Infor XA Configuration Guide for Infor ION - Cloud Edition

XA 9.2,10.0 & 11.0
ION Cloud Edition

Publication Information

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Contents

About this guide

This guide provides configuration and implementation information for the integration of Infor XA with Infor ION when ION is used to exchange data with another Infor product or third-party product. This document describes configuration requirements and provides set-up instructions. It describes the IONconnection points that are used in integration. This document provides information about business events or user actions in XA that send Business Object Documents (BODs) to ION Connect.

Intended audience

This guide is intended for the system administrator or consultant who configures XA for use with ION. Before you read this guide, ensure that you are familiar with the other guides listed in 'Related documents.'

Required knowledge

To configure XA with ION, you must have experience or knowledge in these areas:

- Understand the concepts behind Infor ION and BODs, and how the concepts relate to this product. See these topics:
  - 'BOD overview'
  - 'Infor ION overview'
- Understand IDF System-Link and how System-Link is used in ION integrations. See *System-Link User's Guide.*

Related documents

You can find the documents in the product documentation section of the Infor Xtreme Support portal, as described in 'Contacting Infor' on page 10.

Document type	Purpose
(OutBound) BOD Mapping and Descriptions for XA Integrations	For each BOD that is sent from the product, this document provides the source and definition of the data in each element that is sent to ION. This document also provides details about the data that is published.
(Inbound) BOD Mapping and Descriptions for XA Integrations	For each BOD that the product has certified, this document provides details about how each product receives information or processes requests from the inbound BOD. For example, the source can be an extension product, a result of a workflow, or a drill back function from Infor Ming.le™. If a BOD updatesa source table, the exceptions and handling are described.
Cross BOD Mapping and Descriptions	This document provides end-to-end integrated BOD mapping details for BODs that are exchanged between this product and another product. It describes the exceptions and handling requirements by element.
Integration guides for integrations between this product and another product	These documents provide details about integrations between this product and another product. These documents contain requirements, configuration instructions, an overview of the integration, and any verification or troubleshooting steps.

Not all of these documents are required to set up this integration. For a list of documents that are required for this integration, see the integration checklist within this document.

Contacting Infor

If you have questions about Infor products, go to Infor Concierge at https://concierge.infor.com/ and create a support incident.

If we update this document after the product release, we will post the new version on the Infor Support Portal. To access documentation, select **Search > Browse Documentation**. We recommend that you check this portal periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1 Requirements

Ensure that all requirements and prerequisites are adhered to configure Infor XA for Infor ION.

Required products

Ensure that you have installed and configured these products:

- Infor Federation Services

  Infor Federation Services is installed with Infor OS. See the appropriate installation guide forInfor OS.
- Infor ION Desk and Infor ION Connect
  - Enterprise Connector

    See the *Infor ION Desk User Guide–Cloud Edition*.
  - IMS via Infor ION API
- Infor XA Release 9.2 or higher
- Infor XA Release 10.0 or higher
- Infor XA Release 11.0 or higher

Required information

During the planning phase, you must provide this information:

- Name of the XA instance or logical ID that is used to connect with Infor ION.
- Tenant ID that is used to connect the product to ION.
- Enterprise organization structure, that is, accounting entities.
- Name of the System i machine (IP or Host Name) where XA is installed. See Link Manager online help or the *Infor XA Link Manager User Guide.*
- MXABUS user profile. If you choose not to use the MXABUS user profile, you require the user ID and password with authorization to the tables in the environment AME library. MXABUS is a

client data connection user profile for processing inbound communication from ION. See ‘Setting up MXABUS client data connection user profile.’

- Environment IDs for all XA environments that are being integrated with ION. See Link Manager online help or the *Infor XA Link Manager User Guide.*
- The sample solution file for the product with which XA is integrated. These files are stored in the \infor\vlib\ION folder in the client IFS directory on the machine where the XA environment is installed.

Chapter 2 Integration checklist

Follow this checklist to integrate this product with Infor ION:

Complete?	Task	Reference
	Collect the documents listed in the next column from the Infor Support Portal. These documents are required for this integration.	*Infor ION Development Guide–Cloud Edition*
	Review the description of the XA configuration with ION.	‘Integration with other products through ION‘ ‘Concepts and definitions specific to this ION configuration‘
	Configure IDF System-Link.	‘Configuring System-Link‘
	Configure XA for integration with Infor ION	‘Configuring XA‘
	Configure a XA connection point, and optionally generate and activate ION document flows between XA and other products.	‘Configuring XA to Infor ION‘
	Publish BODs.	‘Publishing BODs’
	Verify the configuration.	‘Verifying the configuration’

Chapter 3 Overview

Before you complete the configuration tasks, you must understand how XA integrates with other products through ION. You must also be familiar with a list of related concepts and definitions.

Infor ION overview

Infor Intelligent Open Network (ION) is an enterprise messaging system that integrates Infor products with each other and with non-Infor products. Transactional and master data is passed between products as business object documents (BODs) that are routed through ION. ION also enables customers to set up workflows, design and activate business event monitors, and manage tasks and alerts across products. Infor ION includes these components:

- ION Desk is a browser-based user interface that you use to work with ION components. You can use ION Desk to configure and manage ION services, configure the routing of messages, monitor message activity, view all errors published by products, and manage other ION services.
- Connect is the component that you use to set up connections to various product databases and create document flows that collect and send data between products. Through ION Connect, data is shared securely between products. ION Connect routes and delivers messages to the appropriate products by using data flows that you define. It communicates with products by using message inboxes and outboxes.
- Monitors is the component that you use to monitor the completion of business tasks and to alert the users about exceptions and workflows for automated business task routings and approvals.
- One View is the window where you can view all the BODs which are created for all the business activities. You can also view the error BODs, generated when any exception occurs.

For more information about these components, see the Infor ION Desk User Guide–Cloud Edition. For a conceptual overview of what BODs are and how they are used, see ‘BOD overview’ section.

Integration with other products through ION

An outbound operation typically begins when a user performs an action in XA that requires a data exchange with another ION-enabled product. A BOD XML message is generated by XA and sent toa specified System-Link destination. System-Link places the BOD message in an area designated as the XA message outbox. At scheduled intervals, ION connects to the Outbox and retrieves the BODs from it.

In ION, you create application connection points, which define the connections between ION and a product that can send and receive BODs. ION Connect routes BODs according to the data flows between XA and other ION-enabled products.

The data flows between XA and other products represents the business relationship between the databases. You use the ION Data Flow Modeler page to define the document flows.

If a data flow is defined from XA to another product for a particular BOD, then at specified intervals, ION places the outbound BOD from XA in the other product's designated message inbox. Products are responsible for validating and incorporating the data into inbound BODs according to their rules.

If a flow is defined from another product to XA, ION retrieves BODs from the sending product's message outbox and delivers them to the System-Link inbox for processing. The System-Link Adapter transforms the inbound BOD message and forwards the business information it contains to the database of the appropriate XA environment. XA retrieves, validates, and processes the BODs.

Integration with other products through IMS via API Gateway

XA now supports IMS via API Gateway to process both inbound and outbound BODs.

Historically, the XA/IDF connection to ION has been via database tables. For the CE edition of ION, this requires adoption of the Enterprise Connector (EC).

This IMS via API Gateway functionality is replacement for EC. EC intern consumes additional resources and cost to implement and use.

IMS is a connector that allows applications to integrate with ION through REST/JSON APIs.

Unlike the IO Box connector, IMS does not require direct access to an application's database. Instead, IMS communicates through the secured https protocol, through OAuth 2.0, or through ION API for authentication. Therefore, IMS is a loosely coupled connector that makes integrations easier.

IMS specifications include well defined API methods. These methods are implemented by ION and XA. After this XA and ION can push messages to each other through the APIs.

IMS can send and receive multiple message requests in parallel. Therefore, sequence of message transport is not guaranteed when using the IMS connector.

IMS functionality is available in R10 and above releases with Client build starting 03.10.00.01.12 or above.

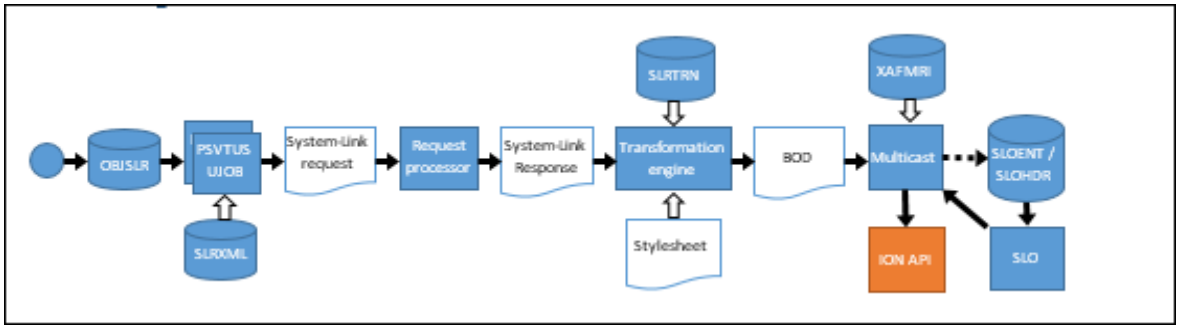
SH71776 and SH73797 are the server PTFs needed for this functionality to work.

Note: ION CE cannot communicate with servers that are not in the public internet – it is deployed at AWS and has no access to Infor or Customer specific networks. This is no different really to trying to access the server from your phone (or anything else not in the Infor or Customer network).

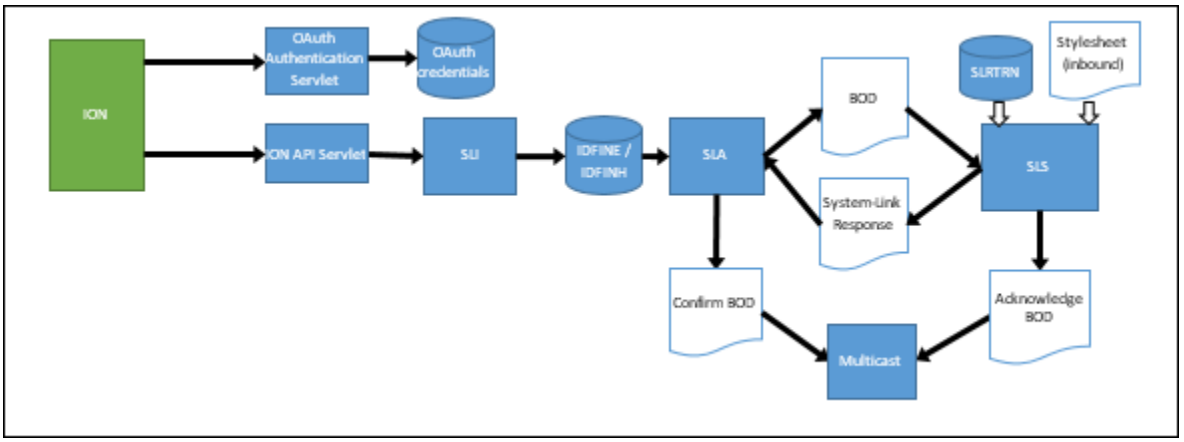
The primary purpose of IMS implementation is to remove the Enterprise Connector from cloud (Abacus) deployments. In those circumstances, we already have Net-Link, and SiWA visible to the internet, and the IMS implementation for IDF is just another component that can be deployed there.

If a customer wishes to remove the Enterprise connector, then they will need to deploy the IMS war file to a j2ee server (Tomcat/WebSphere) that is accessible from the public internet.

XA Outbound bods flow to IMS vs API Gateway



XA Inbound bods flow from IMS vs API Gateway



Drillbacks

In some ION-enabled products that are integrated with XA, users can drill back from those products to XA. If the other product displays transactional data that was generated based on a BOD sent from XA, users can drill back from that product to view detailed supporting information in XA for the source transactions.

For information about setting up and using the drillback functionality, see the *Infor XA Configuration Guide for Infor OS*.

Concepts and definitions specific to this ION configuration

To configure the XA tenant, logical ID, accounting entity and location correctly, you must understand these terms and definitions in XA. Together, these terms determine where inbound BOD information is processed, or the outbound instance and location with which the BOD information must be associated.

Tenant ID

The tenant is a container for accounting entities and locations and is required in each BOD. The value of the tenant must be the same in all of the products that exchange BODs. Data is not shared or accessible between tenants.

In XA, the tenant is the name of the instance of the database that supports the Infor ION. This value is specified in the System-Link destination you are using with this integration. Your production environment and your test environments are separate Tenants. The default tenant is **Infor**.

Logical ID

The logical ID is the instance of the product that sends or receives BODs. You must provide the logical ID when you define the ION connection point for on premise products. For cloud products, the logical ID is defined by the Infor Cloud team and is retrieved automatically when the application connection point is created in ION.

The logical ID is derived from the names of the tenant. This ID must be unique and must not conflict with any existing Infor 10 components. See ‘Setting up logical IDs, tenants, and accounting entities in XA’ section.

Location

A location is the physical location that is associated with data or transactions. The location can be,for example, a warehouse, a manufacturing location, a project location, or an office. Locations are published in the Location BOD. A location is required for all transactional BODs and is usually the location from which a transaction or record is generated.

XA locations are companies, financial divisions, sites, and warehouses.

Chapter 4 Configuring System-Link

You must configure IDF System-Link. To communicate with other products through ION Connect, XA generates BODs and sends them to a specified System-Link destination. System-Link places the BOD message into the XA ION Outbox for ION to pick up. ION Connect picks up the BOD message and routes it. When other products send BODs to XA, ION Connect forwards the BOD message to the System-Link Inbox. The System-Link ESB Adapter transforms the inbound BOD message and forwards the business information it contains to the database of the appropriate XA environment.

In an XA environment, you define System-Link destination and assign the destination to thebusiness objects that can send or receive information in a BOD.

Understanding replication

In general, XA generates and sends BODs based on how replication is implemented for the object.

Specified in Object Settings and Replication Setting attributes

If the XA object has a record in the Object Settings object and has Replication Settings attributes, then the replication destination can be specified in the Replication Settings attributes for individual object instances. If an object instance is created, then the replication destination is set based on the value of the Default replication destination specified in Object Settings and if the value set for the replication destination is not blank, then a BOD is automatically generated.

If the replication destination is already set on an individual object instance, then changing the object instance automatically generates a BOD and sends it to the replication destination specified in the object instance. If an individual object instance does not have a replication destination, then changing that instance does not generate a BOD.

The **Update Replication Settings** option in Object Settings can be used to set a replication destination on all, or a subset of instances, in the XA object. If a valid replication destination is specified, then a BOD is automatically generated for each of the affected object instances.

If the Publish Host job is run for this type of object, then the replication destination for the host job is set based on this hierarchy: Host Job then object instance (if you leave the Host Job replication destination blank, then the value from the object instance is used, if present).

The Buyer object is an example of this type of replication destination implementation.

Specified in Object Settings

If the XA object has a record in the Object Settings object but no Replication Settings attributes, the replication destination is assigned in the Object Settings object. In this case, the replication destination in the object settings instance applies to all instances in the XA object. When you create or change an object instance, XA automatically generates a BOD and sends it to the specified replication destination. If the Publish Host job is run for this type of object, the replication destination for the host job is set based on this hierarchy: Host Job then Object Settings (if you leave the host job replication destination blank, then the value from the Object Settings is used, if present).

The Payment Terms object is an example of this type of replication destination implementation.

Not Specified in Object Settings or Replication Setting attributes

If the XA object has a Publish host job and does not have a record in the Object Settings object nor any Replication Settings attributes, running the Publish host job generates a BOD and sends it to the replication destination specified for the host job.

Creating System-Link ION destinations

System-Link destinations allow a System-Link response to be sent to third-party destinations and to the original requestor of the response. The System-Link Destinations object is located on the **Settings** tab of the **Environments** application card on the XA Power-Link browser.

XA uses destinations of type **Infor On-Ramp** to send messages outbound from XA to ION.

Caution: To avoid configuration errors, do not define more than one On-Ramp destination for a given environment.

When an action in XA updates application object information that must be sent to an interfacing product, the object records that contain a System-Link Infor On-Ramp destination cause a SyncBOD to be sent to the specified destination.

For additional information about System-Link destinations, see ‘System-Link Response Forwarding’ in the *IDF - System-Link User’s Guide*.

1. In Infor XA, select the System-Link Destinations object.
2. Select **Maintain > Create**.

   Specify this information.

   Destination

   Specify the identifier to use for the destination with which XA communicates. For connection to ION, you can specify **ION CONNECT**.

   Destination type

   Select **Infor On-Ramp**.

   Description

   Specify text that identifies the destination or explains the purpose of the connection to the destination.

   Preview before creating

   Select this check box.
3. On the Create System-Link Destination dialog box, continue to specify the information for the destination.

   Infor ESB Process Logical ID

   Specify **lid://defaultTenant**

   Specify the tenant value to use with this destination. The value you specify here must match the tenant specified for the other product with which the XA environment communicates.
4. Click **Create**.

Activating the System-Link transformations

The System-Link transformation is used to process the System-Link request associated with a BOD transmitted to or from an integrated product must be active for XA to process the BOD.

1. In the System-Link Requests object, select the System-Link request required to process a BOD and select **Maintain > Change**.
2. Select the **Transformations** card. This card displays a list of transformations for the request and the status of each transformation.
3. Select the transformation for the System-Link destination you use to communicate with the interfacing product.
4. If the selected transformation does not have a status of **Active**, select the transformation, right-click the selection, and select **Maintain > Activate**. After you activate the transformation, the

   Type value for the transformation changes from **No** to **Yes**.

5 If you want to check the additional details such as System-Link Request and System-Link Response files generated for a specific transaction under File -> Status ->Transaction details,

enable logging in System-Link request.

a In the System-Link Requests object, select the System-Link request required to process a BOD and select **Maintain > Change**.

b Select the **General** card.

c Select the Log request and Log response attributes.

d Specify the transformation Log start and Log end date and times.

e Click **Update**

Assigning System-Link destinations

Any XA object that sends information to another environment or product must have a System-Link destination. Objects that exchange information with other environments or products through ION require a replication destination that has a destination type of **Infor On-Ramp**. The replication destination indicates where XA automatically sends the object information whenever an object record is created or changed.

The Object Settings object contains the list of XA objects that can transmit information to another product or receive information from another product. For each object, you can specify the default replication destination. Additionally, individual records in objects that transmit or receive information can have a replication destination specified in the Replication Settings attributes. The replication destination specified through Replication Settings for the individual object record overrides the replication destination specified at the Object Settings level.

Caution: If a default destination is not provided, replication activity does not occur when the object is maintained.

See the ‘Maintenance control for application objects’ topic in XA online help text. See the integration guide for a specific product for information about the BODs that XA supports for that integration.

1 In the Object Settings object, select the object that exchanges information through ION.

2 Select **Maintain > Change**.

For the Default replication destination, select one of the System-Link destinations that has a destination type of **Infor On-Ramp**. The destination you select must be one that is configured with the same logical ID and tenant as in the XA connection point in the ION document flow you use.

3 Click **Update**. The replication destination you specified is used for transmissions from any records in the object.

4 Repeat the steps in this section for each XA object that communicates through ION.

Note: When a default replication destination is selected as Infor On-Ramp and if at least one System-Link Transformation is not active in System-Link Request for the Object with same destination then an error message is observed in Child Publish transaction in User's Transaction Status when an object instance is created or maintained.

XA object using multiple System-Link Requests to Publish

Manufacturing Order object support publishing data using multiple System-Link Requests.

When Object creation or maintenance happens in XA, replication or publishing is triggered if a SL destination is selected in Object Settings or Replication Settings inside Object instance and at-least one transformation is active for the System-Link Requests related to that object.

For MO object, it is expected that at least one System-Link Transformation need to be set active with Infor On-Ramp destination type in the System-Link Requests. If the no SL Transformation is active, then an error message is observed in User Transaction Status for publish transactions.

Manufacturing Order object publish program executes both XA_Replicate_ManufacturingOrder and XA_Replicate_ManufacturingOrder_BAMF SL Requests to publish bods when MO creation or maintenance happens.

XA_Replicate_ManufacturingOrder has transformations to publish Sync.ProductionReceiver BOD and XA_Replicate_ManufacturingOrder_BAMF has transformations to publish Sync.ProductionOrder BOD.

Customers using WMS integration might want to publish only Sync.ProductionReceiver BOD. So, they will activate transformation related to Sync.ProductionReceiver BOD in XA_Replicate_ManufacturingOrder SL Request. But no transformation is active in XA_Replicate_ManufacturingOrder_BAMF SL Request for Sync.ProductionOrder BOD.

Sync.ProductionReceiver BOD will be published due to active transformation in SL Request, but error message is observed in transaction status for Sync.ProductionOrder BOD due to inactive transformation.

This is now modified in latest 9.2, 10 and 11 releases (KB 2296358). New API is implemented in publish program using multiple SL Requests. The API checks for active transformations in case of multiple SL Requests and displays Information message instead of error message in transaction status for SL Request not have active transformation when at least one transformation is active in one of the SL Requests.

In case of Objects with single SL Request, Error message is observed when no transformation is active.

Chapter 5 Configuring XA

You must configure XA so that it can generate BODs and place them in a message outbox where Infor ION Connect can retrieve them.

Configuring an XA user profile

ION requires a user ID and password specified in an application connection point to log on to the XA environment. The values in the ION connection point must match values in an XA user profile that is authorized to the XA environment.

ION Connection Point	XA User Profile
User Name	User Profile
Password	User password

You can use an existing XA user profile or create a new one to use for the ION integration. To create an XA user profile for use with the ION connection point for the environment, use option 5, Work With XA User Profiles, on the Cross Application Support (CAS) Security Maintenance menu (AMZM38).

Setting up MXABUS client data connection user profile

XA provides the client data connection user profile **MXABUS** for processing inbound communication from ION. The **MXABUS** user profile handles BODs sent from ION that originate from another product. In addition, XA provides the **MXAEAM** user profile for integration with Infor EAM and the **MXASW** user profile for integration with Infor Supplier Exchange. See the XA integration guide for those interfacing products for information about these additional user profiles.

