



User Guide for 1EdTech's LTI Diagnostics & Certification

Introduction

LTI[®] Diagnostics & Certification can be used to validate and certify your implementation of LTI. It is a part of build.1edtech.org, 1EdTech's developer resource portal.

The currently supported diagnostic and certification functionality for LTI Tools and Platforms are:

- LTI Core
- Deep Linking
- Names & Roles Provisioning Service
- Assignments & Grades Service

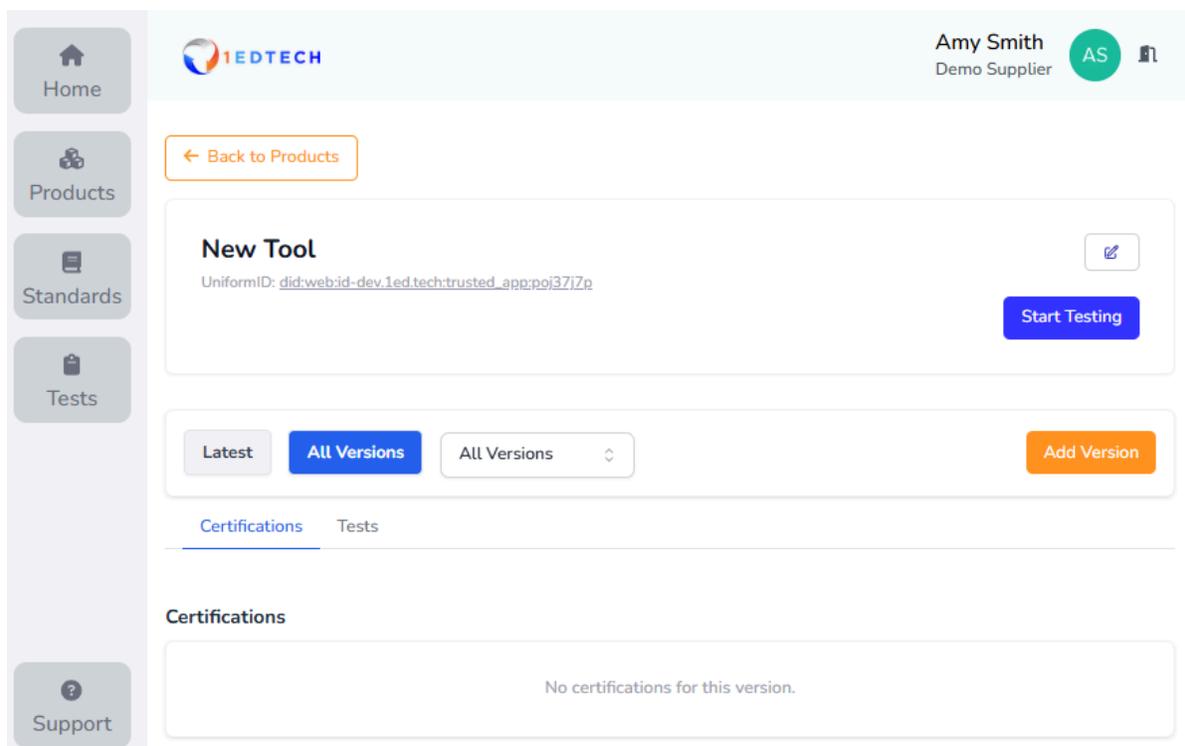
Over time, additional specifications will be added to the LTI Diagnostics & Certification testing suite.

