



LSO API Test Service

Introduction

LSO API Test Service empowers service providers to develop, test and maintain standard API implementations that automate business processes at scale.

The communications industry is undergoing a multi-year transformation to secure dynamic services across a global ecosystem of automated networks to address enterprise requirements for cloud-like experiences.

Future networks will be fully API-driven and will require standards-based automation between ecosystem players at both business and operational levels.

MEF has developed standards-based Lifecycle Service Orchestration (LSO) business process APIs and operational APIs that uniquely provide the high fidelity (tightly defined context), plug-and-play interoperability, and extensibility required to enable service providers to “invest once” and efficiently scale implementations with many partners and services.

The LSO API Test Service offers an efficient, predictable, and scalable solution that service providers can use to test compliance of their LSO API implementation, perform pre-interop testing with partners, and introduce support for new functions and product payloads with partners on an ongoing basis.



Key Features

- Fully configurable Buyer & Seller emulator pair provided in SaaS model hosted in AWS
- Default configuration of Buyer & Seller emulations aligned with MEF specifications
 - Address Validation API ([MEF 121](#) / [MEF 79](#))
 - Site Query API ([MEF 122](#) / [MEF 79](#))
 - Product Offering Qualification API ([MEF 87](#) / [MEF 79](#))
 - Quote API ([MEF 115](#) / [MEF 80](#))
 - Product Order API ([MEF 123](#) / [MEF 57.2](#))
 - Product Inventory API ([MEF 116](#) / [MEF 81](#))
- Release support
 - Billie, Dolly, Ella, and Fergie
 - Grace or Haley is available on-request
- User documentation to create, configure, and run emulations
- Online support

Service providers who have used the LSO API Test Service during design and implementation have avoided costly mistakes, delays, and reworks and achieved significantly faster time to production.

Testing Partner

MEF's authorized Test & Certification Partner since October 2021, Amartus is a recognized leader in MEF LSO standards development, implementation, and testing.

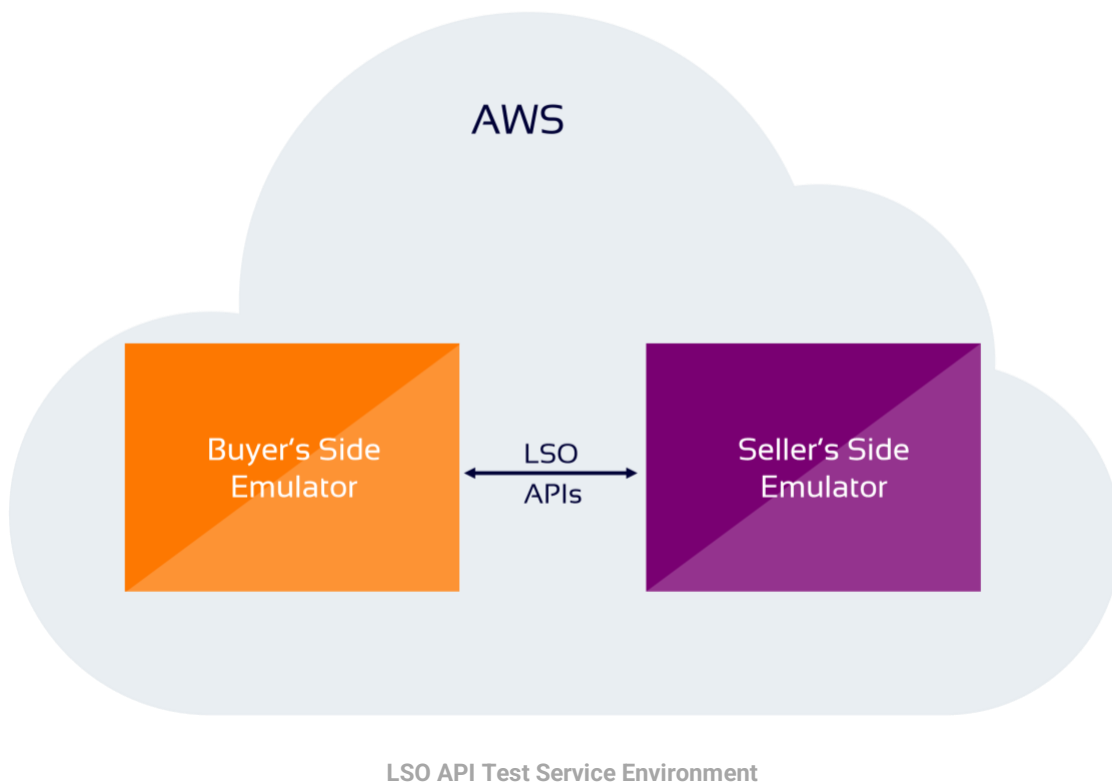
- Providers of network automation solutions and expertise
- Founded in 2003. Headquartered in Ireland. R&D in Krakow, Poland
- Global customer base of Tier 1-3 providers and vendors
- MEF LSO Solution Provider of the Year 2023 & 2024