If you change the password for the **MXABUS** user profile on the System i, you must also change the password for the associated client data connection user profile in the XA environment. The MXABUS user profile and MXABUS client data connection user profile passwords must match.

1. On the iSeries where XA is installed, specify the command **WRKUSRPRF**. Select the **MXABUS** user profile and select the **Change** option.
2. Specify the new password.
3. In XA, go to Cross Application Support menu AMZM38 and select option 6, Work with ClientData Connection User Profiles.
4. Specify option **2** next to the **MXABUS** user profile.
5. In the User password field, specify the same password you entered in step 2 to synchronize the password for the **MXABUS** user profile.

Setting master data to standardized values

To ensure consistent master data between integrated products, use the ISO standard values as and where is applicable.

Setting currencies

1. In XA, go to the Currencies object and select a currency.
2. Select **Maintain > Change**.
3. Specify this information.

   ISO currency

   Select the ISO currency you must associate with the selected currency. For example, if you have a currency **JYN** that you specified for Japanese Yen, you select the ISO currency **JPY**.
4. Click **Update**.

Setting countries

1. In XA, go to the Countries object and select a country.
2. Select **Maintain > Change**.
3. Specify this information.

   Standard country

   Select the standard country you must associate with the selected country. For example, if you have a country defined with the code **JPN** that you specified for the country of Japan, you select the standard country value of **JP**.
4. Click Update.

Setting standard states

1 In XA, go to the States object and select a state.

2 Select **Maintain > Change**.

3 Specify this information.

Standard state

Select the standard state you must associate with the selected state. For example, if you have a state defined with the code NC that you specified for the state of North Carolina, you select the standard state value of NC = North Carolina. This distinguishes the code NC from other standard state values, for example NC = North Cape.

4 Click Update.

Setting units of measure

1 In XA, go to the Units of Measure object.

2 Select **Customize > Cards**.

3 Select the **General** card and click the **New** option.

4 Specify this information.

Name

Specify the name to identify this card.

Domain

Select **Public** if other users must access this card. Select Private if you are the only user who uses this card.

Available attributes

Select the Standard unit of measure attribute and click the Add option.

5 Click **Continue**. This action adds the Standard unit of measure to your new card.

6 Click **Save**.

7 On the Unit of Measure Cards dialog box, click **Continue**.

8 Select **Customize > Card Files**.

9 On the Unit of Measure Card Files dialog box, select **Default** and click the **New** option.

10 Specify this information.

Name

Specify the name to identify this card file.

Domain

Select Public if other users must access this card file. Select Private if you are the only user who uses this card file.

Available cards

Select the card you created and click the Add card option.

11 Click Save.

12 Select a unit of measure to associate with an ISO unit of measure, then select Maintain > Change.

13 On the Change Unit of Measure card file, change the card file selection to the card file that you created. In most cases, the existing card file selection is Default.

14 In the card file you created, select the card you created

15 Specify this information.

Standard unit of measure

Select the ISO unit of measure to associate with the selected unit of measure. For example, if you have a unit of measure BOX that you specified for boxes, you select the ISO unit of measure BX = Box.

16 Click Update.

Business Information Services

The Business Information Services (BIS) settings contain default node and prefixes to be used by IDF applications for transmitting information to BIS.

1 In XA, go to the Application Settings object.

2 Select Business Information Services.

3 Select **Maintain > Change**.

4 Specify this information.

Organization node

Specify the default organization node to be used in conjunction with the specified prefix to identify the specific accounting entity to be used for master data or transactional data.

Specify the default prefix to be used with the default organization node for constructing the organization node for a financial division. For example, the organization node value D06.AB.F.01

is constructed from the default organization node D06.AB, financial division prefix F, and financial division ID 01.

Site prefix

Specify the default prefix to be used with the default organization node for constructing the accounting entity for a site, along with the default organization node and site ID. If the default

organization node is blank, use the machine name and environment ID instead. For example, the organization node value D06.AB.S.04 is constructed from the default organization node D06.AB, site prefix S., and site ID 04.

Warehouse prefix

Specify the default prefix to be used for constructing the organization node that identifies the accounting entity for a warehouse. If the warehouse is associated with a site, the organization node value for a warehouse is constructed from the site's organization node, the warehouse prefix, and the warehouse ID. If the organization node for the site is unknown, the organization node value for a warehouse is constructed from the default organization node (or machine name and environment ID if default node is blank), the site prefix, a period, the warehouse prefix, and the warehouse ID. For example, the warehouse organization node value D06.AB.S.ATL.W.06 is constructed from site organization node D06.AB.S.ATL, the warehouse prefix W., and the warehouse ID 06. If the organization node override is blank for both the warehouse and the site, the value is constructed from the default organization node, the site prefix, the site ID, the warehouse prefix, and the warehouse ID. For example, the organization node value of D06.AB.S.W.06 is constructed from organization node D06.AB, the site prefix S., the warehouse prefix W., and the warehouse ID 06. In this example, no site ID is available, so the organization node value has a period between the site prefix and warehouse prefix.

Buyer prefix

Specify the default prefix to be used to establish the document ID for BODs, like PERSON that can be retrieved from multiple sources in XA. For example, the document ID B.25 is constructed from the Buyer prefix B., and Buyer ID 25.

Customer prefix

This attribute is reserved for future use.

Customer ship-to prefix

This attribute is reserved for future use.

Entity prefix

This attribute is reserved for future use

Vendor prefix

Specify the default prefix to be used to establish the document ID for BODs, like SupplierPartyMaster, that can come from multiple sources in XA. For example, the document ID

V.25 is constructed from the Vendor prefix V., and Vendor ID 25.

5 Click **Update**.

Setting up logical IDs, tenants, and accounting entities in XA

Logical ID

The logical ID is derived from the names of the tenant. This ID must be unique and must not conflict with any existing Infor components. If you use only one System i server or you do not use the same environment code on multiple System i servers, then this lid must be suitable:

infor.xa.xy where **xy** is the environment code in lowercase.

If you use multiple System i servers and the same environment may be used on more than one server, then we recommend:

infor.xa.mysystemi.xy

mysystemi is the System i name in lowercase and **xy** is the environment code in lowercase. You can prefer to use this format if you have multiple System i servers even if the environment code isnot duplicated.

The parts are separated by a period. For example, **infor.xa.mysystemi.xy**. The logical ID is all lowercase and does not use embedded blank spaces. When you configure ION, use the same value to create the XA component. Do not edit this value unless you specified a fully qualified host name, for example, **mysystemi.infor.com**. In this case, delete.**infor.com**

Tenant

The tenant is the name of the instance of the database that supports the Infor On-Ramp. This value is specified in the System-Link destination you are using with this integration. Your production environment and your test environments are separate Tenants. The default tenant is **Infor.**

Accounting entity

The Accounting entity is the lowest level for financial reporting. In an XA implementation, Accounting entities are defined as Organization nodes in the Financial Divisions, Companies, Sites, and Warehouses objects**.**

The BIS Organization node setting, in XA, is used by all BODs as a base accounting entity for many different BOD elements including document ID’s. Apart from Publishing Accounting Entity BOD from BIS setting, Site, Warehouse, Financial Division (if IFM) and Company (if AM), the Code Definition BOD is also used to send the list of Accounting entities to ION.

We recommend the BIS organizationNode (‘machineName.EnvironmentCode’) on the **Business Information Services** card in the Application Settings object is **not** more than ten characters. If you change the Organization node attribute for the root Organization Node accounting entity, thePUB* files storing published data for many objects are not changed. Also, the root Organization Node accounting entity is not updated even if you run the Publish Business Information Services host job on the **Business Information Services** card in Application Settings.

If the root Organization Node accounting entity is changed in BIS, you must clear PUB* files and re-publish all accounting entities:

You must synchronize information after changing the Organization node for a base accountingentity.

1. Clear all published data files (PUB***) for the environment.
2. To rebuild the PUB* file data as well as re-sync of BV data, re-publish all published objects including objects that publishes Code Definitions and Accounting Entity.
3. Use the Publish host job on each object to publish BODs.

Chapter 6 Configuring XA to Infor ION

Understanding connection points and data flows

You can create connection points in ION Desk. Connection points provide the information that ION uses to connect to a product's message inbox and outbox. At least one connection point must be defined for each product instance that integrates to ION.

For each connection point, you select the BOD documents that can be sent or received by the product instance. These correspond to the BODs that are listed in 'BODs used in XA integrations' section.

In an integration between two BOD-enabled products, data flows are set up to define the BODs that flow between the application connection points.

A connection point can be reused in multiple data flows, and the same connection point can be used multiple times in a data flow. There are two types of data flows. Document flows and Data Lake flow.

Document flow

Usually, a document flow represents a business process.For example:

- An invoicing process where an invoice is created for a delivery that was shipped.
- A maintenance process where a service order is planned based on a customer repairrequest.

In a 'simple' document flow, two connection points are involved. One connection point sends a specific type of documents, and the other connection point receives those documents. Document flows can be more complex.

Data Lake flow

A Data Lake flow is a sequence of activities that results in sending data into Data Lake or sequence of activities starting with retrieval of data from Data Lake.

In a 'simple' Data Lake flow, two connection points are involved. One Data Lake connection point sends a specific type of documents, and the other connection point receives those documents. Or a

connection point sends a specific type of documents, and the Data Lake connection point receives those documents. Data Lake flows can be more complex.

Some integrations with XA use a solution XML file to set up sample connection points and document flows.

See the *Infor ION Technology Connectors Administration Guide–Cloud Edition and Infor ION Desk User Guide–Cloud Edition* for additional information about connection points and data flows.

Setup an Enterprise Connector application connection

This section provides information on how to setup an Enterprise Connector application connection. The following sections describes in detail the setup procedures:

- Enterprise Connector
- Creating a connection point
- Defining product documents for the connection point

Enterprise Connector

The Enterprise Connector is a local agent that is installed in your network. Enterprise Connector provides an out-of-the-box connectivity with Infor Cloud through AWS SQS and S3 web services.The Enterprise Connector transports files between ION in the Multi-Tenant Cloud, also known asION CE, and your local applications.

The Enterprise Connector service is deployed as on-premises infrastructure and is responsible for the communication with the ION CE environment. The Enterprise Connector exchanges messages between ION CE and the on-premises applications that have a connection point defined related to this Enterprise Connector. Communication between the Enterprise Connector and ION CE is asynchronous.

The Enterprise Connector uses outbound connections to Amazon services that are exposed through https and port 443. Only an outbound connection is required. The Infor ION installation in the Infor cloud does not require any inbound connection to the Enterprise Connector.

Amazon SQS, S3 is used for intermediate storage.

A single Enterprise Connector can serve multiple on-premises applications. For performance reasons the Enterprise Connector service must be installed close to the applications for which it has a connection point running. We recommend that the Enterprise Connector service is installed in the same network segment (low latency).

You may have your applications that are distributed over multiple physical locations. Therefore, it is supported to have multiple Enterprise Connector services for the same ION CE tenant.

In ION CE an Enterprise Connector is related to a Location. To create connection points, that are related to on-premises applications, in ION CE, create a location first and install the related Enterprise Connector. Then create connection points that are related to that location.

See Infor *ION Desk User Guide–Cloud Edition* for more information about Enterprise Connectors installation, configuration and usage in ION.

Create a connection point

Create one connection point for each instance of the product.

1 In ION Desk, select **Connect > Connection points**.A list of existing connection points is displayed.

2 Click **New** and specify **`Infor Application`** as the connection type.

3 Specify this information:

Name

Specify the name of the machine where the XA environment is installed and also specify the two-character XA environment ID. Use lowercase letters. For example, for machine **USATLXA01** and environment **AC**, the name must be **usatlxa01-ac**. This name becomes part of the logical ID.

Description

Specify the text to use as a label for this connection point.

Location

Select the Enterprise connector location from the drop down that is created for the XA application to connect.

Logical ID

Specify the logical ID. See ‘Setting up logical IDs, tenants, and accounting entities in XA‘ on page 30 to determine how this is defined in your product.

Tenant

Specify the tenant. See ‘Setting up logical IDs, tenants, and accounting entities in XA‘ on page 30 to determine how this is defined in your product.

Logical ID Type

Specify XA, as the type th6yat you want to use to construct the middle part of the logical ID. For example, if the logical ID type is xa, the name is USATLXA01, and the environment is AC then the logical ID is: lid://infor.xa.usatlxa01-ac. The logical ID type must contain alphanumeric characters, an underscore (_) or a hyphen (-). Do not include capital letters or spaces.

Database Type

Specify **DB2_400**.**Database**

Select one of these configurations for the database address:

- **Basic**: Specify properties for the database. The properties that you specify depend on the database type that you selected. The URL to connect to the database is built automatically.
- **Advanced**: Specify the URL to connect to the database. Use this option if you require settings that are not available with the Basic option.

Host Name

Specify the host name of the server that hosts the database. From the preceding example, the value is usatlx01.This field is enabled if the **Basic** check box is selected.

Port Number

Specify the number of the port that is used to connect to the database. This field is enabled if the

Basic check box is selected.

Schema Name

Specify the names of the **amelib** and **amflib** libraries for the environment. Specify the names of the **ame** libraries for the XA environment. Use lowercase letters separated by a comma. From the preceding example, the schema name for the libraries in environment AC is amelibc, amflibc. This field is enabled if the **Basic** check box is selected and the **Database Type** is **SQLSERVER**, **DB2 or DB2_400**.

URL

If you selected the **Advanced** configuration for the database address, specify the URL of the database that contains the message inbox and outbox tables. The URL is dependent on the database type.

If you select the **Basic** configuration for the database address, the URL is read-only.

User Name and Password

Specify the user name and password to connect to the database. This user only needs to have read and write access to IOBOX schema (AMELIB). The user ID must be the name of the System-Link user profile you plan to use for this integration. In most cases, this name is **MXABUS**. The password is the password associated with the **MXABUS** user profile that you use for communications between XA and ION.

4 Under the Connection details, set **Delete Processed Messages in Outbox** to **`true`** if you want to immediately delete BODs from the XA message outbox (ESBOUE & ESBOUH) area after ION processes them. Set the value to **`false`** if you want the processed BODs to remain in the message outbox for the number of minutes specified in the **Outbox Cleaner Expire Time** field.

5 Click **Test** to verify whether the connection is working. A message is displayed that indicates whether the test is successful. If the test is not successful, correct the connection details and try again.

6 Save the connection point.

7 Click **Back** to return to the list.

Connection points are not activated separately. When you activate a document flow, the associated connection points are activated.

Define product documents for the connection point

1 In ION Desk, select Connect > Connection Points.

2 Select an XA connection point.

3 Click the Documents tab of your XA connection point and select all documents that can be sent or received by this product instance for any integration. For each document, specify whether it can be sent, received, or both.

See the list of inbound and outbound documents in ‘BODs used in XA integrations’ on page 88. The list of documents that you define for this connection point must match that list.

4 To add a document type, click Add Document. You can filter the list of documents by specifying your selection criteria in the Filter field or by using these options:

Option	Description
Standard	Display standard documents
Custom	Display custom document

5 To add verbs for a document type, select the document and click **Add Verbs**. The documents and verbs are selected from the ION registry.

6 To remove a document or verb, select the item and click **Remove**. When you remove a document or verb that is used in a document flow, an error is reported in the document flow messages pane.

Setup IMS via API Gateway Connection Point

This section explains the adoption procedures that XA users must fulfill to integrate with ION through the ION Messaging Service (IMS) and connection point.

IMS functionality is available in R10 and higher releases with Client build starting 03.10.00.01.13 or above. **SH71776** and **SH73797** are the server PTFs needed for this functionality to work. Refer to **KB3557022** for more information.

Note: Before starting this configuration or setup, the user needs to check and process if there are any pending BODs in our regular ION Inbox and Outbox tables to make sure no bods are waiting to be processed.

It is also recommended to keep XA unattached job “PSVTUS” on hold while migrating from traditional approach to IMS.

Once we enable IMS functionality the regular ION Inbox and Outbox will not be used by XA and ION and BODs waiting inside them will not be processed.

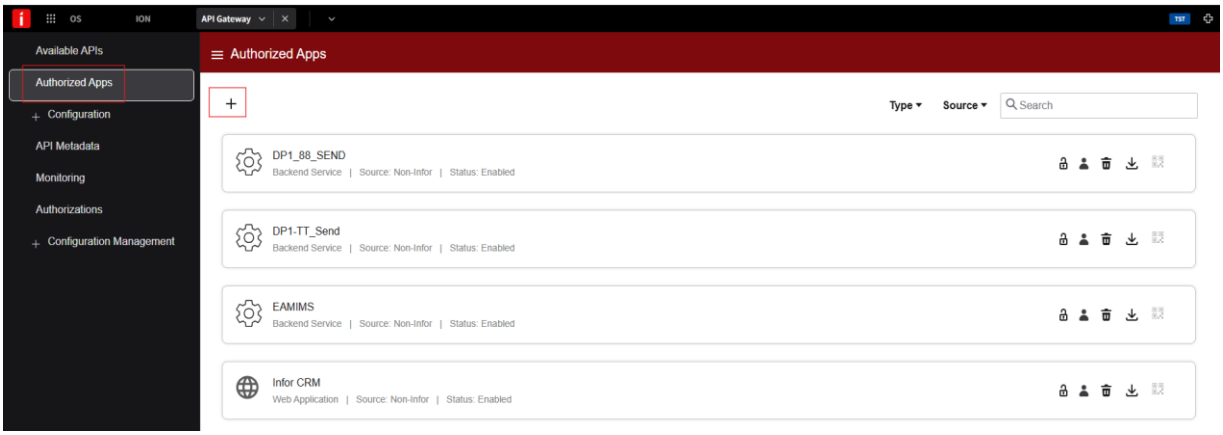
For IMS XA uses System-Link Inbox and Outbox as staging tables to store BODs which are not processed due to XA or IMS service down.

XA Outbound to ION Configurations

Below steps explain configuration required in XA and ION for Outbound BODs flow.

Create an Authorized App in API Gateway

1 Log in to Infor OS Portal and open “API Gateway” > Authorized Apps



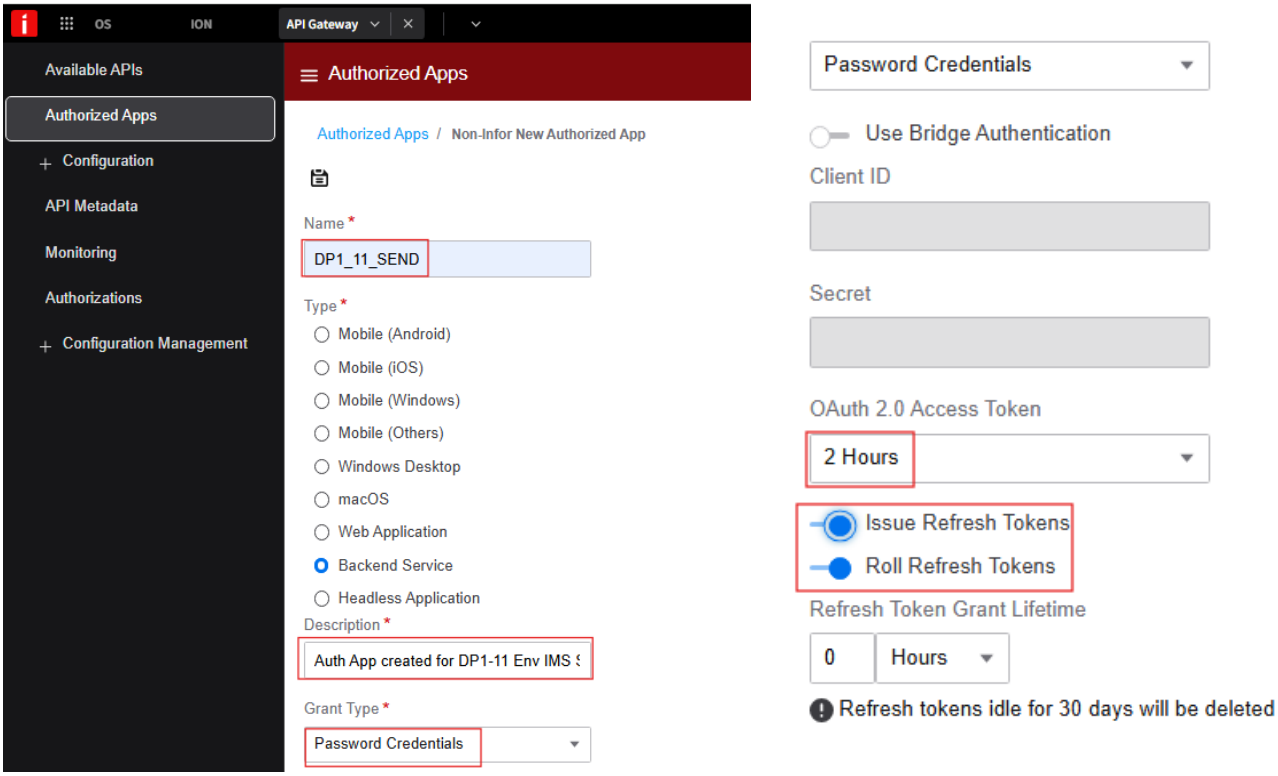
2 Click on “**+**” to add an new Authorized App of the “*Backend Service”* Type with some relevant Name and Description.

