



## OLSA Data Storage and Security Guide



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SkillSoft Corporation  
107 Northeastern Blvd.  
Nashua, NH 03062  
603-324-3000  
87-SkillSoft (877-545-5763)  
**Information@SkillSoft.com** (mailto:Information@SkillSoft.com)  
**www.skillsoft.com** <http://www.skillsoft.com>

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# CHAPTER 1

## Getting Started

This document briefly discusses some of the security issues involving OLSA, which addresses customers concerns about security. This document discusses the applications data tracking and storage issues and does not discuss the Hosting infrastructure.

For more information about methods such as On-Demand Communication, see the OLSA Integration Guide.

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### WHAT IS OLSA?

Open Learning Services Architecture (OLSA) is a software platform that supports a range of Web-based Open Learning Services. The goals of OLSA are to:

- Simplify and minimize the efforts required from our customers to integrate SkillSoft capabilities into their environments, including third party Learning Management Systems (LMS), portals and other enterprise applications.
- Enable users to easily access a broader range of content for effective learning by:
  - Accessing learning products and services through systems other than an LMS
  - Accessing SkillSoft products and services through third party LMS that previously were only available on SkillPort unless expensive, resource intensive and often non-proprietary customization was used

### AUDIENCE

The audience for this document is typically the security team for prospective and existing customers that want to clarify what information about what SkillSoft communicates and stores on its platform.

## OLSA DOCUMENTATION

The following documents are also available to assist in the integration effort between the Open Learning Service Architecture and your LMS:

- OLSA Release Notes – details on new features, changes, bug fixes, and known issues with each release of OLSA.
- OLSA Admin Guide - describes the user interface that provides developers a way to download content metadata, configure, and troubleshoot OLSA.
- OLSA Client Toolkit Guide - this document contains information about the materials included in the integration kit.
- OLSA Integration Guide - provides detailed information on the web services and functions that make up the OLSA.
- OLSA Data Storage & Security - discusses some of the security issues involving OLSA, which addresses customers concerns about security.
- OLSA Best Practices for Implementation - This document provides suggestions for implementing OLSA.

## WHAT IS A REFERRAL OBJECT?

A Referral Object (RO) is a lightweight version of a course that contains the course title, course description and launch URL. Instead of downloading the entire course to the TPLMS or other application, OLSA downloads the RO. The format of the RO is an AICC file and the TPLMS processes the RO as an AICC file.

**Note:** You can download ROs for all SkillSoft assets EXCEPT Job Aids and SkillBriefs. You cannot access Job Aids and SkillBriefs from the catalog since they have no ROs associated with them. However, users can access Job Aids and SkillBriefs from a Search Results page after using our Search-and-Learn service and the courses.

## HOW DOES OLSA STORE AND TRACK USAGE DATA?

OLSA uses the following Usage Data tracking models:

- Traditional launch and track, which employs an AICC relay to deliver tracking data to the Learning Management System (LMS)
- Usage Data synchronization or fetch, which tracks data maintained in a content server and uses a data synchronization service to deliver tracking data to LMS

The storing and tracking of data depends on how you implement the mode of communication to SkillPort. The customer can send the RO tracking data sent using one of the following methods:

- One-way-to-LMS
- One-way-to-OLSA

When you implement the system so that the RO tracking data is sent to the LMS, the usage data is directly tracked and stored by the LMS. In this scenario, OLSA does not support additional functionality like KnowledgeCenters, Learning Programs, Download and Search-and-Learn Connect.

When you implement the system so that the RO tracking data is sent to OLSA, the usage data is tracked and stored by OLSA. This scenario does support advanced learning structures like KnowledgeCenters, Learning Programs, Download and Search-and-Learn Connect. It is possible to then retrieve the data stored by OLSA and import it back into the LMS using OLSA Data Synchronization Services or non-OLSA methods like BCS or manually retrieve completion data using the Custom Report.

