

Methods for Integrating Perception with Other Systems

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How can Perception be integrated?

- Common standards, such as AICC and SCORM.
- Specialized connectors for Blackboard and WebCT CE, MS Office, and SharePoint, and SAP.
- QMWISe Application programming Interface
- Direct calls or links from other sites.
- Importing and exporting data to and from ASCII, XML, QML, etc.
- Custom integrations created by Questionmark Consulting Services (including integrations with SSO solutions such as SiteMinder)



We Are Here To Discuss:

- AICC
- SCORM
- QMWISe
- Content Packager
- Troubleshooting all of the above
- Typical errors for these integrations
- Questions and Answers



AICC vs. SCORM

- Which is better? It depends.
- Which is supported by your Learning System?
- Does your LMS support AICC with a direct URL?
- Security: AICC runs standardized HTTP commands over a web port (typically 80 or 443) to transfer data between Perception Server and Learning System.
- Security: SCORM utilizes a HTML “wrapper” page which gathers all data and acts as a bridge for information flow.
- AICC is often easier to set up and troubleshoot.
- Check your LMS to see which is easier to set up.



AICC – Basics

- Aviation Industry CBT Committee
- AICC is a standard employed to integrate learning systems.
- Works using a “back end” HTTP or HTTPS communication between the two learning systems and running commands to pass specific data.
- Requires two-way communication between the servers.
- Perception defines the data sent and received using a PIP file. Aicc.pip is common, but is often renamed.
- Some LMS versions require a content package to be created. We have a tool for this—Content Packager.
- The latest version of Authoring Manager has a new feature that replaces Content Packager and is called “Publish to LMS”.



AICC-Compliant Learning Systems

- Peoplesoft ELM
- Saba
- Thing
- Docent
- SumTotal
- Oracle ELM
- Plateau
- Pathlore
- More...



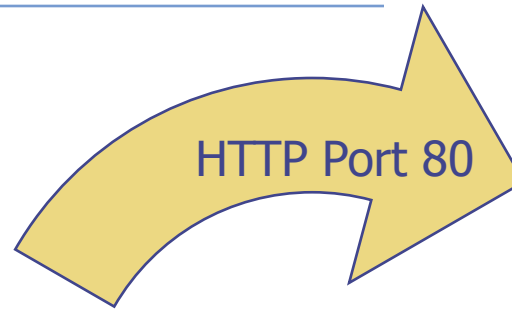
AICC – Setting Up

- Suppose we have a Perception 4.4 installation we would like to integrate with an AICC-compliant LMS.
- Insure both systems are on the same network and are not blocking port 80 (or 443 for default SSL port).
- Create an assessment in Perception and set it to allow LMS access.
- Create a content package using Content Packager, or (if supported by your LMS) enter a launch URL, such as:
<http://v4hosting.questionmark.com/sample/session.dll?call=aicc.pip&session=1234123412341234>



AICC – Communication

Step 1:
LMS sends return URL,
Session Tracking ID and
Assessment ID.



Step 2:
Perception requests the
Participant Name.

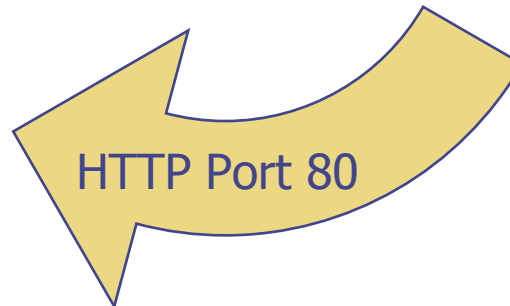
Step 3:
LMS sends
Participant name.

LMS
Server

Perception
Server

Step 4:
Perception
launches the
assessment.

Step 6:
LMS accepts and
stores result data.
Also accepts exit
command and confirms.



Step 5:
Participant finishes.
Results are sent
back to LMS.



AICC – Troubleshooting

- The pip.log file is your most valuable tool!
C:\Perception4\Server\Logs\Pip.log
- Sample pip.log entry:
Error 04/27/05 14:36:19
https://sample.piplog.com/asp/en/content/cbt_4return.asp
Error in WinHttpRequest 12029 - Connection to the server failed.
- Most errors are standard HTTP errors which can be Googled. This one indicates an error with the SSL certificate.



