Standards Forum Finalizes the XML Postsecondary Transcript

After many months of analysis and collaboration, Steering Committee members of PESC’s Standards Forum for Education and leaders within the registrar, admissions, and financial aid communities are preparing to release the XML Postsecondary Transcript for a vote by PESC Members. In order to be accepted and ratified as a PESC approved standard, the PESC Board of Directors is requiring that 80% of votes cast must be favorable.

A favorable vote for the XML Postsecondary Transcript signifies the acceptance of three distinct schema: Core Main Schema (in schema format), Admission/Registrar Schema (in schema format), and Transcript Schema (in schema format). The Data Dictionary (in document format) and an Instance Document (a real life example) will be provided for reference. All schema, documents, and information will be posted on the PESC website.

Ballots will be issued electronically via email from PESC’s offices within the coming weeks to official Member contacts. Once approved, version management and change control policies and procedures will be communicated. For further questions or concerns, please contact Michael or Ane in PESC’s offices at 202-293-7383 or 202-263-0296 respectively.

Spring 2004 Technology Summit – CLARIFICATION

Since we received a few phone calls about how the PESC Tech Summit relates to the 1st Annual Conference on Technology and Standards, we thought we’d clarify for all. The Summit is a working meeting, whereby all PESC’s workgroups meet to discuss current events, work through issues, update each other on progress made, and plan for next steps. The Annual Conference on the other hand, will have various general and concurrent sessions with a wide variety of speakers and keynote addresses. For future reference and to ensure clarity, we have renamed the Summit and will refer to as the “Spring 2004 Workgroup Summit.” We apologize for any confusion this may have caused.
1st Annual Conference on Technology and Standards

Final plans are being made for the 1st Annual Conference on Technology and Standards, co-hosted by CBA, EFC, NCHELP and PESC. A listing of session topics is available on-line now and our program committee is finalizing session descriptions and speakers. A sampling of session topics includes: E-Sign, Security and Privacy, Future Impact of Technology on Delivery of Student Aid, XML Technical Training, CR:C Technical Training, ISIR and Common Record, Meteor Technical Training, Data Matching and Student Identifiers, Enrollment Reporting, and Open Source Movement.

We are pleased and excited to announce our keynote speakers:

- **Terri Shaw**, Chief Operating Officer (COO), Office of Federal Student Assistance, US Department of Education – In this session, Ms. Shaw will give a high level overview of the FSA Data Strategy Initiative. In addition, accomplishments FSA hopes to gain from the Data Strategy Initiative will be outlined.

- **Dr. Brian Fitzgerald**, Staff Director, Advisory Committee on Student Financial Assistance. Several months ago, the United States Congress directed the Advisory Committee on Student Financial Assistance to conduct a thorough study of the feasibility of simplifying the needs analysis methodology for all federal student financial assistance programs and the process of applying for such assistance. Mr. Fitzgerald will discuss this study particularly as it relates to the establishment of common data standards and business processes.

ELM Resources and the Schools Interoperability Framework (SIF) have now joined the first Annual Conference on Technology and Standards in Higher Education as supporters and participants, joining the American Association of Collegiate Registrars and Admissions Officers (AACRAO), the US Department of Education’s Office of Federal Student Aid (FSA) and the National Association of Student Financial Aid Administrators (NASFAA).

Early bird registration for the conference is still available online at www.StandardsCouncil.org through Monday March 1, 2004. Membership organizations from any of the four associations (CBA, EFC, NCHELP, and PESC) are eligible for the discounted registration rate of $450. The non-Membership rate is $600. Hotel reservations can be made now by contacting the Marriott Crystal City directly at 800-228-9290. The Marriott is located at 1999 Jefferson Davis Highway in Arlington VA. A conference rate of $179 has been reserved for single/double rooms and the group name is “PESC.” The cut-off date to receive this discounted rate is April 12, 2004.

For any organization looking to sponsor or demo at this conference, Sponsorship Opportunities Packets are available. Please contact Ane al-Sayyed at 202-263-0296 or via email at alSayyed@StandardsCouncil.org, or any of the four associations.

