Suggested LTI® Requirements for RFP & Procurement Agreements

This document presents basic background information on Learning Tools Interoperability® (**LTI**®), overview of versions and conformance standards, and sample RFP language when specifying LTI as part of the procurement process. The suggested RFP wording is intended for learning tools and/or Learning Management Systems (LMS). It is intended as a resource for IT organizations and procurement offices.

Sections:

What is LTI?
Learning Tool Interoperability (**LTI**) is a standard developed by IMS Global Learning Consortium (www.imsglobal.org). Its primary purpose is to connect learning systems such as an LMS with external tools and content (**tools**). These tools are provided by a third-party (**tool provider**). LTI specifications allow the seamless connection between the LMS (**tool consumer**) and the tool provider or other software external to the LMS. This connection allows data to move between the campus' LMS platform and the LTI connected tool provider securely. To learn more about LTI see:

- A Brief Primer on Learning Tools Interoperability Conformance for End-User Institutions, Faculty, and Buyers of Third-Party Services and tools for integration into Learning Platforms [IMS Global]
- ELI: 7 Things you should know about Learning Tool Interoperability [EDUCAUSE]

Why is it Important?
The basic use of the LTI specification allows the seamless connection between a cloud-based, external, or locally- hosted tool that is outside of the LMS with a learning platform. LTI moves the user (such as a student) from the learning platform into the tool while maintaining a high-level of security for passing data about the user, the place they come from, and their role (e.g. faculty, student, TA, etc.). The tools can range from simple communication applications, such as chat, to domain-specific learning environments, such as publisher products. In other words, if you have an interactive assessment application or virtual chemistry lab, it can be securely connected to a tool consumer (LMS) in a standard way without having to develop and maintain custom integrations for each platform and tool.

Versioning & Certification
The LTI version number to which the tool provider complies is very important as it prescribes that the tool consumer must support that specific version of LTI to take full advantage of the functionality it offers. As institutions negotiate with tool consumers and software providers, it is essential that LTI versions and conformance certification be articulated in the RFP to ensure consistent, reliable integration.

IMS Global provides and maintains a quality certification registry of products that have met conformance criteria for all of its standards, including LTI. Products listed in the directory are *guaranteed* to meet the IMS standards for which they have passed testing. If you experience an integration issue with an IMS certified product, IMS will work with the supplier to resolve the problem.

All certified products are issued a certification number and are listed in the [IMS Certified Product Directory](#). To ensure that any tool consumer or tool provider is compliant it is recommended that you *require IMS certification as part of an institutions' procurement process and RFP documents.*

Overview of LTI Versions and Basic Functions

LTI v. 1.0 (Basic LTI) *Allows a learning management system, (LMS) to launch an external learning tool and run it as if it were an integrated part of the learning system.*	LTI v. 1.1 (Simple outcomes service) *Enable a tool provider to return a grade from the tool that the tool would like to pass back into the LMS gradebook*	LTI v. 1.2 (Transition) *Is a transitional step between v. 1.x and v. 2.x by supporting a tool consumer profile for service discovery*	LTI v. 2.x (Support of adaptive tools) *Extends interoperability to the entire lifecycle of the tool not just to the launch point.*
A **basic launch** of a tool from within a learning platform. It uses the trusted connection that auto-provisions users based on institutional preference; Setup is a **manual process**	✔	✔	Same, but **automates** the set-up process
Can pass **limited** educational-significant data (e.g. institution, user, role, etc.) from the tool consumer to tool provider	Passes the same data between the tool and the platform. Supports a **single service for outcome data** to move from the tool back to the platform. Example: Passes a student's test score from the tool to the LMS grade book.	✔	✔
		Passes the same data as LTI 1.0 in the launch, but allow services to be discovered which could provide additional 1-way data exchange between the too provider software and the LMS (tool consumer)."	✔
			Provides **multiple connections** for data between the LMS and the tool and enables the services to be extensible. Example: facilitates a great volume and variety of outcome data to be exchanged between tool and learning platform.

Suggested RFP Language and Resources for Procurement

There are a number of ways to include LTI requirements as part of the RFP and acquisition process, ranging from a basic conformance inquiry approach to stringent requirements for conformance of a specific LTI version. Below is sample RFP wording that spans this range, as well as additional guidelines to request from the vendor as part of the procurement process:

1. Suggested RFP wording and clauses (open inquiry to stringent specification):
   a. Meets the latest Learning Tools Interoperability (LTI®) standards. (https://www.imsglobal.org/activity/learning-tools-interoperability) Describe.

   b. Supports integration with other Systems or 3rd party software, i.e. supports open standards, including Learning Tools Interoperability (LTI®) standards. Describe.

