

Agenda

- **Market Demand for Standardization**
- **SCORM 1.2 Overview**
- **Status Quo of Interface Implementation for ILIAS**
- **Next Steps in the Implementation Process**
- **Outlook**

A SCORM Interface for ILIAS

Some samples for standards as main enabling factor for industry Development:

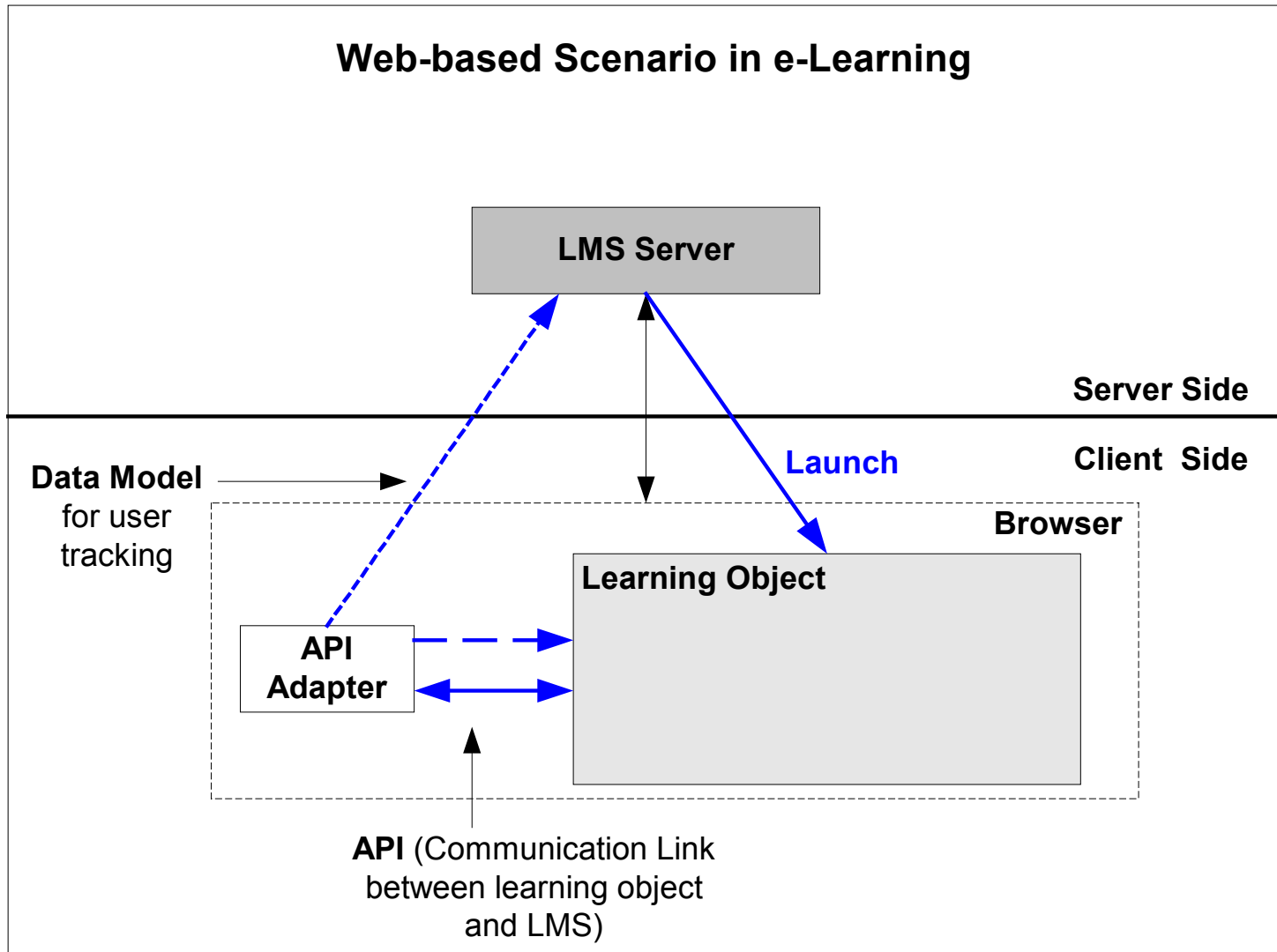
- WWW
- Railway Industry
- Video Industry
-