Name: “{server}_{environment}_SEND” (Ex: DP1_11_SEND)

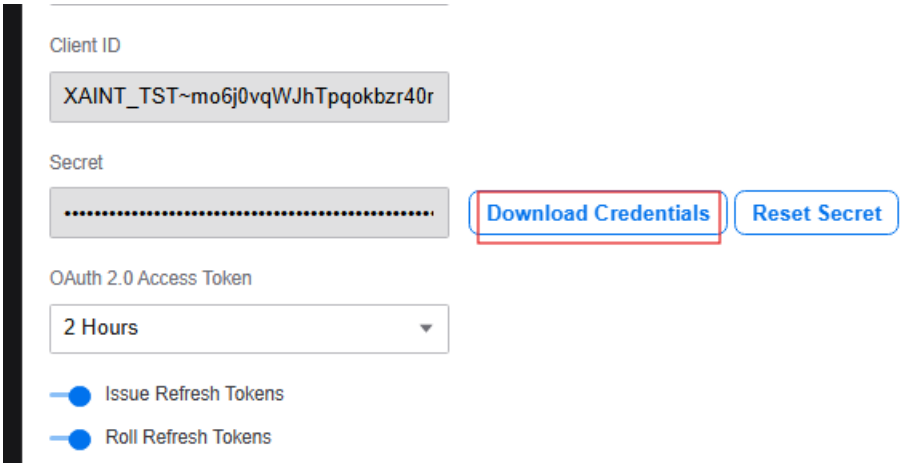
Select Grant Type as “Password Credentials”.

Enable “**Issue Refresh Tokens**” toggle and **Save it.**

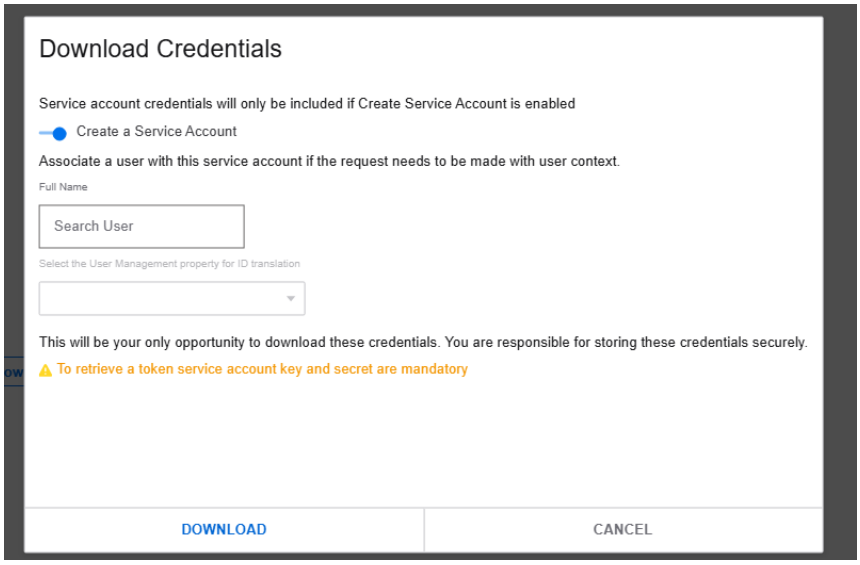
This authorized app represents the client side of the XA application that is calling ION Cloud through ION API.



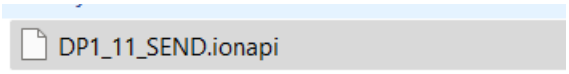
3 Open the new authorized app and click on "*Download credentials*".



In the *Download credentials* pop-up, make sure to select "*Create Service Account*" and click on *DOWNLOAD*.



No need to specify a User in "Full Name". This is not required because ION does not authorize incoming requests based on user authorizations.



ionapi" file gets downloaded, and this authorized app credential file is needed when configuring the Infor On-Ramp type System-Link Destination in XA.

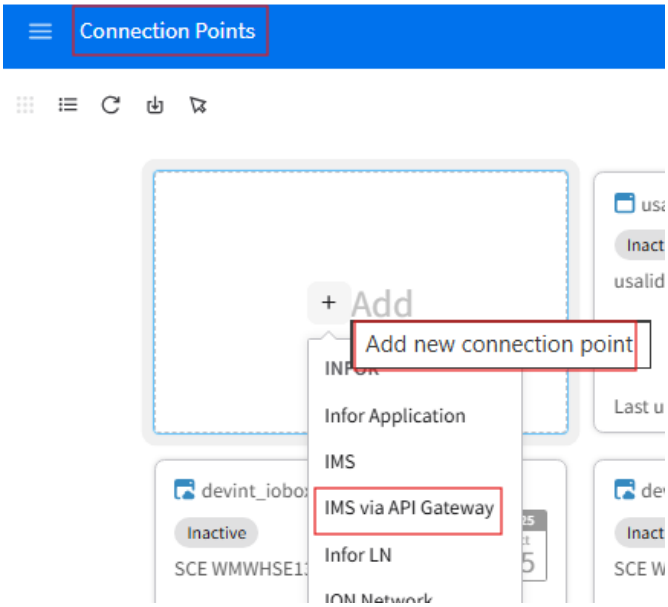
Note: Sometimes it is not possible to create a service account here. In such case, please follow the steps mentioned in "Create service account" section in the same document.

Create ION Desk Connection point and data flows

Initially, we will create a unidirectional connection point, to enable sending messages from XA to ION.

1 In ION, open "Connect" > "Connection Points"

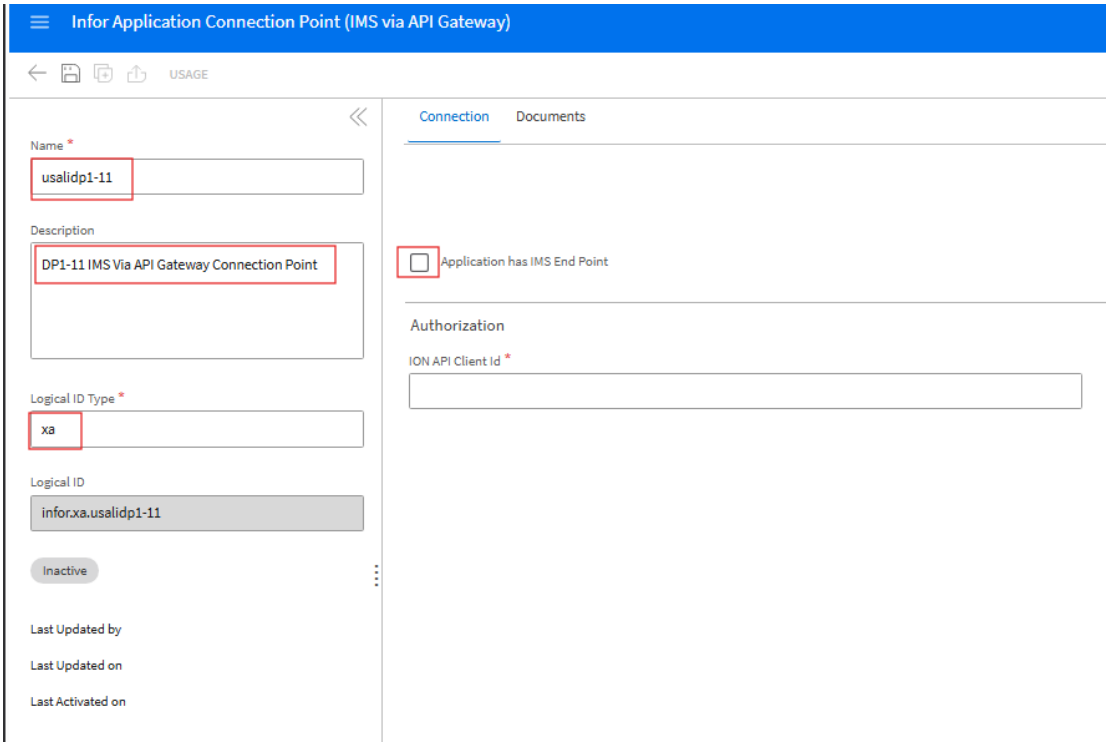
2 Add new connection point of type "IMS via API Gateway".



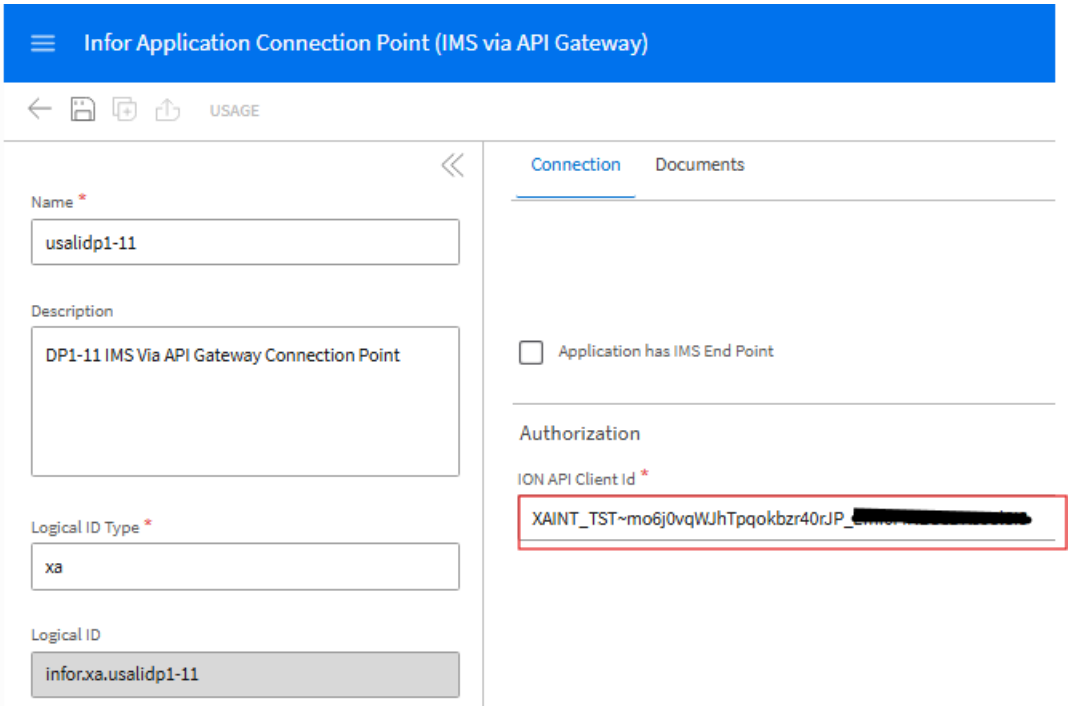
3 Provide a Name, Description – this must match the latter part of the logical id for the business environment i.e. “{server}-{environment}”

a Change the “Logical ID Type” to “xa”.

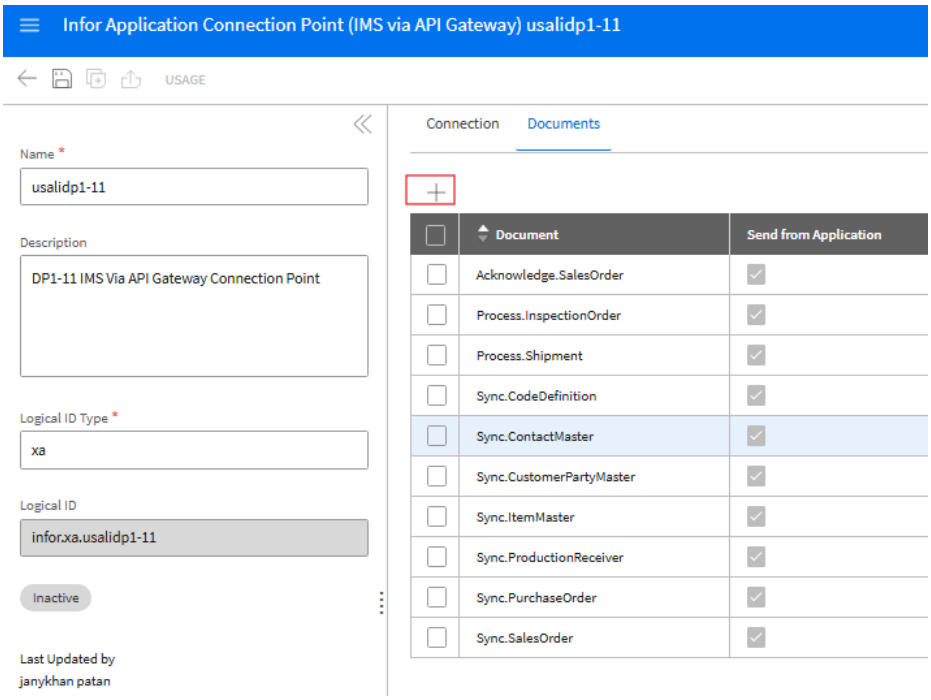
b In the Connection tab. De-select “Application has IMS End Point” check box.
This makes the connection point unidirectional. Later we will change this to bidirectional for inbound.



c In the ION API Client Id, fill in the Client Id of the Authorized App you created in API Gateway. Open the authorized app credential file (Ex: DP1_11_SEND.ionapi) and copy the value for the 'ci' property into ION API Client Id value text box.



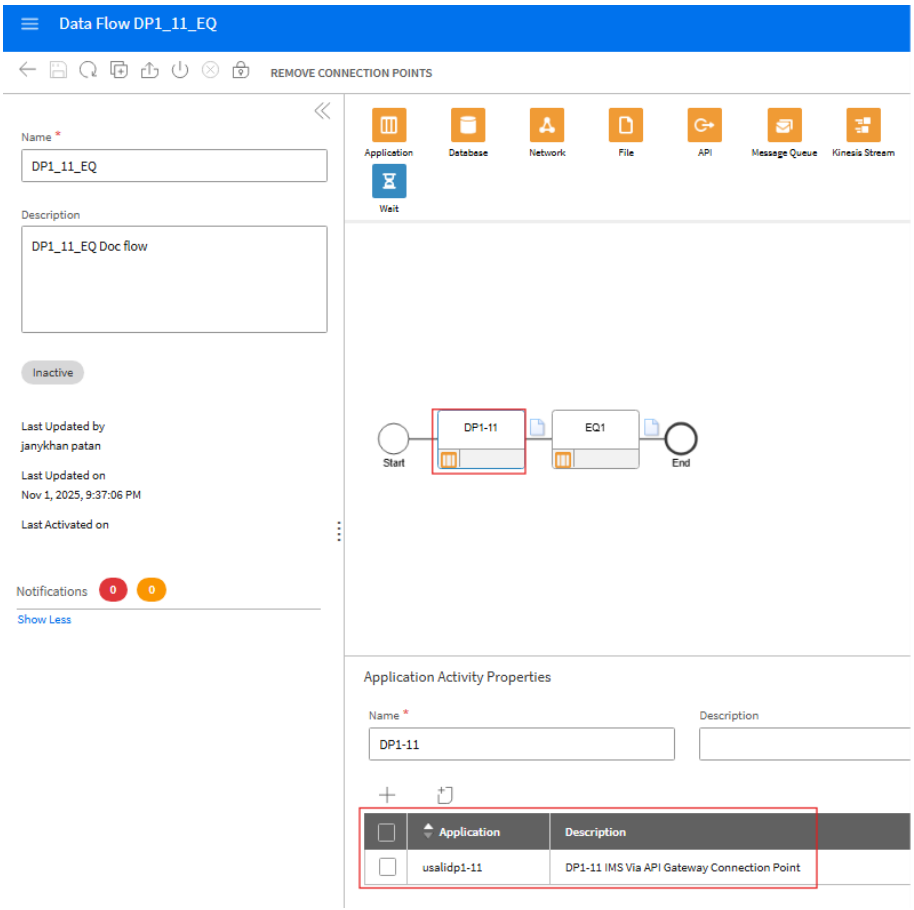
d In the Documents tab, add the document types (BODs) you plan to send from XA to ION.



Note that this will be specific to the integration requirements. Refer to the documentation for those integrations.

e Save the connection point.

4 Open Connect > Data Flows.



Create a data flow to test the outbound BODs flow for this connection point.

Refer to any Integration specific documentation for list of BODs supported outbound from XA and inbound to Edge Application. Activate the document flow.

Create or Update Infor On-Ramp System-Link destination in XA

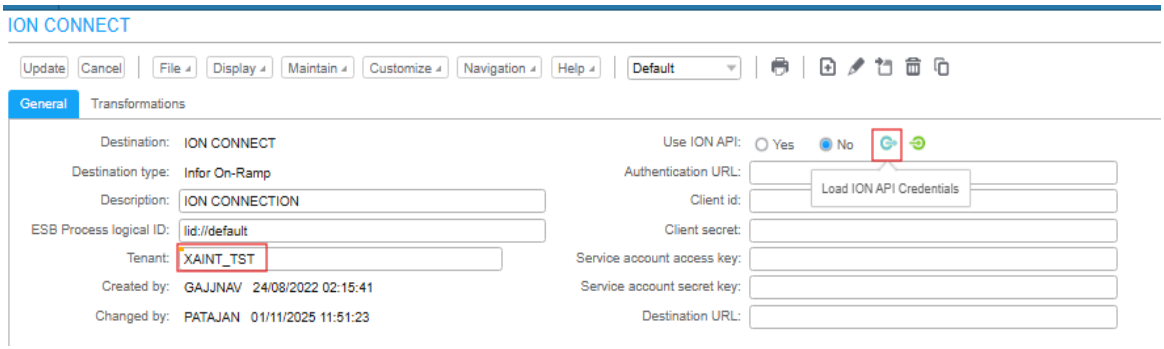
1 Log in to XA, and open the “Environment” > Settings > “System-Link destinations” object

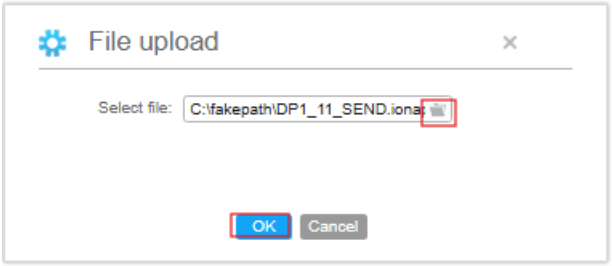
2 If there is an existing destination of type “Infor On-Ramp”, then modify it (perform the following steps for each one if there are multiple).

If there is no destination of that type, then create a new destination and provide values for the “Description”, “ESB Process logical ID”, and “Tenant” for the new destination. When integrating with multi-tenant provisioned edge applications, the “Tenant” value should be same as tenant Id of the Infor OS for successful bod processing on recipient application side.

Ex: “XAINT_TST” should be used instead of “infor” as tenant.

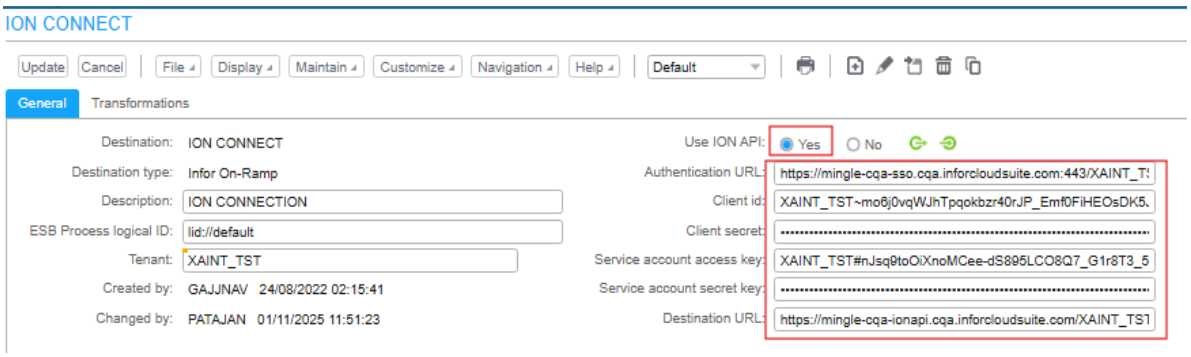
a Click on “Load ION API Credentials”.
In the “File upload” dialog, browse to the file downloaded from the Authorized App in ION API, then select OK.





b The ION API location and credentials should be populated from the credentials file.

c Select “Yes” for “Use ION API” to start using API Gateway functionality and click on Update.



Note: In an ideal scenario, XA environment should have single destination of type “Infor On-Ramp”.

Incase if there are more than one destination of that type, then it is mandatory that all destinations of type “Infor On-Ramp” are configured in the same way – they must share the same ION credentials and use same API Gateway.

Now the XA to IMS via API Gateway is enabled for outbound bod processing. We can publish bods using System-Link Destination configured with ION API from XA to ION CE and validate the bods. Make sure you have an active document flow in ION with the new connection point and required BODs selected in Connection Point and Document flow to test.

Note: Above configuration covers XA to IONCE outbound BOD processing steps. Customers looking Outbound only BOD flow to IONCE from XA can skip next steps. For ION CE to XA inbound BOD processing, follow next section.

XA Inbound from ION Configurations

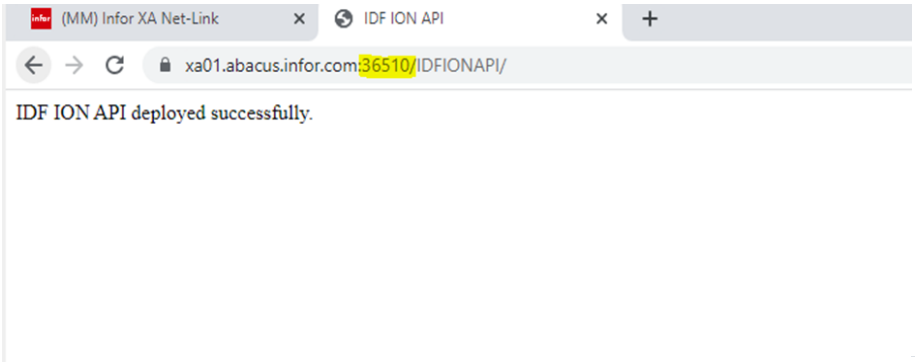
XA IDF needs to be configured in ION first as an available application, then a Connection Point is needed to point to the IDF server. For ION Cloud edition, the IDF ION API needs to be available from the public internet, so additional steps are required.

The ION API component of IDF needs to be deployed to a location visible to ION CE. It is expected that this will be the same location as the SiWA / Net-Link server (Tomcat/WebSphere).

IDF ION API Deployment on WebSphere

The IDFIONAPI.war file needs to be generated and deployed on a Webserver. IDFIONAPI application should be running on WebSphere same as Net-Link application to communicate with ION CE on Infor OS Cloud. Follow **Chapter 4 IDFIONAPI WAR file Generation and Deployment** from Infor ***IDF Setup Guide for Secure Net-Link*** document in docs.infor.com.

