7,612.03	6,937.70	7,400.00	
Average Financial Aid Amount					1,894.06	1,894.06	
Academic Outcome Enrolled Count	1	2	2	3	3	4	
Total Billing Units	0.00	0.00	0.00	0.00	836.00	836.00	
Total CEU				20.00	20.00	40.00	
Total CEU Billing Units	0.00	0.00	0.00	0.00	0.00	0.00	


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FileEditViewSettingsRunHelp

Insertable Objects

Academic Outcome Enrolled Ind

Age Range

Award Category

Campus

College

Current Time Status

Department

Degree

Enrolled Ind

Enrollment Status

Ethnicity Category

Ethnicity

Gender

Housing Ind

Intended Time Status

Major

Nation of Citizenship

Primary Disability

Program

Major Program Classification

Registered Ind

Residency

Residency Ind

Student Classification

Student Level

Student Population

Veteran Type

Visa Type

Not for Use 1

Not for Use 2

Not for Use 3


Rows:College

Columns:1995-1996Ethnicity

Context:

Registered Count	Fall 1995						Ethnicity
	Data Not Available	African-American	Asian Pacific Islander	Caucasian	Hispanic-Other	Sioux	
Data Not Available	2	20	2	34	0	0	58
College of Business	0	0	0	3	0	0	3
College of Nursing	0	0	0	0	0	0	0
College	2	20	2	37	0	0	61

Information - Ethnicity



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Insertable Objects

+

 Academic Outcome Enrolled Ind

+

 Age Range

+

 Award Category

+

 Campus

+

 College

+

 Current Time Status

+

 Department

+

 Degree

+

 Enrolled Ind

+

 Enrollment Status

+

 Ethnicity Category

+

 Ethnicity

+

 Gender

+

 Housing Ind

+

 Intended Time Status

+

 Major

+

 Nation of Citizenship

+

 Primary Disability

+

 Program

+

 Major Program Classification

+

 Registered Ind

+

 Residency

+

 Residency Ind

+

 Student Classification

+

 Student Level

+

 Student Population

+

 Veteran Type

+

 Visa Type

+

 Not for Use 1

+

 Not for Use 2

+

 Not for Use 3

Information - Major

Enrollment



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Rows: College Major Columns: 1995-1996 Ethnicity Context

Registered Count		Fall 1995				
		Data Not Available	African-American	Asian Pacific Islander	Caucasian	Hispanic-Other
Data Not Available	***Data Not Available***	2	20	2	34	0
	Accounting	0	0	0	0	0
	Nursing	0	0	0	0	0
	Major	2	20	2	34	0
College of Business	***Data Not Available***	0	0	0	0	0
	Accounting	0	0	0	3	0
	Nursing	0	0	0	0	0
	Major	0	0	0	3	0
College of Nursing	***Data Not Available***	0	0	0	0	0
	Accounting	0	0	0	0	0
	Nursing	0	0	0	0	0
	Major	0	0	0	0	0
College	***Data Not Available***	2	20	2	34	0
	Accounting	0	0	0	3	0
	Nursing	0	0	0	0	0
	Major	2	20	2	37	0

Enrollment * - Analysis Studio - Microsoft Internet Explorer

File Edit View Settings Run Help


Insertable Objects

- EDW Enrollment
 - cube Enrollment
 - Multi Source
 - Academic Year
 - Academic Period Type
 - Event
 - Academic Outcome Enrolled Ind
 - Age Range
 - Award Category
 - Campus
 - College
 - Current Time Status
 - Department
 - Degree
 - Enrolled Ind
 - Enrollment Status
 - Ethnicity Category
 - Ethnicity
 - Gender
 - Housing Ind
 - Intended Time Status
 - Major (50+)
 - Nation of Citizenship
 - Primary Disability
 - Program
 - Major Program Classification
 - Registered Ind
 - Residency
 - Residency Ind