LSO API Test Service Model

LSO API Test Service helps service providers in 4 different aspects of LSO API Implementation:

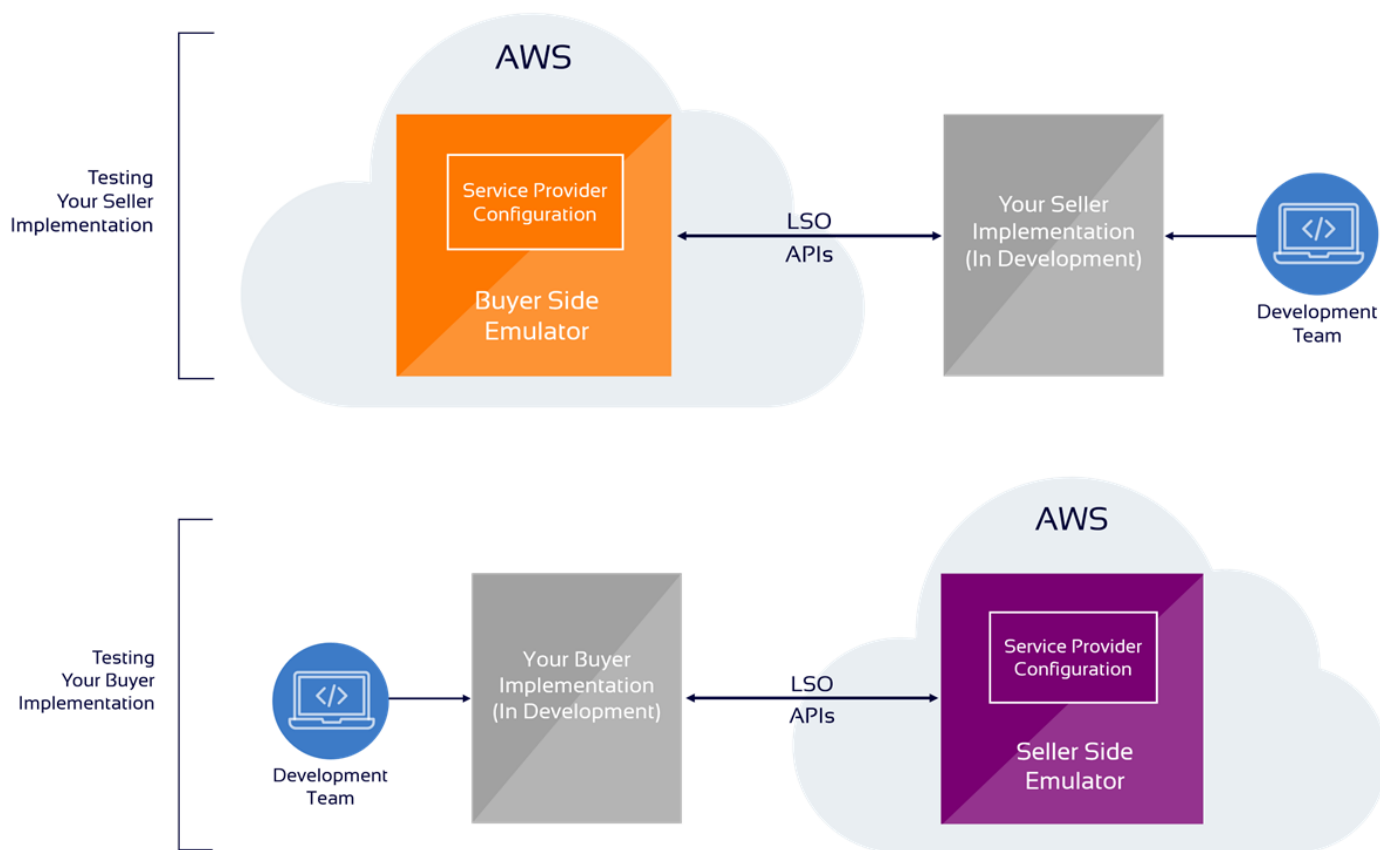
- LSO API Development and Testing
- Partner API Integration and testing
- API lifecycle management
- API Certification