**New Members**

- **Oracle**, www.Oracle.com
- **PESC contact is Bill Hollowsky**

- **California Community College System**
- **PESC contact is Catherine McKenzie**
Introducing www.PESC.org

PESC is pleased to announce that our website address will be migrating from www.StandardsCouncil.org to www.PESC.org. The launch of this new website includes easier navigation, a Membership area, details about our workgroups, and the ability to join workgroups online. Staff email addresses will change as well. To contact Michael, PESC’s Executive Director, please use Sessa@PESC.org. To contact Ane, PESC’s Membership Coordinator, please use Johnson@PESC.org. We will allow for a long transition from the old website address and email addresses to the new ones and will redirect users to our new website address so that this change is seamless. At some point, we will need to retire the old website address, but will ensure that proper communications are made well in advance. We hope that you enjoy the new website. Feel free to click around and provide us with any feedback you might have. We look forward to bringing further improvements to the website in the coming months!

**PESC 6th Annual Membership Meeting**

The Membership of the Postsecondary Electronic Standards Council will meet for its 6th Annual Meeting, Monday, May 3, 2004 from 4:30 pm to 5:30 pm in conjunction with the 1st Annual Conference on Technology and Standards.

Membership meetings are an opportunity to meet Board members, to discuss strategic issues related to PESC’s direction, to ask questions and provide feedback, to vote on any issues before the Membership, and to come together to meet and greet other Membership organizations.

As elections for the Board of Directors are held each year during the Annual Meeting, nominations will be announced in mid-March.

Please note that only representatives from Member organizations are eligible to serve on the Board of Directors.

This year’s Annual Meeting will take place at the Marriott Crystal City located at 1999 Jefferson Davis Highway, Arlington VA 22202 which can be reached by phone at 1-800-228-9290 or on the web at www.Marriott.com.

**MyDoom (and Gloom)**

With the onslaught of computer viruses, our data center staff are busy ensuring that our internal systems are protected. Not an easy job. Preventing spam and beefing up filtering systems has also had the side affect of sometimes not allowing ‘good’ email and sometimes attachments to be delivered to their respective and proper destinations. We’ve found that some organizations have not received emails from PESC’s staff while others have sent emails to PESC staff but they weren’t received.

While our systems seem to be settling down (for the moment), we thought we’d just put a little blurb in here to say that if you are awaiting a response from PESC and haven’t received one in an expected timeframe, give us a call to ensure we actually received your email. We will do the same. The need for a security and/or disaster recovery plan is now more important than ever. Besides death and taxes, the other certainty in life is that there will be more computer viruses to come.
Describe IMS Global Learning Consortium in terms of its function, age, and organizational structure.

The IMS Global Learning Consortium is an international, non-profit, member funded organization. It was formed in 1997 to promote the use of technology based learning in all sectors of education and training. Among its activities are the following:

1. General promotion of learning technology
2. Gathering requirements from users, administrators, IT staffs, etc.
3. Developing/maintaining specifications for data formats and software behavior
4. Supporting the use of standards and technology based products and services implementing them
5. Supporting profiling of standards for use by application communities.

IMS began life as a multi-year project created by participants in EDUCOM and the National Learning Infrastructure Initiative. It became a non-profit corporation in late 1999, and established a non-profit foundation in The Netherlands in 2001. It now has more than 50 Contributing Members and 6 Affiliates. In addition, nearly 100 organizations subscribe to a Developers’ Network.

Project groups formed by participants in IMS are facilitated by the IMS staff, a public and private web-site, a regular newsletter, quarterly technical meetings, and various kinds of face to face meetings.

What types of companies and or organizations belong to the Consortium?

Interview with Ed Walker
Chief Executive Officer
IMS Global Learning Consortium, Inc

Continued on Page 5
The members of IMS form an international group representing all sectors and all stakeholders in learning. Large and small educational institutions and companies engaged in internal education and training, large and small suppliers of content and software to these organizations, and policy-making bodies from government form the membership.

What segment of the higher education community does IMS serve? And how does that segment benefit from the specifications IMS develops?

IMS serves not only higher education, but also K-12 education, life long learning, and corporate training sectors by providing basic technology standards that apply to all sectors and by promoting their adaptation for use in each through affiliations with related consortia, professional societies, sector-oriented groups, etc.

