

AICC PENS Package Exchange Notification Services



X-PER Team
Solutions de formations à distance



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*How to ease SCORM or
AICC content
publication from
authoring tool to LMSs*



PENS goal

- The PENS specification was created by the AICC group and is available since June 2005 (PENS 1.0)
- Without PENS, publish a course to a LMS stay a manual task often delicate
- PENS is a standard that facilitates communication between content authoring systems and targeted servers (LMS)
- PENS establishes a direct connection between content source and learning management system

The PENS process

- Through the specification, target servers are notified that a content package exists and is accessible.
- The content source must run the following tasks:
 1. creating and preparing the content package
 2. making sure the content package is accessible for transfer via a FTP or HTTP site
 3. sending a message to the target servers to announce that the package is available
- Then the server must execute the following tasks
 1. pulling the content package, storing or deploying the content package
 2. validating the PENS message
 3. sending a message back to the sender's system that the PENS message was recognized

Technical information

- The server notification can be given via a variety of methods including:
 - Web Service
 - HTTP POST & GET
 - SOAP / XML
 - Email
- The retrieval content process is governed by existing compliance formats (SCORM) and accessed via:
 - FTP & HTTP
 - UNC connections
 - SOAP binary attachment
 - Email attachment

User benefits

- **By defining a standard for automation, PENS eliminates the manual and segmented methods formerly required to transport content**
- **PENS provides a simplified deployment method for authors, and allows LMS administrators to focus on what they do best**
- **PENS establishes a direct link from the authoring tool to the LMS**

Interoperability test

- **Interoperability test between a client (Authoring tools) and a server (LMS)**
 - **Test 1 : Publication of a set of Quiz Manager assessment to a LMS**
 - Ganesha
 - WBT Manager
 - **Test 2 : Publication of a course created with Course Liner to a LMS**
 - Ganesha
 - WBT Manager

Next step

- The PENS data model may be extended in the future to include commands that go beyond the “collect” capabilities (Delete, update ...)
- PENS will provide a link that can be built upon, extending communication and integration into the future
- Specifications are being written in IEEE so that the standard will be adopted industry wide

Technical resources

- Many On Line resources are available :
 - French White Paper about AICC PENS
<http://www.x-perteam.fr>
 - Official AICC web site - Specification and sample
<http://www.aicc.org/pages/down-docs-index.htm#cmi010>
 - PENS LMS Testing
Resources and Information for the PENS Specification
<http://pens.lmstesting.com/pages/whatispens.htm>

- **LMS**
 - Ganesha : [http: www.anema-formation.fr](http://www.anema-formation.fr)
 - WBT Manager : www.x-perteam.fr

- **Authoring tools**
 - Quiz Manager : www.x-perteam.fr
 - Course Liner : www.symetrix.fr