Start Testing

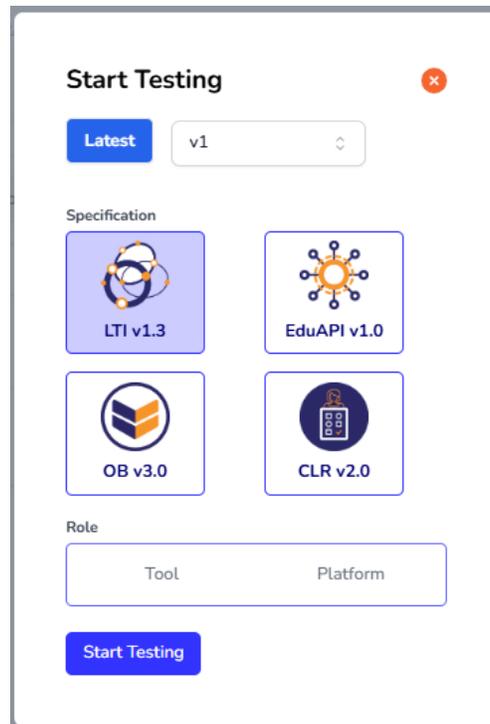
Log in to BUILD.1EDTECH.ORG

Find or create the product you are interested in validating/certifying.

You can start the diagnostic and certification process by selecting the product you wish to test and clicking on the Start Testing button. For new products, you will need to add a version to initiate testing.

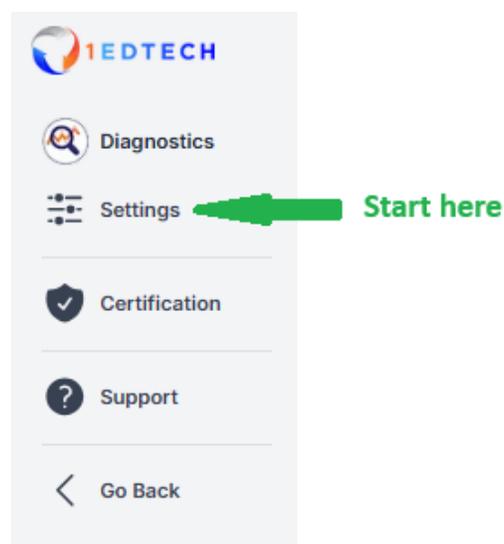


Select LTI v1.3 and either Tool or Platform, based on what you are interested in validating.



Upon starting the testing, you will see the following main menu options. These options are the same for both Tools and Platforms:

- Diagnostics - observations and details of the tests executed will be displayed here
- Settings - configuration details for the product should be entered here
- Certification - certification submissions are made here
- Support - access to support options can be found here



Testing a Tool

Settings

To test your Tool, start by registering your Tool in the LTI Diagnostics & Certification testing suite via the Settings menu. The testing suite will act as a platform from which to launch your Tool.

Dynamic Registration

If your tool supports Dynamic Registration, you can enter your Tool's Dynamic Registration URL and click on Register to complete the registration process.

New Tool Settings

Platform Configuration

Dynamic Registration

Dynamic Registration URL

Enter the Dynamic Registration URL of your LTI tool.

[Register](#)

Your tool's configuration will automatically be populated in the settings.

New Tool Settings

Platform Configuration

Dynamic Registration

Dynamic Registration URL

Enter the Dynamic Registration URL of your LTI tool.

[Register](#)

Your Tool Endpoints

 [Change](#)

Tool URL:
http://[redacted]
The target link URI of your LTI tool.

Initiate Login URL:
http://[redacted]/login
The URL used for initiating the authentication process. This URL handles the initial authorization requests from platforms.

Deep Linking URL:
http://[redacted]/dl
The URL used for content selection.

Jwks URL:
http://[redacted]/keys
The URL pointing to your tools JSON Web Key Set (JWKS). This is used for validating the signatures of received tokens.

Redirect Urls

[+ Add](#)



Manual Registration

Toggle off Dynamic Registration to expose the LTI Diagnostics & Certification platform configuration details and manually enter your Tool's configuration.

New Tool Settings 

Platform Configuration Dynamic Registration

Issuer:	h...	
Client ID:	c...	
Deployment ID:	9...	
Public Keyset URL:	h.../keys	
Access Token URL:	h.../token	
Authentication Request URL:	h.../auth	

Your Tool Endpoints

Please provide your tool endpoints

[Configure now](#)

