Spring 2004 PESC Workgroup Summit
Sheraton New York Hotel and Towers
Room Royal B
April 1, 2004

Agenda

8:30am - 8:45am Welcome and PESC Update, Michael Sessa, Postsecondary Electronic Standards Council

8:45am - 10:00am Introduction to the IMS Steve Griffin, IMS Global Learning Consortium

10:00am - 10:15am Break

10:15am - 12:15pm Standards Forum for Education

Update from the Steering Committee Ed Hauser, SCT
Overview of Policies and Procedures Jason Elwood, Miami University/DARS
XML Registry and Repository Holly Hyland, US Department of Education
Development Requests & Next Steps Michael Sessa, PESC

12:15pm - 1:45pm Lunch on your own

1:45pm - 3:00pm Standard Student Authentication

EAP (Electronic Authentication Partnership) Update
White Paper Discussion

3:00pm - 3:45pm Single Institutional ID Jerry Bracken Workgroup

Crosswalk Maintenance
Foreign School Code Sets
White Paper Discussion

3:45pm - 4:00pm Break

4:00pm - 5:00pm Web Services ALL
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
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IMS Global Learning Consortium

Steve Griffin
Executive Dir. Int’l Developer and Adopter Support, Co-Founder
IMS Global Learning Consortium
sgriffin@imsglobal.org
Agenda

Mission and History
Community Collaboration
Specifications and Spec. Resources
Specification Trends
Conformance
Developer and Adopter Support
Q&A
IMS Global Learning Consortium

International, non-profit, eLearning consortia
Founded 1997
Member-funded
Mission: *Advance technology standards-based eLearning to reduce costs and improve quality.*

1. Support Cross-Sector/Region Collaboration & Coordination
2. Support Developers and Adopters
4. Develop and Maintain Open, No-Cost Technical Specifications
# A Little History

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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| Early – Mid 90s | **IBM Consulting Scholar Pgm**  
& **Miami Dade Project Synergy** |
| 1995 | **Initial IMS Founders**  
   - Calif. State Univ. System  
   - Univ. North Carolina Institute for Academic Tech.  
   - Univ. Michigan  
   - Miami Dade CC Educom |
| 1996 | **Organized w/i Educom**  
& **Grant Funding Acquired** |
| 1997 | **Member Funding Model**  
& **Requirements Gathering**  
& **Service-oriented Draft Spec.**  
& **Reference Application**  
& **International Centers Emerge** |
| 1998-1999 | **Data Portability Specs**  
& **Assisted ADL startup** |
| 2000 | **Spin off from Educause** |
| 2004 | **Service-oriented specs** |
Worldwide Members

ACT
ADL Co-Lab
Artesia Technologies
BECTA
Blackboard
Boeing
CIC
Cisco
Click 2 Learn
Calif. State Univs.
Cambridge University
Canvas Learning
CMU
DEST
Digitalthink
Docent
Educational Testing Service
EDUCAUSE
EU SchoolNet
FD Learning
Fretwell-Downing Group
GIUNTI Interactive Labs
Industry Canada
JISC
LON
Miami-Dade Community College
Microsoft
MIT
Open University
OU Netherlands
Oracle
Question Mark
Saba Software
SCT
Sentient
SUFI
Sun
SURF
Texas Instruments
THINQ
Thomson Learning
UFI
UC – Berkeley
UK eUniversity
University of Michigan
University of Wisconsin
US Department of Labor
Virginia Tech
WebCT
Xtensis
And, 75 Developer Network Subscribers
Working Affiliations

Sector Groups
- Schools (SIF)
- Higher Ed (PESC, League for Innovation)
- Corporate/General (ADL, HRXML, W3C)

Standards Bodies
- CEN/LTSC/SC36/IT43

National/Regional
- Industry Canada
- JISC/BECTA/UFI UK
- DEST/IMS Australia
- ECC Singapore
- ALIC/AeN Japan
- KELIA Korea
Education and Training Specification Community Coordination
Cross Sector/Region Advisory Council

Members
- End User Organizations/Consortia
- Specification Consortia
- Vendors with International Business Coverage

Goal
- Convert “standards noise” into adopter confidence
- Share common activities and organizational best practice
- Enhance communication and planning