Service providers can utilize the LSO API Test Service environment to familiarize themselves with the LSO APIs via the Buyer tests and Seller responses.



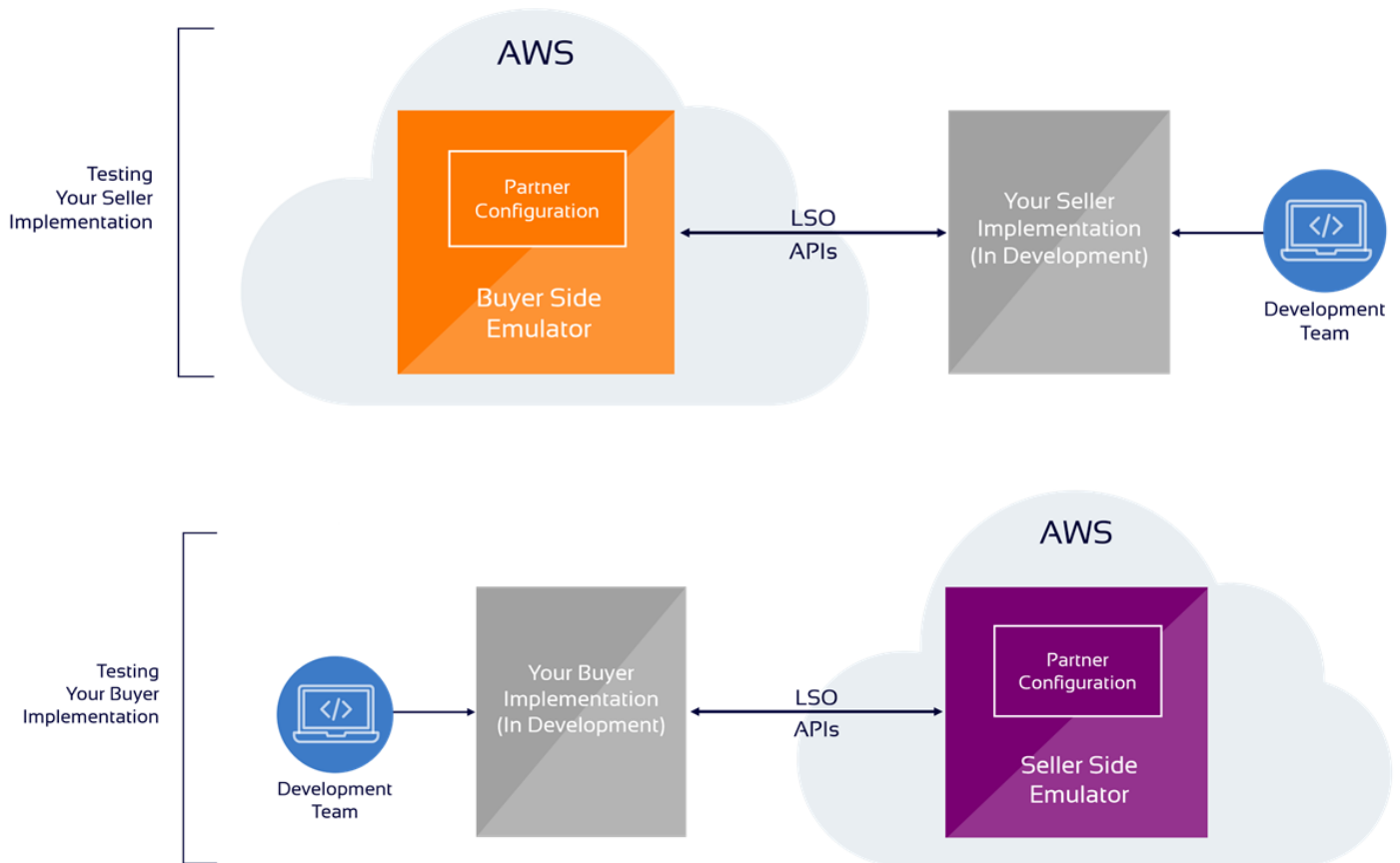
Service Provider LSO API Implementation Testing

LSO API Test Service enables the service provider to test the Seller implementation against emulated buyers and it enables the service provider to test the Buyer implementation against emulated sellers. This development testing is fully integrated with the service provider pre-production environments for both Seller and Buyer.