The advantage to individual sectors (such as higher education) of general standards is the higher technical quality and greater utility - brought about by integrating multiple points of view and insights.

Throughout IMS’ website, the consortium refers to “specifications.” What is the fundamental differences between a technology specification and a “standard?”

These two terms refer to two varieties of the same general concept. “Specifications” produced by consortia like IMS start the development of a standard by defining parameters sufficiently to enable broad use. Use generates feedback and guides evolution until observing the specification becomes standard practice, or a “de facto” standard. There is no difference between a de facto standard and a specification that has become accepted practice.

However, both differ from “de jure” standards. These have been formally adopted by an internationally recognized body such as the ISO or IEEE or UN/CEFACT. The use of such accredited standards may be legally mandated in some countries.

In technology driven fields, innovation outpaces the process of formally accrediting standards. Many consortia have been formed to provide faster cycle time in defining de facto standards (or specifications).

What value do you feel PESC has in the community?

Education and training do not take place in isolation. Learning technology in an enterprise environment involves administrative, financial, personnel, information management sub-systems, as well as general computing and networking support. Domain knowledge for these areas is critical for obtaining a complete picture of the interoperability requirements for delivering learning services in the real world.

IMS is currently involved in a community wide project called Lola. What is the Lola project?

Lola itself is neither an organization nor a governing body. And it is not a specific initiative or project. Rather it is an informal group of individuals - which we refer to as the Lola council or forum - working together to make their results add up to something more than the sum of the separate parts, coordinate their activities more efficiently, and identify and fill gaps between and across their initiatives. The participants have senior roles in the different organizations with which they are involved. They are well informed, and they are able to take action in their own organizations to pursue collaborative opportunities that cross sectors and geographical regions.

The role of IMS is to provide a secretariat for the Lola group.
Why is the project important?

The success up to now of the people and organizations involved in Lola has produced tremendous growth in the availability and use of learning technology. This success results in a higher level of activity by more organizations, scarcity of resources and human assets, and, in the absence of organized communication and coordination, the appearance of confusion in the marketplace. The impetus to undertake a concerted effort to coordinate activity and provide practical support for collaboration grew out of a dinner at last summer’s alt-i-lab 2003 meeting. A follow up session in November among some 30 participants confirmed both the need and the collective will of participants to work on behalf of these strategic goals. The group of participants is self-selected because participating demands significant time and difficult work. Several subcommittees are now working on such specific tasks as developing a common glossary, drafting a consolidated architecture document, providing a vision statement to the community at large, and so forth.

What are the biggest challenges we face with regard to IT?

Unquestionably, it’s enterprise integration – tying learning and content management technology together with both user interaction software on one side and enterprise applications like student information systems, financial systems, administrative systems, and security on the other. We have the components now, but the gaps between them still prevent a complete picture of the state of the art from emerging. It’s time to concentrate on assembling “complete” systems.

Along those lines, are there issues that are getting more attention than they deserve?

Well, let’s hope that work on meta-data will consume less effort going forward, and I would be very careful to approach security and rights management issues without concrete, pragmatic objectives to guide the effort.

What can we look forward to in 2004 from IMS?

Our world is different than it was in 1997 or in 2000. The need to support projects to provide and maintain specifications continues. But we are devoting an increasing share of our overall effort to supporting strategic collaboration among the Lola participants and to support all aspects of adoption.

Note: Attached to this edition of The Standard is a PowerPoint presentation by Mr. Walker about E-Learning and the Lola Council.
EDUCAUSE and Internet2 have created an online service providing practical approaches for higher education to prevent, detect, and respond to IT security problems. The guide emphasizes the importance of campus-wide awareness, education, training, and best practices for IT security. The guide may be accessed at www.educause.edu/security/guide.

Four universities are collaborating on a $6.8 million venture to create open-source courseware tools and related software for higher-education institutions, according to a Chronicle of Higher Education article. The universities developing the system, called the Sakai Project, are the Indiana University system, the Massachusetts Institute of Technology, Stanford University, and the University of Michigan at Ann Arbor, which will lead the effort. Additional information about the project may be found at http://chronicle.com/daily/2004/01/2004012204n.htm

DCML (Data Center Markup Language) Organization, formed last year by approximately 40 management tool vendors, has scheduled release of its open standard specifications, aimed at facilitating interoperability and better integration between tools, this quarter. The group expects products adapted to this specification to be released midyear. For additional information visit xml.coverpages.org/ni2003-1014-a.html.