Test the deployment by navigating in browser to the web app (e.g. https://xa01.abacus.infor.com:36510/IDFIONAPI”).



A message “IDF ION API deployed successfully.” Should be displayed.

Note: The NetLink.war file needs to be re-deployed on WebSphere to get the new IMS functionality into XA (SiWA). Follow **Chapter 5 WAR file Re-deployment** from ***Infor IDF Setup Guide for Secure Net-Link*** document in Docs.infor.com

Authentication Configuration

As the client credentials file contains the location (URL) used for authentication, it is necessary for the location to be altered. Note that the value changed here is only used by IDF to generate the client credentials file.

1 Open the “MyConfiguration.xml” file in the IFS folder “/Infor/AMALIBx/AMFLIBy/properties/my”.

Eg: /INFOR/AMALIB1/AMFLIB1/properties/my

a For new files, use the following content

```
<?xml version="1.0" ?>
<Configuration>
<Property name='com.pjx.systemlink.IMS.URL'>
<Default>{URL to IDFIONAPI deployment}</Default>
</Property>
</Configuration>
```

b For existing files, just add the following property

```
<Property name='com.pjx.systemlink.IMS.URL'>
```

Note that the URL must be exposed via the internet so MUST use https.

2 Restart the Net-Link processes in Link Manager, for the configuration details to be loaded.

Client Credentials generation for ION API

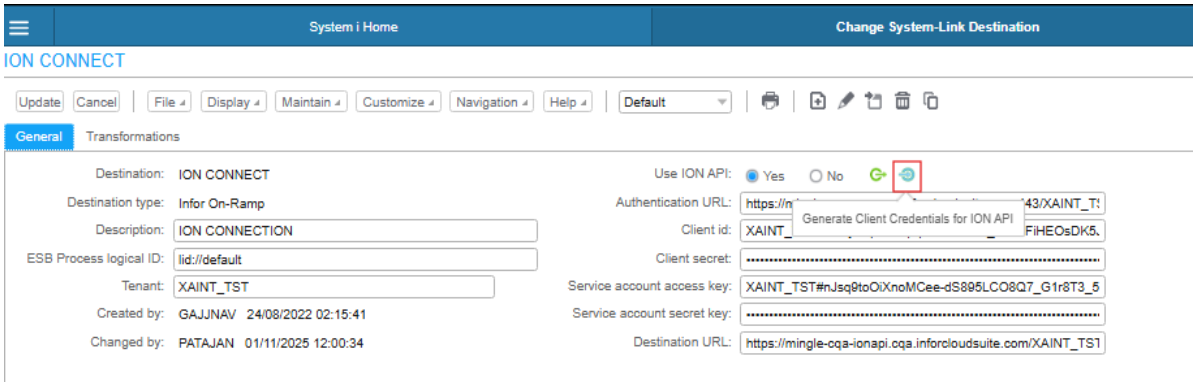
For BODs inbound to IDF, ION is considered a client of the application and must be authenticated.

Create the credentials needed to populate the ION API application.

1 Log in to XA, and open the “Environment” > “System-Link destinations” object.

2 Update the destinations of type “Infor On-Ramp” which are already Setup with IMS for Outbound.

a Click on the “Generate Client Credentials for ION API” action.

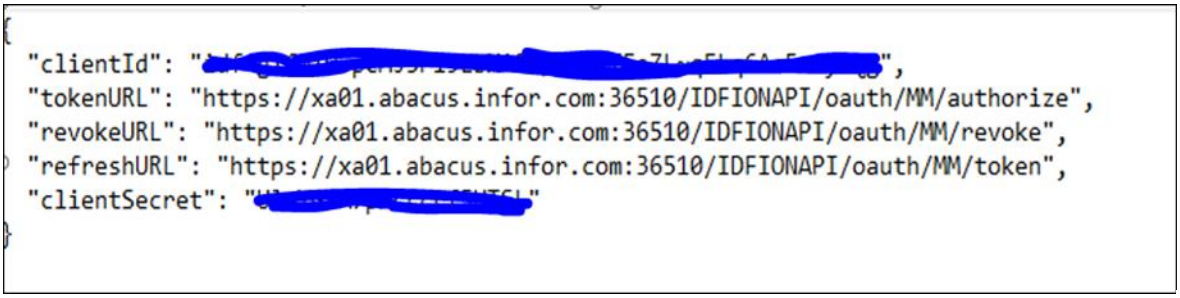


Security details will be generated and saved in the destination, and a file will be created containing the ION API Application connection details.
There are two things to note about this file.

i. The file contains security credentials that will be used to authenticate the ION API in System-Link, therefore the file should be kept safe.
ii. For security reasons, the secret key is not saved, therefore re-generation of the client credentials will result in the previous credentials authority being revoked.

b Update the System-Link Destination.

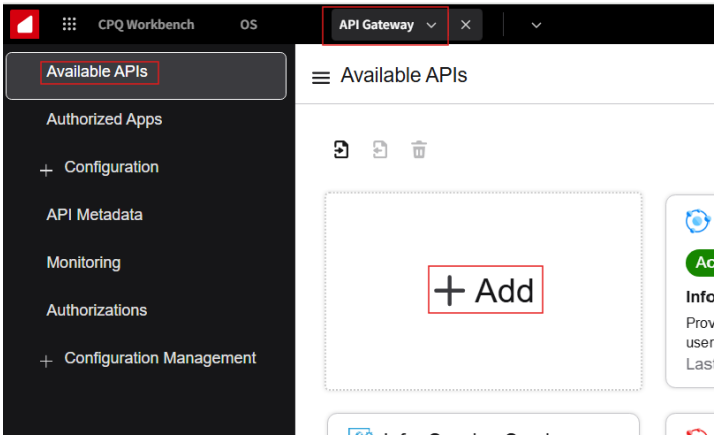
The downloaded file is a text file in JSON format. Simply speaking, the file contains comma-separated name-value pairs delimited by a colon e.g.:

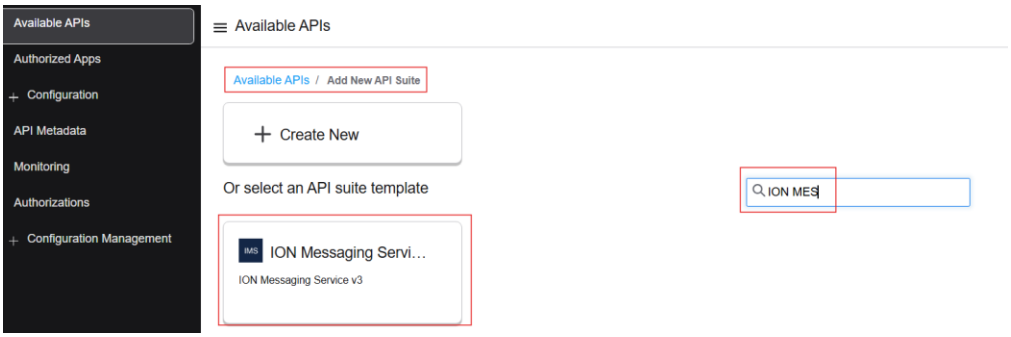


Note: If it is suspected that the security credentials are compromised, then re-generation of the credentials can be used to revoke the previous authority. Once this is done, BODs will no longer be accepted using those credentials so the credentials will need to be updated in the ION API Available Application.

Create an Available Application in API Gateway

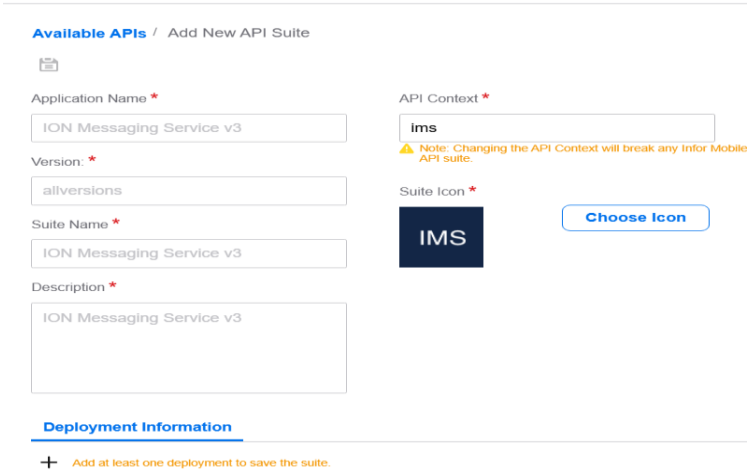
1 Open API Gateway -> Available APIs. Click on **"+ Add**" to add an available API.



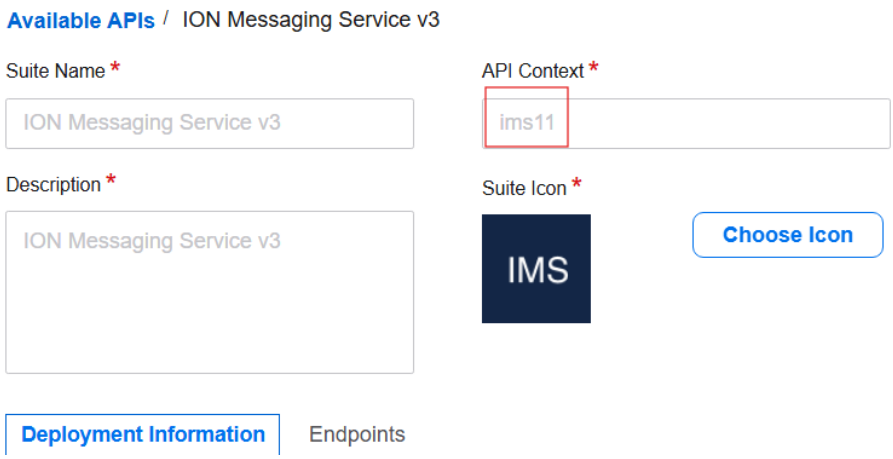


Search for “ION Messaging Service v3” application to add New API Suite.

API Context can be left as default(**ims**) for first IMS API suite. If adding more than one environment on same tenant, then API Context can be modified to append XA environment designator(**imsXX**) to make it unique.



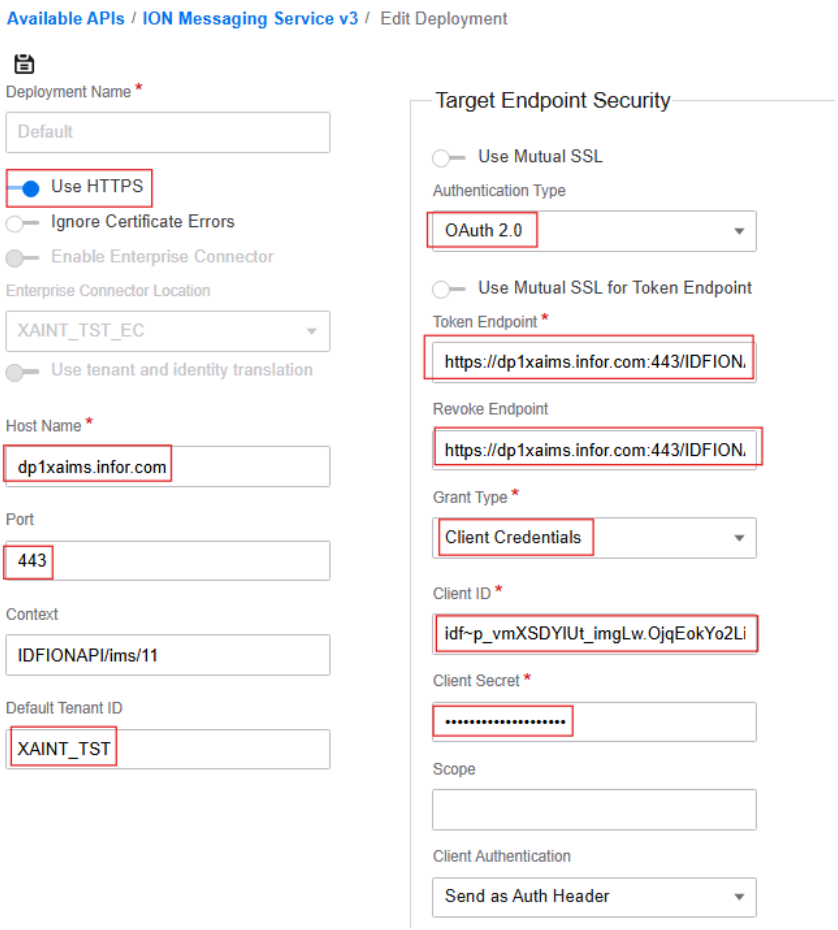
Example for Second Environment below:



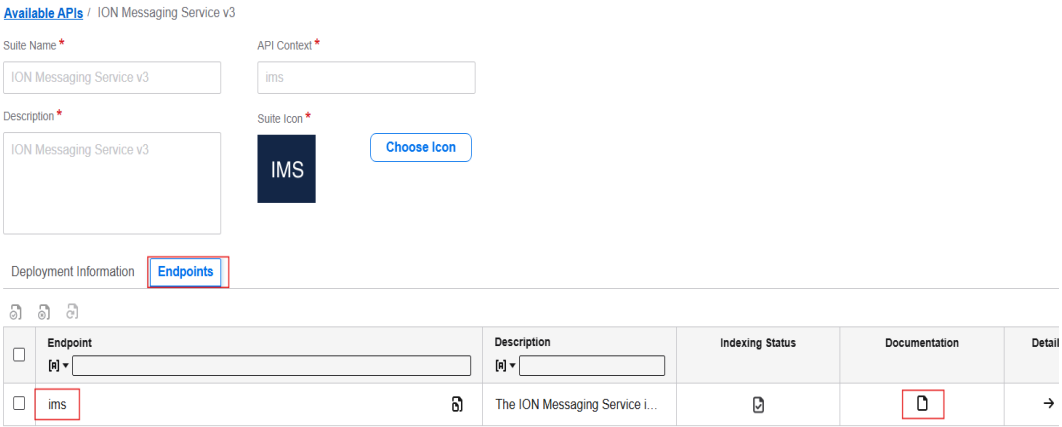
2 Click on "**+**" option under **Deployment Information** to Add a deployment endpoint

- **a** Deployment Name: default You cannot change this.
- **b** Ensure that 'Use HTTPS' is selected
- **c** Host Name: the hostname under which your IDF ION API service is exposed via the Internet
- **d** Port: 443 (usually)
- **e** Context: IDFIONAPI/ims/{environmentId}.
- **f** Default Tenant Id: Provide the tenant id.

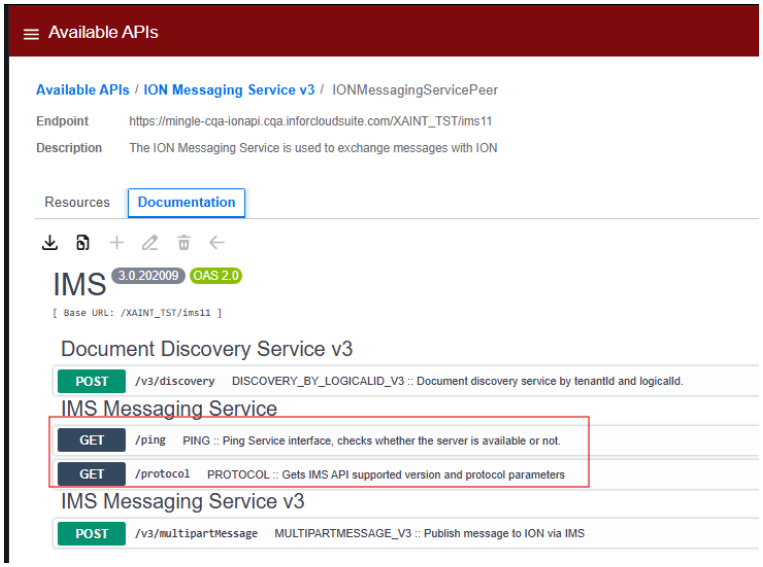
  Target Endpoint Security:
- **g** Authentication Type: OAuth 2.0
- **h** Token Endpoint: {tokenURL} value from client credentials file
- **i** Revoke Endpoint: {revokeURL} value from client credentials file
- **j** Grant Type: "Client Credentials"
- **k** Client ID: {clientId} value from client credentials file
- **l** Client Secret: {clientSecret} value from client credentials file
- **m** Save the changes



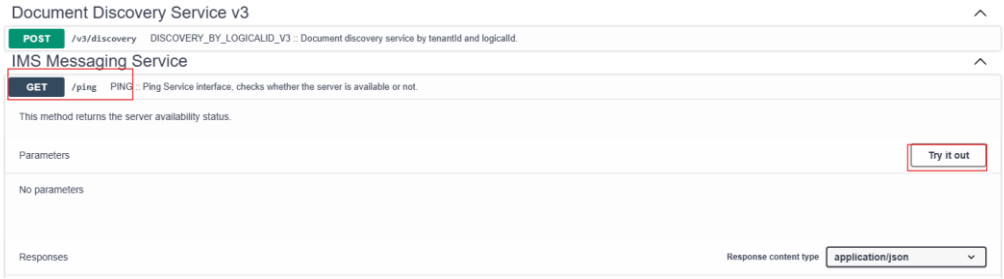
3 Select Endpoints and open the Documentation.

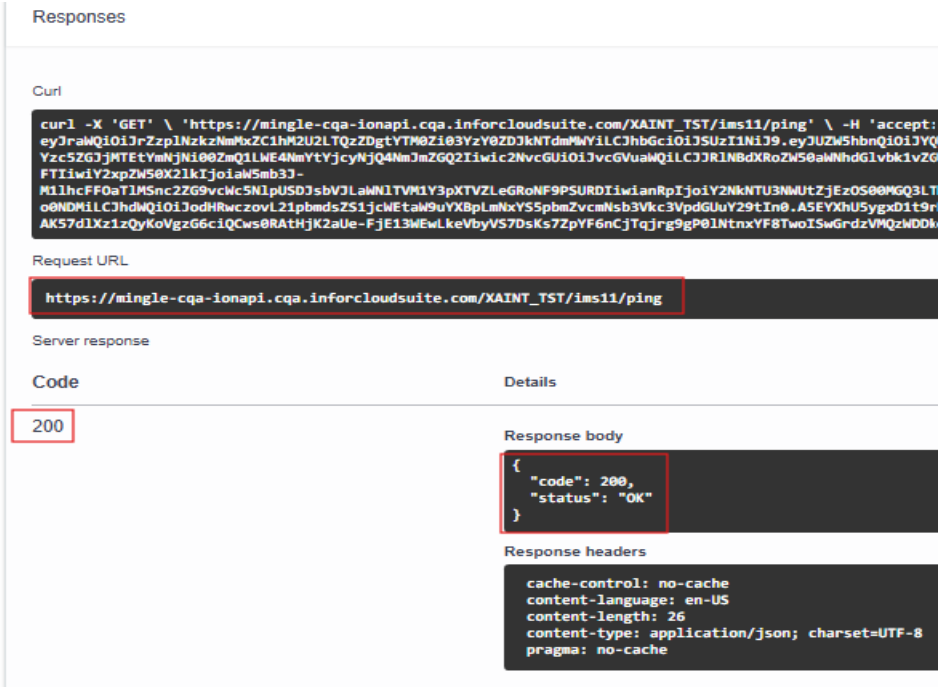


Try out the methods, make sure at least the ping and protocol method give a Code as “200” and Status as “OK’ in response.

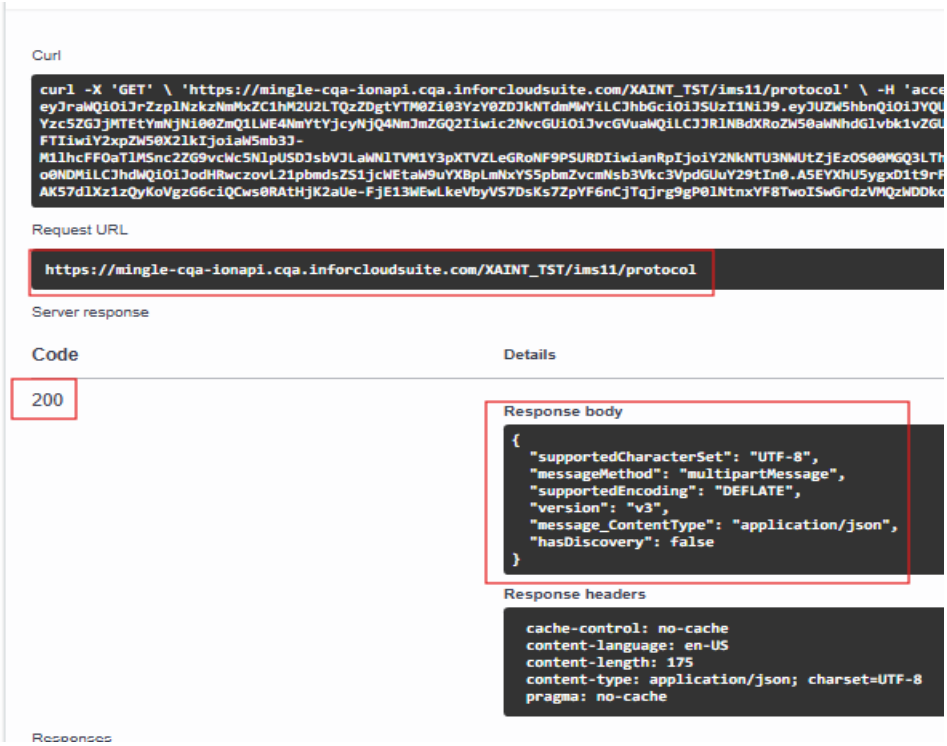


Ping test: Click on “Try it out” and “Execute”.