→ Standards help to cover invests in online learning

Goals of Standardizations

- Reuse of methods and contents in different learning environments
- Flexibility
- Portability, use of content applications in different system environments
- Ease of use, to reassure acceptance of stakeholders (teacher, developer, administrator, learner....)
- Economicalness --> covering the invests in e-Learning

A SCORM Interface for ILIAS



Status Quo of Standardization for Web-Based Scenarios

- SCORM and AICC are widely adopted in industry > 80%
- Developments are driven by american organizations
- Lack of possibilities to support didactical aspects while technological and economical needs can be satisfied
- In the mid-term SCORM will become most likely the standard that matters most cause of its extensibility and its widely accepted concepts

A SCORM Interface for ILIAS

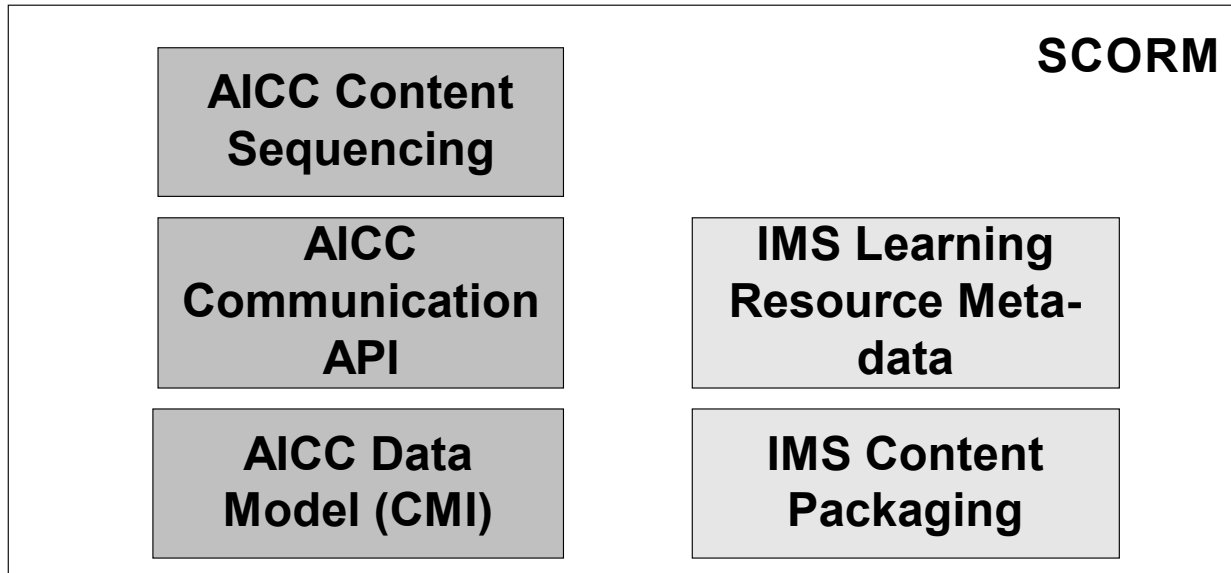
- SCORM --> Sharable Content Object Reference Model
- Part of the Advanced Distributed Learning Initiative (ADL) founded by the American Department of Defense (DoD) 1997
- Level of possibilities to contribute to the developments in SCORM is based on high fees -->closed shop strategy
- SCORM is not a standard itself but a framework for integration of several standard bodies