Rows: Student Level Columns: Academic Year Context: *LATEST_EVENT*

Registered Count	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Academic Year
Data Not Available	0	0	1	1	1	2
Apprenticeship	0	0	0	1	0	1
Continuing Education	2	1	6	29	18	56
Credit	2	21	60	25	40	129
Employee Development	0	0	0	3	4	6
ESL	0	0	0	0	1	1
Graduate	5	3	26	18	12	59
High School	0	0	0	3	0	3
Law	0	0	4	1	1	6
Matriculated Student	0	1	0	3	1	5
Medical Degree	1	2	1	11	5	16
Non-Credit	0	0	0	1	3	3
Professional	5	0	0	0	3	8
Regular	1	1	0	0	0	2
Research Postgraduate	0	0	3	0	0	3
Undeclared	0	0	0	1	0	1
Undergraduate	105	173	551	439	422	1431
Student Level	120	202	652	536	511	1725

Information - Student Level Enrollment

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Operating Ledger - Analysis Studio - Microsoft Internet Explorer

File Edit View Settings Run Help

Insertable Objects

[-] Fiscal Period

[-] Latest Event Ind

[-] Event

[-] Account

[-] Account Level

[-] Internal Account Type

[-] Account Pool

[-] Account Type

[-] Chart Of Accounts

[-] Fund

[-] Fund Level

[-] Fund Pool

[-] Fund Type

[-] Organization

[-] Organization Level

[-] Organization Pool

[-] Program

[-] Program Level

[-] Measures

[-] Fiscal Year Adopted Budget

[-] Fiscal Year Budget Adjustments

[-] Fiscal Year Total Budget

[-] Adopted Budget

[-] Adjustments

[-] Reservations

[-] Encumbrances

[-] Activity

[-] Remaining Balance

Rows: Account Type


Columns: Fiscal Year

Context: Latest Event Ind. Yes

Activity	2000	2001	2002	2003	2004	2005	2006
50 - Revenues	587,409.11	336,050.48	306,845.02	268,689.38	235,064.61	730,120.98	19,098,083.82
60 - Labor	2,709,980.88	3,436,203.56	3,259,151.26	3,657,349.44	4,666,682.73	6,685,319.23	9,124,830.11
70 - Direct Expenditures	31,712.04	57,466.94	101,358.55	409,728.77	243,406.11	157,066.25	527,120.70
80 - Transfers	-2,628.65	-8,037.39	-15,174.30	-48,216.86	-18,870.95	-13,073.52	-4,367.50
Account Type	3,326,473.30	3,821,683.59	3,652,180.53	4,287,550.73	5,126,282.50	7,559,432.94	28,745,667.13

Information - Activity

Operating Ledger



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File Edit View Settings Run Help

Account Type

2006

Yes

Insertable Objects

Fiscal Period

Latest Event Ind

Event

Account

Account Level

Internal Account Type

Account Pool

Account Type

Chart Of Accounts

Fund

Fund Level

Fund Pool

Fund Type

Organization

Organization Level

Organization Pool

Program

Program Level

Measures

Fiscal Year Adopted Budget

Fiscal Year Budget Adjustments

Fiscal Year Total Budget

Adopted Budget

Adjustments

Reservations

Encumbrances

Activity

Remaining Balance

Activity

2006 Q 1

2006 Q 2

2006 Q 3

2006 Q 4

50 - Revenues

60 - Labor

70 - Direct Expenditures

80 - Transfers

17,673,354.42

370,742.33

577,591.60

476,395.47

1,941,947.34

2,393,035.67

2,414,918.29

2,374,928.81

189,620.27

180,749.61

146,347.81

10,403.01

-3,274.82


-1,092.68

0.00

0.00

Information - Activity

Account Type



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File Edit View Settings Run Help

