

# Advanced Distributed Learning (ADL)



## AND SHAREABLE CONTENT OBJECT REFERENCE MODEL (SCORM)



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# What is ADL?



- Not surprisingly, ADL is an initiative of the Department of Defense (DoD) which has to deliver training all over the globe through many types of delivery systems.
- ADL is a way “to standardize and modernize training and education management and delivery.”

*Vision Statement: “The vision of the ADL Initiative is to provide access to the highest quality learning and performance aiding that can be tailored to individual needs, and delivered cost effectively at the right time and at the right place.”*

# What is SCORM?



- *Sharable Content Object Reference Model*
- SCORM “is a collection and harmonization of specifications and standards that defines the interrelationship of content objects, data models and protocols such that objects are sharable across systems that conform to the same model.” ADL did not invent the model; they simply brought the standards together to define a unified model.
- “This specification promotes reusability and interoperability of learning content across Learning Management Systems (LMSs).”
- SCORM 2004 (4<sup>th</sup> Ed.) is the set of specifications that defines the objects to be used for content created for the ADL Initiative.

# ADL's High-Level Requirements



- **Accessibility**
  - Locate and access instructional components from multiple locations and deliver them to other locations
- **Interoperability**
  - Use components in multiple systems
- **Durability**
  - Withstand technology changes without high-cost redesigns
- **Reusability**
  - Use instructional components in multiple applications, courses, and contexts

# ADL Interoperability Infrastructure



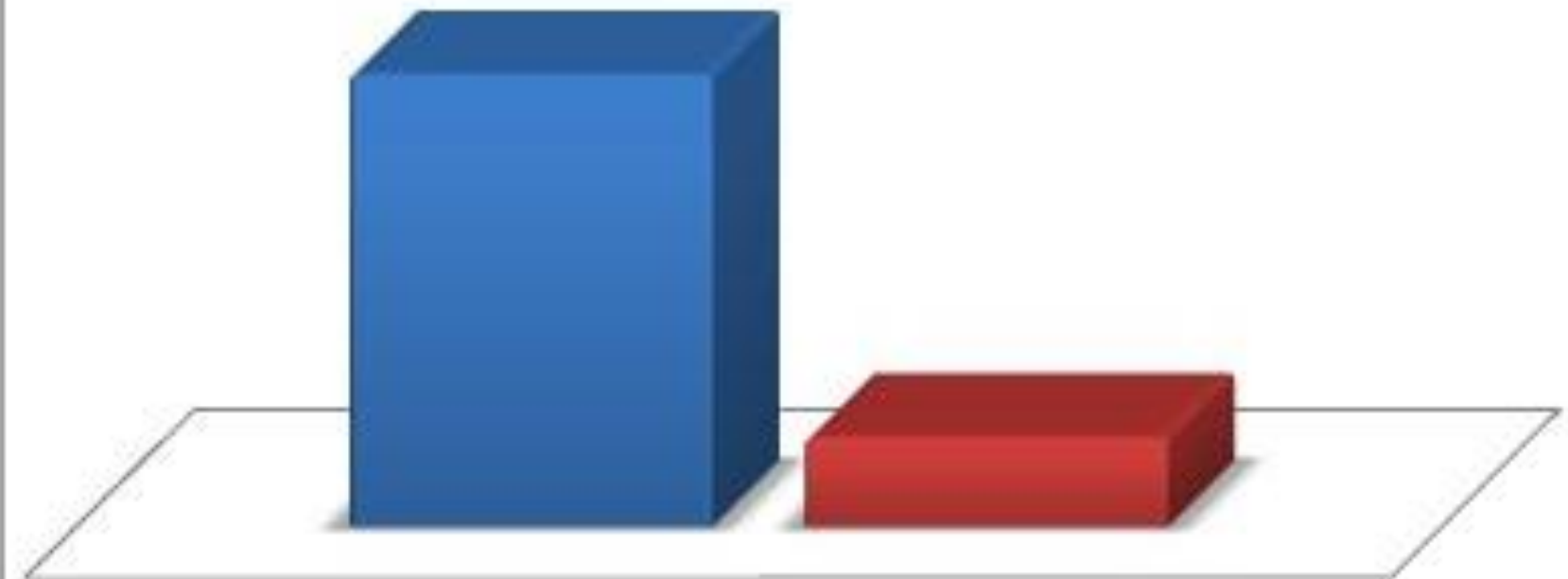
- **ADL Registry (ADL-R)**
  - Search different learning content libraries or media repositories
- **Sharable Content Reference Model (SCORM)**
  - Exchange courses between learning management systems (LMS)
  - Reuse content pieces across different courses
  - Sequence content tailored to the learner

# Cost Benefits of SCORM: Content Integration



■ Before SCORM

■ After SCORM



# Basic SCORM Content Requirements



- Rendered in a browser through a managed learning system
  - Typically web-based
- Displayed via HTML
  - Uses JavaScript API to communicate with LMS
- Accepts plugins
  - Flash Player, QuickTime, other 3<sup>rd</sup> party tools

# Helpful Terms



- **Sharable Content Object (SCO)**
  - Assets (files, images, modules) that communicate with the LMS through a JavaScript API
- **Application Programming Interface (API)**
  - JavaScript that passes information between the SCO and the LMS
- **Data Model Element (DME)**
  - Learner's name, scores, history, sequencing (bookmarks), preferences (language, audio volume), time



# Conformance and Certification



- **Conformance**
  - Means that a product passed tests to ensure it performs as specified in the ADL SCORM Test Suite
  - Applies to specific versions of SCORM (1.2, 2004)
- **Certification**
  - Applies to LMS only
  - Neutral 3<sup>rd</sup> party evaluates the LMS using the ADL SCORM Test Suite and a validated methodology
  - Certified products display the ADL certified product logo

# Am I Conformant and Certified?



- If you are creating learning content:
  - Make sure the tool you use produces conformant output.
    - ✦ Adobe Captivate generates content, SCOs, DMEs, and metadata that conforms to SCORM.
  - Consult your LMS administrator for guidelines for your deliverables.
    - ✦ Vendors and internal e-learning groups have standards and processes about submitting learning content.
- If you are coordinating SCORM, coding APIs or DMEs, or evaluating SCORM-related products :
  - Lots to know – consult ADL resources

# Resources



- **SCORM Bookshelf**

- Four basic documents

- ✦ Overview
- ✦ Content Aggregation Model (CAM)
- ✦ Run-Time Environment
- ✦ Sequencing and navigation

- Video introduction to the bookshelf:

<http://www.youtube.com/user/ADLInitiative?feature=mhum#p/u/o/pIE2b79n4UQ>

- Main resources page

<http://www.adlnet.gov/capabilities/scorm#tab-learn>

# Resources (cont.)



- Main resources page

<http://www.adlnet.gov/capabilities/scorm#tab-learn>

# Resources (cont.)



- **Overview of ADL/SCORM**

<http://www.youtube.com/user/ADLInitiative?feature=mhum#p/u/3/YkFbKh7d5EI>

- **SCORM Terminology and Technology**

[http://www.youtube.com/user/ADLInitiative?feature=mhum#p/u/2/\\_vKoOsitKas](http://www.youtube.com/user/ADLInitiative?feature=mhum#p/u/2/_vKoOsitKas)

- **Conformance and Certification**

<http://www.youtube.com/user/ADLInitiative?feature=mhum#p/u/1/AJCz-ONMyIo>