



# IMS Basic LTI Certification



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<http://www.imsglobal.org/>

<http://www.dr-chuck.com/>





# IMS: Digital Learning Standards

*Free the content*



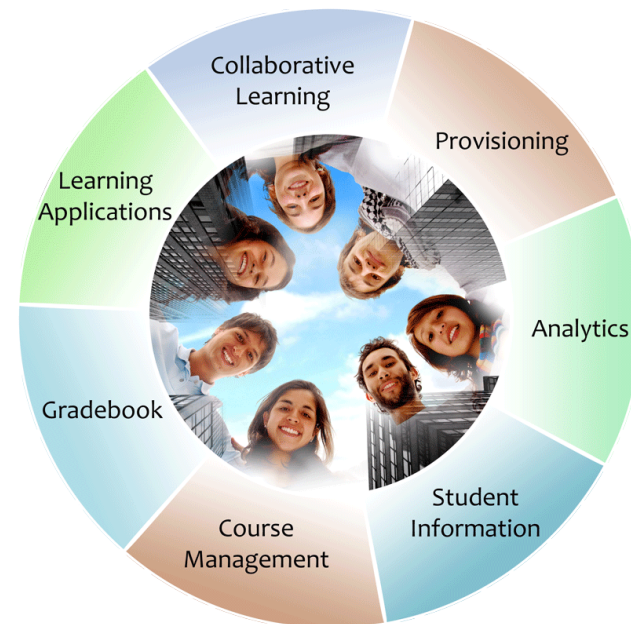
IMS Common Cartridge

*Seamlessly connect to learning*

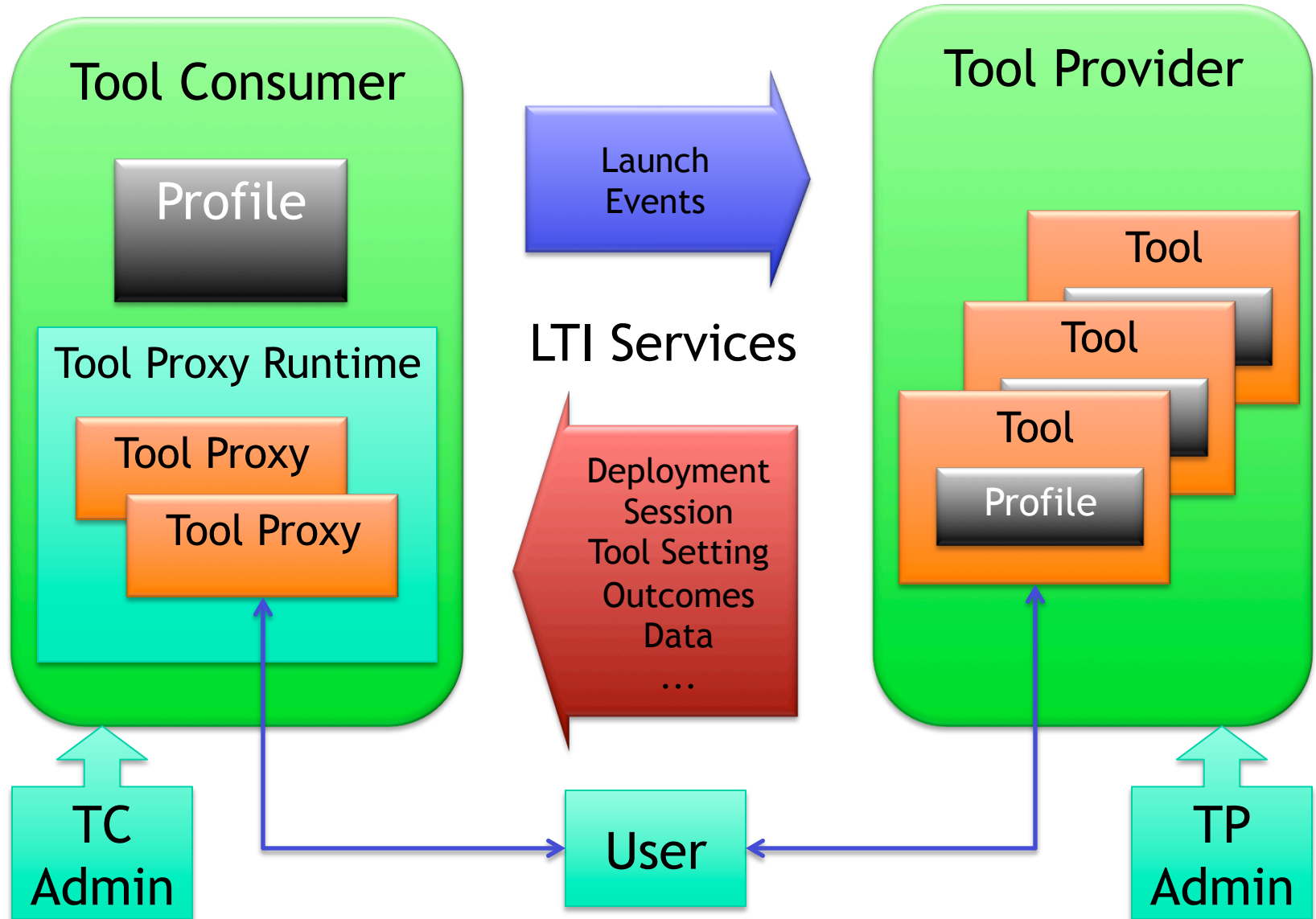


IMS Learning Tools Interoperability (LTI)

*The information architecture for learning*

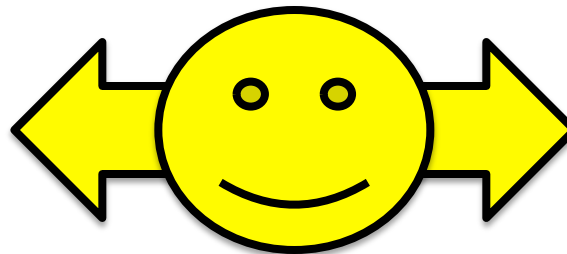
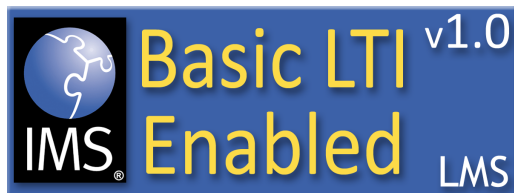


IMS Learning Information Services (LIS)



# Purpose of Certification

- Assure the end-user/purchaser that products will interoperate
- Any certified Provider (Tool) should be able to interoperate with any certified Consumer (LMS)





# IMS GLOBAL LEARNING CONSORTIUM

STANDARDS THAT ENABLE THE  
DEVELOPMENT AND ADOPTION OF INNOVATIVE TECHNOLOGIES  
TO IMPROVE AND TRANSFORM EDUCATION WORLDWIDE



Join IMS | Innovation | Adoption | Learning Impact | Engage

## Formal Process for Basic LTI Consumer Certification

Quick Link: [Test Setup](#)

To pass certification, you must take the following steps:

- You must be an IMS Common Cartridge Alliance member
- You must pass the tests using certification suite hosted on the Alliance web site.
- You must prepare a report of the results of the test including any necessary explanations of any anomalies in the test.
- The report must be submitted by a designated representative of the alliance member and you must agree that there is no misrepresentation or manipulation of the results in the submitted report.
- You must submit your report via E-Mail to [basicti-certification-report@imglobal.org](mailto:basicti-certification-report@imglobal.org)
- After IMS reviews your report and notifies you that the report is approved and adds you to the Basic LTI product directory, you can claim certification to IMS Basic LTI and display the certification badge on your web site and in your software.