Redirect Urls

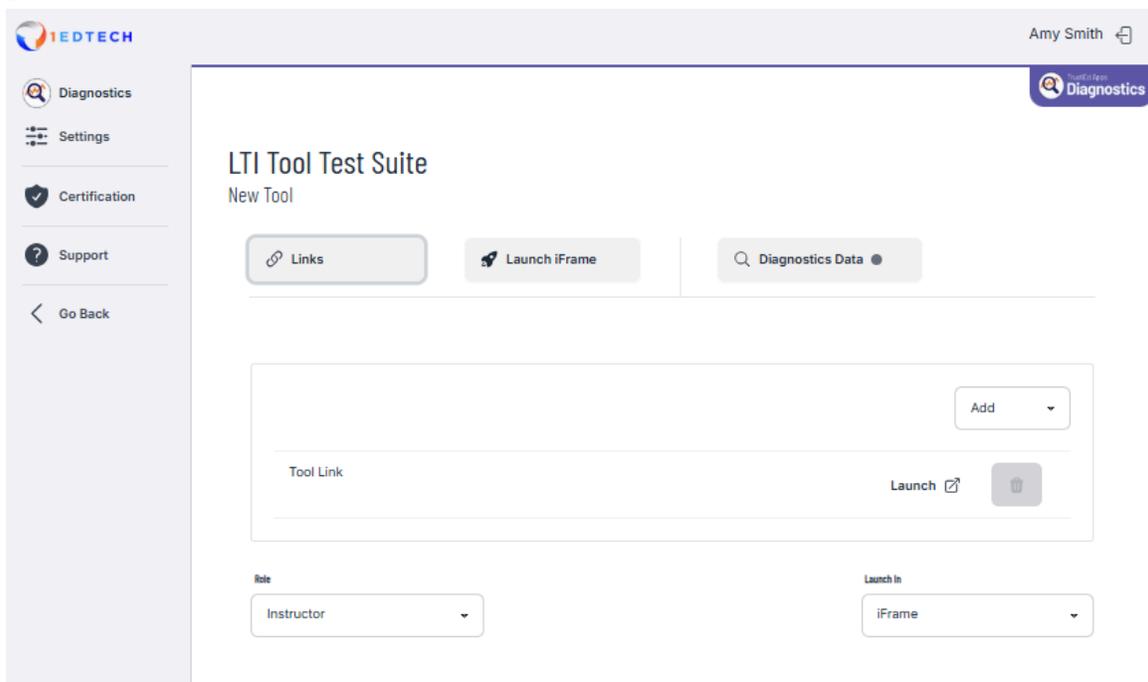
Create some redirect urls.

[Create now](#)

Diagnostics

Tool Diagnostics are made up of three tabs:

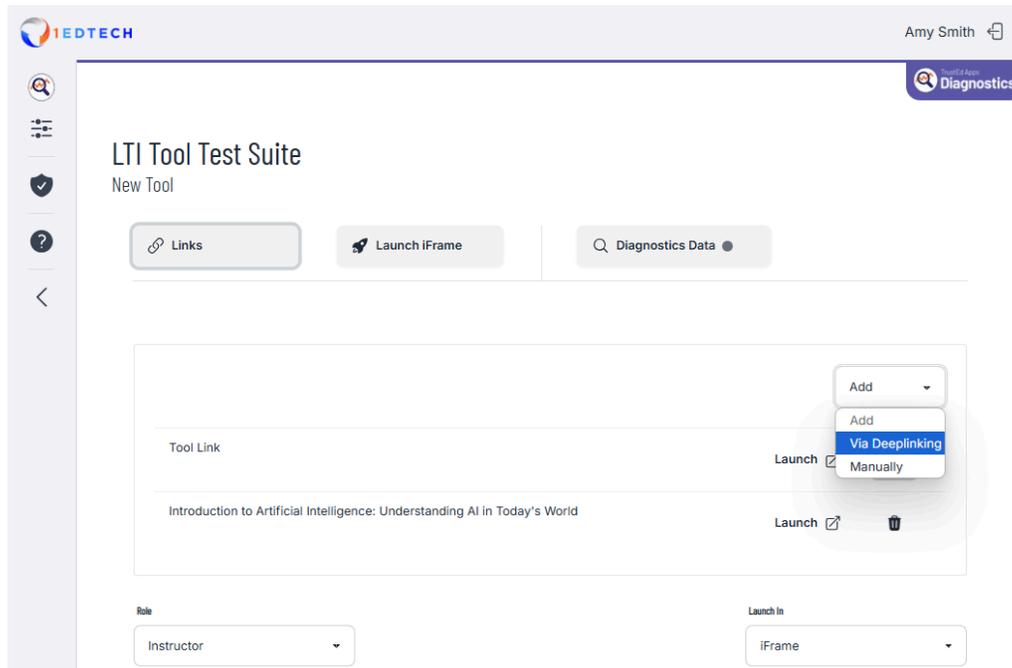
- Links
- Launch iFrame
- Diagnostics Data