A SCORM Interface for ILIAS

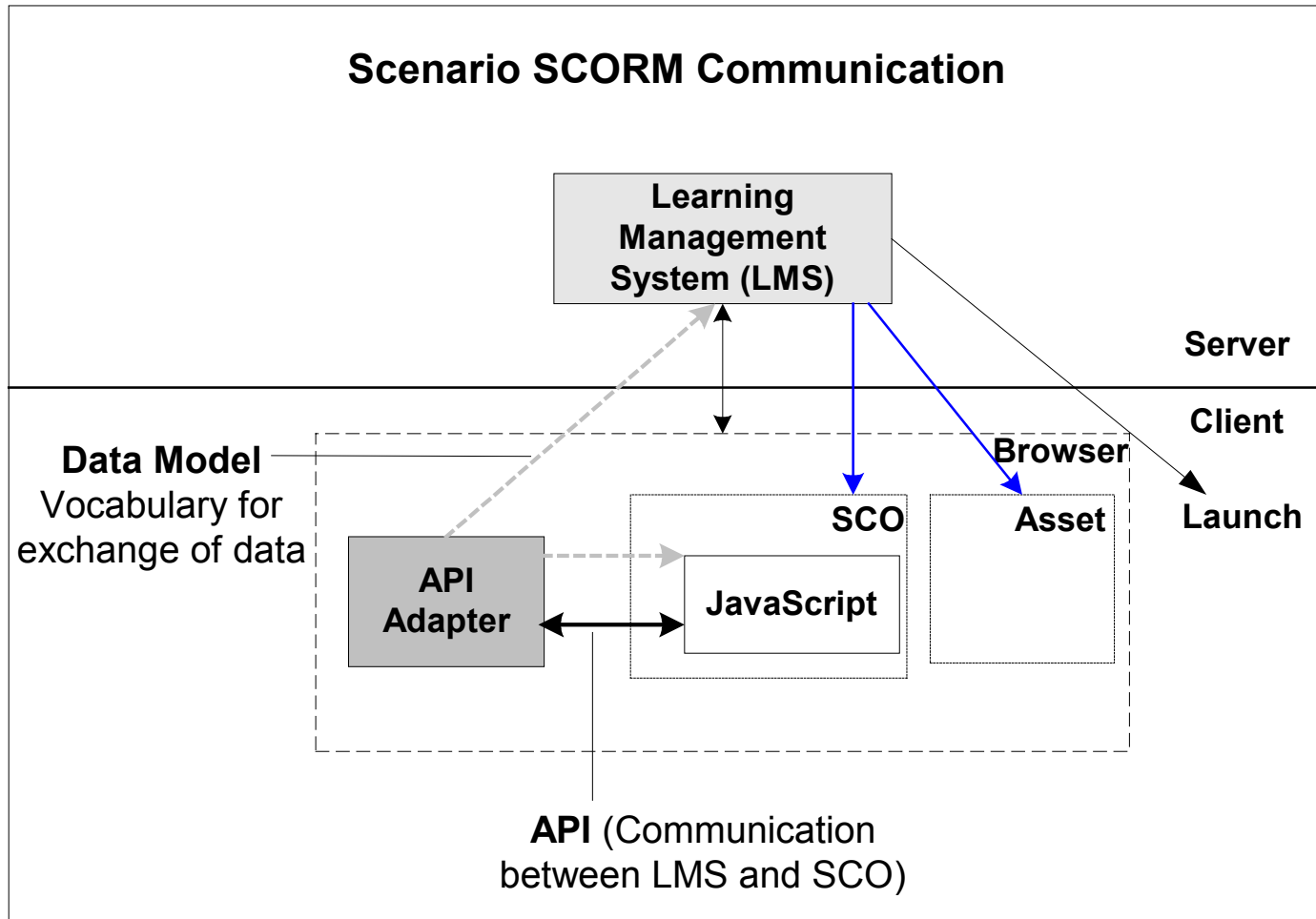
- 1. IMS Content Packaging:** XML-based description of course structures with references to the needed resources to start the single learning objects + information to exchange content applications (file format)
- 2. Runtime Environment:** Definition of a data model as common vocabulary for information exchange between content application and learning servers + Sequencing + API (Application Programming Interface → AICC)
- 3. IMS Meta Data:** XML-based specification for meta data description of learning resources (optional)

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Standards of the SCORM Reference Model



A SCORM Interface for ILIAS



A SCORM Interface for ILIAS

Function	Yes	Requirements	Version
Import of Content Packages	X	Java Extension on Server	3.0
Runtime Environment	X	Client needs Java Applet	3.0
Meta Data			?
Data Model (mandatory)	X		3.0
Data Model (optional)			3.0
Reporting module			3.0

Trouble Spots

- API Implementation in JavaScript → use of Java Applet
- JavaScript API raises security issues when remote content is used
- Java Extension for server side XML validation

Outlook

- SCORM 1.3 will offer extended possibilities for creating adaptive content through new sequencing specification
- Integration of further API Implementations (SOAP) still open
- Several didactical models are under development → Implementation is complex
- More European initiatives and efforts concerning standardization would be desirable