According to a CIO article, the United States will be surpassed by China in setting global technology standards. The claim is based on the fact that China now manufactures more than the United States and the expectation
that technology standards, as well as information processing, will follow manufacturing. To access the article visit the “Sound Off” section of www.cio.com

- A new executive briefing paper “Funding Information Technology,” published by EDUCAUSE in cooperation with NACUBO, provides fundamental principles and practices for planning and budgeting for campus IT investments. The paper is the product of a structured discussion among nearly 50 information technology leaders and business officers from colleges and universities of varied sizes and types. For more information, visit www.nacubo.org/business_operations.

- IBM has published a series of articles providing a summary of what the author, Uche Ogbuji, sees as the most important XML technologies, as well as how they fit into the larger XML picture. The articles also recommend tutorials and other resources for evaluating and learning to use each technology. For more information, visit www-106.ibm.com/developerworks/xml/library/xstand1.html.

- Based on the claim that coding is one of the obstacles to the creation of web services, Novell Inc. now offers point-and-click web service tools. Enhancements in Novell’s recently released exteNd 5 tool suite simplify the building of a Web service. Besides drag-and-drop tools for XML-based integration between back-office applications and Web pages, exteNd 5 includes a ‘portal out of the box,’ so users automatically have the Web interface. For more information visit www.adtmag.com/article.asp?id=8902.

- The OASIS PKI TC has published an Action Plan aimed at breaking down barriers to widespread adoption of Public Key Infrastructure technology. Considered a foundational Internet security technology. The Plan can be found at www.oasis-open.org/committees/pki/pkiactionplan.pdf.

- EDUCAUSE Center for Applied Research (ECAR) recently announced that two research studies and 15 research bulletins are now available on the ECAR Web site. Formerly available only to ECAR subscribers, these publications are valuable sources of data and analysis for higher education decision makers. Study topics include, wireless networking, IT outsourcing, faculty use of course management systems, IT security, and IT leadership. Studies currently available are IT Outsourcing in Higher Education (www.educause.edu/asp/doclib/abstract.asp?ID=ERS0201) and Wireless Networking in Higher Education (www.educause.edu/asp/doclib/abstract.asp?ID=ERS0202).
E-Learning is

Digital course materials that can be found and re-used

Learning software that can be moved between platforms

Educational services that can be installed, maintained, and replaced efficiently
Value for Users

Learners

– Customized access to more learning and content providers
– Easier comparison of providers
– Choice of custom learning experiences
– Convenient use of outcomes

Instructors

– Easier discovery and use of learning materials and tools
– Integrated instruction, assessment and reporting
– Flexible, adaptable course materials and course designs

System Administrators

– Easier integration with enterprise functions and legacy systems
– Predictable evolution of infrastructure and educational functions
– Independence of platforms, applications, and content
Value for Suppliers

Learning Providers

- Interoperable infrastructure and course delivery technology
- Cost/time-effective assembly & delivery of course and test content
- Greater choice of content and learning tool components

Technology Providers

- Stabler customer requirements
- Larger international, cross sector markets
- Predictable evolution of products and services

Content Providers

- More and more compatible playback platforms
- Easier maintainability and re-purposing of content
- Larger markets for content
The Paradox

Everyone wants global sharing, but
Everyone has to meet local legal, cultural, technical needs

Resolution: Framework, standards, profiles
from One of a Kind …

User Environment

System Services and Functions

- Course Mgmt
- Content Mgmt
- Assessment
- Etc...