SCORM – Basics

- Sharable Content Object Reference Model.
- SCORM is a newer standard for learning systems to communicate using a wrapper page.
- Works using a HTML “wrapper” page which tracks the data being sent between the systems.
- Perception’s SCORM wrapper is perceptionSCO.htm, which can be downloaded from our web site (do a search for SCORM).
- Requires two-way communication.
- Variables and commands are mostly in perceptionSCO.htm (not the PIP file, as with AICC).
- Requires a content package, also referred to as a SCORM manifest. Typically a *.xml file.
- SCORM 2004 supported in Perception 4.4



SCORM – Setting Up

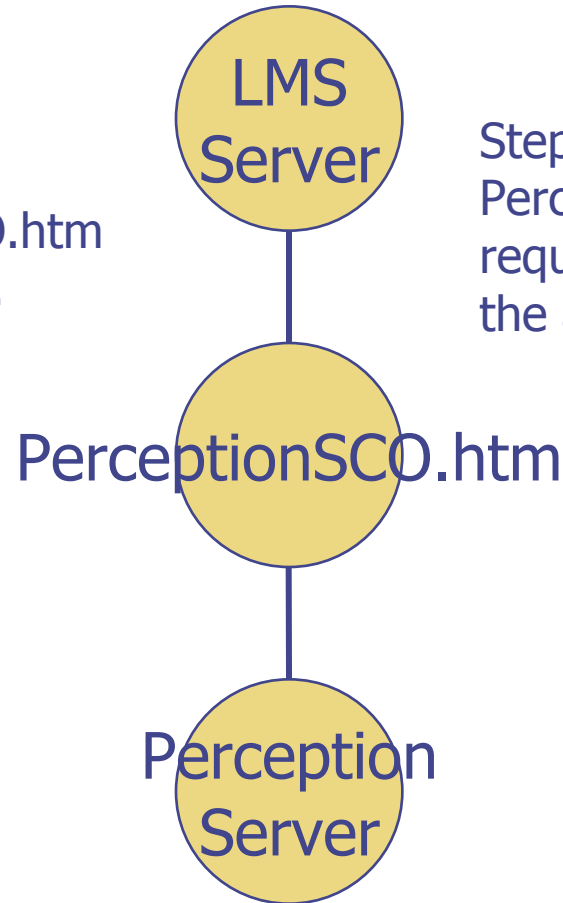
- Suppose we have a Perception 4.4 installation we would like to integrate with an SCORM 1.2-compliant LMS.
- Insure both systems are on the same network (no web ports blocked).
- Create an assessment in Perception and set to allow LMS access.
- Using Content Packager, create a manifest file.
- Import the manifest file into the LMS to make the assessment available.



SCORM – Communication

Step 1:
LMS launches PerceptionSCO.htm including the Assessment ID.

Step 2:
PerceptionSCO.htm requests required variables and launches the assessment.



Step 4:
LMS stores results. When the participant clicks the Home button, the window closes.

Step 3:
Assessment is completed. PerceptionSCO.htm sends results back to the LMS.



SCORM – Troubleshooting

- On screen errors are important. If necessary, take screen shots while testing.
- If you receive a red access denied message, review the perception.log and perception.err files.
- You can check the pip.log to verify that the launch command is being received. Command responses are not logged to this file, however.
- Relevant logs are located in default folder:
C:\Perception4\Server\Log\
- Refer to the documentation. Great troubleshooting steps and sample errors are outlined there.



QMWISe – Basics

- Web Service Application Programming Interface
- Allows safe access to Perception's database to create, modify, automate and verify data.
- Supports most modern programming languages (.NET, Java, PHP, PERL)
- Includes support for security headers.
 - Server to Server Communication
- Comes installed with Perception 4.x
- Requires Separate License for Custom Development



QMWISe – Configuration

- Enterprise Manager
 - Administration
 - Server Management
 - Server Settings.

QMWISe	
Key	Value
AssessmentURL	http://perception.questionmark.com/perce
ListURL	http://perception.questionmark.com/perce
AdminURL	http://perception.questionmark.com/perce
ReportURL	http://perception.questionmark.com/perce
DisconnectedFileURL	http://perception.questionmark.com/perce
DisconnectedFileExtension	APacks
DisconnectedFileFolder	D:\Perception4Data\non_repository\pem\t
ResourceFolder	D:\Perception4Data\non_repository\pem\r
JavaFolder	D:\Perception4Data\non_repository\pem\r
MultimediaFolder	D:\Perception4Data\non_repository\pem\r
SecurityRequire	<input type="checkbox"/>
TrustRequire	<input type="checkbox"/>
TrustedKey	12345678
SoapLogLevel	1 ▾
TraceLogLevel	1 ▾