Insertable Objects

- Fiscal Period
- Latest Event Ind
- Event
- Account
 - Account Level
 - Internal Account Type
 - Account Pool
 - Account Type
 - Chart Of Accounts
- Fund
 - Fund
 - Fund Level
 - Fund Pool
 - Fund Type
- Organization
 - Organization
 - Organization Level
 - Organization Pool
- Program
 - Program Level
- Measures
 - Fiscal Year Adopted Budget
 - Fiscal Year Budget Adjustments
 - Fiscal Year Total Budget
 - Adopted Budget
 - Adjustments
 - Reservations
 - Encumbrances
 - Activity
 - Remaining Balance

Rows: Account Type


Columns: 2006 Q 1

Context: Yes

Activity	2006 01	2006 02	2006 03
50 - Revenues	17,084,329.10	243,254.63	345,770.69
60 - Labor	542,866.29	564,315.47	834,765.58
70 - Direct Expenditures	100,291.13	25,081.33	64,247.81
80 - Transfers	-1,089.46	-1,092.68	-1,092.68

Information - Activity

Operating Ledger



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File Edit View Settings Run Help

Insertable Objects

Fiscal Period

Latest Event Ind

Event

Account

Account Level

Internal Account Type

Account Pool

Account Type

Chart Of Accounts

Fund

Fund Level

Fund Pool

Fund Type

Organization

Organization Level

Organization Pool

Program

Program Level

Measures

Fiscal Year Adopted Budget

Fiscal Year Budget Adjustments

Fiscal Year Total Budget

Adopted Budget

Adjustments

Reservations

Encumbrances

Activity

Remaining Balance

Rows: 50 - Revenues


Columns: 2006 Q 1

Context: Yes

Activity	2006 01	2006 02	2006 03
51 - Tuition and Fees	17,036,221.93	174,510.55	295,064.69
53 - Gifts Received	571.69	3,071.67	571.67
55 - Grants and Contracts	95,877.36	37,811.72	64,679.74
56 - Endowment Income	1,089.46	1,092.68	1,092.68
57 - Sales and Services	6,071.82	48,538.01	11,455.01
58 - Financial Aid	-55,506.16	-23,773.00	-26,896.10
59 - Other Revenues	3.00	2,003.00	-197.00

Information - Activity

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File Edit View Settings Run Help

Insertable Objects

- Fiscal Period
- Latest Event Ind
- Event
- Account
- Account Level
- Internal Account Type
- Account Pool
- Account Type
- Chart Of Accounts
- Fund
- Fund Level
- Fund Pool
- Fund Type
- Organization
- Organization Level
- Organization Pool
- Program
- Program Level
- Measures
 - Fiscal Year Adopted Budget
 - Fiscal Year Budget Adjustments
 - Fiscal Year Total Budget
 - Adopted Budget
 - Adjustments
 - Reservations
 - Encumbrances
 - Activity
 - Remaining Balance

Information - Activity


Rows: 50 - Revenues

Columns: 2006 03

Context: Latest Event In...

Activity	05 Mid Month	10 End Month
51 - Tuition and Fees	295,064.69	295,064.69
53 - Gifts Received	571.67	571.67
55 - Grants and Contracts	64,679.74	64,679.74
56 - Endowment Income	1,092.68	1,092.68
57 - Sales and Services	11,455.01	11,455.01
58 - Financial Aid	-26,896.10	-26,896.10
59 - Other Revenues	-197.00	-197.00

Operating Ledger



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The Installation

- **Installed in an existing instance of the ODS**
 - Additional EDW specific design repository
 - Two EDW specific target schemas
- **ETL loads from ODS into EDW**
- **Uses the same administrative interface as the host ODS**



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The Installation

- **Populate a determined set of the selected Star Schemas with at least one event load process to confirm the installation (based on available data).**
- **Confirm the readiness of the selected report writer to support the training**
 - Cognos – limited support provided by SGHE
 - Other Reporting Tools – school is responsible for set up and testing



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The Implementation

- **System and Application Training: The First Engagement**
 - Understanding the technical environment: Data movement, transformation and cleansing, and storage
 - Understanding the business purpose: The audience and purpose
- **The Testing: The Next Engagements**
 - EDW to ODS or Banner comparison for data consistency
 - Data completeness in light of your strategic direction