AuthN

AuthZ

DBMS

File

Courses

Tests

Student data

Teaching and Testing Software

www.imsglobal.org

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to Interoperable Components
Standards Already Provide

Re-use of content libraries, course portfolios, and learning software and platforms
Cheaper, easier delivery/access
Some enterprise exchange
 Longer lifetimes for investments of time and money

**Better, cheaper “vehicles” for learning**
Standards Promise to Provide

Flexible teaching methods
Custom course materials
Secure, tailored interaction
Anywhere, anytime access

Real time user control of educational “trips”
To Do List

Improve adoptability and utility
  tools and training
  enterprise interfaces
  integrated functionality
  security

Extend and enhance capability
  simulation and modeling
  active content
  adaptability

Provide technology migration path
Developing/Deploying eLearning

User Needs, Technical Means, Practical Constraints

Learning Community

Workshops, Conferences, Markets

Product/Service Evaluation

Developers, Adopters

Review Boards

Project Groups
IMS Organizational Overview

International, non-profit, member funded
- General promotion of eLearning
- Requirements Gathering
- Specification Development/Evolution
- Adoption Support
- Conformance and Profile Support

Founded 1997; 50 Members; 6 Affiliates
Project groups, web-site, newsletter
10 open specifications released
Broad, international participation
Worldwide Membership

ACT
ADL Co-Lab
Apple
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
Lrng & Tchng Scotland
LON
Miami-Dade Community College
Microsoft
MIT
NHSU
Open University
OU Netherlands
Oracle
Question Mark
Saba Software
SCT
Sentient
SUFI
SURF
Sun
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
Consortium of Consortiums

K-12, Training
- SIF, ADL

Higher Ed
- EDUCAUSE/NLII
- OKI
- MERLOT
- PESC (Enterprise)

General
- OCLC, CNI, ALA (Libraries)
- NCAM (Accessibility)
- ATP (Testing)

Standards Bodies
- LTSC, SC36, IST43, UN/CEFACT
- CEN/ISSS, NISO, INCITS, eGIF

National/Regional/Domain
- Industry Canada
- JISC/BECTA/UFI/DfES UK
- SURF Netherlands
- DEST/IMS Australia
- ECC Singapore
- ALIC/AeN Japan
- MedBiquitous, AICC, EICA
Released specifications

1. Meta-data v 1.2
2. Content Packaging v 1.1.3
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
7. Learning Design v 1.0
8. Digital Repositories v 1.0
9. Competencies v 1.0
10. Accessibility Learner Information v 1.0
Adoption

IMS

OCLC
SIF
OKI
HR/XML

IEEE
QTI
SIF
DCMI,W3C
BSI
SCORM

RDCEO
Metadata
ACC
LIP
Simple Sequencing
Content Packaging

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Profiling

- Technical Standards
- Best Practice
- Local Requirements

Profile
# Profiles

<table>
<thead>
<tr>
<th>Profile Name</th>
<th>Owner</th>
<th>Sector/Region</th>
<th>IMS Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALIC</td>
<td>Advanced Learning Infrastructure Consortium</td>
<td>Japanese training</td>
<td>Meta-data, Content Packaging, QTI</td>
</tr>
<tr>
<td>CanCore</td>
<td>Industry Canada</td>
<td>Canadian Higher Education</td>
<td>Meta-data</td>
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<tr>
<td>CELEBRATE</td>
<td>CELEBRATE Consortium</td>
<td>European Schools</td>
<td>Meta-data</td>
</tr>
<tr>
<td>Guidelines for the production of learner information standards and specifications</td>
<td>CEN/ISSS</td>
<td>European Education</td>
<td>Learner Information Package</td>
</tr>
<tr>
<td>SingCore</td>
<td>eLearning Competency Centre</td>
<td>Singapore education and training</td>
<td>Meta-data, QTI, Content Packaging</td>
</tr>
<tr>
<td>SCORM</td>
<td>ADL</td>
<td>Primarily Corporate and Governmental Training, but also used in other sectors.</td>
<td>Meta-data, Content Packaging, Simple Sequencing</td>
</tr>
<tr>
<td>UK eGIF</td>
<td>Office of the eEnvoy, UK</td>
<td>British education across schools, FE and HE</td>
<td>Meta-data, Content Packaging, LIP</td>
</tr>
<tr>
<td>TBD</td>
<td>SIF</td>
<td>K-12</td>
<td>QTI</td>
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# Large Scale Usage