The screenshot shows the 'LTI Tool Test Suite' interface for a 'New Tool'. The top navigation bar includes the 1EdTech logo, the user name 'Amy Smith', and a 'Diagnostics' button. The left sidebar contains navigation options: 'Diagnostics' (selected), 'Settings', 'Certification', 'Support', and 'Go Back'. The main content area features three tabs: 'Links', 'Launch iFrame', and 'Diagnostics Data'. Below the tabs is a form for adding tool links, including a text input for 'Tool Link', a 'Launch' button with an external link icon, and a trash icon. At the bottom, there are dropdown menus for 'Role' (set to 'Instructor') and 'Launch in' (set to 'iFrame').

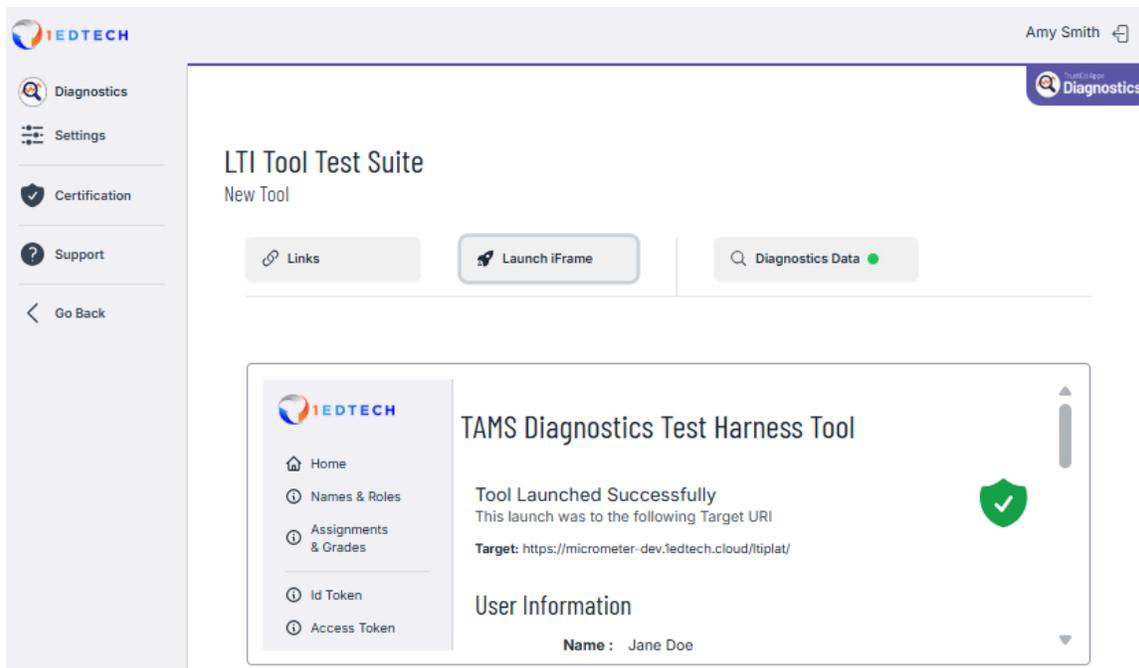
Links

Once registered, a basic LTI launch link for your Tool will be created. You can add additional links manually or via Deep Linking using the Add menu. Once added, they will appear in the Links list, from which they can be launched. You can choose the user Role for the launch, as well as whether to launch in an iFrame or a Window.



Launch iFrame

If you select iFrame for the launch, your Tool will appear in the Launch iFrame tab.