The Implementation

- **The Extract Event Schedule**
 - What stars will you run
 - How often will you run them
- **Delivering the solution to its users**
 - To Whom
 - When
 - How



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Supporting Documentation

- **The EDW/ODS Handbook**
 - Provide core application documentation of both supporting processing and usage considerations
 - EDW ERD
- **The Meta Data**
 - Provides documentation of both target and source
 - At Target Star Schema and ODS Source View level
 - At the Column level
 - Relates EDW to ODS, and ODS to Banner
 - Customizable at the local level
 - Delivered as data within the database to be subsequently generated as static HTML for deployment on the client intranet





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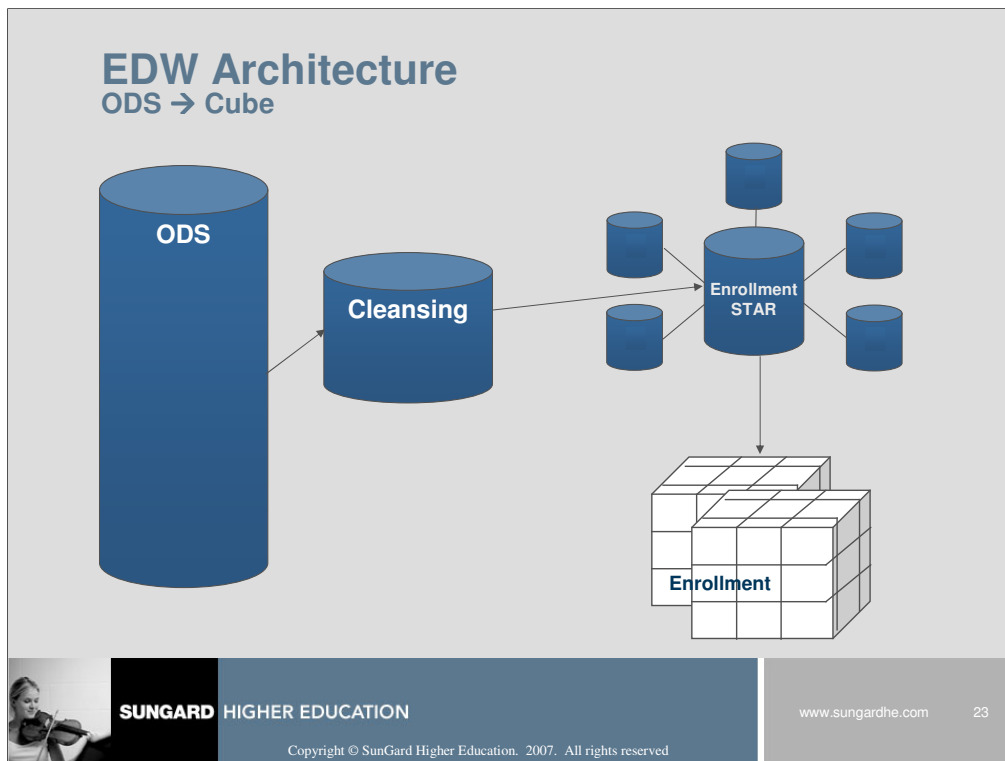
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Application Basics



New Concepts

- **Cleansing**
 - Manage, and build the descriptions associated with codes (Default, Long, and Short)
 - Create new concepts and descriptions (Test Score Ranges, Percentile Ranges, Age)
 - Identify anomalies within the data (a.k.a. data integrity audit, preferably managed in the OLTP system)
- **Extract Events Schedule**
- **Star Schema**