OLSA manages usage data through the Usage Data Synchronization service, which sends the data to the LMS using the AICC mechanisms. OLSA only returns XML for the UD\_GetAssetResult. The other functions do not return XML. For more information about usage data, see the OLSA Integration Guide.





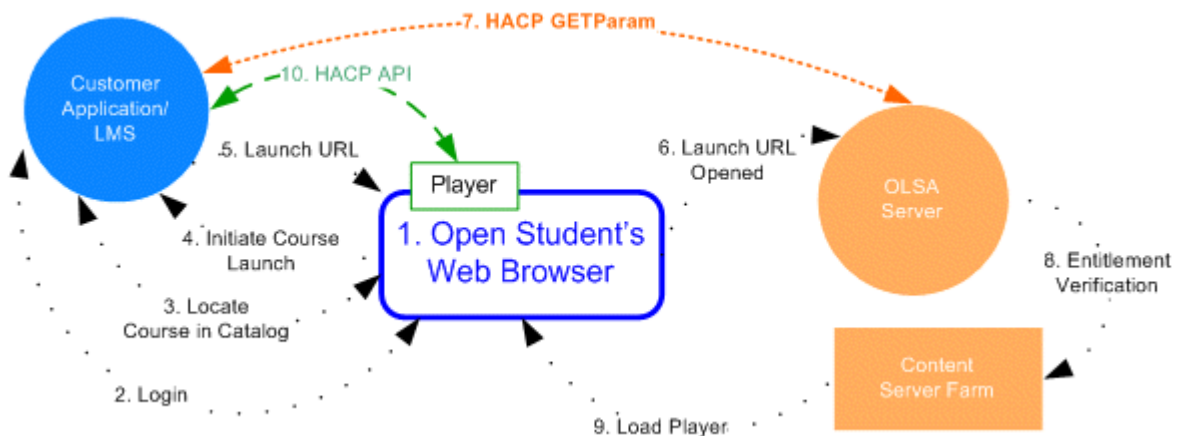
# Launch Flow: Track-To-LMS Mode

In this mode, all courseware launched from a third party LMS will track directly back to the LMS. Tracking back to the third party LMS allows you to in real-time capture course tracking data in the third party LMS.

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## TRACK-TO-LMS: DEFAULT LAUNCH



1. Open Learner's Web Browser.
2. Login to the LMS.  
Learner Authenticates to LMS.
3. Locate Course in Catalog.

Learner navigates through the LMS to locate the item containing the Learning Object in the LMS Catalog. The User can launch the course from the catalog search page or can add the course to their Learning Plan.

4. Initiate Course Launch.

Click **Launch Content** next to the item in the Catalog. Learner initiates launch by clicking on the Learning Object link.

5. Launch URL.

The LMS presents the Launch URL to the student's browser.

6. The Launch URL Opens in the Learner's Browser appending LMS AICC Listener URL (AICC\_URL) and Session ID (AICC\_SID) as name and value pairs. The AICC\_URL and AICC\_SID are used for communicating all the information back to the LMS throughout the session.

7. Communicate using HACP GETParam.

Server-to-Server communication performs an initial GetParam. The LMS Responds with the Progress information related to the specific user and course, including:

- User ID - this is a randomly generated alphanumeric number unique for every LMS learner, for example, DHS-162. This ID is assigned to the User when their account is created.
- First Name
- Last Name

8. Verify Entitlement.

The UserID and CourseID are confirmed to ensure there are no restrictions on the user ID and the course has been loaded to the platform.

9. If the User ID does not exist, the user is added to the OLSA database. If the User is already in the database and there are no restrictions, the launch is logged, and the process continues. Any restrictions in the user account or course, an error displays and the course launch does not happen.

10. Load Player and Content.

The course player (Java applet), content, and all client specific player settings are loaded to the browser for the learner to access the training. The platform passes the AICC\_URL and AICC\_SID, from the LMS, to the player to allow for direct communication between the Player and the LMS throughout the remainder of the training session.