   c. *<The institution>* is committed to a standards-based interoperable teaching and learning technology ecosystem. We are requesting [vendor/product] obtain certification by IMS Global as a Tool Provider for Learning Tools Interoperability (LTI®) specifications, version 1.1 or higher no later than *<insert specific date>*.

   d. *<The institution>* is requiring support of Learning Tools Interoperability (LTI®) version *<specify version your institution is requiring>* or higher and the tool consumer (LMS) must be certified as compliant with IMS Global LTI conformance certification. The vendor is required to provide a valid, current conformance certification registration number. See: http://www.imscert.org/. The vendor is also required to remain current with the subsequent LTI versions and receive certification within a *<defined time period>*.
      i. NOTE: It is recommended that the minimum LTI version specified is 1.2.

   e. Event data generated by student/faculty interaction with Learning Tools Interoperability (LTI®) specifications provider tools is student/faculty data, whose stewardship is the responsibility of the institution of which those individuals are members. LTI tool providers should provide a copy of that raw data on a regular basis to the institution's learning record store (LRS), such as a Caliper Analytics™ LRS.

2. Suggested Guidelines
   a. Any features of the specified Learning Tools Interoperability (LTI®) version that are not supported by the tool, or if there are custom parameter substitution variables that are supported, these should be noted explicitly in the RFP response using the All Tools Checklist below. For a full feature list see: http://www.imsglobal.org/activity/learning-tools-interoperability

   b. Cloud-hosted application providers shall provide content that is certified as compliant with the LTI that is relevant to the institution's software, e.g. 1.0 for launches; 1.1 for launches and outcomes; 2.0 for launch, outcomes and extensibility.

Evidence of a valid certification, including a current IMS certified registration number must be provided to the institution. See http://www.imscert.org/.

c. The vendor is required to disclose what parameters, variables and services the tool requires so it can be matched and supported by the tool consumer or tool provider. The partner is also required to disclose optional services used.

For a full feature list see:
http://www.imsglobal.org/LTI/primeronLTIConformance.html

Curated Resources
- A hypothetical university RFP Function Requirement document, University of Toronto. See the following sections: Standards and Compliance, and Application Integration

Items to Consider
- Sign FERPA agreement
- Is student-identified data really necessary for the performance of the LTI tool?
- Tool consumer must provide an ISO security review
- Frequency and formatting of the data collected by the tool (ideally, daily and in Caliper format)
- Is there a need for real-time data exchange, and if not now in the foreseeable future?
- Is data synced between devices, cloud services, the client and the tool consumer (LMS)?
- Where data is stored and how long?
- When data is removed, how is the data removed, deleted or erased?

All Tools Checklist (Recommended and Required)

Features	Details	Feature Available in LTI v1.0	Feature Available in LTI v1.1	Feature Available in LTI v1.1.1	Support by Compliant Tool Consumers	Comments/ Notations
Launch Request	Basic Launch Request	Yes	Yes	Yes	Required	
LTI Version Information	Version Information	Yes	Yes	Yes	Required	
Resource Link ID	Resource Link ID	Yes	Yes	Yes	Required	
Custom Values		Yes	Yes	Yes	Required	
Outcomes Service		No	Yes	Yes	Required for LTI v1.1 and LTI v1.1.1	
List of User IDs of Mentees		No	No	Yes	Required for LTI v1.1.1	
Resource Link Title		Yes	Yes	Yes	Recommended	
Resource Link Description		Yes	Yes	Yes	Recommended	
User ID	Unique identifier for user	Yes	Yes	Yes	Recommended	
Roles	Comma separated list of values for roles	Yes	Yes	Yes	Recommended	
User Name and Email Address		Yes	Yes	Yes	Recommended	
Context ID	Identifies context that contains link being launched	Yes	Yes	Yes	Recommended	
Context Title		Yes	Yes	Yes	Recommended	
Launch Presentation Locale		Yes	Yes	Yes	Recommended	
Launch Presentation Target		Yes	Yes	Yes	Recommended	
Launch Presentation Width & Height		Yes	Yes	Yes	Recommended	

All Tools Checklist (Recommended and Required - continued)

Features	Details	Feature Available in LTI v1.0	Feature Available in LTI v1.1	Feature Available in LTI v1.1.1	Support by Compliant Tool Consumers	Comments/ Notations
Launch Presentation Return URL		Yes	Yes	Yes	Recommended	
Tool Consumer Instance		Yes	Yes	Yes	Recommended	
Tool Consumer Instance Contact Email		Yes	Yes	Yes	Recommended	
Tool Consumer Instance Description		Yes	Yes	Yes	Optional	
Context Type	Identifies type of context	Yes	Yes	Yes	Optional	
User Image	URI for an image of user	Yes	Yes	Yes	Optional	

Contributors

Special thanks to the following institutions who are IMS Global members and active participants in the IMS Learning Tools & Content Community of Practice:

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