How
- Ongoing communications
- Yearly conference (Alt-i-lab)
Specifications and Specification Resources
The IMS Specification Process

User Needs, Technical Means, Practical Constraints

Learning Community
Workshops, Conferences, Compliance, Affiliations

Technical Board

Profile/Product Evaluation

Project Groups

Developers, Adopters

Public/No-cost Documents
Calls for Use Cases & Requirements
Charters
Public Drafts
Final Specs
Released IMS specifications

1. Meta-data v 1.2 → IEEE LOM
2. Content Packaging v 1.1.3 → SCORM
3. Question and Test v 1.2.1
4. Learner Information v 1.0
5. Enterprise v 1.1
6. Simple Sequencing v 1.0 → SCORM
7. Learning Design v 1.0
8. Digital Repositories v 1.0
9. Competencies v 1.0
10. Accessibility Learner Information v 1.0
Work in Progress

First Quarter 2004
- Metadata update
- Vocabulary Exchange (Final)
- Resource List Interoperability
- Shareable State Persistence
- Enterprise Spec Web Service Binding
- Web Service Binding Methodology

Second Half 2004
- Accessibility Specification (ACCLIP+ACCMD+)
- Assessment (QTI) v2
- Simple Sequencing Maintenance Update
- LIP Maintenance
- Eportfolio Specification (LIP+CP+)
- Service-based Architectures White Paper
Application Profiles

Best Practice
Technical Specifications
& Standards
Community Requirements

Profile

Adopter Organization with Market Influence
## “Application Profiles” Examples
*(based on self-reporting)*

<table>
<thead>
<tr>
<th>Profile Name</th>
<th>Owner</th>
<th>Sector/Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIC</td>
<td>Advanced Learning Infrastructure Consortium</td>
<td>Japanese training</td>
</tr>
<tr>
<td>CanCore</td>
<td>Industry Canada</td>
<td>Canadian Higher Education</td>
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<tr>
<td>CELEBRATE</td>
<td>CELEBRATE Consortium</td>
<td>European Schools</td>
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<tr>
<td>Guidelines for the production of learner information standards and specifications</td>
<td>CEN/ISSS</td>
<td>European Education</td>
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<td>SingCore</td>
<td>eLearning Competency Centre</td>
<td>Singapore education and training</td>
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<tr>
<td>Europortfolio/EPICC</td>
<td>Europortfolio Consortium</td>
<td>Europe</td>
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<td>SCORM</td>
<td>ADL</td>
<td>Multiple sectors/regions</td>
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<tr>
<td>UK eGIF</td>
<td>Office of the eEnvoy, UK</td>
<td>British education across schools, FE and HE</td>
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<tr>
<td>SIF 1.5 assessment</td>
<td>SIF</td>
<td>Schools</td>
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</table>
Intellectual Property Policy

Reduces risks of

- IP-contaminated specs
- Surprise royalty payments
- Legal judgments against product usage and distribution

Developed with Members and Experts

Multi-part strategy

Used in spec development and adoption
Specification Maintenance

Unavoidable
Public reporting and transparency
Predictable
Fair
Supports minor and major changes
Integrated with spec development process and resources
Strategic Spec. Resources

- IMS Abstract Framework
  - Organizes
  - IMS Spec Information Models (e.g., Enterprise Services) (In UML)
    - Acts as input to
    - IMS General Web Services Methodology
      - Generates
      - IMS WSDL & Data Schema
        - Used by
        - Vendor/Univ. Applications
          - Informs
          - Use Case Repository
            - Informs
            - IMS Service Oriented Architecture Guidelines
              - Informs
              - Service Architecture Demonstrator
                - July 2004

Level of Abstraction
- Abstract
- Implementable
- Binding

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Education and Training Specification Trends
Past – Portability

Application / Service A

Current – Interoperability

Application / Service A

Application / Service B

IMS

Std. & Extensible Data Schema

Application / Service B
Current Content Communication Model (Aviation & Training)

Content  

CMI (java-script)  

SCORM. Generally uses HTTP  

Aviation Industry HACP uses HTTP  

LMS

Current Communication Model (SIF K-12)

Application  

SIF Adapter  

Open Std. But strict Schema  

HTTP  

Mssg Broker (ZIS)