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**Note:** The system does not keep persistent information on the workstation, including cookies; all information exchanged is limited to the browser cache.

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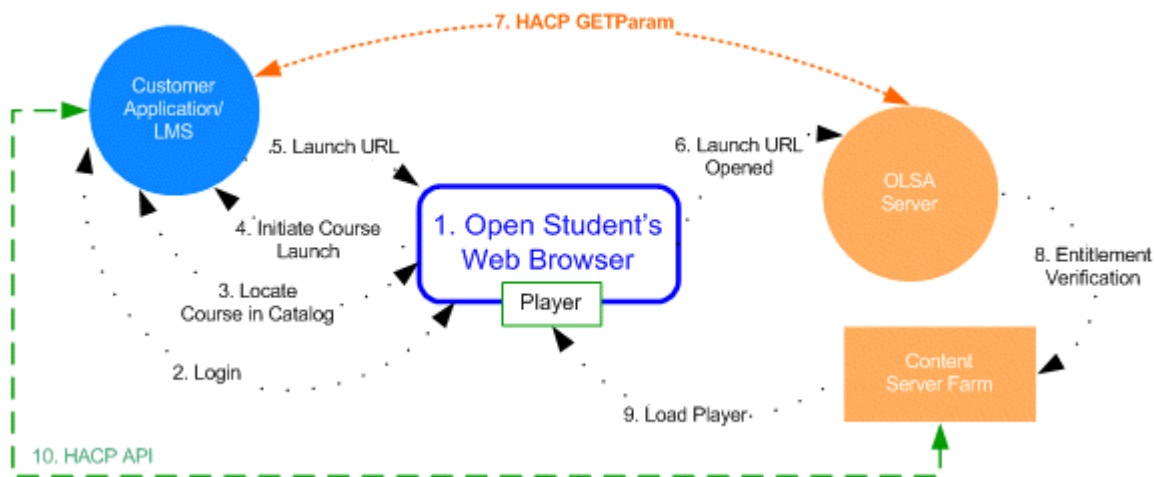
11. Communicate using HACP API.

During the Player and Content Load the course player performs the GetParam to gather the progress information from the LMS. None of this information is passed to the Skillsoft platform, all communication from this point on will be between the Browser and Player and the LMS Application.

As the learner progresses through the course, additional communication will occur to post additional progress back to the LMS for reporting and bookmarking. This is done using the AICC API listening on the AICC\_URL, more specifically the command used is the HACP PutParam. During the PutParam, the transaction would contain the AICC\_SID and the progress data blocks.

When the Session is complete a final PutParam is posted, followed by an ExitAU, which closes the session in the LMS. This is similar to all the other commands; however the only data sent is a ExitAU String. The learner can gracefully close all their windows. The LMS would have all the necessary information to be able to re-launch the course at a later point in time, allowing the user to resume where they stopped the course.

## TRACK-TO-LMS: RO RELAYER LAUNCH



1. Open Learner's Web Browser.

2. Log on to the LMS.

Learner Authenticates to LMS.

3. Locate Course in Catalog.

Learner navigates through the LMS to locate the Item containing the Learning object in the LMS Catalog. The User can launch the course from the catalog search page or can add the course to their Learning Plan.

4. Initiate Course Launch.

Click **Launch Content** next to the item in the Catalog. Learner initiates launch by clicking on the Learning Object link.

5. Launch URL.

The LMS presents the Launch URL to the student's browser.

6. Launch URL opens in the Learner's Browser appending LMS AICC Listener URL (AICC\_URL) and Session ID (AICC\_SID) as name and value pairs. The AICC\_URL and AICC\_SID are used for communicating all the information back to the LMS throughout the session.

7. Communicate using HACP GetParam.

Server-to-Server communication that performs an initial GetParam.

The LMS Responds with the Progress information related to the specific user and course, including:

- User ID - This is a randomly generated alpha-numeric number unique for every LMS learner, for example, DHS-162. This ID is assigned to the User when their account is created.
- First Name

- Last Name

#### 8. Entitlement Verification

The UserID and CourseID are confirmed to ensure there are no restrictions on the user ID and the course has been loaded to the platform.