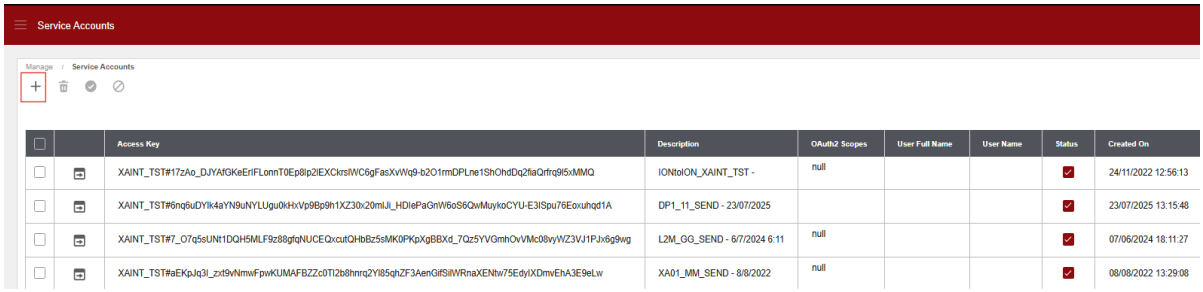
Protocol test: Click on “Try it out” and “Execute”.



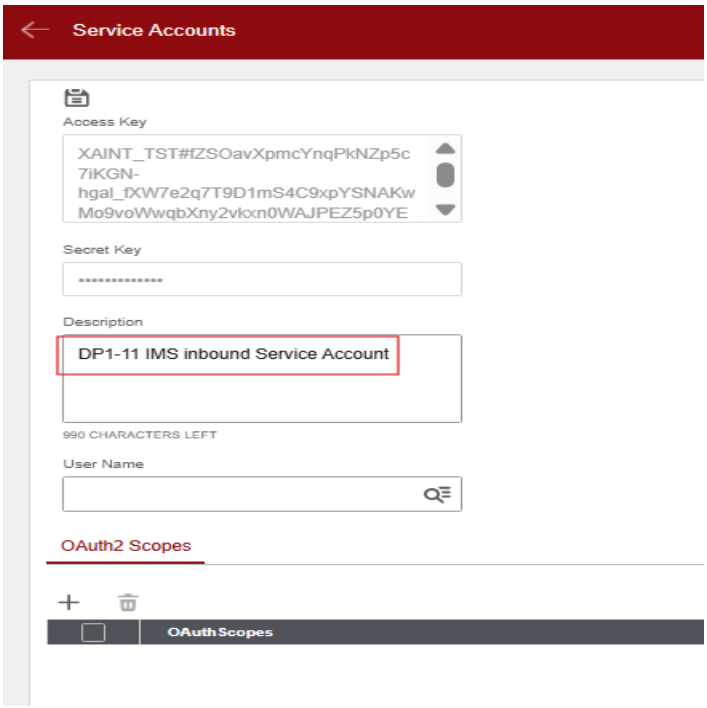
Service Account Creation

1 Go to Infor OS Portal > Security > Manage > Service Accounts.

2 Create a new Service Account by clicking on “+” symbol.

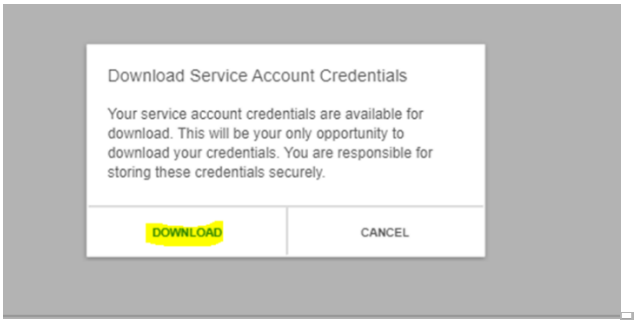


3 Recommendation is to refer in the description to the name of the IMS via API Gateway connection point.



4 No need to select a User Name

5 Save the configuration and download the Service Account credentials.



Change the IMS connection point to a bidirectional connection point

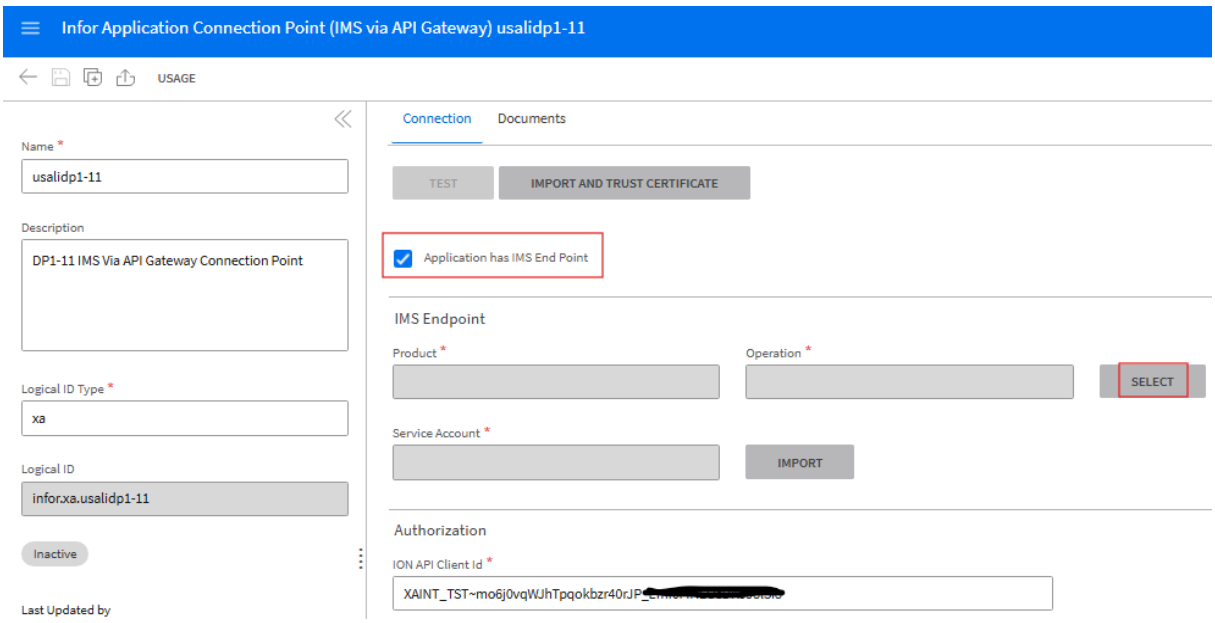
Open ION Desk > Connect > Data Flows and Deactivate the Data Flow created previously. The connection point cannot be changed if it's active in a Data Flow.

1 Open the IMS via API Gateway connection point**.**

2 In the Connection tab, enable "**Application has IMS End Point**" check box.

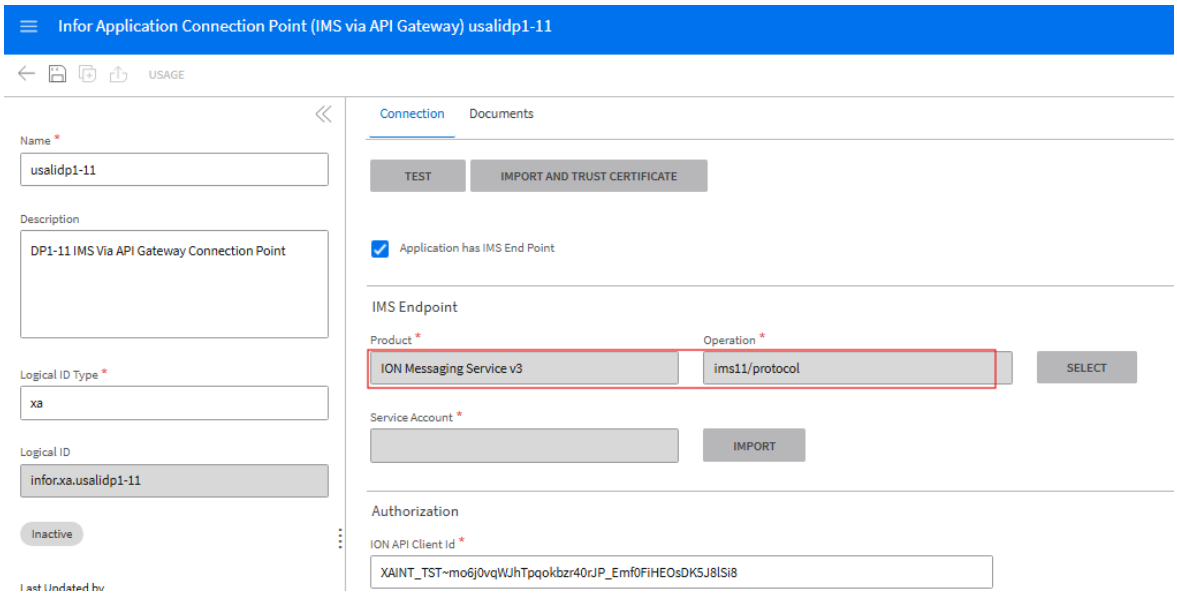
3 The IMS Endpoint section is available.

4 In the IMS Endpoint section, click the **Select** button.



5 In the Search ION API Operation, under the Product drop down, select the Available App **ION Messaging Service v3.**

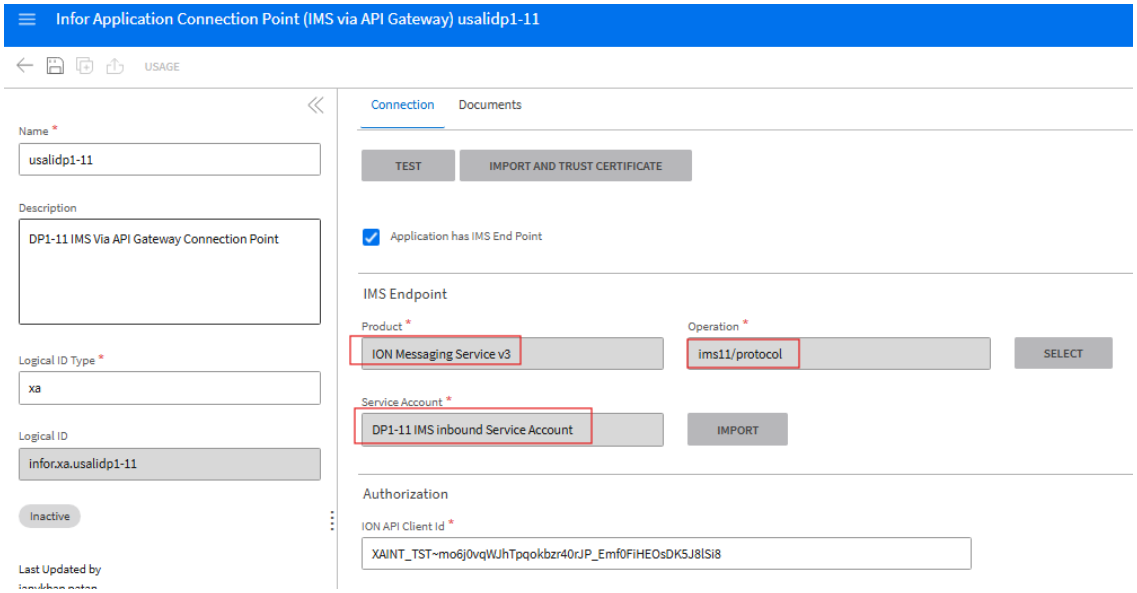
6 Then select the GET ims/protocol method and click the "OK" button.

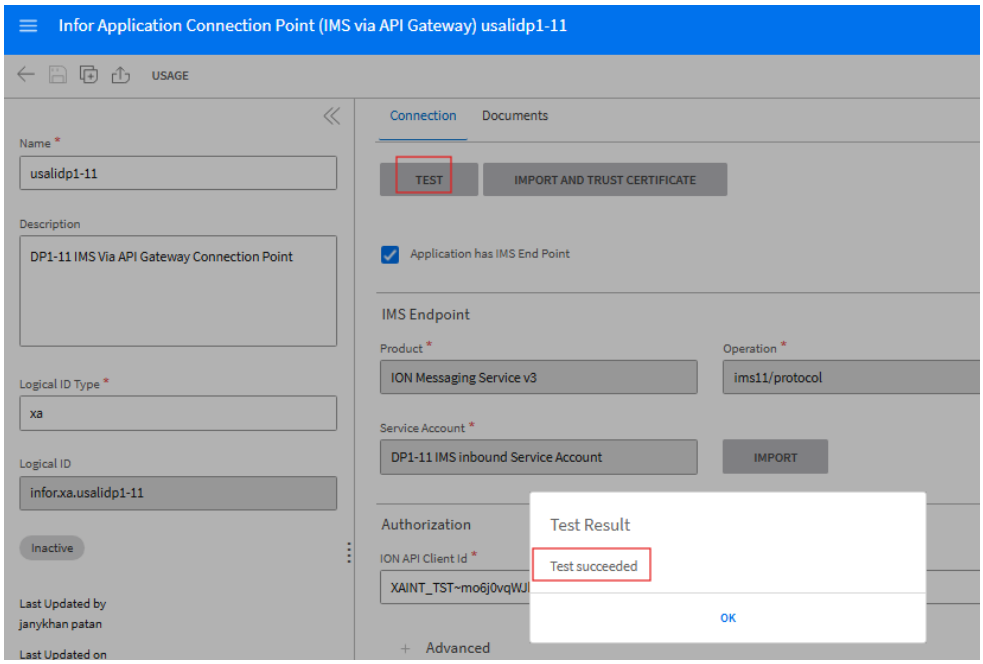


Note: If you have more than one IMS configuration setup on your tenant for multiple XA environments, then you will find multiple “GET ims**/protocol” options to select. You need to select the right protocol based on your environment.

7 Click the **Import** button in front of the Service Account and upload the Service Account Credentials downloaded previously.

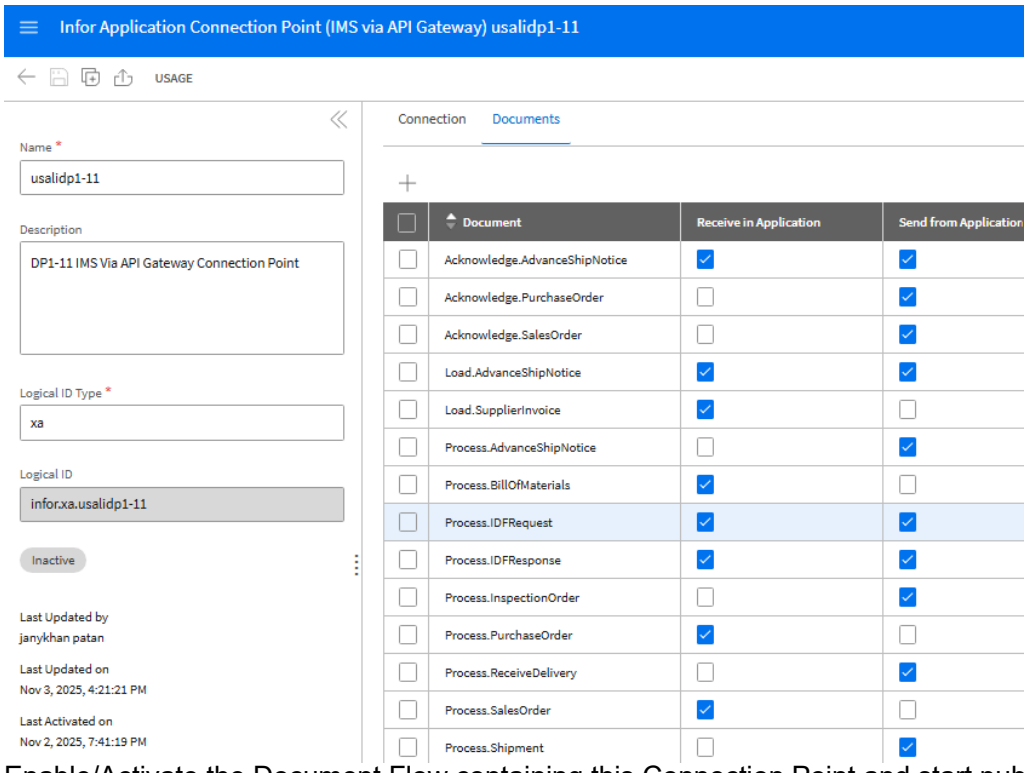
8 Use the “TEST” button to verify connectivity with the IMS service exposed by XA application, make sure it's successful.





9 Save the changes.

10 Add and enable the required documents according to the integration in “Receive in Application”.



11 Enable/Activate the Document Flow containing this Connection Point and start publishing bods.

Troubleshooting

For troubleshooting IMS specific issues, please refer to “**Appendix H XA – IMS via API Gateway Troubleshooting”** in this same document.

Configure data flow between products

This section provides general steps for setting up data flow in ION Connect.

Note: Usually, data flows are configured and activated in conjunction with integrations between this product and another product; in that case, skip this section and follow the steps in the appropriate integration guide. If you want to send BODs to another ION-enabled product but there is not an appropriate integration guide, follow the steps in this section.

See the Infor ION Technology Connectors Administration Guide–Cloud Edition for additional information about data flows in ION.

Define the data flow

Every flow in the modeling canvas has a start and an end. For a new data flow, only the start andend are displayed. You can add items to the flow, using this general method:

1 In ION Desk, select **Connect > Data Flows**.

2 Click + Add to open the modeler.

A list of data flow types is displayed:

- Document flow
- Data Lake flow

3 Select the Document flow.

The modeler page is displayed.

4 Specify a name for the document flow.

5 Click the line where the product must be added. Alternatively, drag the item from the toolbox to the line where it must be added.

An Activity box is added.

6 Click the Activity to view or change the properties in the Activity Task pane.

7 Click **Add** to add a connection point to the Activity.

8 Repeat steps 2-5 to add another product and its connection point to the flow.

9 Click the document icon between the products to define the documents that flow from the first product to the second product.

10 Save the document flow.

Note: To delete an item, right-click on the item and click **Delete**.

Activate the data flow

A new or changed data flow can be used in Infor ION after it is activated. This section describes how to activate a data flow.

Note: If you encounter problems during this setup, you must stop and restart the ION service.

11 In ION Desk, select **Connect > Data flows**.

12 Select the data flow which you want to activate.

13 Click **Activate**.

14 The document flow is activated.

If the document flow contains a warning message, the model can be activated. If the document flow contains an error message, the model cannot be activated.

See the Infor ION Desk User Guide–Cloud Edition for information about activation errors.

Add users and distribution groups

Set up users and distribution groups in Infor Federation Services (ADFS) for XA users who require access to ION in order to view or update information or to troubleshoot errors.

See the Infor ION Desk User Guide–Cloud Edition for information about adding ION Desk users and setting ION Desk authorization levels.

See the Infor Operating Service Administration Guide for information about configuring distribution groups.

Chapter 7 Publishing BODs

After you define the XA connection point in ION, you publish the associated BODs so that ION can retrieve them from your message outbox. You must publish BODs for general use by any product that subscribes to the BODs through Infor ION.

For an ION-based integration between this product and another product, see the appropriate integration guide to set up the document flows and to perform any additional configuration of the products that is required for that integration. You can then use the steps in the integration guide to publish the BODs.

Start products and services

Start these products, services and processes if not already running:

- XA
- IDF System-Link
- IDFIONAPI (for IMS)
- Other products with which you are communicating through Infor ION
- ION Service. Use the ION Grid Management user interface to verify that the ION Service is running. See the Infor Operating Service Administration Guide.

XA BOD dependencies

When publishing the initial data load of BODs from XA, you must publish master data BODs before transactional BODs. In XA, Accounting Entity and Location are part of the NOUN key for all BODs and must be published first. Accounting Entity and Location are published when you publish from Companies (in AM), Financial Divisions (in IFM), Sites, Warehouses, and Business Information Services (BIS) objects. Ensure that you publish these objects before other master data. This sequence is specifically required when integrating with products which also send BODs back to XA. For example, EAM or Supplier Exchange. This sequence is required to keep the integrity of data.

Send the initial data load

During normal processing, BODs are generated when a user makes a data change or completes a transaction. However, when you start a new integration with another product, you must manually generate BODs that pass the current set of XA data to the other product, so that the base systems are synchronized. The BODs are placed in the message outbox, from which Infor ION retrieves them and passes them to the other product.

In CAS, you must be authorized to the Publish host job.

1 Select **File > Host Jobs** in the object's list window.

2 Select the **Publish** tab.

3 Specify this information.

Execute

Select this check box.

Description

Specify a name to identify this job on the host system.

Subset

Specify which records are included. If you selected one or more records on the list window before you selected the Host Jobs option, the subset is set to (selected records) but can be changed.

Sort

Specify the sort to sequence the records.

Replication destination

Specify the System-Link destination to which you want to send the object information. If you leave the replication destination blank, XA uses the replication destination specified for the individual object records.

4 On the **Confirmation** tab, specify the information for the email that is sent to confirm that thehost job was executed.

5 Click **Submit**. You can track the progress of the Publish host job in the Transaction Statuses object. Troubleshooting logs may display in the Transaction Status when logging is configured in System-Link.

After the initial data load, XA sends BOD updates when users change certain data or when certain transactions occur in XA.

For a list of the events that generate BODs, see 'Business events that generate outbound BODs' on page 70.

Chapter 8 Verifying the configuration

Verify that BODs are generated

1 Use the information in ‘Business events that generate outbound BODs’ on page 70 to determine what user actions generate certain BODs.

2 Perform those user actions in XA.

3 You must check your Publish host jobs have published correctly in the Transaction Statuses object. To review the System-Link request and its transformation activity, you must active transaction logging in the Transaction Statuses object before you run the Publish host job. See ‘Activating the System-Link transformations’.

Check the Publish host job:

1 In Power-Link, select Environment > History > Transaction Status.

2 Select the host job request and expand the detail in the overview list. You must see a Request file, a Response file, and another file with name same as SL Destination(optional). If these files are available, then we can say the publish host job ran successfully.

3 If the BOD is not visible in ION, then the publish host job did not publish to BOD. To review exceptions:

   a Click the Response file to open the file.

   b Search (Ctrl-f) for ‘exception’.

   c If an exception is found, read the text that describes the publishing issue and correction steps. We recommend you search for all exceptions in the response file and review them all to understand the full set of problems.