Open Std. But strict Schema  

HTTP  

SIF Adapter  

Application
Next Generation Communication Model
(Based on IMS Int’l Use Case Collection)
http://www.imsglobal.org/usecases/index.cfm

Interactions

One Possible Architectural Option

Systems & Services
e.g. eportfolio, vle

Agent

Content or Simulation

System / Service

Content or Simulation or Tool

System / Service

Open Web Service with extensible Schemas

Std Interface

Content, Simulations, and Tools

Std Interface

Agents
e.g. intelligent tutor

Mssg Broker
Benefits of New Model

Less work to integrate
Standards-based
Easier for content and tool developers
Can support offline/mobile devices
Extensible data and behavioral models (i.e. doesn’t preclude innovation)
Conformance
International Conformance Program

Conformance Specifications
Guidelines for Application Profiling
Profiling tools
Affiliated 3rd party test suites
Self-test tools directory
Developer and Adopter Support
State of eLearning Standards & Specification Adoption

A lot of paper and pencil remains

Majority of elearning is not standards-based

Good progress

Great deal of interest combined with confusion and varied expectations
Developer and Adopter Support Program

Mission

– Increase the international adoption of standards and specification-based elearning

Goals

– Provide value to funding organizations
– Expand the community of adopters
– Improve the quality of adoption

Strategy

– Scale and deliver services through a federated, collaborative model
Support Activities

Web Resources
  White Papers
  Tutorials
  Best Practice
  Reference Materials
Conference Presentations
Workshops
Plugfests
RFP Guidance
People and Organizational Certification
Results Summit 2004, May 12-14, Italy

www.elearningresults.com

Workshops

- AICC and SCORM Certification
- IMS Learning Design
- SCORM/IMS Simple Sequencing
- Innovation: OKI, Open Source, Web Services
Collaborative Delivery Model

- Imperatives
  - Social Inclusion
  - Accessibility
  - Work force development
  - Competitiveness
  - Sector Education
  - Etc.

Sector/Region Stakeholders
- Vendors
- Users

Sector/Region Support Body(ies)
e.g. SURF, Educause, League for Innovation

IMS Global & European IMS
European IMS

Separate non-profit
Incorporated in The Netherlands

Draft Mission Statement

– Insure participation and use by Europe in open specifications
– Support adoption of specifications by European vendors
– Promote an inclusive, open, accessible, European and Global elearning market (i.e. “level the playing field”)
– Promote the development of open source libraries to foster implementation and innovation
eLearning Specifications and Standards Evolution
Questions

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Standards and Interoperability

Remarks by Ed Hauser at the
Spring 2004 Workgroup Summit
Postsecondary Electronic Standards Council
April 1, 2004, New York City
Integration and Interoperability
Data Synchronization Integration:

Publish/Subscribe Messaging

Support for loosely coupled, “hub-and-spoke” model

- HR
- Electronic Portfolios
- Security
- Parking
- Library
- Bookstore
- Financial Aid
- Identity
- Student
- e-Procurement
- e-Learning
- Finance
- Routing, Transformations, Administration

Message Broker
Person/BasicPerson-Create-Sync message
Contains control information & the new ‘enterprise object’:

Other Application -> App Gateway

ERP Gateway

Banner

CoreMessaging/Generic-Response-Reply
Contains control information & ‘success’ indicator:

Adapter

Queue
Admin
Routing
Transformation
EAI
These slides were referenced, but not shown, at the Postsecondary Electronic Standards Council’s Spring 2004 Workgroup Summit, April 1, 2004 in New York City.

These are included in the record of the Summit to provide additional background to Mr. Hauser’s remarks.

Instructional media + magic, inc.
7 April 2004
Topics

- SCT’s focus
- Main issues facing Higher Education
- The goal: a unified digital campus
- The transformation required
- Banner’s role in the future
- Current research & development activities
SCT Focus

- Singular dedication and focus on higher education
  - Divestitures
    - Global Government Solutions (7/01)
    - Global Manufacturing Solutions (5/02)
    - Global Energy & Utilities Solutions (3/03)
  - Acquisitions
    - Sallie Mae’s student systems business (1/02)
    - Applied Business Technologies, Inc. (2/02)
    - Campus Pipeline, Inc. (10/02)
    - Newfront Software, fsaATLAS (9/03)
SCT’s executive leadership (CEO, management, sales, support, development, ActionWeb, etc.) will remain unchanged.