<table>
<thead>
<tr>
<th>Organization</th>
<th>Users</th>
<th>Content</th>
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<tr>
<td>Oracle</td>
<td>600k</td>
<td>450k LOs</td>
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<tr>
<td>Univ. for Industry</td>
<td>900k</td>
<td>900 Courses</td>
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<tr>
<td>Cisco</td>
<td>100k</td>
<td>1.4M LOs</td>
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<tr>
<td>Microsoft</td>
<td>80k</td>
<td>1M LOs</td>
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<tr>
<td>Indiana Univ.</td>
<td>90k</td>
<td>25k Courses</td>
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<tr>
<td>HP</td>
<td>150k</td>
<td>5k Courses</td>
</tr>
<tr>
<td>UMass</td>
<td>60k</td>
<td>15k LOs</td>
</tr>
</tbody>
</table>

LOs = Learning Objects
Interoperability and Customization

Technology: specs, databanks, frameworks, use cases
Community of use: testbeds, workshops, SIGs
Community at large: conferences,
The LOLA Council

...to enable efficient, effective, affordable, and profitable learning worldwide
What is Lola?

LOLA is not an organization or project. It is a network of individuals and organizations who are coordinating independently managed, but interrelated, activities with overlapping goals.
Objective: Better (not perfect)

Hand off among organizations
Use of meeting and project time
Consolidation of results
Coordination of related work
Allocation of resources
Risk management

In three key areas:
  Research
  Development/Design
  Adoption/Implementation
Lola Addresses Coordination
Success Factors for Lola

- Value for individual participants
- Specific technical and commercial potential
- Institutional and organizational commitment
- Knowledge assets and human capital
- Clear plans and concrete objectives
- Adequate resources
- Open decision making and information management
LOLA Council

Indiana U - Brad Wheeler
Mellon - Ira Fuchs
U. Mass - Jack Wilson
U. Michigan - Carl Berger
EDUCAUSE, NLII - Carole Barone
ADL, SCORM - Bob Wisher, Paul J
CS U, MERLOT - David Ernst
UFI/ UK - Brian Sutton
Apple, SIF - Javier Perez-Sanchez
DEST/ IMS Australia - Neil McLean
SIF - Larry Fruth
OKI - Vijay Kumar, Jeff Merriman
Hewlett - Mike Smith
CNI - Cliff Lynch
CMU/LSAL - Dan Rehak
DfES/UK - Diana Laurillard

JISC/ UK - Malcolm Read, Sarah Porter
OCLC - Lorcan Dempsey, Pat Stevens
ALIC/ Japan - Kiyoshi Nakabayashi
Microsoft/ SIF- Dave Meyers
WebCT - Barb Ross, Kimberly Voltero
Sun - James Simon
Cisco - Peg Maddocks
Oracle - Chris Pirie
ETS - Gary Driscoll
Blackboard - Matthew Pittinsky, Chris Etesse
Thomson Learning - Boyd Nielsen, Lisa Trumble
MERLOT/ Canada - Tom Carey
IMS, MERLOT - Ed Walker, Steve Griffin
Industry Canada - Yuri Daschko
Maricopa CC - Ron Bleed
Near Term Schedule

By 31 Oct  Planning group assembled - DONE
On 3 Nov   1st planning meeting – DONE
On 16 Feb  Hold working meetings - Europe
By 15 May  Development & test facilities on-line
In mid-July 1st performance workshop
Annual Performance Objectives

Interoperable assessment and data management

Distributed Repository interoperability

Integrated instruction & assessment

Flexible authoring, review, & distribution in the hands of professionals

Life long learning for anyone anywhere anytime

Growth in Overall Function

2004

2005

2006

2007

2008
How to Benefit and Help

- Use what already exists
- Channel participation
- Support activities
- Participate
Risks

Growth in numbers, diversity, scope, and expectations inevitably

- Accelerates fragmentation
- Exhausts resources
- Makes good solutions harder to produce

Lower quality and inefficiency lead to

Less functionality, Slower Adoption, and Smaller Markets
LOLA Grid

Joint R&D Projects
Research Forums

Collaborative Spec, Profile
Conformance Activities

Organizational Outreach, Workshops,
Plugfests, Tutorials,
User Groups

Dedicated Support
Executive Committee
Coordinating Council

LOLA GRID