### MORE INFORMATION

Alliance Home  
Alliance Forum  
Demonstrations  
Sample Cartridges  
Implementer Tools  
Conformance Tests  
Marketing  
Events  
Specification

<http://www.imglobal.org/developers/alliance/lti/blti-cert/>



## Certification is Quite Proscriptive

- The IMS Basic LTI *specification* is very flexible - it could be used for lots of purposes - we did not want to the spec to be so proscriptive that we "outlawed" possible uses we could not imagine
- *Certification* is about the expected / common / typical uses - and is very proscriptive



# Certification is not Static

- Certification is like a "unit test" that checks a list of expected operations and responses
- The current certification test suite is based on interoperability
- We will work with the adopters and vendors to work through things that "slip through the cracks"



# Two Certifications

- Tool Consumer (a.k.a. LMS)



- Very precise test with automated records of tests passed

- Tool Provider (a.k.a. Tool)



- Manual verification of proper handling of each of the test cases

- Both require contact info and self-assertion





## Certification: Members Only

- Only IMS Alliance (or higher) members can apply to be certified
- No *additional* cost associated with certification - no third parties to pay
- Also, IMS will work with folks when there are disputes - so we may need to contact certifiers



<http://www.imsglobal.org/developers/alliance/LTI/blti-cert/index.cfm>



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## Process for Basic LTI Certification

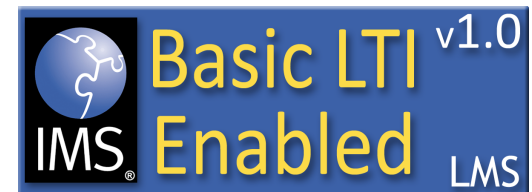
Quick Link: [Tool Consumer](#) | [Tool Provider](#)

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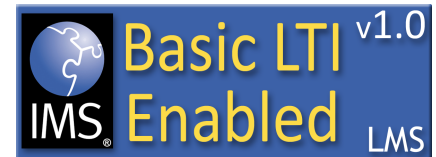


# Tool Consumer / LMS Certification





# Overall Steps



- Set up your certification environment at [www.imsglobal.org](http://www.imsglobal.org)
- Set up your LMS with two courses and two users and two Basic LTI resources
- Run the certification tests, monitoring your progress



# Overall Steps



- When all tests are passed..
- Fill out the Certification Report
- Make a PDF of your Online Test Report from IMS
- Send it all to **conformance@imsglobal.org**
- Once it is reviewed and approved - you get your certification badge



# Test Setup



## IMS Basic LTI Consumer Certification Setup

[Test Description](#) | [Test Status](#)

This screen allows you to configure the Basic LTI Testing Environment or to reset the testing session and start over.

Software Being Tested:

Version:

oauth\_consumer\_key

oauth\_consumer\_secret

Requests=0 Tests Passed=0 Tests Failed=0

demo



# Test Setup - Complete



## Launch URL

Here is the launch info to use for your URL/Key/Secret placements

```
http://www.imsglobal.org/developers/alliance/LTI/blti-cert/lmscert.php?x=With%20Space&y=yes  
Key=lmsng.school.edu  
Secret=reallylong
```

If your LMS supports custom fields, enter these two fields:

```
simple_key=custom_simple_value  
Complex!@#$%^*(){}[]KEY=Complex!@#$%^*(){}[]Value
```

```
Requests=0 Tests Passed=0 Tests Failed=0
```

The test uses cookies so you must setup the test and run the test in the same browser.



# Three Kinds of Tests

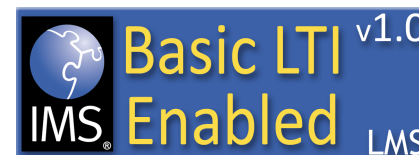


- **Normal** tests are tests that your code must pass to be certified.
- **Free Pass** tests are optional and depend on design choices in the LMS.
- **Fail Only** tests check for mistakes in every one of your launches. (this is sticky)





# Test Status



## IMS Basic LTI Consumer Certification Status

[Setup](#) [Refresh](#) [Final Report](#) Software=Social LMS version=0.1 Alpha key=lmshg.school.edu  
2010-05-11T13:17:44Z


Scroll to the bottom of this page to see the URL, Key, and Secret to use for this test.