All SCT products and future releases will continue as scheduled.

SCT will operate as an independent operating unit.

SunGard’s market strength will strengthen SCT’s presence:
- $2.5B+ in annual revenue
- 20,000 customers in 50 countries

Gartner analysis: Merger is positive for both SCT and SunGard.

SCT will lead SunGard’s higher ed public sector.
Top Challenges for Higher Education Institutions

#1 Funding and economic challenges amidst increasing enrollments and costs

#2 Attracting, serving, and retaining high quality students, faculty, and staff

#3 Improving operational effectiveness and efficiency
Other Challenges

- Security
- Privacy and data management
- Systems integration and interoperability
- Digital content management
- IT Staffing
- Strategic planning
- Implementation, change management
- Demonstrating ROI for investments in technology
- Collaboration and knowledge management
- Next-generation technologies (Internet2, wireless, …)
- Etc…
Understanding Institutional Needs

- Educause and ECAR
- Campus Computing Project
- Gartner, Eduventures, IDC, McKinsey
- NACUBO Leadership Council, AACRAO
- SCT Executive Advisory Council
- SCT Pillar Institutions Research
- SCT Customer Satisfaction Survey
- SCT market segmentation research
- SCT Sales, Services, Customer Support
- General and higher education media and publications
- Cobie Award Finalist, Best Education Administrative Solution 1/6/04
- “Show Stopper” Award at Educause, University Business Magazine, 1/8/04
The underlying technology problem: Today’s disconnected campus

- Not equipped to expand service cost-effectively or leverage existing technologies for future growth
- Creates business inefficiencies, bottlenecks, and redundant processes
- Interrupts and complicates service delivery
SCT’s Vision of the Solution:

The Unified Digital Campus

- E-Education Framework
- Six Primary Solution Categories
Transformation required

- Department-centric
- Disparate, static systems
- Closed, proprietary
- Platform & device rigidity
- Fragmented solutions

- User-centric
- Interoperable & extensible
- Open, standards-based
- Multiple platforms & devices
- Integrated solutions

SCT e-Education Infrastructure
The SCT e-Education Infrastructure

Administrative Solutions

Academic Solutions

Portal, Collaboration, and Community Solutions

Content Management and Workflow

Information Access and Business Intelligence Solutions

Integration Solutions

Professional Services
How does SCT Banner fit?

Drivers for SCT Banner

- e-Education Infrastructure
  - Enterprise integration and interoperability
  - Information access and reporting
  - Bringing it all together in an individualized experience
Our Vision

Provide the appropriate user interface experience for each constituency.

Our strategies:

- One size (flavor) does not fit all
- Utilize commercially available tools and delivery mechanisms to leverage resources
- Evolutionary change vs. revolutionary
User Interface

- **SCT Banner Forms**
  - Oracle Forms 9i
    - Internet-native only
  - Tab metaphor
  - 1024 x 768 canvas
  - Right click for options
  - Smart tool bar
  - and lots more…
**Employee Jobs Form**

**ID:** 710000001
**Position:** A03106
**Suffix:** 03
**Last Paid:** 30-NOV-2003
**Query Date:** 10-SEP-2004

### General Job Data

- **Effective Date:** 10-SEP-2004

### Timesheet Defaults

- **Timesheet COA:**
  - B
- **Payroll ID:** BW
  - Bi-Weekly Payroll
- **Default Shift:** 1
- **Time Entry Method:** Payroll Time Entry
- **Time Entry Type:** None
- **Leave Report Method:** Leave Report on the Web
- **Leave Report Payroll ID:** MN
  - Monthly

### Timesheet Organization

- **Timesheet Organization:** 12202
  - Personnel Office

### Premium Pay Methods

- **Longevity:** SECU
  - Security Longevity Pay
- **Premium Pay:** SECR
  - Security Workers

---

**Premium Pay Category Code; Press LIST for valid codes.**

Record: 1/?  List of Valu...  ~0SC~
User Interface

- Self-service pages
  - SCT Luminis “look and feel”
Find a Classmate

Enter any or all of the items below to search for a classmate. The first name and last name can have the wild card search character % either by itself or with other characters in the person’s name. If an alternate name is found that matches the search criteria, the current name is returned. Use the e-mail link at the bottom of this page for more help.