If the User ID does not exist, the user is added to the OLSA database. If the User is already in the database and there are no restrictions, the launch is logged, and the process continues. Any restrictions in the user account or course, an error displays and the course launch does not happen.

#### 9. Load Player and Content

The course player (Java applet), content, and all client specific player settings are loaded to the browser for the learner to access the training. The platform passes the AICC\_URL and AICC\_SID, from the LMS, to the player to allow for direct communication between the Player and the LMS throughout the remainder of the training session.

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Note: No persistent information will be kept on the workstation, including cookies; all information exchanged will be limited to the browser cache.

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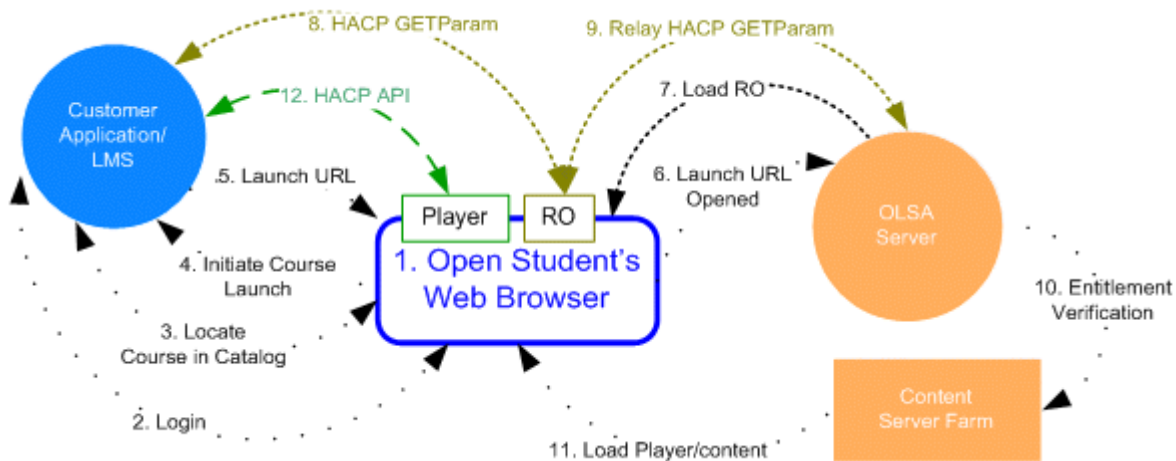
#### 10. Communicate using HACP API.

During the Player and Content Load the platform performs the GetParam to gather the progress information from the LMS. None of this information is passed to the SkillSoft platform, all communication from this point on will be between the Platform and the LMS Application.

As the learner progresses through the course, additional communication will occur to post additional progress back to the LMS for reporting and bookmarking. This is done using the AICC API listening on the AICC\_URL, More specifically the command used is the HACP PutParam. During the PutParam, the transaction would contain the AICC\_SID and the progress data blocks.

When the Session is complete a final PutParam is posted, followed by an ExitAU, which closes the session in the LMS. This is similar to all the other commands; however the only data sent is a ExitAU String. At this point, the learner can gracefully close all their windows. The LMS would have all the necessary information to be able to re-launch the course at a later point in time, allowing the user to resume where they stopped the course.

## TRACK-TO-LMS: RO PLAYER APPLET LAUNCH



1. Open Learner's Web Browser.
2. Log on to the LMS.

Learner Authenticates to LMS.

3. Locate Course in Catalog.

Learner navigates through the LMS to locate the Item containing the Learning object in the LMS Catalog. The User can launch the course from the catalog search page or can add the course to their Learning Plan.

4. Initiate Course Launch.

Click **Launch Content** next to the item in the Catalog. Learner initiates launch by clicking on the Learning Object link.

5. Launch URL.

The LMS presents the Launch URL to the student's browser.