4 If the Transaction status of your request is ‘pending’ for an extended time, then the unattached job can have a problem. To check the status of the unattached job:

   a Take option 3 (Maintenance/Change) from the Cross Application Support menu in Green Screen XA.

   b Take option 12 for Unattached Job Status. The job you are checking for is PSVTUS (Publish Request Processor). Make sure the Status is ‘Active’

c The search results must match the documents published from XA.

5 Select **Connect > Active connection points** to display the message queue counts.If you encounter problems, see ‘Data is not flowing properly’ on page .

Verify the data flow between products

After you create and activate document flows to other products, you can check the message inbox area of the other products, to ensure that data is flowing between the systems.

Appendix ATroubleshooting

This section describes actions to solve ION integration problems.

Improper data flow

Cause: A problem is preventing the flow of BOD data to ION.

Solution: After you complete the configuration setup, if BOD data is not flowing to ION, check these areas to determine the issue:

- ION Desk to find failures related to BOD structure, for example, a message that has an invalid format, or a message that is missing a mandatory field

  See the ‘Error BODs’ section in the *Infor ION Desk User Guide–Cloud Edition* for more information.
- ION Logging to view processed BODs and to find errors due to connection problems
- In Active Connection Points, you can check for unprocessed messages for each Connection point.

To avoid business discrepancies between this product and integrated products, correct any errors as soon possible.

See the *Infor ION Desk User Guide–Cloud Edition* for more information about troubleshooting BOD flows.

Delete obsolete BODs

BODs in the ION Outbox (ESBOUE and ESBOUH) are removed by ION. These properties in theION Desk application control the removal of processed BOD messages:

- If **Delete Processed Messages in Outbox** is set to **true**, messages are deleted immediately after successfully processing by the ION Runtime.

If **Delete Processed Messages in Outbox** is set to **false**, messages are deleted if older than the number of hours specified in **Outbox Cleaner Expire Time** and have either been

- successfully sent or not have any assigned routes. The ION Runtime checks forexpired messages when it is started and then checks every hour.
- By default, the second option is used. By not deleting the messages immediately, ION can monitorthe outbox table and report the number of processed and unprocessed messages.
- ION does not remove messages from the ION Inbox (ESBINE and ESBINH) tables. If the inbox sizebecomes a problem, you can manually delete the records from the inbox table with a SQL Server script.

Appendix BBOD overview

Business Object Documents (BODs) are collections of transactional or master data that are passed as XML documents between products. You must understand which product is the System of Record and how BODs are processed.

BOD message structure

Infor ION messages are called Business Object Documents (BODs). These messages are based on standards that are developed by the Open Applications Group, Inc. (OAGi). BODs are XML documents that consist of a verb component and a noun component. The BOD name consists of a verb and a noun, for example, SyncPayableTransaction, ProcessLocation, and ProcessSupplierPartyMaster. A BOD XML includes these areas:

- Verbs specify the action performed on the noun, for example, Process or Sync.
- Nouns specify the business-specific data, for example, Payable Transaction or Location.
- Elements are the XML tags within the BOD that describe the data and can be hierarchical, as displayed in this example:

```
<PaymentTerm>
<Description languageID='EN'>2% in 10, Net Due in 30</Description>
<Term>
<ID>2/10N30</ID>
</Term>
</PaymentTerm>
```

- Attributes describe the elements. For example, UnitCode is the attribute in this element:

```
<Quantity UnitCode='EA'>
```

- When a value in a BOD is constructed by concatenation of multiple values, an underscore (_) character is used to separate the values.
- Data that is not defined for a noun can be passed in the UserArea of a BOD. With Infor products, the only element that can be placed in the UserArea is Property. Multiple instances of Property within the UserArea can exist. Only the UserArea fields in the header, detail, and root of a noun are supported by Infor. If you require additional fields, you must define them in the UserArea.

- Each Property element contains a NameValue element that holds the value being passed. The NameValue element also contains these attributes:
  - @name holds the custom field name
  - @type specifies the data type of the value, for example, StringType and DateTypeThis example displays a UserArea:

```
<UserArea>
   <Property>
      <NameValue name='MyField' type='StringType'>Sample Data</NameValue>
   </Property>
</UserArea>
```

- The Document ID element is a unique identification of the represented business object. The ID is used in a BOD to reference other BODs. For the nouns SalesOrder, PurchaseOrder, and CustomerReturn, the ID is the order number. For other nouns, a naming convention is defined that makes the ID unique.
- Party ID elements identify an external entity such as a Customer, Supplier, and ShipTo. Location ID elements identify sites within the enterprise. Within a transactional BOD such as a Shipment, if the ShipToParty/PartyIDs/ID is populated, the ID points to a ShipToPartyMaster record. If the ShipToParty/Location/ID is populated, the ID points to a warehouse or other site within the enterprise.
- All date and time elements within a BOD are presented in Coordinated Universal Time (UTC). The dates are formatted as dispalyed in this example: 2011-08-13T15:30Z. Dates that are receivedwithout a time value have the default time of 00:00, which is midnight.
- This table displays different ways that date and time elements in a BOD can be represented:

Date type	Description	Example
System-defined dates such as document dates	Represented in UTC time	2015-08-13T15:30Z
Operator-specified dates for a single internal location or a single external location	Represented with a time zone offset	2015-08-13T15:30+02:00
Dates that have non-specific times	Represented without a time zone indicator	2015-08-13T15:30
Dates without a time	Represented without a time	2015-08-13

System of Record

A piece of information, for example, a customer address, is maintained by only one system, which is the System of Record (SOR). The SOR publishes all changes for that piece of information to Infor

ION through a Sync message. Other products that want to add or update that piece of information must make a request to the System of Record by using a Process message.

The System of Record does not know which products require the information. The entire contents of the document are published in the Sync message. All products that subscribe to the message receive a copy of the message from ION.

BOD verbs

Infor uses these verbs:

- A **Process** message is a point-to-point message that is used to request a service from another product. The Process message is usually sent from a non-System of Record to the System of Record (SOR). These action codes are supported:
  - Add: Requests that the other product create a new document or record.
  - Change: Requests that the other product update an existing document or record. The elements that have a change are required.
- An Acknowledge message is a response to the Process message. The Acknowledge message notifies the requesting system whether the request was accepted or rejected. In many cases, the Acknowledge verb has additional information, such as the document's ID that is assigned by the System of Record.
- A Sync message is a broadcast message that is published by the System of Record. The Sync message is used to inform other products about the latest information for the noun. It is published after a business event causes a change in the data. These action codes are supported:
  - Add: Notifies other products that a document or record has been created.
  - Replace: Notifies other products that an existing document or record has been updated. The entire document or record is included in the BOD. The current state of the document or record is also displayed.
- A Get message is a point-to-point message that requests information about one or more documents or records. When the GetInventoryCount BOD is sent, the inventory balance is requested for only one item. For all other Get requests, the product requests a copy of all documents from the System of Record, which is generally for an initial data load or a disaster recovery.
- A Show message is a message that is sent directly to another product by the System of Record as a response to a Get message. A Show message can contain multiple records or documents within one message. Show messages are used typically to reinitialize a product, rather than for general initialization.
- A Confirm message is used to notify users of an error condition. The ConfirmBOD is sent to Infor ION and can be viewed in ION Desk.

Note: XA currently does not use 'Get' and 'Show' verbs. The OAGIS Delete verb is supported by Infor for special tenant-level master data only. Otherwise, this verb is not supported. For auditing purposes, you must cancel documents and records and not delete them.

Message delivery

Except for the Show message that is used for initial data loads, Infor ION messages are delivered asynchronously. Products send only one document per message.

Data mapping

Information about XA database elements or calculations mapped to specific BOD elements is explained in these guides:

- (OutBound) BOD Mapping and Descriptions for XA 9.2 Integrations
- For each BOD that the product has certified, this document provides the source and definition of the data in each BOD element that is sent from the product through ION. If the source that is used differs based on specific criteria within the product, then the document also provides the details about the data that is published.
- (InBound) BOD Mapping and Descriptions for XA 9.2 Integrations
- For each BOD that the product has certified, this document provides the details about how each product receives information or processes requests from the inbound BOD. For example, the source can be an extension product, a result of a workflow, or a drill back function from Infor Ming.le. If a BOD updates a source table, the exceptions and handling are described.

These guides are organized according to the elements in each BOD.

Note: Infor reserves the right to change BOD structures. Although Infor provides backward compatibility, custom integrations that are built on a specific version of a BOD can require modification to be compatible with newer versions of Infor components.

Master Data

Master Data BODs contain data referenced by other transaction or balance BODs. This data is usually common data that changes less frequently, for example, system codes. Master data is usually defined at the enterprise level, which is the tenant level.

All master data nouns have a Process and a Sync message available. They have the same noun content, but the verb indicates a different message pattern.

When a Master Data noun is required, you must decide which verb combination to publish based on the needs of the subscribing products. One, both, or none of the verb-noun combinations can be activated for a noun. If both are active, two BOD messages are published for a specific business event.

Balance

Balance BODs contain balance information. Balances and related information are the result of summarizing and rolling up transactional data. Balance BODs are published when transactions are processed for the entity for which the balance is maintained, for example, the ledger account.

Transaction

Transaction BODs contain information about detailed business events. These BODs correspond to the lowest-level business documents in a product, for example, a payable invoice or a purchase order.

Confirmation

Confirm.BOD is the only BOD message that is used to return specific processing information to the publishing product when the inbound BOD messages are processed.

Appendix CBusiness events that generate outboundBODs

This table displays the events, which are user actions in XA that generate an outbound BOD from XA:

Verb	Noun	User action to generate the BOD
Master data		

Sync	CodeDefinition	Create, update, or publish these information: • Business Information Services application setting • carrier • company • customer class • customer price • enterprise • financial division • item class • item industry class • item sales family • item sales group • market analysis • payment term for a CSM customer or entity associated with an account • price book • purchase item commodity • site • standard industry classification (SIC) • tax category • tax suffix • territory • unit • unit of measure • warehouse • XA currency

Verb	Noun	User action to generate the BOD
Transactional data		
Sync	AccountingChart	Publish a GL account. Publish a nature.

Sync	AccountingEntity	Create, update, or publish these information: • Business Information Services application setting • company • financial division in the ERP administrative division • site • warehouse
Process	AdvanceShipNotice	Update credit memos. Create or update a shipment notice.
Sync	AdvanceShipNotice	Publish a shipment notice.
Sync	Alert	Publish a notification.
Sync	AssetFinancialLedger	Publish a financial transaction. Publish a GL activity. Publish a GL history.
Sync	BillOfMaterials	Publish a bill of material.
Sync	BillOfResources	Publish an item process.
Sync	BillToPartyMaster	Create, update, or publish a customer. Create, update, or publish an entity. (IFM environment.) Publish records for selected customers that are associated with accounts. Publish records for selected entities that are associated with accounts and have AR personal accounts.
Sync	CarrierParty	Publish a carrier.

Verb	Noun	User action to generate the BOD

Sync	CashReceipt	Publish when cash transactions, such as cash receipts and cash receipt activities, are posted. Run the Publish Cash Transactions host job for a posted IFM cash financial transaction in the ERP administrative division. The BOD is published if the cash total is positive. Post an IFM cash financial transaction in the ERP administrative division. The BOD is published if the cash total is positive. The BOD is published to the replication destination specified for the financial division.
Sync	ChartOfAccounts	Publish a GL account. Publish a nature.
Sync	ConstrainedResource	Publish a facility.
Acknowledge	ContactMaster	Acknowledge the receipt of BOD from external product. No user action.
Sync	ContactMaster	Publish an account contact from Entities or Vendor Contacts. Create, update, or publish a contact. Create, update, or publish a customer address.
Sync	Contract	Publish a contract, customer contract, or quote.
Acknowledge	CustomerPartyMaster	Acknowledge the receipt of BOD from external product. No user action.
Sync	CustomerPartyMaster	Create, update, or publish an account from Accounts, Account ShipTos, Customers, and Entities. Create, update, or publish an account or a customer that is linked to an account. Create, update, or publish an entity that is linked to an account. Create or change a customer. Publish an entity bank that is associated with an account and has an AP or AR personal account.
Sync	CustomerReturn	Create or publish a credit memo history. Create, update, or publish a credit memo. Publish a customer order history.
Sync	CustomerRFQ	Publish a customer contract.

Verb	Noun	User action to generate the BOD
Sync	EmployeeWorkTime	Publish a labor activity.
Sync	FinancialCalendar	Publish a financial division period. Publish a financial division.
Sync	FinancialPartyMaster	Publish a customer. Publish an entity. Publish an entity bank. Publish a vendor.
Sync	IDFRequest	This is Custom BOD that requires additional setup to publish. For more information, see your System-Link administrator. Publish these information: • bill of lading commodity • bill of material • buyer • country • customer class • customer • enterprise • enterprise item • EU Tax commodity • implementation status • item class • price class • item revision • item sales family • item sales group • language • sales representative • site • state • tax indicator • unit of measure • unit of measure class • vendor • vendor contact • XA currency

Verb	Noun	User action to generate the BOD
Sync	InspectDelivery	Generate a Receive Purchased Item to Inspection (RI) transaction. Publish an inventory transaction history.
Acknowledge	InventoryAdjustment	Acknowledge the receipt of BOD from external product. No user action.
Process	InventoryAdjustment	Create or change external inventory adjustment.
Sync	InventoryAdjustment	Generate an Adjust Item (IA), Reject Item (RQ), or Scrap Item (SS) transaction. Publish an inventory transaction history.
Sync	InventoryConsumption	Generate an Issue Planned Production Component (IP), Issue Item (IS), Issue Unplanned Production Component (IU), or Issue Transferred Item (IW) transaction. Publish an inventory transaction history.
Sync	InventoryCount	Publish an inventory count group. Publish an item warehouse.
Sync	InventoryHold	Generate from discrete allocations.
Sync	Invoice	Generate a customer invoice in COM or CSM. Publish a customer invoice. Update Status code for invoice. Publish a financial transaction. Publish an invoice.
Acknowledge	ItemMaster	Acknowledge the receipt of BOD from external product. No user action.
Sync	ItemMaster	Create, update, or publish an enterprise item. Create, update, or publish an item revision. Create, update, or publish an item. Create, update, or publish a kit item. Create, update, or publish an item warehouse. Create, update, or publish an item designated as a MRO item for the integration.

Verb	Noun	User action to generate the BOD
Sync	Location	Publish a: • company • facility • financial division • site • warehouse • warehouse address
Sync	Notification	Publish a notification.
Sync	Opportunity	Create, update, or publish an opportunity.
Sync	PayableTransaction	Run the Publish AP Transactions host job for a posted IFM payable financial transaction in the ERP administrative division. This BOD is sent when an IFM payable financial transaction posts successfully in the ERP administrative division. This BOD is sent when an IFM financial allocation posts successfully to an IFM payable financial transaction in the ERP administrative division. Invoice payment transactions, such as invoice payments or adjustments, are posted. The BOD is published to the replication destination specified for the financial division.
Sync	PayFromPartyMaster	Create, update, or publish a customer. Publish an entity. (IFM environment) Publish an entity bank that is associated with an account and has an AP or AR personal account. (IFM environment) Publish a vendor.
Sync	Person	Publish a: • buyer • customer address • customer • customer ship-to • organization unit (employee) • entity contact • planner • sales representative • vendor contact

Verb	Noun	User action to generate the BOD
Sync	Personnel	Publish an employee.
Sync	PlannedProductionOrder	Publish a MRP recommendation.
Sync	PlannedPurchaseOrder	Publish a MRP recommendation.
Sync	ProductionOrder	Publish a manufacturing order history. Create, update, or publish a manufacturing order. Publish a schedule.
Sync	ProductionReceiver	Publish a manufacturing order history. Create or publish a manufacturing order. Create, update, or publish a repetitive schedule. Prime production line.
Sync	PulseAlert	Publish a notification.
Sync	PulseNotification	Publish a notification.
Acknowledge	PurchaseOrder	Acknowledge the receipt of BOD from external product. No user action.
Sync	PurchaseOrder	Create or update Reprint. XA creates a purchase order for the purchase request and requisition for the MRO item. Set Reprint P.O. on vendor accept to Yes. Publish a purchase order. Create, update, close, or print a purchase order. Create a purchase order item. Publish a purchase order history.
Sync	Quote	Create, update, or publish a quote from Quotes. Run the End Order option.

Sync	ReceivableTransaction	Post a COM Invoice/Credit memo. Perform a receivable adjustment, such as a cash receipt. Publish a customer receivable. (AM environment) Post a financial transaction to an AR ledger in the ERP administrative division. Post an allocation to a financial transaction in an AR ledger in the ERP administrative division. Publish a financial transaction. (IFM environment)

Verb	Noun	User action to generate the BOD
Acknowledge	ReceiveDelivery	Acknowledge the receipt of BOD from external product. No user action.
Process	ReceiveDelivery	Generate a Receive Production Item (RM) transaction.
Sync	ReceiveDelivery	Generate a Receive Item (RC), Receive Purchased Item to Dock (RD), Receive Production Item (RM), Receive Purchased Item to Stock (RP), Return Production Component (RS), Receive Transferred Item (RW), Approve Purchased Item (PQ), or Approve Production Item (MQ) transaction. Publish an inventory transaction history. Receive or return purchased MRO items. Receive or return shipped items for a purchase order. Run the Send Receiving Advice host job.
Sync	RemittanceAdvice	Publish a check. Publish a vendor invoice.
Sync	RemitToPartyMaster	Publish an entity. Publish an entity bank that is associated with an account and has an AP or AR personal account. Create or update a purchase order for any vendor that is an assignee. Publish a vendor.
Acknowledge	Requisition	Acknowledge the receipt of BOD from external product. No user action.

Sync	Requisition	Publish a purchase request.
Sync	RFQ	Publish a quote.
Acknowledge	SalesOrder	Acknowledge the receipt of BOD from external product. No user action.

Verb	Noun	User action to generate the BOD
Sync	SalesOrder	Generate a customer invoice in COM or CSM. Publish customer invoice. Create a customer order item. Run the End Order option. Create or change a customer order. Publish a customer order. Create or publish a customer order history.
Sync	ShipFromPartyMaster	Publish an entity. Create, update, or publish a vendor. Create, update, or publish a warehouse. Create, update, or publish a warehouse address.
Acknowledge	Shipment	Acknowledge the receipt of BOD from external product. No user action.
Process	Shipment	Publish an external shipment. Publish an external order shipment. Publish an order shipment. Create, update, or publish a manufacturing order. Print shop packet. When the quantity of a manufacturing order has been exceeded, or and RM transaction with a completion code of C is executed in XA. Release customer order. Print pick list. Create, update, or publish a repetitive schedule. Prime production line.

Sync	Shipment	If Inventory Management is installed, XA sends this BOD automatically when an Issue Sales Item (SA) transaction is generated in Inventory Transaction History. If Inventory Management is not installed, run the Generate Shipment host job for a pick pack ship item. This host job generates an Issue Sales Item (SA) transaction and automatically sends this BOD. Create or update a shipped item. Publish an order shipment.

Verb	Noun	User action to generate the BOD
Sync	ShipToPartyMaster	Publish an account ship-to. Create, update, or publish a customer ship-tos that belong to customers that are associated with accounts. Publish a ship-to Create, update, or publish a customer. Publish an entity. Create or update a warehouse. Create or update a warehouse address.
Sync	SourceSystemGLMovement	Publish GL Account period balance. Publishes GL Account Period Budget GL Account Period Balance for IFM. Only one budget is published per financial division - the IFM budget with BudgetID = FinancialDivisionID. Publish a GL account budget. Publish a GL activity. Publish a GL history.
Sync	SourceSystemJournalEntry	Publish a financial transaction. Publish a GL activity. Publish a GL history.
Sync	SupplierBalance	Publish a vendor balance.

Sync	SupplierInvoice	Post an invoice. Specify for the financial division, an accounts payable type. Post an accounts payable financial transaction to the ERP administrative division. Publish AP Transactions in the Financial Transactions object, for posted AP transactions in the ERP administrative division. Post an invoice for an MRO item received from a vendor. Post a vendor invoice for a purchase order.

Verb	Noun	User action to generate the BOD
Sync	SupplierPartyMaster	Create or update any information in these objects for an entity with an AP personal account in the ERP administrative division: • entity • current entity revision • contact for an entity • comment for an entity • current personal account revision • personal ledger Publish an entity. Publish an entity bank that is associated with an account and has an AP or AR personal account. Create or update a vendor. When AM is installed, create or update a purchase order for a vendor that is an assignee. This action sends the BOD when XA is the System of Record for the vendor. Publish a vendor.
Sync	SupplierPlanningSchedule	Create, update, or publish a purchasing plan.
Sync	SupplierQuote	Publish a quote.
Sync	SupplierRMA	Create remittance advice for a supplier.
Sync	SupplierShipmentSchedule	Publish a shipment schedule. Publish a shipment notice.

Sync	TradingPartner	Publish a: • customer • entity • entity bank that is associated with an account and has an AP or AR personal account. • vendor
Sync	Transfer	Publish an inventory transaction history.
Sync	UOMGroup	Publish a: • class UM conversion • global UM conversion • item UM conversion • unit of measure class

Appendix DInbound BOD usage

This table displays the incoming BODs that XA can accept. It also indicates, when possible, what areaof XA displays the processed inbound data.