Service Provider Partner Onboarding & LSO API Implementation Testing

LSO API Test Service provides the ability to test Partner API implementations as an add-on option. In this manner, the service provider can test the Buyer emulator against a Partner Seller pre-production environment and the Partner Buyer implementation could test against a Service Provider pre-production Seller environment. This would include the ability to ensure that the Product Payloads conform and are understood by the back-end systems for both the service provider and partner.



LSO API Test Service empowers the service provider to validate the API Lifecycle to test changes in the API development (addition of new features and upgrades to new API Releases), changes in backend systems or upgrades to those backend systems that might impact the API implementation. LSO API Test Service also enables the service provider to test changes in the Partner environment. Essentially, LSO API Test becomes the test environment in a CI/CD DevOps model.

Lastly, LSO API Test Service provides an environment to prepare for API certification. More information on LSO API Certification can be found in the [LSO API Certification Data Sheet](#).

APIs

LSO API Test Service is available on LSO API releases Dolly to Fergie and, upon request, for API Releases Grace and Haley. All future LSO API releases are supported.

Address Validation (A/V)

Allows the Buyer to retrieve address information from the Seller, including exact formats, for addresses known to the Seller.

Address Validation API is tested for:

- Synchronous (the only mode possible in the standard)
- Subset of MEF W 92.1 positive and negative test cases
- Test coverage scope for:
 - 'Fielded Address' format only
 - Best-Match (with and without the alternatives that are returned by the Seller)
 - Partial-Match
 - No-Match (fail)
 - Retrieving address by its ID
 - Rainy day scenarios (check for missing mandatory attributes, check non-existing Address ID)

Site Query (SQ)

Allows the Buyer to retrieve Service Site information including exact formats for Service Sites known to the Seller.

Site Query API is tested for:

- Site Query API is tested for:
- Synchronous (the only mode possible in the standard)
- Set of positive and negative test cases
- Test coverage scope for:
 - Retrieving site list
 - Retrieving site by its ID

Rainy day scenarios (check for missing mandatory attributes, check non-existing Site ID)

Product Offering Qualification (POQ)

Allows the Buyer to check whether the Seller can deliver a product or set of products from among their product offerings at the geographic address or a service site specified by the Buyer; or modify a previously purchased product.

Product Offering Qualification API is tested for:

- Synchronous & asynchronous with state change notifications
- Subset of MEF W 92.1 positive and negative test cases
- Test coverage for:
 - Synchronous mode and Asynchronous mode (final state is reached, without testing the intermediate statuses)
 - Product relationship and POQ item relationships
 - With and without references to places
 - With and without Alternate Product Offerings Proposals
 - Access E-Line and Basic Internet Access payloads
 - `install`, `change`, and `disconnect` product actions
 - `green`, `yellow`, and `red` business scenarios
 - Query Interface
 - Notifications
 - Rainy day scenarios

Quote (Q)

Allows the Buyer to submit a request to find out how much the installation of an instance of a Product Offering, an update to an existing Product, or a disconnect of an existing Product will cost.

Quote API is tested for:

- Synchronous and asynchronous with state change notifications
- Subset of MEF W 92.1 positive and negative test cases
- Test coverage for:
 - Synchronous mode
 - Asynchronous mode
 - Product relationship and Quote item relationships
 - With and without references to places
 - Access E-Line and Basic Internet Access payloads
 - `install`, `change`, and `disconnect` product actions
 - For both modes testing ends when the Quote reaches the state allowing placing a Product Order, or the Quote is unable to be provided

- Query Interface
- Notifications
- Rainy day scenarios

Product Order (PO)

Allows the Buyer to request the Seller to initiate and complete the fulfillment process of an installation of a Product Offering, an update to an existing Product, or a disconnect of an existing Product at the address defined by the Buyer.