Diagnostics Data

On the Diagnostics Data tab, you will see the observations and details that the LTI Diagnostics & Certification testing suite is recording and validating as your Tool interacts with it. A green check mark indicates that the action was successful. A red X identifies an action that was not successful. Each test includes a drop-down with additional details on the test results.

LTI 1.3 Core Tool

OIDC Authorization 3 / 6 passed ^

OIDC Authorization Action Started ✔ Show Details
The initiation of the OpenID Connect authorization process.

OIDC Authorization Validation Passed ✔ Show Details
All necessary validations for the OIDC authorization have passed.

OIDC Authorization Matched Registration ✔ Hide Details
The OIDC authorization details match the previously registered information.

```
{
  "eventId": "c9ce87da-5cee-41d7-95de-8e1969f80829",
  "actionId": "9f525d5f-5b09-447d-a763-525c1e3db6a6",
  "eventType": "OIDCAuthMatchedRegistration",
  "timestamp": "2025-04-24T17:31:24.635Z",
  "platformId": "59a3b93f-e5e2-48ab-afd7-b5b23eff4107",
  "description": "OIDC Authorization Matched Registration",
  "deploymentId": "9831a568-f503-4b02-9ee8-d81f1671066e",
  "registrationId": "fba47b2e-b2d7-4f90-9e4f-80ab90f5d936",
  "message": "Matched registration",
  "registration": "fba47b2e-b2d7-4f90-9e4f-80ab90f5d936"
}
```

OIDC Authorization initiation failed ✘ Hide Details
The OIDC authorization process has failed to complete successfully.

```
{
  "eventId": "64c71a32-8669-4666-b666-f2b28e5b6e87",
  "actionId": "9f525d5f-5b09-447d-a763-525c1e3db6a6",
  "eventType": "OIDCAuthCompletionFailed",
  "timestamp": "2025-04-24T17:31:24.645Z",
  "platformId": "59a3b93f-e5e2-48ab-afd7-b5b23eff4107",
  "description": "OIDC Authorization initiation failed",
  "deploymentId": "9831a568-f503-4b02-9ee8-d81f1671066e",
  "registrationId": "fba47b2e-b2d7-4f90-9e4f-80ab90f5d936",
  "errors": [
    "Encryption secret not set"
  ]
}
```

The following expected events were not received: OIDCAuthCompletionSuccessful ✘ Show Details

One or more validations failed or not all success events were received ✘ Show Details

Testing a Platform

Settings

To test your Platform, start by registering the LTI Diagnostics & Certification testing suite. The testing suite acts as a Tool that your Platform can launch. The details of the testing suite are available via the Settings menu.

Dynamic Registration

If your Platform supports Dynamic Registration, you can enter the testing suite's Dynamic Registration URL into your Platform.

New Platform Settings 

Tool Endpoints Dynamic Registration

Dynamic Registration Url:

Your Platform Endpoints

Please provide your platform endpoints

[Configure now](#)

Registrations

Create some registrations.

[Create now](#)

When the registration in your platform is complete, you can refresh the testing suite's Settings page to see the configuration details.

New Platform Settings 

Tool Endpoints Dynamic Registration

Dynamic Registration Url:

Your Platform Endpoints  Change

Platform Url (Issuer):

The issuer URL of your LTI platform. This URL is crucial for identifying your platform uniquely across all transactions and communications

Auth URL:

The URL used for initiating the authentication process. This URL handles the initial authorization requests from tools.

Token URL:

The URL where tokens are generated and refreshed. This is used for obtaining LTI id tokens and access tokens that authorize API requests.

Token Audience:

Some Platforms provide a Token Audience that differs from their Token URL. This is used for obtaining LTI id tokens and access tokens that authorize API requests. (defaults to TokenUrl if empty)

Jwks Url:

The URL pointing to your platforms JSON Web Key Set (JWKS). This is used for validating the signatures of received tokens.

Registrations [+ Add](#)

New Tool Registration in New Platform	ClientID: <input type="text" value="f..."/>	Deployment ID: <input type="text" value="d..."/>	
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Manual Registration

Toggle off Dynamic Registration to expose the LTI Diagnostics & Certification tool configuration details and manually enter your Platform's configuration.