6. Open Launch URL.

Launch URL opens in the Learner's Browser appending LMS AICC Listener URL (AICC\_URL) and Session ID (AICC\_SID) as name and value pairs. The AICC\_URL and AICC\_SID are used for communicating all the information back to the LMS throughout the session.

7. Load RO.

The SkillSoft OLSA server loads a Referral Object (Java applet) to the learner's browser to act as a communication bridge. The Platform passes the AICC\_URL & AICC\_SID to the RO.

8. Communicate using HACP GetParam.

RO opens the AICC\_URL using the GetParam Command through the Learner's browser sending the AICC\_SID and the command String: GetParam. The LMS Responds with the Progress information related to the specific user and course, including:

- User ID - this is a randomly generated alphanumeric number unique for every LMS learner, for example, DHS-162. This ID is assigned to the User when their account is created.
- First Name
- Last Name

#### 9. Relay HACP GetParam.

The RO takes the LMS response and forwards to the SkillSoft OLSA server. OLSA parses out the following fields:

- User ID
- First Name
- Last Name
- CourseID - is determined by the launch URL

Any other data that is present in the response from the LMS is discarded.

#### 10. Verify Entitlement.

The UserID and CourseID are confirmed to ensure there are no restrictions on the user ID and the course has been loaded to the platform.

If the User ID does not exist, the user is added to the OLSA database. If the User is already in the database and there are no restrictions, the launch is logged, and the process continues. Any restrictions in the user account or course, an error displays and the course launch does not happen.

#### 11. Load Player and Content

At this point the course player (Java applet), content, and all client specific player settings are loaded to the browser for the learner to access the training. The platform passes the AICC\_URL and AICC\_SID, from the LMS to the player to allow for direct communication between the Player and the LMS throughout the remainder of the training session.

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Note: The system does not keep persistent information on the workstation, including cookies; all information exchanged is limited to the browser cache.

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#### 12. Communicate using HACP API.

During the Player and Content Load the course player performs the GetParam to gather the progress information from the LMS. None of this information is passed to the SkillSoft platform, all communication from this point on will be between the Browser and Player and the LMS Application.

As the learner progresses through the course, additional communication will occur to post additional progress back to the LMS for reporting and bookmarking. This is done using the AICC API listening on the AICC\_URL. More specifically the command used is the HACP PutParam. During the PutParam, the transaction would contain the AICC\_SID and the progress data blocks.

When the Session is complete a final PutParam is posted, followed by an ExitAU, which closes the session in the LMS. This is similar to all the other commands; however the only data sent is a ExitAU String. At this point, the learner can gracefully close all their windows. The LMS would have all the necessary information to be able to re-launch the course at a later point in time, allowing the user to resume where they stopped the course.





# Launch Flow: Track-to-OLSA Mode

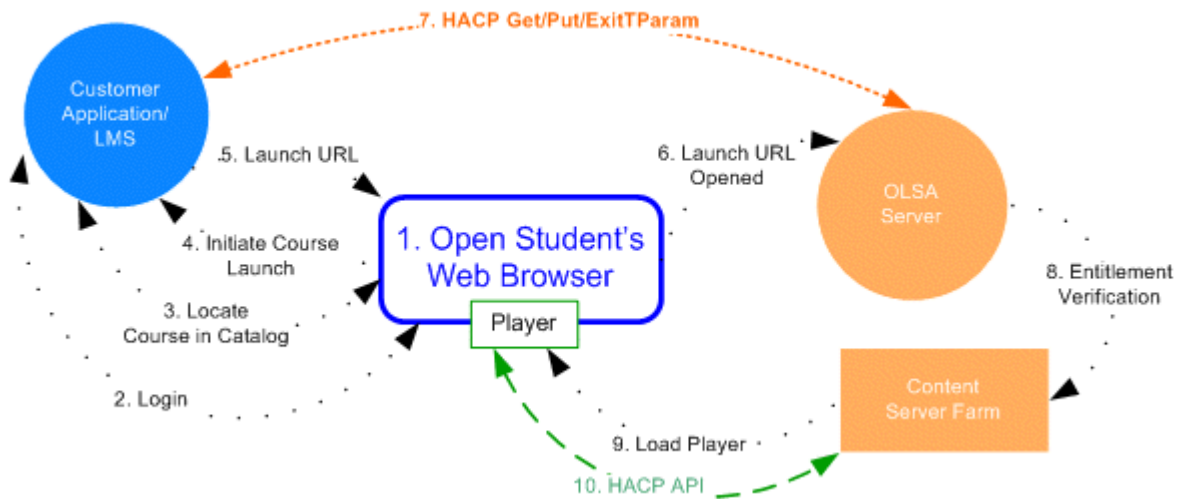
In this mode, all courseware launched from any entry point (third party LMS, portal, intranet or other application) will track directly to the OLSA Content Server. Tracking to OLSA provides:

- Support for offline play of courses
- Support for portal access to content and/or content related services, including courses, books, Search-and-Learn, etc.
- Support for KnowledgeCenters
- Support for SkillPort Learning Programs
- Seamless Player upgrades

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### TRACK-TO-OLSA: DEFAULT LAUNCH



1. Open Learner's Web Browser.
2. Login to the LMS.  
Learner Authenticates to LMS.
3. Locate Course in Catalog.

Learner navigates through the LMS to locate the Item containing the Learning object in the LMS Catalog. The User can launch the course from the catalog search page or can add the course to their Learning Plan.

4. Initiate Course Launch.

Click **Launch Content** next to the item in the Catalog. Learner initiates launch by clicking on the Learning Object link.

5. Launch URL.

The LMS presents the Launch URL to the student's browser.

6. Launch URL opens in the Learner's Browser appending LMS AICC Listener URL (AICC\_URL) and Session ID (AICC\_SID) as name and value pairs. The AICC\_URL and AICC\_SID are used for communicating all the information back to the LMS throughout the session.

7. Communicate using HACP GETParam and ExitAU.

Server to Server communication performs an initial GetParam. The LMS Responds with the Progress information related to the specific user and course, including:

- User ID - this is a randomly generated alphanumeric number unique for every LMS learner, for example, DHS-162. This ID is assigned to the User when their account is created.
- First Name
- Last Name

Once a successful initialize, a minimal pre-defined HACP PutParam will be posted to the LMS to close off the session on the LMS.

8. Entitlement Verification

The UserID and CourseID are confirmed to ensure there are no restrictions on the user ID and the course has been loaded to the platform.

If the User ID does not exist, the user is added to the OLSA database. If the User is already in the database and there are no restrictions, the launch is logged, and the process continues. Any restrictions in the user account or course, an error displays and the course launch does not happen.

9. Load Player and Content

At this point the course player (Java applet), content, and all client specific player settings are loaded to the browser for the learner to access the training. The platform passes the AICC\_URL and AICC\_SID, from the LMS, to the player to allow for direct communication between the Player and the LMS throughout the remainder of the training session.