Product Order API is tested for:

- Asynchronous (the only mode possible in standard)
- Subset of MEF W 92.1 positive and negative test cases
- Test coverage for:
 - Product relationship and Product Order item relationships
 - With and without references to places
 - Access E-Line and Basic Internet Access payloads
 - Create new Product Order for `install`, `change`, and `disconnect` product actions
 - Cancel existing Product Order
 - Inflight modifications
 - Query Interface
 - Notifications
 - Milestones
 - Rainy day scenarios

Product Inventory (PI)

Allows the Buyer to retrieve the information about existing Product instances from Seller's Product Inventory.

Product Inventory API is tested for:

- Synchronous (the only mode possible in standard)
- Test coverage scope for:
 - Retrieving the Product by its ID,
 - Retrieving Products by attributes (e.g. `status`)
 - Rainy day scenarios (non-existing Product ID, incorrect query attributes)



Reports

For each service provider test run in LSO API Test Service, the service provider receives a detailed report containing all the information about the test results and if the test passed or failed.

Examples of the information displayed:

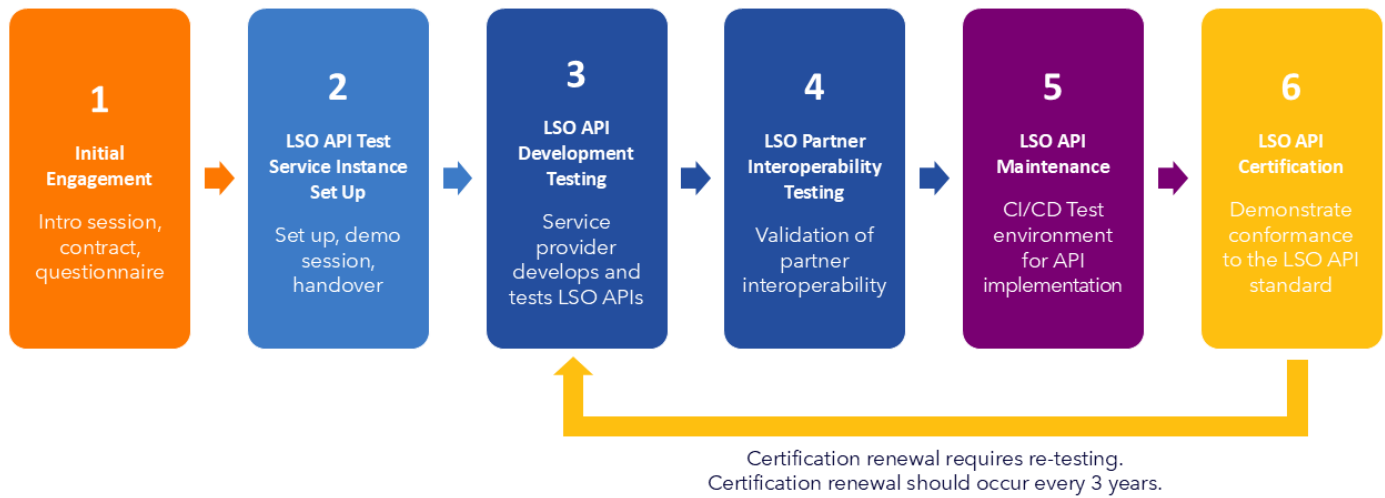
- Log information
- API Requests
- API Responses
- Error Messages
- Test Success or Fail notifications

Deliverables

Items provided to the service provider upon purchase of LSO API Test Service:

- Dedicated environment in AWS containing fully configurable Buyer and Seller Emulators
- Default configurations for Buyer and Seller emulators for all APIs
- User documentation to create, configure, and run emulations
- Online support

Engagement Process



- Service provider becomes a MEF member
- Complete the LSO API Test Service contract and payment
- Complete the LSO API Test Service Questionnaire and pre-instance setup meeting
- Service Provider utilizes LSO API Test Service for:
 - API Development
 - Partner Interop Testing (Optional)
 - API Lifecycle Management
 - API Certification (optional)

For More Information

Contact: Isocert@mef.net

Website: [MEF.net](https://mef.net): [LSO API Certification](#)