New Platform Settings

Tool Endpoints

Dynamic Registration

Tool Url:	h[REDACTED]	
Initiate Login URL:	h[REDACTED]/login	
Public Keyset URL:	h[REDACTED]keys	
Redirection URL:	h[REDACTED]/launch	
Deeplinking URL:	h[REDACTED]/dl	

Your Platform Endpoints

Platform URL

Enter the issuer URL of your LTI platform. This URL is crucial for identifying your platform uniquely across all transactions and communications.

Auth URL

Enter the URL used for initiating the authentication process. This URL handles the initial authorization requests from tools.

Token URL

Enter the URL where tokens are generated and refreshed. This is used for obtaining LTI id tokens and access tokens that authorize API requests.

Token Audience

If the platform provides a separate Token Aud, then enter it here, otherwise leave blank. This is used for obtaining LTI id tokens and access tokens that authorize API requests.

JWKS URL

Enter the URL pointing to your platform's JSON Web Key Set (JWKS). This is used for validating the signatures of received tokens.

Auth Method

The authentication method used.

Registrations

Registration Name

A name to help identify launches from this registration in test results

Client ID

The unique identifier that your Platform provides for this LTI connection.

Deployment ID

The deployment ID provided by your LTI platform.

Diagnostics

On the Diagnostics page, you will see the observations and details that the LTI Diagnostics & Certification testing suite is recording and validating as your Platform interacts with it. The process is started by launching the testing suite tool within your Platform. A green check mark indicates that the action was successful. A red X identifies an action that was not successful. Each test includes a drop-down with additional details on the test results.

LTI 1.3 Core Platform

OIDC Login Initiation

5 / 5 passed 

LTI 1.3 Content Launch

11 / 11 passed 

Names & Roles Provisioning Service

Names & Roles Context Membership

4 / 6 passed 

NRPS Get Context Members Started



Show Details

The Names and Roles Provisioning Service (NRPS) Get Context Members request succeeded.

Auth Access Token Obtained



Show Details

The LTI Services Access Token has been obtained successfully.

NRPS Member Data Retrieved



Hide Details

Member data has been successfully retrieved from NRPS.

```
{
  "toolId": "ed7b4ba0-2430-4acc-9d60-b000e650019d",
  "eventId": "63388e61-63db-4e81-8a5c-7c0491f3ae33",
  "actionId": "c4600df2-f8d4-49f0-ac73-c05b8ec32125",
  "eventType": "NRPSMemberDataRetrieved",
  "timestamp": "2025-06-16T18:58:44.600Z",
  "description": "NRPS Member Data Retrieved",
  "deploymentId": "ds_deploymentid_1",
  "registrationId": "410d31c2-e869-43a4-990f-c6dd81d14205"
}
```

NRPS Payload Invalid



Hide Details

The payload received from NRPS is invalid.

```
{
  "toolId": "ed7b4ba0-2430-4acc-9d60-b000e650019d",
  "eventId": "e17393aa-9f40-4afd-9aac-3f5831ded8ff",
  "actionId": "c4600df2-f8d4-49f0-ac73-c05b8ec32125",
  "eventType": "NRPSPayloadInvalid",
  "timestamp": "2025-06-16T18:58:44.601Z",
  "description": "NRPS Payload Invalid",
  "deploymentId": "ds_deploymentid_1",
  "registrationId": "410d31c2-e869-43a4-990f-c6dd81d14205"
}
```

Certification

Once you have completed diagnostic test sessions that meet LTI specification requirements (green diagnostics indicators), you can submit those sessions for certification.

Start by clicking on the Certification navigation link. You will then proceed with selecting the certification you are requesting for your product in the drop-down menu. Once selected, choose the supporting diagnostic test session(s) until all certification criteria are met. Once all criteria have been met, select Review.