The search also looks for names that sound like the name you entered when the Soundex indicator is selected. Use of the wild card % in conjunction with the soundex option will result in considerable response time fluctuations. This combination will be the slowest response as this option requires the system to review all records.

Soundex Name Search
Enter a first name:
Enter a middle initial:
Enter a last name:
Class Year Range:  
College:
Number of records to display per page:
Go find it!  Reset
User Interface

- Banner Channels
  - Navigation
  - Informational
  - Transactional
Welcome Gail George
You are currently logged in.

Faculty Dashboard
You are assigned to 3 classes
Advanced Accounting
ACCT 2450 Fall 1999
What Anthropology is important
ANTH 500 Fall 2004
When will Pisa fall?
ARCH 500 Fall 2004

Academic Services
Click here to:
Register for courses, search the course catalog, view grades and
transcripts, update your personal information, and access many other
administrative services.

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Summary Class List

An asterisk will appear next to the appropriate field if any of the following conditions exist: 1) The student has more than one major or department in his/her primary or secondary curriculum. 2) The student has a program, level, college, or degree in the secondary curriculum that is different from that in his/her primary curriculum.

If the word Confidential appears next to a student's name, the personal information is to be kept confidential.

Course Information

Advanced Accounting - ACCT 2450 001
CRN: 6
Duration: Nov 01, 2000 - Dec 01, 2000
Status: Active

Enrollment Counts

<table>
<thead>
<tr>
<th></th>
<th>Maximum</th>
<th>Actual</th>
<th>Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Wait List</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cross List</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Summary Class List
Welcome Gail George
You are currently logged in.

My Calendar
You have 0 events in your calendar today

Tuition and Fees
Fall 1994  $0.00 Pay Now
Spring 1995 $0.00 Pay Now
Fall 1999  $1,100.00 Pay Now
Spring 2000 -$427.00 Pay Now
Summer 1 2000 $400.00 Pay Now
Fall 2002  $380.00 Pay Now
Account Balance $1,453.00

My E-mail Inbox
Channel Error:
An unknown error occurred attempting to display the channel. This may be due to a configuration issue with the account or the mail server could be down.

Personal Announcements
You currently have no personal announcements

Campus Announcements
There are no Campus Announcements

My Headlines

Top Stories
U.S. Plays Role In Athens Olympic Security
Commentary: Bush Plays To War Sentiment
Bush Banners Conservative Social Issues

Entertainment
Fancango Joins Yahoo! For Ticket Sales
Study Says Super Bowl Cuts Into Workday
Harley-Davidson Revs Up Museum Plan

Sports
Thursday At The Australian Open
Three Players Earn NFL Player Honors
Keyshawn An Armed Robbery Victim

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Credit Card Payment

Please enter the requested credit card information. Select Submit Payment to request authorization when it is complete.

Credit Card Information

Credit Card: Master Card - Registration Fees
Card Number: 
Expiration Date: 01 / 2004
Payment Amount: 

Credit Card Billing Address

Street Address: 9543 Lexington Dr
City: Pasadena
State or Province: Texas
Zip or Postal Code: 77503
Nation: Not Applicable
Enterprise Integration and Interoperability
“For every dollar spent on enterprise applications, an additional $4 - $5 is spent on programmatic adaptation and integration of those applications into the existing enterprise environment.”

–Gartner, October 2001
Data Synchronization Integration: Point-to-Point Method
The Integration Imperative

Our Vision:
Provide a secure and easy way to build, evolve, and orchestrate connected applications.

Our Strategies:
Migrate business logic to Web Services and exposed common APIs
Deliver enterprise messaging platform and EAI tools supporting J2EE/.NET
Publish message business object model supporting the higher education ecosystem
Data Synchronization Integration: 
 Publish/Subscribe Messaging

Support for loosely coupled, “hub-and-spoke” model
Our scenario in a ‘Messaging Enterprise’

Is like Email between two or more people…but now it is Applications.

Person/Basic Person-Create-Request
Contains control information & the ‘enterprise object’:

```xml
<!ELEMENT BasicPerson (InstitutionalId, Name, SocialSecurityNumber?, BirthDate?, Gender?, DeceasedDate?, Ethnicity?, Legacy?, Religion?, VetFileNumber?, Address*, Phone*, Email*)>
```
Scenario continued...