QMWISE Test Harness

C:\Program Files\Questionmark\Perception4\server\qmwise\QMWISETest

File Name	Size	Type
GetAssessmentSoapRespons...	2 KB	XML Document
GetConfigurationSoapReques...	1 KB	XML Document
GetConfigurationSoapRespon...	3 KB	XML Document
GetParticipantByNameSoapRe...	1 KB	XML Document
GetParticipantByNameSoapRe...	3 KB	XML Document
GetParticipantSoapRequest.xml	1 KB	XML Document
GetParticipantSoapResponse....	1 KB	XML Document
GetResultListSoapRequest.xml	1 KB	XML Document
GetResultListSoapResponse.xml	23 KB	XML Document
GetScheduleSoapRequest.xml	1 KB	XML Document
GetScheduleSoapResponse.xml	1 KB	XML Document
Interop.QMDBo4Lib.dll	320 KB	Application Extension
Interop.QMDBOLib.dll	320 KB	Application Extension
Interop.SHDocVw.dll	120 KB	Application Extension
QMWISETest.exe	88 KB	Application
SetConfigurationSoapReques...	1 KB	XML Document
SetConfigurationSoapRespon...	3 KB	XML Document
SHDocVw.dll	120 KB	Application Extension

- Live Demonstration



QMWISE – WSDL

Typical URL - <http://servername/qmwise4/qmwise.asmx>

QMWISE

Questionmark Web Integration Services environment copyright © Questionmark Computing Limited 2002-2005.

The following operations are supported. For a formal definition, please review the [Service Description](#).

- [CreateTopic](#)
This method creates a topic from the information supplied and returns the Topic ID of the new topic.
- [AssignAdministratorToAssessmentFolder](#)
This method assigns an administrator to a specified assessment folder and sets their permissions to the value specified.
- [GetConfiguration](#)
This method returns all current configuration settings contained in the file Web.config.
- [GetAccessAssessmentList](#)
This method processes a Participant Name and returns a URL that can be used to display a list of assessments for that participant if the participant assessment exists.
- [GetAssessmentResultInfoList](#)
This method returns a list giving the full details of the results information for all the assessments in the database.
- [GetDisconnectedSchedule](#)
This method processes a Schedule ID for a Perception To Go schedule and returns a list giving the full details of the schedule if the schedule exists in the database and is a Perception To Go schedule.
- [CreateQuestionResultInfoList](#)
This method creates one or more questions (specified by their Question ID) from a list of question information supplied and returns the number of new questions created.
- [SetParticipant](#)
This method processes a Participant ID and updates the details of an existing participant from the participant information supplied. Any group specified will have the new participant as a member if the group exists in the database. Otherwise the group will be ignored.
- [GetAdministratorList](#)
This method returns a list giving the full details of all the administrators in the database.



QMWISe – Common Methods

- CreateParticipant()
 - Custom Login against Enterprise Authentication
- GetAssessmentList()
 - Create a Launch List
- GetAccessAssessment()
 - Returns a URL for an Assessment
- Work programmatically with Groups and Schedules
- Work with Administrator Accounts



QMWISE Troubleshooting

- The soap.log (now renamed to QWS.soaptrace) is your absolute best resource!

C:\Perception4\Server\Logs\Soap.log

- Most errors in the soap.log are fairly self-explanatory, but some may need a call to support. Sample log:

ERROR: 1101 at 2007-02-05 07:26:07:4974

Cannot find participant.

- Most common is error #16. Requires license update.
- Do not use for bulk data transfers (e.g. Reports)



Publish to LMS

- The Publish to LMS feature supersedes Content Packager
- Supports the PENS (Package Exchange Notification Services) standard that provides a specification for exporting packages directly into an LMS
- Supports SCORM 2004 (Perception 4.4 and higher). Previously only supported SCORM 1.2
- SCORM wrapper is now included in the package
- Live demonstration.



Pip.log and Soap.log Files

- Both PIP logging and SOAP logging are enabled by default in Perception 4
- * *Note: SOAP logging is not enabled on QM hosting by default, but can be enabled as needed.*
- Both can be enabled or disabled in the perceptionv4.ini file either by editing it using Notepad or using the “Server Settings” option in Enterprise Manager.
- Recommend disabling unless you need to track this data or are troubleshooting.



Questionmark Consulting Services

Consulting Services can:

- Create custom solutions to integrate into your existing systems
- Help you synchronize data from other systems (such as migrating participants from HR systems)
- Design custom launch screens that work with SSO solutions such as SiteMinder (for both assessment launch and Enterprise Manager)
- Real time or batch reporting of scores to a third party



Questions?

Great resources:

AICC

<http://aicc.org/>

SCORM

<http://www.adlnet.gov/>

Questionmark Specific Resources

AICC – http://questionmark.com/perception/help/v4/knowledge_base/aicc/aicc402.aspx

SCORM – http://questionmark.com/perception/help/v4/knowledge_base/server/serv408.aspx

QMWISE – <http://questionmark.com/perception/help/v4/manuals/qm/index.html>

Content Packages –

http://questionmark.com/perception/help/v4/knowledge_base/content_packager/cpak401.aspx

<http://questionmark.com/perception/help/v4/manuals/cpack/index.html>

Questionmark Connectors / Portal integrations – <http://www.questionmark.com/us/connectors>