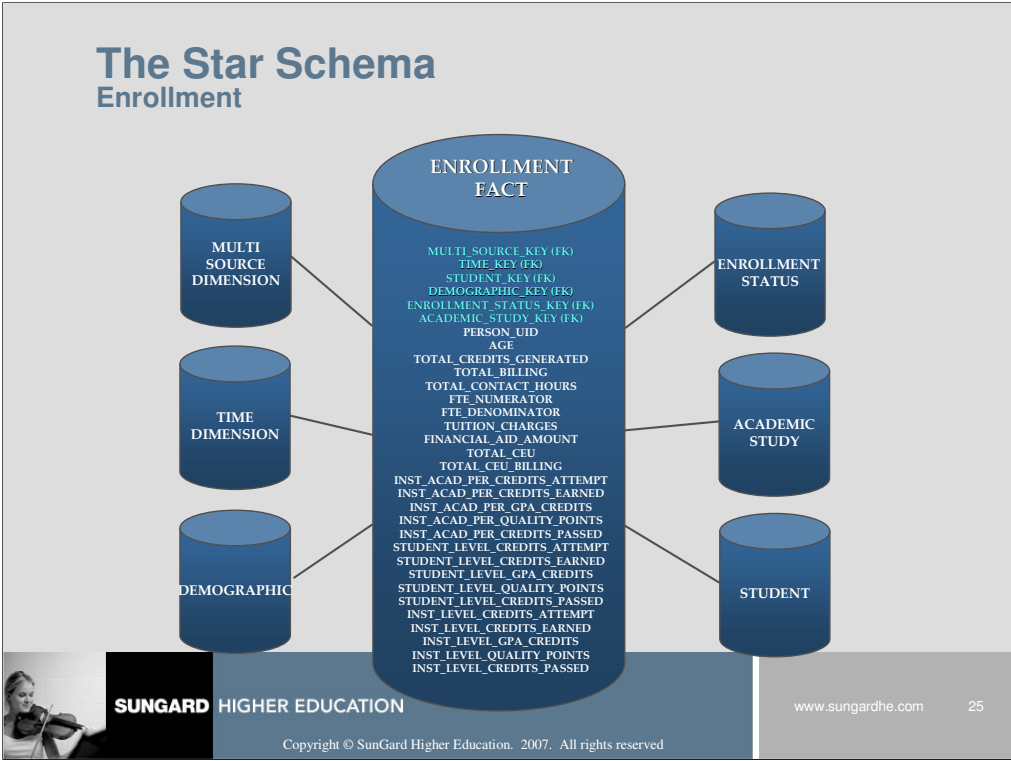


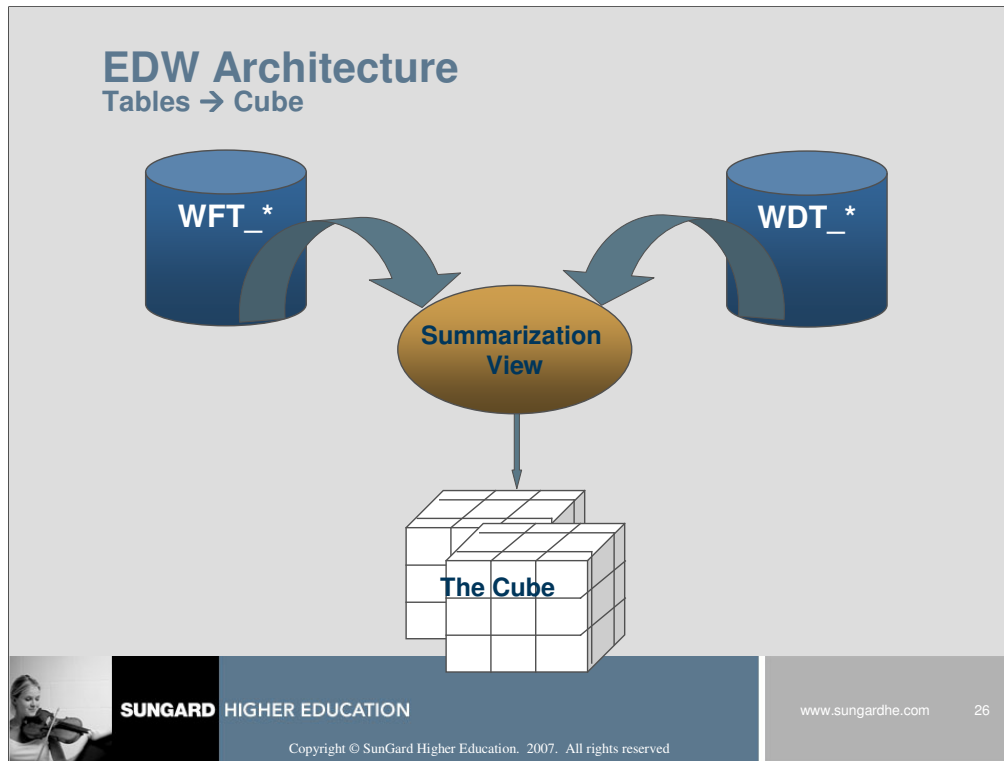
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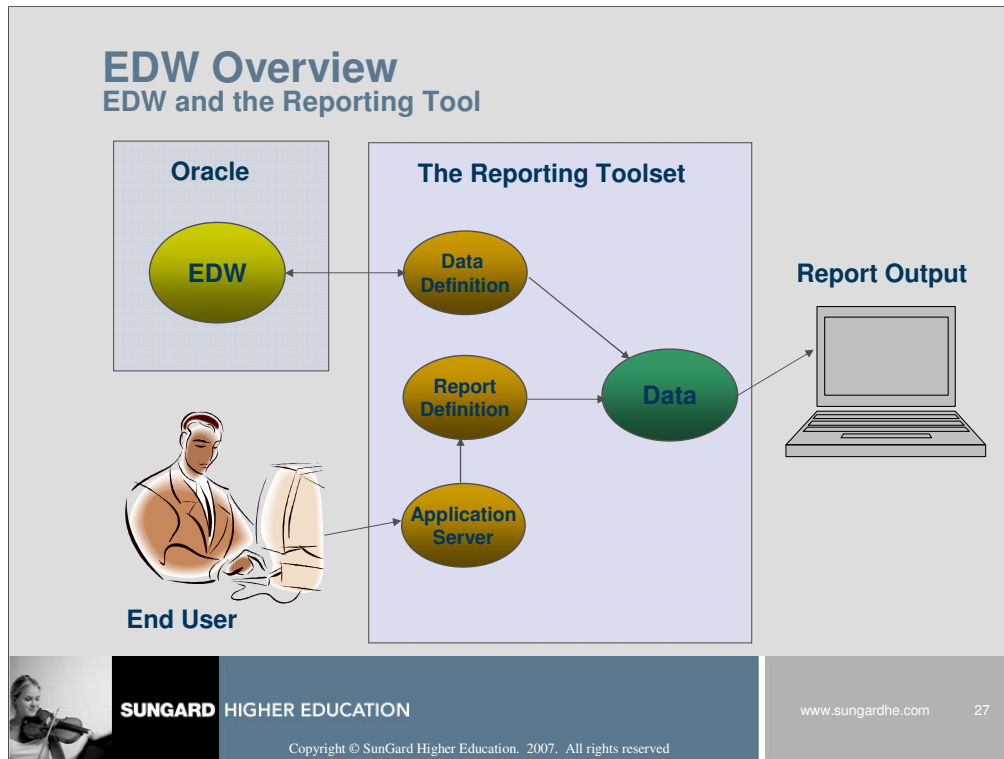
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Moving Forward

- **Confirmation of the hardware and software environment**
- **Combined Technical and Functional Training**
- **Testing**
- **Develop a Roll-out Plan that will work for the College**
 - Confirming alignment of strategic direction and the EDW
 - Preparing and training the audience
- **Just getting it started!**



Questions?
Answers!
Your Input!!

Thanks!

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