The screenshot shows the 1EdTech Certification interface. On the left is a navigation sidebar with links for Diagnostics, Settings, Certification, Support, and Go Back. The main content area is titled 'Certification' and 'New Tool'. It features a dropdown menu for 'LTI 1.3 Advantage Complete - Tool'. Below this is a 'Certification Criteria' section with a vertical progress indicator showing 'Core Tool', 'Deep Linking', 'Names & Roles', and 'Assignments & Grades'. A 'Review' button is at the bottom. On the right, the 'Diagnostic Results' section contains a blue instruction box and a table of test sessions.

ID	Date	Tests Completed	
<input type="checkbox"/>	326	6/16/2025, 1:56:14 PM	Core Tool Deep Linking
<input checked="" type="checkbox"/>	324	6/16/2025, 1:55:57 PM	Core Tool Assignments & Grades
<input type="checkbox"/>	322	6/16/2025, 1:54:33 PM	Core Tool
<input checked="" type="checkbox"/>	320	6/16/2025, 1:54:12 PM	Core Tool Names & Roles

Certification

New Tool

Select the certification you are applying for.

LTI 1.3 Advantage Complete - Tool

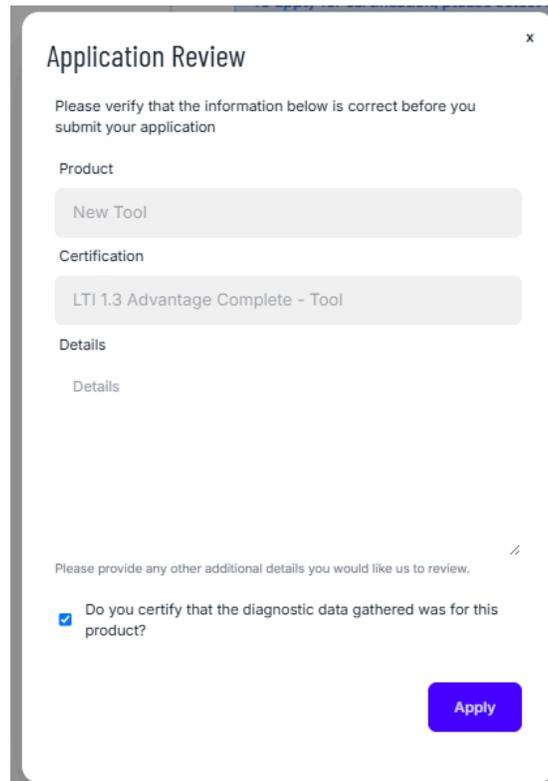
Certification Criteria

You must pass tests for LTI 1.3 Core and ALL LTI 1.3 Services in order to apply for this certification

- Core Tool
- Deep Linking
- Names & Roles
- Assignments & Grades

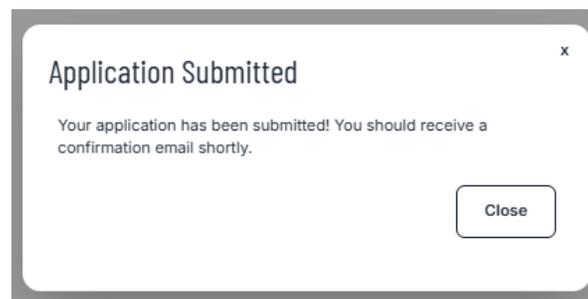
Review

After reviewing the submission details and certifying that the diagnostic data gathered was for the selected product, you can apply for certification.



The image shows a dialog box titled "Application Review" with a close button (x) in the top right corner. The text inside reads: "Please verify that the information below is correct before you submit your application". Below this, there are three sections: "Product" with a dropdown menu showing "New Tool"; "Certification" with a dropdown menu showing "LTI 1.3 Advantage Complete - Tool"; and "Details" with a text input field. At the bottom, there is a checkbox labeled "Do you certify that the diagnostic data gathered was for this product?" which is checked. Below the checkbox is a blue "Apply" button.

After you click on Apply, there will be a slight delay until you receive a submitted response from the system.



The image shows a dialog box titled "Application Submitted" with a close button (x) in the top right corner. The text inside reads: "Your application has been submitted! You should receive a confirmation email shortly." Below the text is a "Close" button.

A certification case will be sent to our support team, and you will receive an automated response confirming receipt. The support team will manually validate your application and contact you regarding the granting of your certification.