Test	Description	Result
1.0	Protocol Compliance and Resource Information	
1.1	All messages have required parameters ( <a href="#">More</a> )	ToDo
1.2	Sends resource_link_title ( <a href="#">More</a> ) (Free Pass)	OK
1.3	Sends resource_link_description ( <a href="#">More</a> ) (Free Pass)	OK
2.0	OAuth and Signing Requests	
2.1	Sign with a producer-provided secret and oauth_consumer_key	ToDo
2.2	Can sign requests with URL parameters	ToDo
2.3	Can sign a request with a URL parameter with space in the value parameter ( <a href="#">More</a> )	ToDo
2.4	Must include oauth_callback for OAuth 1.0A compliance ( <a href="#">More</a> ) (Fail Only)	OK

# LMS Setup

### Basic LTI

**Common module settings**


Remote Tool Name\* 

Remote Tool URL\* 


Resource Key


Remote Tool Password   Unmask

**Size parameters**

Window Height 

**Privacy**

Send naming details 

Send email address details 



# All Tests Passed



## IMS Basic LTI Consumer Certification Status

### IMS Basic LTI Certification Results Report

Software=Desire2Learn Learning Environment version=9.0

key=desire2learn

Test Date: 2010-04-27T13:47:31Z

Test URL: <http://www.imsglobal.org/developers/alliance/LTI/blti-cert/lmsstatus.php>

Test	Description	Result
1.0	Protocol Compliance and Resource Information	
1.1	All messages have required parameters	Passed
1.2	Sends resource_link 7.3 If launch_presentation_width is present, it is valid (Free Pass)	OK
1.3	Sends resource_link 7.4 If launch_presentation_height is present, it is valid (Free Pass)	OK
2.0	OAuth and Signing Requirements	
2.1	Sign with a producer-consumer signature	Test Count=33 Tests Passed=33 -- <b>Congratulations - the test is complete</b>
2.2	Can sign requests with URL parameters	Passed
2.3	Can sign a request with a URL parameter with space in the value parameter	Passed
2.4	Must include oauth_callback for OAuth 1.0A compliance (Fail Only)	OK



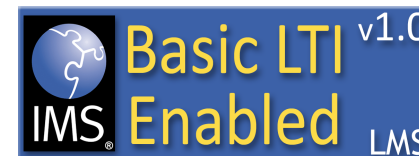
## IMS Basic LTI Tool Consumer Certification Results

This report is to be filed with IMS as part of an application for certification for IMS Basic Learning Tools Interoperability Consumer. Please complete this document and send it to [conformance@imglobal.org](mailto:conformance@imglobal.org) along with the attachment specified below.

### Conformance Test: IMS Basic LTI Tool Consumer v 1.0

#### Test Information

Please fill out the following information:



Date of test: April 27, 2010

Software being tested: Desire2Learn Learning Environment  
Version: 9.0

Vendor Name, Address, Web site, and Phone Number  
Desire2Learn Incorporated



# Certified - LMS



- PowerLink for Blackboard WebCT v8
- Building Block for Blackboard Learn v9
- Desire2Learn Learning Environment v8.4
- Desire2Learn Learning Environment v9.0
- Jenzabar JICS v7.2
- Learning Objects Campus Pack v4
- Sakai v2.7
- Sakai 3 v0.4



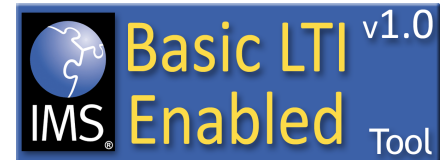


# Tool Provider/ Tool Certification





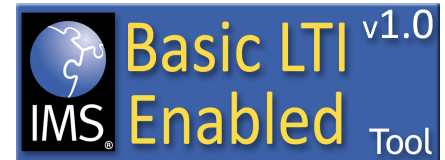
# Provider Certification



- More of a self-certification
- Run a series of launch tests on your Tool and verify proper operation
- Very much like formalized unit tests
- We are trying to stretch your tool
- Emphasize the wide range of launch data sets



# Test Themes



- Explore privacy levels - insure the tool copes with missing data and makes a good primary key choice
- Variations in the valid **roles=** format
- Some dysfunctional/broken launches
- Testing the tool's ability to redirect back to the LMS in error conditions



# Running a Test

Basic LTI Certification: Tsugi (0.0.0.1) KEY=12345 ([Setup](#) | [Status](#))

001: Launch in SI182 as Instructor | [002 >>](#)

Detail: This user has all user information specified.