**Person/BasicPerson-Create-Sync message**
Contains control information & the new ‘enterprise object’:

- Another Application
- App Gateway
- Some Application
- Adapter
- ERP Gateway
- Banner

**CoreMessaging/Generic-Response-Reply**
Contains control information & ‘success’ indicator:
Integration Economics

Cost vs. Systems

- Point-to-Point
- Message-Based
What Does this Mean for SCT Banner?

- Migrate business logic to common APIs
  - Consolidate functions
  - Establish industry standards
- Easier to maintain and enhance
- Improves application quality and consistency
Targeted Business Entities

- General person, demographic data
  - Includes multiple PIDM prevention logic
- Students, employees, faculty, constituents, etc.
- Purchase orders, purchase requisitions
- Charges, payments, deposits
- Recruits, applications, decisions
- Courses, sections, times, enrollment, registration
- Instructors, buildings, rooms
- Residence, roommates, housing assignments
Enables Integration with…

- Learning management systems
- e-Procurement systems
- Housing systems
- One-card systems
- Library systems
- Bookstore systems
- and many more…
Information Access
The Information Access Imperative

Our Vision:
Provide a secure and easy way to build, evolve, and address growing needs for information access

Our Strategies:
Utilize open tools to leverage client, partner, and SCT resources with collaboration

Offer a range of products and services tailored to client needs

Develop a meta data model with physical and logical layers
Types of Reporting

- **Transactional**
  - Designed to process and report on data from the Administrative System

- **Operational**
  - Designed to allow end-users to address questions relating to the day to day operations of the institution

- **Analytical**
  - Designed for analysis of historical information to address questions relating to trend analysis and forecasting

- **Business Intelligence**
  - Designed for the analysis of operational and/or historical information to address questions regarding the key performance indicators and metrics of an institution
Information Access Maturity Model

**Level 1**
- Baseline Reports
  - Services
  - IT

**Level 2**
- Custom Reports
  - Simplified Access
  - Reporting Tools
  - Ad Hoc Reporting

**Level 3**
- Operational Data Store
  - Historical/Trends
  - ETL
  - OLAP
  - Data Mining

**Level 4**
- Enterprise Warehouse
  - Forecasting/Planning
  - Analytical Applications
    - Metrics
    - Dashboards
    - Score Cards
    - Intelligent Agents
  - Knowledge Mgt.

**Level 5**
- Business Intelligence
  - Reporting/Planning
  - Analytical Applications
    - Metrics
    - Dashboards
    - Score Cards
    - Intelligent Agents
  - Knowledge Mgt.
Information Access Solutions

- SCT Operational Data Store
  - Operational and ad-hoc reporting
- SCT Enterprise Data Warehouse
  - Enterprise data warehouse
  - Trends and forecast reporting
- SCT Enterprise Business Intelligence
  - Analytical applications
SCT Operational Data Store

- ERP-agnostic: de-normalized meta data model supports simple queries for SCT Banner, SCT Matrix™, SCT PowerCAMPUS® and SCT Plus™ applications
- Oracle® and Microsoft® support
- ETL scripts maintained by SCT
- 150 base report templates included in one of five report tools and maintained by SCT
- Report library and catalog to be developed
Meta data model with 17 star schemas representing the core business objects of the higher education institution

ETL scripts capturing and synchronizing the datawarehouse with transaction sources including SCT, client, and third-party products

Foundation for the unified digital campus centralizing the core information and enabling analytics
SCT Enterprise Business Intelligence

- Business intelligence for higher education
- Digital dashboards for delivering consistent metrics
- “Channelized” content rendered to better serve user-centric communities
- Strategic Enrollment Management to analyze trends and direct resources to better address enrollment issues
Benefits of SCT’s Information Access Solution

- Increases productivity by enabling access to information in a more timely manner
- Empowers end users to satisfy their individual information needs at a broad level
- Creates the infrastructure for an extensible enterprise wide information access solution

Operational Efficiency
Benefits of SCT’s Information Access Solution

- Data is transferred into knowledge to enhance institutional decision making
- Provides tools to support development and monitoring of institutional KPI’s
Thank You