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
- Thinq
- 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.

Step 4:
Perception launches the assessment.

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

Step 6:
LMS accepts and stores result data. Also accepts exit command and confirms.
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/aspen/lang-en/content/cbt_4return.asp
  Error in WinHttpSendRequest 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 3:
Assessment is completed. PerceptionSCO.htm sends results back to the LMS.

Step 4:
LMS stores results. When the participant clicks the Home button, the window closes.
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\Logs\n- Refer to the documentation. Great troubleshooting steps and sample errors are outlined there.
QMWIGe – 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
QMWISEe – Configuration

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

![QMWISEe Configuration](image)
QMWISe Test Harness

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

- Live Demonstration
QMWISe – WSDL

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

QMWISe


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
Content Packages –
Questionmark Connectors / Portal intigrations – http://www.questionmark.com/us/connectors