Expected Result: Should have Instructor powers to edit as appropriate ([Mark as Passed](#)) ([Turn Debug On](#))

Hello: Jane Q. Lastname (Instructor) from Design of Personal Environments via basicliti

Please enter a valid, numeric guess

Enter Guess:

Enter Name (opt):

# Debug Mode

Basic LTI Certification: Tsugi (0.0.0.1) KEY=12345 ([Setup](#) | [Status](#))

001: Launch in SI182 as Instructor | [002 >>](#)

Detail: This user has all user information specified.

Expected Result: Should have Instructor powers to edit as appropriate ([Mark as Passed](#)) ([Turn Debug Off](#))

Launch Endpoint with BasicLTI Data

**BasicLTI Endpoint**

`http://wiscrowd.appspot.com/wiscrowd/`

**BasicLTI Parameters:**

```
oauth_version = 1.0
oauth_nonce = 8d6cfa327bd85c5c73940adaf34d6cde
oauth_timestamp = 1262447172
oauth_consumer_key = 12345
resource_link_id = rli-1234
user_id = 123456
roles = Instructor
lis person name full = Jane Q. Lastname
```

# Test (self) Report

## **001 This Instructor user has all user information specified.**

Expected Result: Should have Instructor powers to edit as appropriate

Actual Result: Pass / Fail

### ***Notes***

## **002 This Learner user has all user information specified.**

Expected Result: Should not have Instructor powers

Actual Result: Pass / Fail

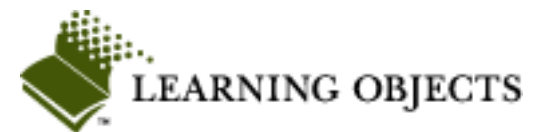
### ***Notes***



# Certified - Tool



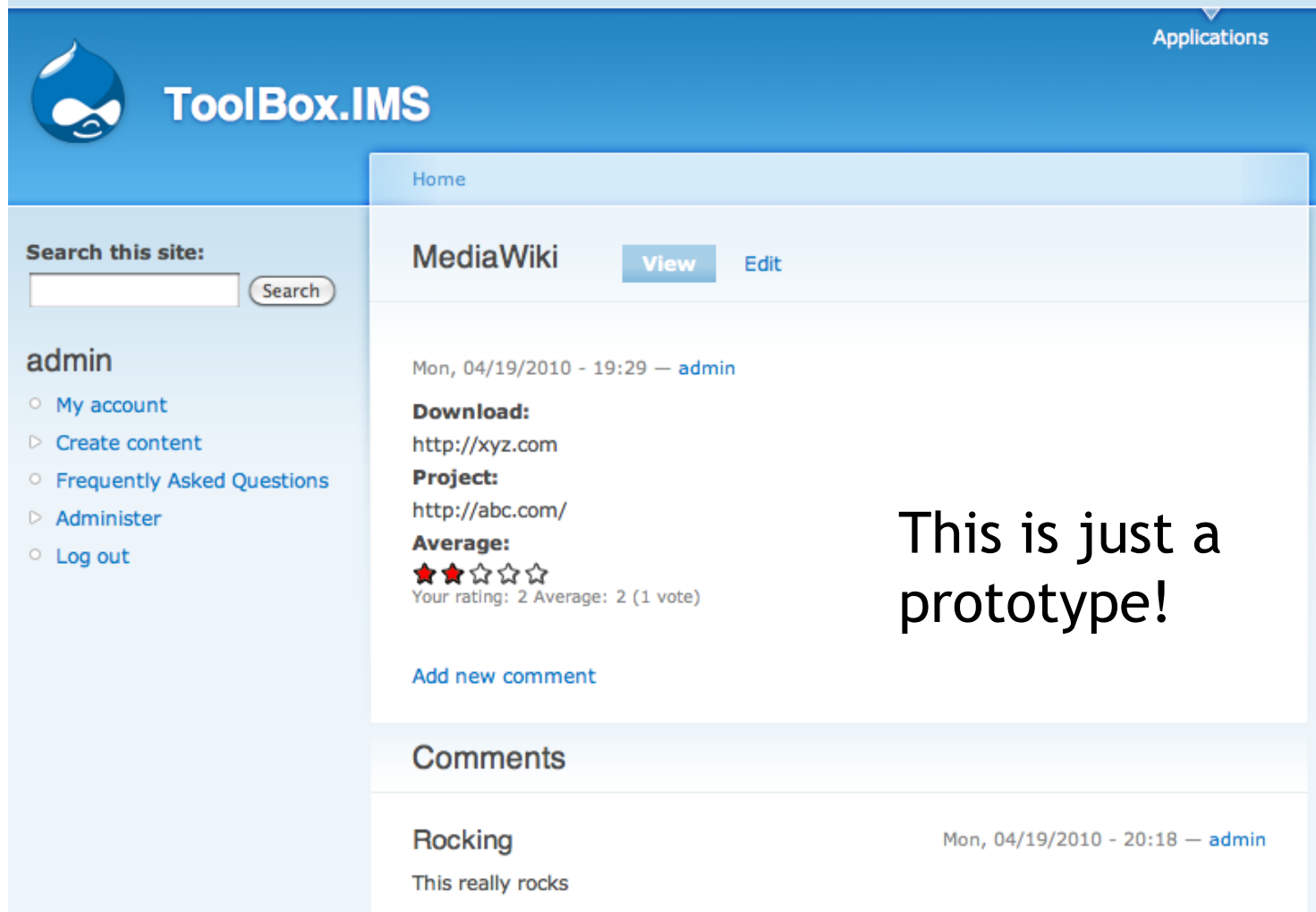
- Learning Objects Campus Pack v4
- SpACE v0.5 (Spatial Activities in Course Environments, map application)
- WebPA v1 (online peer assessment application)





# Basic LTI Community Certification

- We are working on a self-certification for Basic LTI Tools that is open to anyone regardless of membership