Verb	Noun	Destination of processed data in XA
Acknowledge	AdvanceShipNotice	ExternalAdvanceShipNoticeHeaderNotification ExternalAdvanceShipNoticeItemNotification
Load	AdvanceShipNotice	ShipmentNotice ShipmentContainer ShipmentContainerItem
Sync	AdvanceShipNotice	ExternalAdvanceShipNoticeHeaderNotification ExternalAdvanceShipNoticeItemNotification
Process	BillOfMaterials	BillOfMaterial BillOfMaterialComponent
Sync	CarrierRoute	ExternalCarrierRouteNotification ExternalCarrierRouteChargeNotification ExternalCarrierRouteRouteStopNotification
Process	ContactMaster	Contact AccountContact
Process	CustomerPartyMaster	Account AccountContact ActivityTask
Process	IDFRequest	System-Link Request from custom BOD
Sync	IDFRequest	System-Link Request from custom BOD
Sync	InspectDelivery	ExternalInspectDeliveryNotification ExternalInspectDeliveryDocumentReferenceNotification
Process	InventoryAdjustment	AdjustExternalItemTxn

Sync	InventoryAdjustment	ExternalInventoryAdjustmentHeaderNotification ExternalInventoryAdjustmentLineNotification ExternalInventoryAdjustmentLineHoldCodeNotification
Sync	InventoryCount	ExternalInventoryCountHeaderNotification ExternalInventoryCountLineNotification ExternalInventoryCountLineHoldCodeNotification
Sync	InventoryHold	ExternalInventoryHoldNotification ExternalInventoryHoldHoldCodeNotification ExternalInventoryHoldItemHoldCodeNotification
Load	Invoice	ExternalInvoiceNotification ExternalInvoiceNotificationLine
Process	ItemMaster	EnterpriseItem ItemRevision ItemWarehouse
Sync	ItemMaster	EnterpriseItem ItemRevision ItemWarehouse
Process	PurchaseOrder	PurchaseOrder PoItem PoItemRelease PurchaseOrderVendorAcceptTxn PurchaseOrderItemVendorAcceptTxn PurchaseOrderItemReleaseVendorAcceptTxn
Sync	PurchaseOrder	PurchaseOrder PoItem PoItemRelease PurchaseOrderVendorAcceptTxn PurchaseOrderItemVendorAcceptTxn PurchaseOrderItemReleaseVendorAcceptTxn
		ExternalReceiveDeliveryHeaderNotification ExternalReceiveDeliveryItemNotification ExternalReceiveDeliveryItemDocRefNotification ExternalReceiveDeliveryItemHoldCodeNotification ExternalReceiveDeliveryUnitNotification ExternalReceiveDeliveryUnitItemNotification ExternalReceiveDeliveryUnitItemSerialNumber

Acknowledge	ReceiveDelivery	ExternalReceiveDeliveryUnitItemDocRef ExternalReceiveDeliveryUnitItemSerializedLot ExternalReceiveDeliveryUnitItemSLLot
Process	ReceiveDelivery	ExternalReceiptNotification ExternalReceiveDeliveryLineNotification
Sync	ReceiveDelivery	ExternalReceiveDeliveryHeaderNotification ExternalReceiveDeliveryItemNotification ExternalReceiveDeliveryItemDocRefNotification ExternalReceiveDeliveryItemHoldCodeNotification ExternalReceiveDeliveryUnitNotification ExternalReceiveDeliveryUnitItemNotification ExternalReceiveDeliveryUnitItemSerialNumber ExternalReceiveDeliveryUnitItemDocRef ExternalReceiveDeliveryUnitItemSerializedLot ExternalReceiveDeliveryUnitItemSLLot
Sync	RemitToPartyMaster	Vendor VendorContact
Process	Requisition	PurchaseRequest Requisition RequisitionExtension
Process	SalesOrder	CustomerOrder CoLineItem
Sync	ServiceConsumption	IssueExternalItemTxn
Sync	ShipFromPartyMaster	Vendor VendorContact
Load	Shipment	IssueExternalItemTxn
Process	Shipment	IssueExternalItemTxn

		ExternalShipmentHeaderNotification ExternalShipmentItemNotification ExternalShipmentUnitNotification ExternalShipmentHeaderRouteStopNotification ExternalShipmentHeaderRouteStopDetailNotification ExternalShipmentHeaderTrackingNotification ExternalShipmentItemRFIDNotification ExternalShipmentItemSerializedLotNotification ExternalShipmentItemHoldCodeNotification ExternalShipmentItemComponentNotification ExternalShipmentUnitRFIDNotification ExternalShipmentUnitContainerNotification ExternalShipmentUnitItemNotification ExternalShipmentUnitItemLotNotification
Acknowledge	Shipment	ExternalShipmentUnitItemClassificationNotification
		ExternalShipmentHeaderNotification ExternalShipmentItemNotification ExternalShipmentUnitNotification ExternalShipmentHeaderRouteStopNotification ExternalShipmentHeaderRouteStopDetailNotification ExternalShipmentHeaderTrackingNotification ExternalShipmentItemRFIDNotification ExternalShipmentItemSerializedLotNotification ExternalShipmentItemHoldCodeNotification ExternalShipmentItemComponentNotification ExternalShipmentUnitRFIDNotification ExternalShipmentUnitContainerNotification ExternalShipmentUnitItemNotification ExternalShipmentUnitItemLotNotification
Sync	Shipment	ExternalShipmentUnitItemClassificationNotification

		ExternalInvoiceNotification ExternalInvoiceNotificationDocumentReference ExternalInvoiceNotificationCharge ExternalInvoiceNotificationLine
Load	SupplierInvoice	ExternalInvoiceNotificationLineInvoiceCharge

Sync	SupplierInvoice	ExternalInvoiceNotification ExternalInvoiceNotificationDocumentReference ExternalInvoiceNotificationCharge ExternalInvoiceNotificationLine ExternalInvoiceNotificationLineInvoiceCharge
Sync	SupplierPartyMaster	Vendor VendorContact
Sync	InspectionOrder	External Inspection Order Notification External Inspection Order Notification Document Reference

Appendix EBODs used in XA integrations

This appendix contains two tables that list the BODs that are available with XA in the rows. The 'To products' and 'From products' columns list the products where the BOD is used in XA's integration with that product. Where the product is blank, the BOD is not currently used by interfacing products, but the BOD is generated by XA and is available to be processed through ION and any product that is set up to receive it.

Below are different products those are integrated with XA.

- CRM – Customer Relationship Management
- EAM – Enterprise Asset Management
- SCE/WM – Supply Chain Execution/Warehouse Management
- PLM – Product Lifecycle Management
- SE – Supplier Exchange
- CPQ – Infor Configure Price and Quote.
- Inforce – Infor Inforce
- LSP – Local.ly Services Platform
- Infor Reporting
- IQM – Infor Quality Management

Verb	Noun	To products
Sync	AccountingChart	Infor Reporting
Sync	AccountingEntity	Infor Reporting, LSP
Process	AdvanceShipNotice	SCE/WM
Sync	AdvanceShipNotice	Infor Reporting
Sync	BillOfMaterials	PLM
Sync	BillToPartyMaster	CRM, Infor Reporting, Inforce
Acknowledge	BOD	PLM, SCE/WM
Sync	CarrierParty	CRM, SCE/WM

Sync	ChartOfAccounts	Infor Reporting
Sync	CodeDefinition	CRM, Infor Reporting, Inforce, PLM
Acknowledge	ContactMaster	CRM, Inforce
Sync	ContactMaster	CRM, Inforce
Sync	Contract	Infor Reporting
Acknowledge	CustomerPartyMaster	CRM, Inforce, LSP
Sync	CustomerPartyMaster	CRM, Infor Reporting, Inforce, SCE/WM
Sync	CustomerReturn	CRM, Infor Reporting, Inforce
Sync	FinancialCalendar	Infor Reporting, LSP
Acknowledge	InventoryAdjustment	EAM
Process	InventoryAdjustment	SCE/WM
Sync	InventoryAdjustment	EAM
Sync	Invoice	CRM, Infor Reporting, Inforce, LSP
Acknowledge	ItemMaster	PLM, SCE/WM
Sync	ItemMaster	CRM, EAM, Infor Reporting, Inforce, PLM, SCE/WM
Sync	Location	Infor Reporting, LSP
Sync	Opportunity	Infor Reporting
Sync	PayableTransaction	Infor Reporting
Sync	PayFromPartyMaster	CRM, Inforce
Sync	Person	CRM, Infor Reporting
Sync	ProductionOrder	Infor Reporting
Sync	ProductionReceiver	SCE/WM
Acknowledge	PurchaseOrder	SupplierExchange
Sync	PurchaseOrder	EAM, SCE/WM, SupplierExchange, Infor Reporting
Sync	Quote	CRM, Inforce
Sync	ReceivableTransaction	CRM, Infor Reporting, Inforce
Acknowledge	ReceiveDelivery	EAM
Process	ReceiveDelivery	SCE/WM
Sync	ReceiveDelivery	EAM, Infor Reporting, SupplierExchange

Acknowledge	Requisition	EAM
Sync	Requisition	Infor Reporting
Sync	RFQ	Infor Reporting
Acknowledge	SalesOrder	Sales Portal
Sync	SalesOrder	CRM, Infor Reporting, Inforce
Sync	ShipFromPartyMaster	SCE/WM, Infor Reporting
Acknowledge	Shipment	EAM
Process	Shipment	SCE/WM
Sync	Shipment	CRM, EAM, Infor Reporting, Inforce
Sync	ShipToPartyMaster	CRM, Infor Reporting, Inforce, SCE/WM
Sync	SourceSystemGLMovement	Infor Reporting
Sync	SourceSystemJournalEntry	Infor Reporting
Sync	SupplierInvoice	EAM, Infor Reporting, SupplierExchange, LSP
Sync	SupplierPartyMaster	EAM, Infor Reporting, PLM, SCE/WM, LSP
Sync	SupplierPlanningSchedule	SupplierExchange
Sync	SupplierShipmentSchedule	SupplierExchange
Sync	LCLTaxReport	LSP
Process	InspectionOrder	IQM

Verb	Noun	From products
Acknowledge	AdvanceShipNotice	Infor Reporting, SCE/WM
Load	AdvanceShipNotice	Infor Reporting, SupplierExchange
Sync	AdvanceShipNotice	Infor Reporting, SCE/WM
Process	BillOfMaterials	Infor Reporting, PLM
Sync	CarrierRoute	Infor Reporting
Process	ContactMaster	CRM, Infor Reporting, Inforce
Process	CustomerPartyMaster	CRM, Infor Reporting, Inforce
Process	IDFRequest	Infor Reporting
Sync	IDFRequest	Infor Reporting
Sync	InspectDelivery	Infor Reporting, SCE/WM

Process	InventoryAdjustment	EAM, Infor Reporting
Sync	InventoryAdjustment	Infor Reporting, SCE/WM
Sync	InventoryCount	Infor Reporting, SCE/WM
Sync	InventoryHold	Infor Reporting, SCE/WM
Load	Invoice	Infor Reporting
Process	ItemMaster	Infor Reporting, PLM, SCE/WM
Sync	ItemMaster	Infor Reporting
Process	PurchaseOrder	Infor Reporting, SupplierExchange
Sync	PurchaseOrder	Infor Reporting
Acknowledge	ReceiveDelivery	Infor Reporting
Process	ReceiveDelivery	EAM. Infor Reporting
Sync	ReceiveDelivery	Infor Reporting, SCE/WM
Sync	RemitToPartyMaster	Infor Reporting
Process	Requisition	EAM, Infor Reporting
Process	SalesOrder	Infor Reporting, CPQ
Sync	ServiceConsumption	EAM, Infor Reporting
Sync	ShipFromPartyMaster	Infor Reporting
Acknowledge	Shipment	Infor Reporting
Load	Shipment	Infor Reporting
Process	Shipment	EAM, Infor Reporting
Sync	Shipment	Infor Reporting, SCE/WM
Load	SupplierInvoice	Infor Reporting, SupplierExchange
Sync	SupplierInvoice	Infor Reporting
Sync	SupplierPartyMaster	Infor Reporting
Sync	InspectionOrder	IQM

Appendix FInstalling IDFRequest and IDFResponsecustom BODs

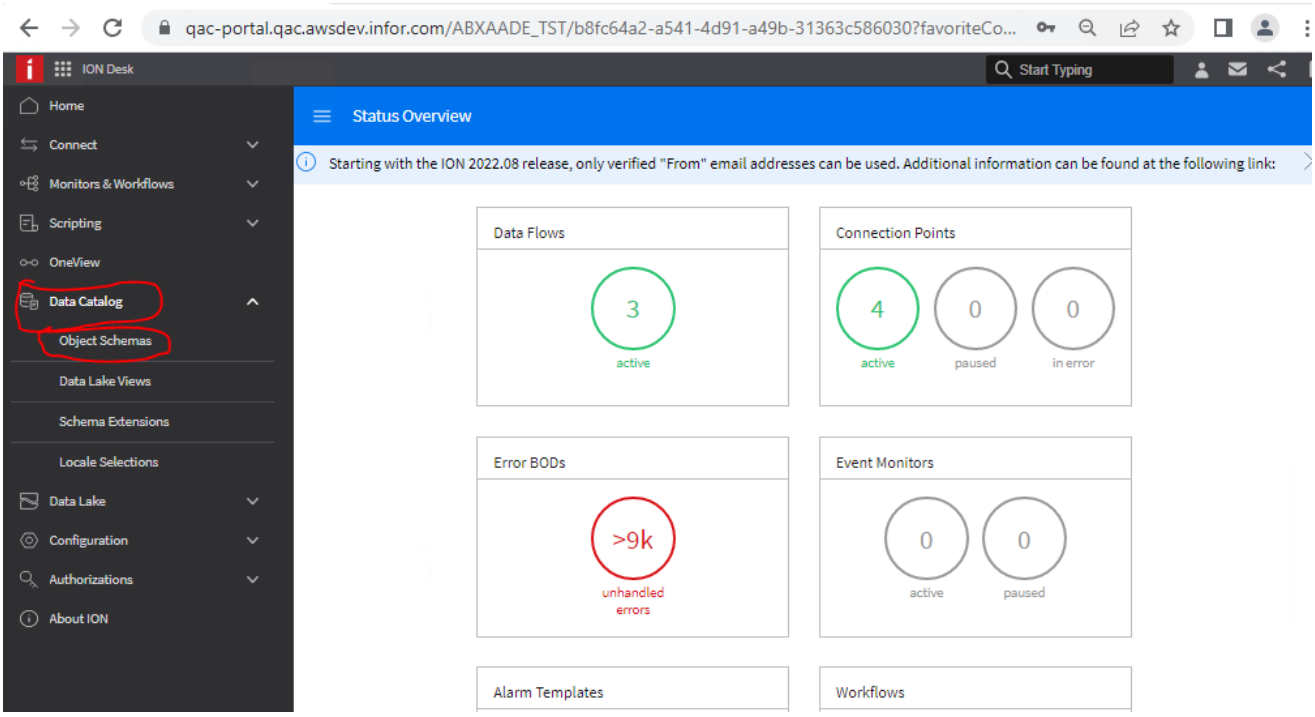
IDFRequest and IDFResponse BODs enable XA-XA object replication using ION. These BODs provide a BOD envelope for System-Link request and response XML documents.

1 Map a network drive to the ADFS folder /Infor/vlib/ION.

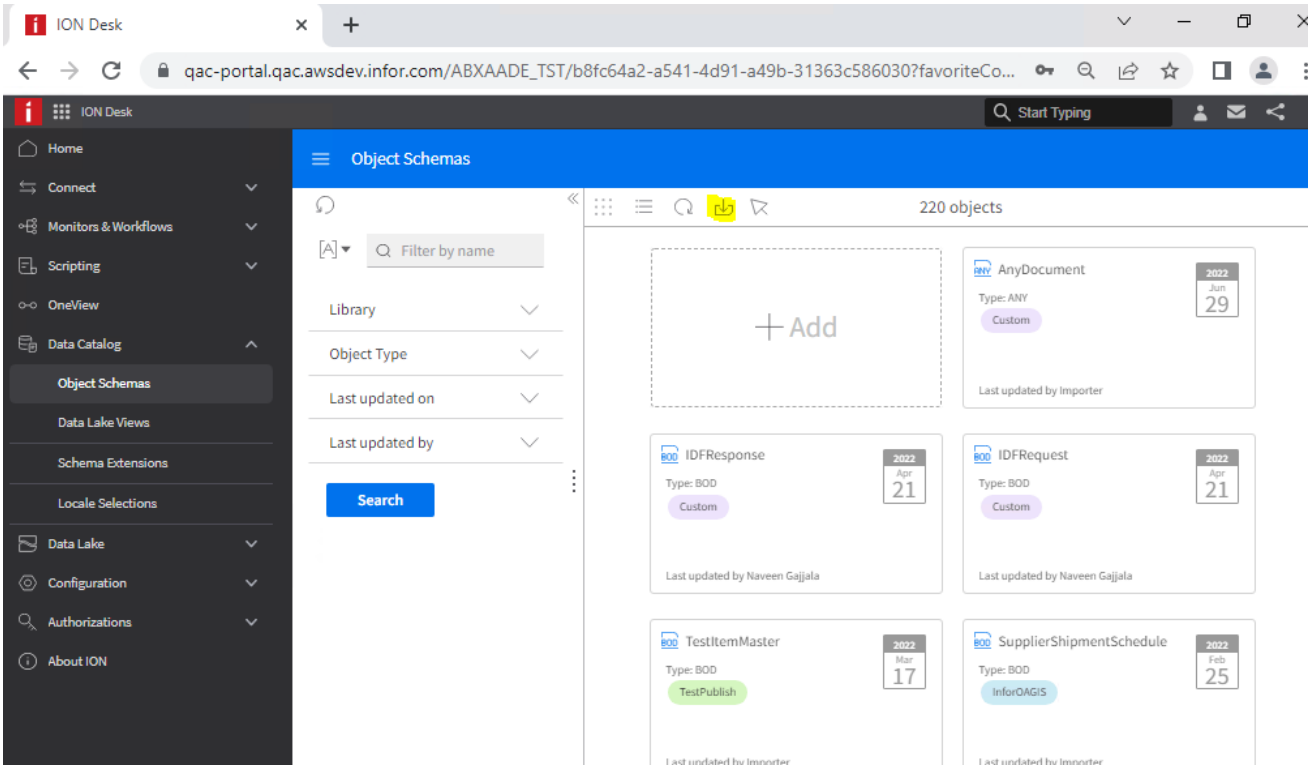
2 Copy files **IDFRequest.zip** and **IDFResponse.zip** from the mapped ADFS folder to a temporary folder.

3 Log in to ION.

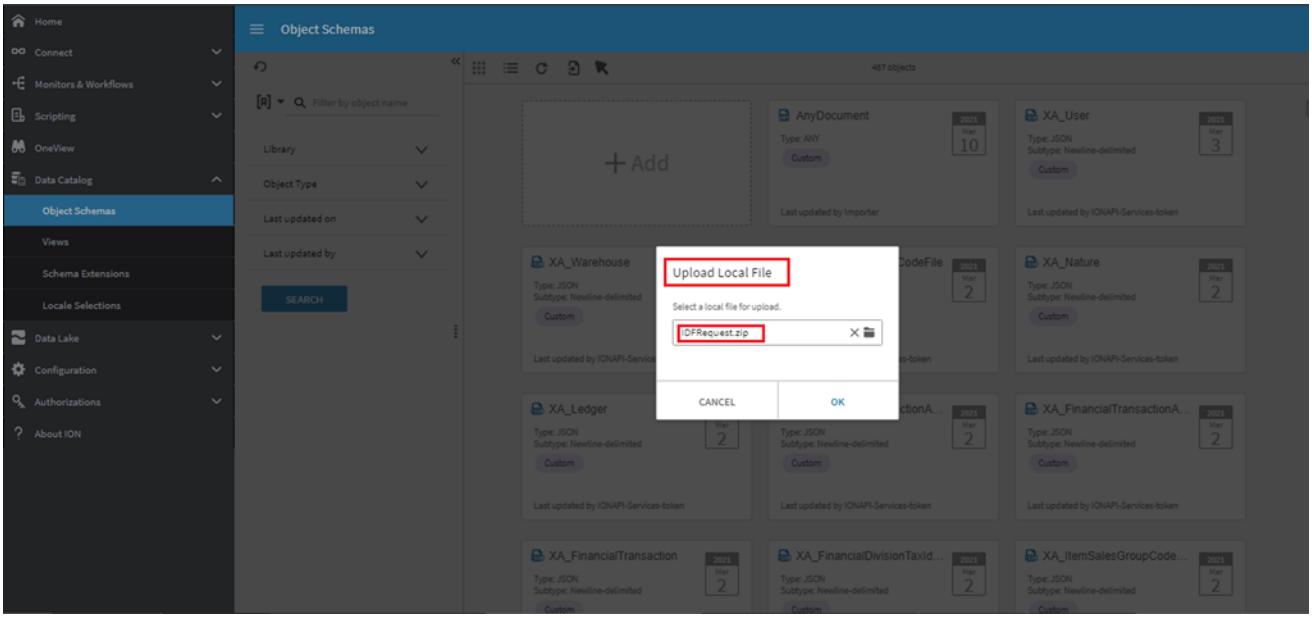
4 Select **Data Catalog > Object Schemas**.



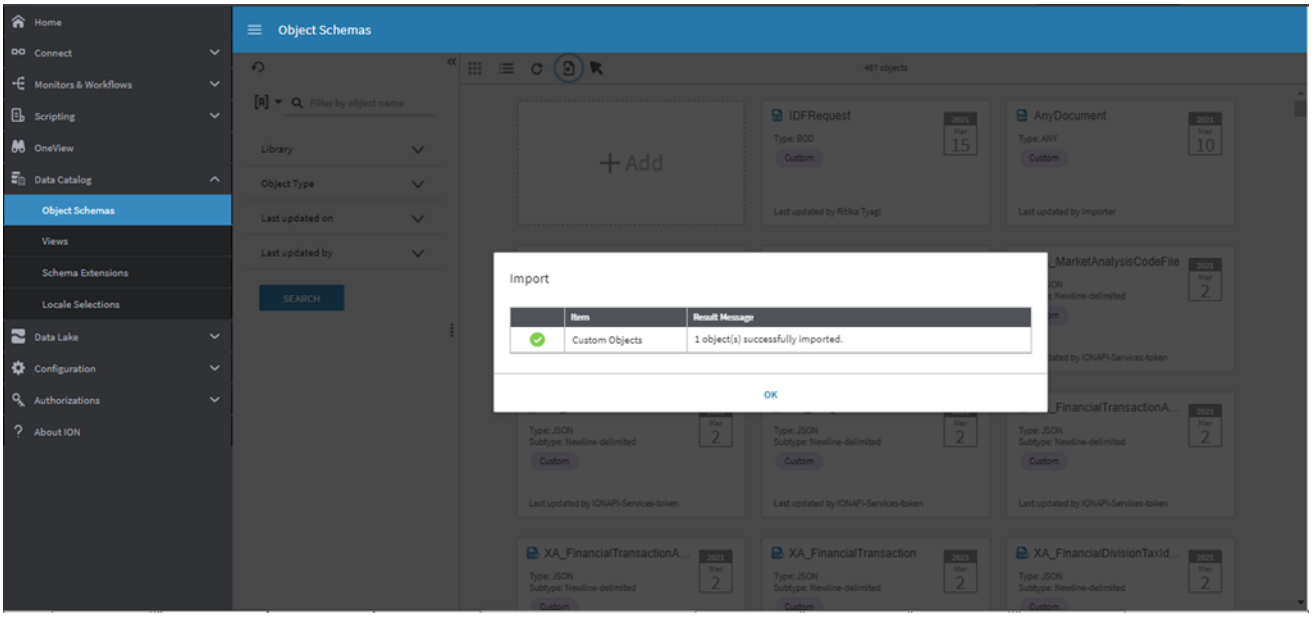
5 Click **Import**.