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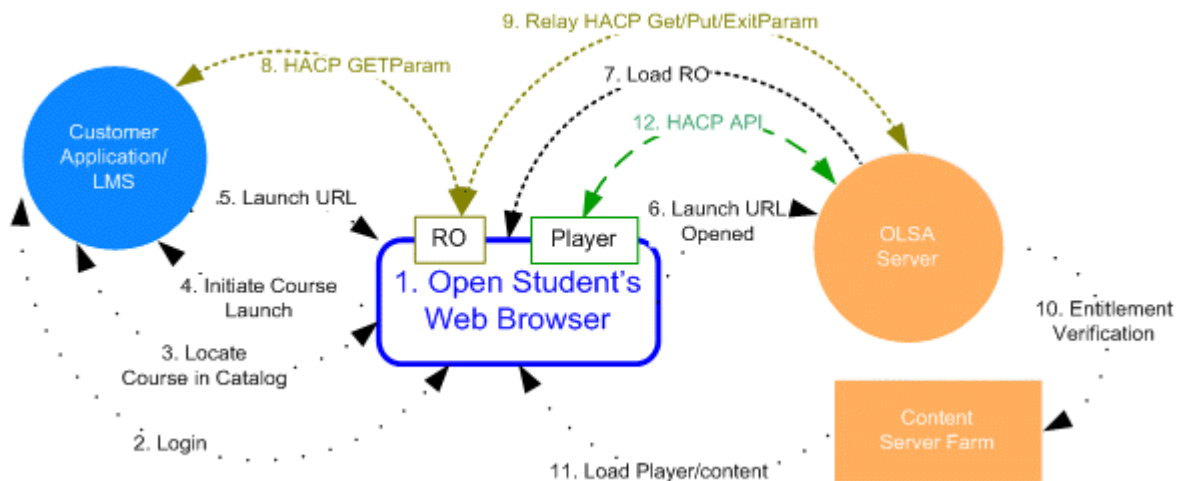
**Note:** No persistent information will be kept on the workstation, including cookies; all information exchanged will be limited to the browser cache.

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10. Communicate using HACP API.

During the Player and Content Load, the platform performs the GetParam to gather the progress information from the LMS. All communication from this point on will stay on the SkillSoft Platform

## TRACK-TO-OLSA: RO RELAYER LAUNCH



1. Open Learner's Web Browser.

2. Log on to the LMS.

Learner Authenticates to LMS.

3. Locate Course in Catalog

Learner navigates through the LMS to locate the Item containing the Learning object in the LMS Catalog. The User can launch the course from the catalog search page or can add the course to their Learning Plan.

4. Initiate Course Launch.

Click **Launch Content** next to the item in the Catalog. Learner initiates launch by clicking on the Learning Object link.

5. Launch URL.

The LMS presents the Launch URL to the student's browser.

6. Launch URL opens in the Learner's Browser appending LMS AICC Listener URL (AICC\_URL) and Session ID (AICC\_SID) as name and value pairs. The AICC\_URL and AICC\_SID are used for communicating all the information back to the LMS throughout the session.

7. Load RO.

The SkillSoft OLSA server loads a Referral Object (Java applet) to the learner's browser to act as a communication bridge. The Platform passes the AICC\_URL & AICC\_SID to the RO.

8. Communicate using HACP GETParam and ExitAU.

Server to Server communication that performs an initial GetParam. The LMS Responds with the Progress information related to the specific user and course, including:

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- Last Name

Once a successful initialize, a minimal pre-defined HACP PutParam will be posted to the LMS to close off the session on the LMS.

#### 9. Verifying Entitlement.

The UserID and CourseID are confirmed to ensure there are no restrictions on the user ID and the course has been loaded to the platform.

If the User ID does not exist, the user is added to the OLSA database. If the User is already in the database and there are no restrictions, the launch is logged, and the process continues. Any restrictions in the user account or course, an error displays and the course launch does not happen.

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**Note:** No persistent information will be kept on the workstation, including cookies; all information exchanged will be limited to the browser cache.

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#### 11. Communicate using HACP API.

During the Player and Content Load the platform performs the GetParam to gather the progress information from the LMS. All communication from this point on will be stay on the SkillSoft Platform.

## CHAPTER 4

# Privacy Support

Privacy Support allows OLSA and other Hosted SkillSoft to prevent retention of user-identifiable data. User-identifiable data includes:

- Username
- First name
- Last name
- Email address

The OLSA API intercepts any Original Username from the customer application and performs a one-way hash on it to produce a Hashed Username. The Hashed Username is passed through the rest of the SkillSoft systems and persisted.

The User and Course management and User Batch Add/Update functions in the OLSA Administrator are disabled. Customers cannot use these functions when Privacy Support is on. As a result, the Customer cannot perform filtering by user ID while running Reports. The hashed user ID displays across SkillSoft products. Email notification functionality is also not available.