- It will be a self-policing community with ratings, "most popular", etc etc.
- Working on a very early prototype



The screenshot shows the ToolBox.IMS application interface. At the top left is the IMS logo. The main header is blue with the ToolBox.IMS logo and name. A search bar is on the left. The main content area shows a 'MediaWiki' entry with a 'View' button and 'Edit' link. Below the entry is a comment by 'admin' dated 'Mon, 04/19/2010 - 19:29'. The comment includes a download link, a project link, and a star rating. A large text overlay on the right says 'This is just a prototype!'. Below the comment is a 'Comments' section with a comment by 'admin' dated 'Mon, 04/19/2010 - 20:18' saying 'Rocking This really rocks'.

Applications

Home

MediaWiki [View](#) [Edit](#)

Mon, 04/19/2010 - 19:29 — [admin](#)

**Download:**  
<http://xyz.com>

**Project:**  
<http://abc.com/>

**Average:**  
★ ★ ☆ ☆ ☆  
Your rating: 2 Average: 2 (1 vote)

[Add new comment](#)

Comments

Rocking Mon, 04/19/2010 - 20:18 — [admin](#)

This really rocks

**This is just a prototype!**



# Summary

- We have a relatively straightforward Basic LTI certification process in place for LMS and Tools
- LMS Certification is well underway for shipping and soon to ship products
- These certifications will evolve with experience
- We are working on an even lighter social/self-regulated community around Basic LTI Tools



# Questions

- IMS - [www.imsglobal.org](http://www.imsglobal.org)
- [cseverance@imsglobal.org](mailto:cseverance@imsglobal.org)



*Seamlessly  
connect  
to learning*



IMS Learning Tools  
Interoperability (LTI)