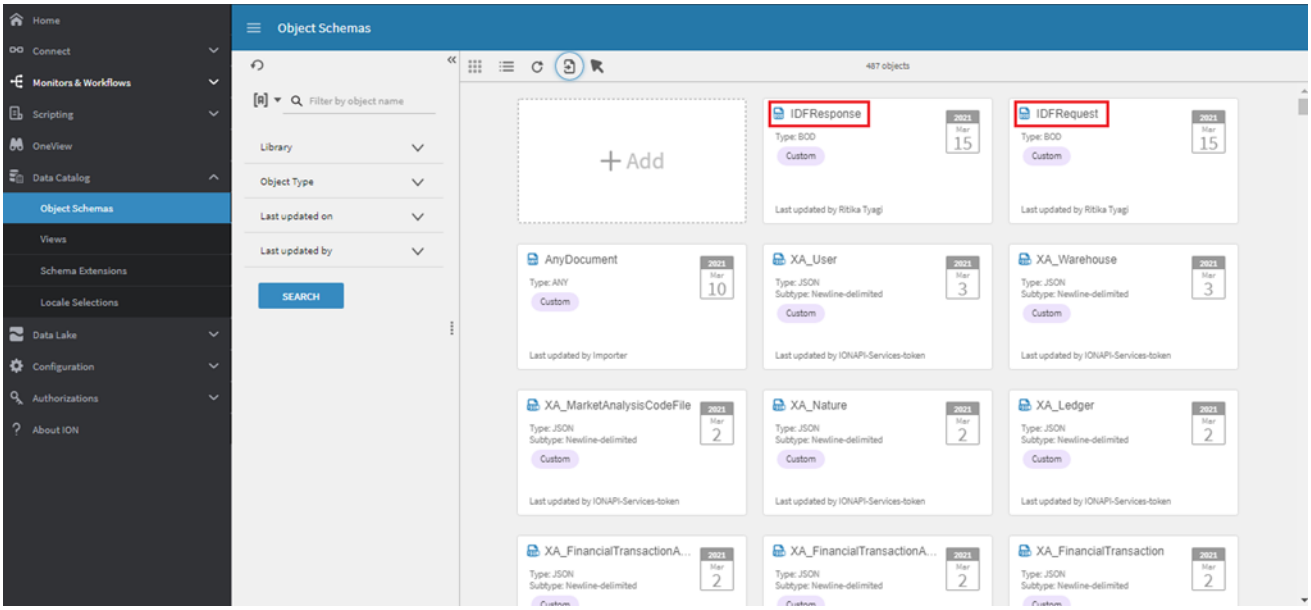
6 Upload the file, which was copied, i.e., **IDFRequest.zip**. Click **OK**.



7 After the files are imported, click **OK**.



8 Similarly import for IDF Response, i.e., **IDFResponse.zip** file. The BODs are displayed.



Appendix G Extending Outbound BODs using User Area

User area overview

You can use the Extending BODs using User Area function to send additional information through existing BODs without any code changes in the User Area section of the BOD. The user area attributes can be used as is by the receiving application or can be transformed using ION to any standard BOD element. Currently, the Extending BODs using User Area function is only available to outbound BODs from XA.

Using the User Area feature in the BOD

These steps are documented at a high level:

1 If required, add new logical attribute to the XA business object.

2 Create attribute group to include required attributes.

3 Create ION Mapping if newly added attribute requires that it be mapped to other places in the BOD other than User Area.

4 Add that mapping to document flow.

Adding new user logical attributes to a business object

You can add a new user logical attribute to the attribute group for use in the BOD.

1 Double-click the Business Object icon on the Integrator application card.

2 Select the business object in the Business Objects list window.

3 Select Create on the Attribute card.

4 Specify this information:

Attribute name

Specify the name of the attribute.

Attribute description

Specify the description of the attribute as displayed to the users in the user definition editors.

Attribute type

Specify the type of attribute. These values are valid:

- Alpha: The attribute's value can contain characters, A-Z and 0-9 and some special characters.
- Numeric: The attribute's value can only contain the characters, 0-9.
- Date: The attribute's value must be a date.
- Time: The attribute's value must be a time.
- Timestamp: The attribute's value must be a timestamp.

Attribute length

Specify the number of characters or digits for the attribute. The attribute length defaults from the file during synchronization. Only maintainable for user defined objects with an attribute type of physical.

Attribute decimals

Specify the number of decimal positions for the numeric attribute. The attribute length defaults from the file during synchronization. This field is only maintainable for user-defined objects with an attribute type of physical.

Return here to create another

If this check box is available, then select it to return to this dialog box when you click **Create**.

Preview before create

Select this check box to view or change information when you click **Create**.

5 Click **Create**.

If you selected the **Preview before create** check box, then you can maintain object information. Use F1 to see information for an attribute.

6 Select the Logical Expression tab on the Create Attribute dialog box.

7 Click Create Logical Expression on the Logical Expression tab.

8 Click Add on the Build Logical Expression dialog box.

9 Select the function or option for the logical expression. These values are valid:

- None: available for alpha and numeric attributes
- Substring: returns part of a String. This function is only available for alpha attributes.
- Trim blanks: removes leading or trailing characters from a String. This function is onlyavailable for alpha attributes.
- Uppercase: converts a String to upper case letters. This function is only available for alpha attributes.
- Coalesce:

10 If you selected Substring, specify this information:

Starting position

Specify the first character of the substring.

Length

Specify the number of characters of the substring.

11 If you selected Trim blanks, specify this information:

Leading blanks

Specify how many blanks to remove from the beginning of the string.

Tailing blanks

Specify how many blanks to remove from the end of the string.

12 Click **Continue**, and then click **Continue** on the Build Logical Expression dialog box.

13 Click **Create**.

Attribute Groups in Business Objects

You can add or modify a mapped element in the BOD by adding the new attributes to a user group under the business object. The user group is used to move the attributes with the BOD automatically into the User Areas. If you want to use the attributes at another place in the BOD other than the User Area, then you must create an ION transformation, which is independent of the Infor supplied updates and enhancements to the BOD.

Creating an attribute group for a business object

After creating a new attribute, create a new user group with the type of System-Link Request User Extended Attributes for all attributes required in the BOD.

Note: You can have only one attribute group of type **System-Link Request User Extended Attributes** per business object.

1 Select the **Groups** tab on the **Attributes** card.

2 Select the **Create** option on the **Groups** tab.

3 Specify this information:

Description

Specify a description for the integrator attribute group.

Attribute group type

Select **System-Link Request User Extended Attributes.**

Return here to create another

If this check box is available, then select it to return to this dialog box when you click Create.

4 Click **Create**.

You can group existing or user created attributes to the user group. See ‘Adding attributes to the user group’.

Adding attributes to the attribute group

You can add multiple attributes to a user group. Attributes can be imported from the selected business object or can be imported from related business objects.

1 Expand the new user group on the **Groups** tab and select **Attributes**.

2 Select **Create**.

3 Specify this information:

Relationship identification

Specify the relationship of the attribute to the user group.

Use the drop-down to select a relationship from a related business object.

Attribute name

Specify the name of the attribute.

Return here to create another

If this check box is available, then select it to return to this dialog box when you click Create.

4 Click **Create**.

5 Click **Continue** when you have added all attributes.

To commit the changes to the server, you need to save the changes to the host. See ‘Saving the business object to the host’ on page 98

Saving the business object to the host

After saving the changes to the host server, the user area attributes are sent in the BOD whenever you publish or create data related to the business object.

1 Select the business object in the Business Objects list window.

2 Select **File > Save to Host.**

3 Click **Commit**.

Mapping user area attributes using XSLT

You can map standard user area attributes to other BODs using the XSLT mapping function from ION Desk. The user area attributes are added to the standard BOD under the XML tag user area.

Creating an XSLT mapping in ION Desk

If new user area attributes need to be mapped to any element in the BOD, use the XSLT Mapping option in ION Desk to create an XSLT mapping. See 'Creating mapping from the Mappings menu' in the *Infor ION Desk User Guide–Cloud Edition*.

The following rules are applicable when creating the User Area element and its property in the BOD tag:

1 All User Area field names starts with '**xa'**.

2 The User Area field has name of the attribute, which was added in '**System-Link Request User Extended Attributes**'

3 The User Area field has type of the value.

4 The User Area field has value of that attribute.

5 The User Area field has description of that attribute. Example user area element and its property in the BOD tag:

```
<UserArea>
    <Property>
        <NameValue name="xa.relatedItemWarehouse.relatedPlanner.plannerName"
            type="StringType">George</NameValue>
        <Description>This is a custom Element</Description>
    </Property>
</UserArea>
```

Example of an XSLT to create mapping in ION:

Note: This is a sample XSLT, however, you can create an XSLT mapping to ION in different ways, which require modifications for other Objects, BODs, and BODElement.

```
<?xml version='1.0' encoding='UTF-8'?>
<xsl:stylesheet exclude-result-prefixes='xsl in4 oag'
xmlns:in4='http://schema.infor.com/InforOAGIS/2'
xmlns:oag='http://www.openapplications.org/oagis/9'
    version='1.0' xmlns:xsl='http://www.w3.org/1999/XSL/Transform'>
    <xsl:output method='xml' indent='yes' encoding='UTF-8'/>
```

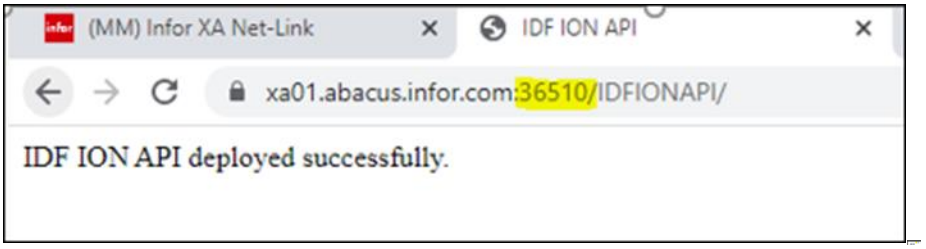
```
    <xsl:strip-space elements='*' />

    <xsl:template match='/'>
        <xsl:apply-templates/>
    </xsl:template>

    <!-- ++++++++++++++++++++++NO need to change anything Above
this++++++++++++++++++++++ -->
    <!--Comment next line to KEEP UserArea in Target XML-->
    <xsl:template match='in4:UserArea'/>

    <!--Add NEW element to as children to specific node [In this case
addName to 'ItemLocation/WarehouseLocation'-->
    <xsl:template match='in4:ItemLocation/in4:WarehouseLocation'>
        <xsl:element name='{local-name()}'>
            <xsl:apply-templates/>
            <xsl:element name='Name'>
                <xsl:value-of
select='../in4:UserArea/in4:Property/in4:NameValue[@name='xa.userField1']'/>
            </xsl:element>
        </xsl:element>
    </xsl:template>

    <!--Replace EXISTING element to as children to specific node [In
thiscase Replace 'ID' element at 'ItemLocation/WarehouseLocation/ID'-->
    <xsl:template match='in4:ItemLocation/in4:WarehouseLocation/in4:ID'>
        <xsl:element name='ID'>
            <xsl:value-of
select='../../in4:UserArea/in4:Property/in4:NameValue[@name='xa.userField1']'
/>
        </xsl:element>
    </xsl:template>

    <!-- ++++++++++++++++++++++NO need to change anything below
this++++++++++++++++++++++ -->
    <xsl:template match='node()'>
        <xsl:choose>
```

```
            <xsl:when test='self::text()'>
                 <xsl:value-of select='.'/>
                </xsl:when>
                <xsl:when test='self::comment()'>
                     <xsl:copy-of select='self::comment()'/>
                </xsl:when>
                <xsl:when test='self::processing-instruction()'>
                     <xsl:copy-of select='self::processing-instruction()'/>
                </xsl:when>
                <xsl:otherwise>
                     <xsl:element name='{local-name()}'>
                          <xsl:for-each select='./@*'>
                               <xsl:attribute name='{local-
name()}'><xsl:value-of select='.'/></xsl:attribute>
                          </xsl:for-each>
                      <xsl:for-each select='child::node()'>
                           <xsl:apply-templates select='.'/>

                          </xsl:for-each>
                     </xsl:element>
                </xsl:otherwise>
           </xsl:choose>
      </xsl:template>


</xsl:stylesheet>
```

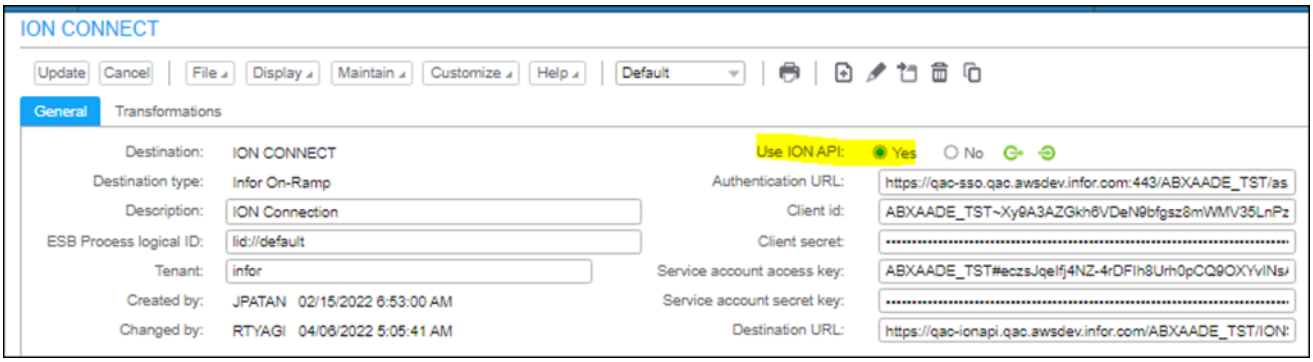
Appendix HXA – IMS via API Gateway Troubleshooting

1 The System-Link processing should be in running state for IMS to work as expected.

2 IDFIONAPI application should be deployed successfully, up and running all the time for IMS inbound bod processing to work.



3 “Use ION API” flag should be always set to “Yes” for IMS to work continuously with XA. If this is set to “No” and bods are published, then the bods will be sitting in ION Inbox and Outbox un-attended by XA and ION.



In such situations, you need to delete them from Inbox/Outbox and republish them by enabling the “Use ION API” flag.

4 There are chances that IMS/ION API might be down or Document flow is inactive for some time, in such cases the bods will be waiting in System-Link Outbox to get picked up by ION once services are up and running. Restart SLO to process the pending BODs in outbox.

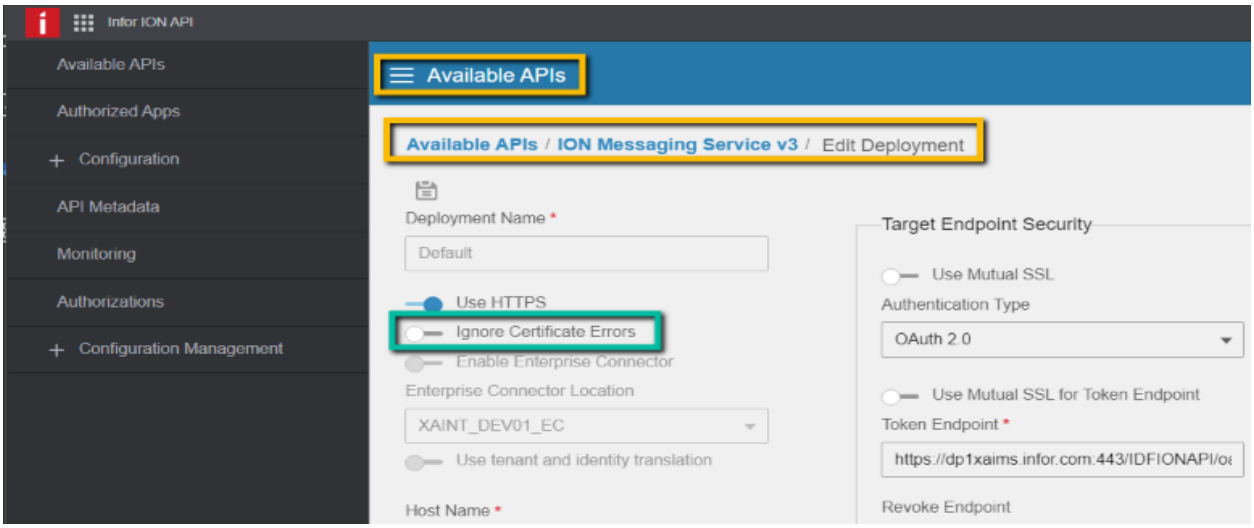
5 System-Link Request/Response files generated in Transaction status will also provide details regarding errors if any in the connectivity of configuration issues.

6 User can check SLS and NLS logs as well for errors if there is any issues in communication.

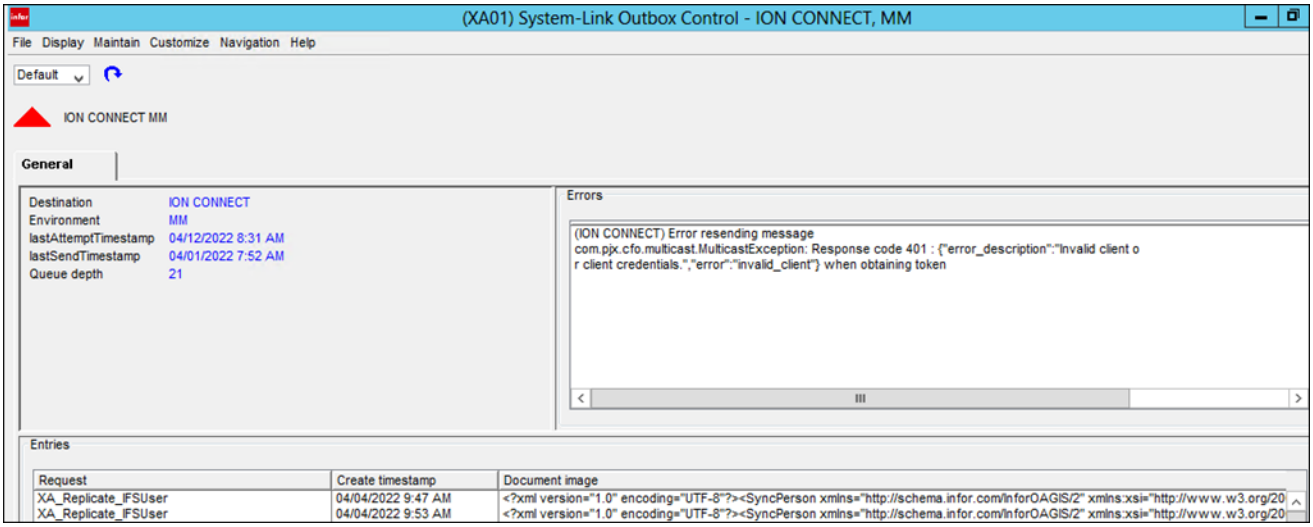
7 The BODs that are not configured in ION will not be held in SLO. In transaction status we can see error messages for the bods not accepted by ION. Clear the unwanted BODs from SLO or add the new BODs in Connection Point. Re-activate Document flow in ION. Restart SLO to process the pending BODs in outbox.

Self-Signed Certificate used by IDFIONAPI

When self-signed certificate is used for SSL process of IDFIONAPI application, then toggle "**Ignore Certificate Errors**" option in ION messaging Service V3 in Available APIs in ION API.



Invalid Client or Client Credentials Error in SLO

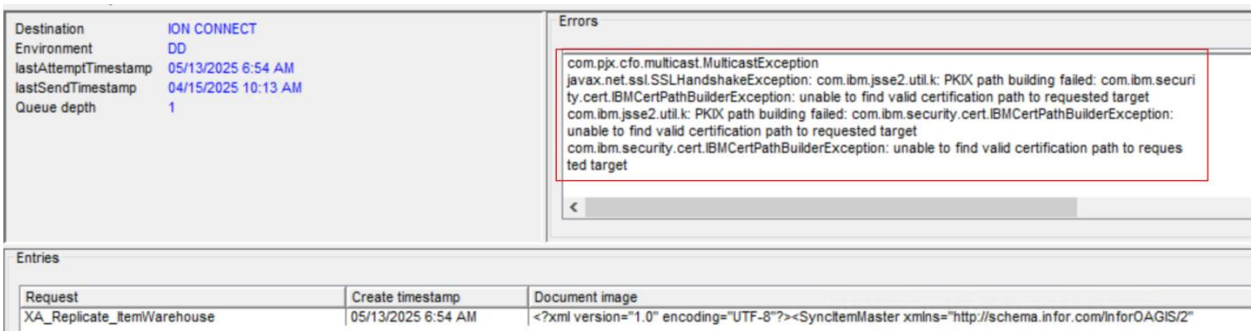


In the Errors section in SLO, we can find the reason or root cause of the bods not going to ION. Based on the error message, we need to fix and restart SLO to process the waiting bods.

For example, the above error message suggests that the client credentials are invalid and need to be changed or regenerated and uploaded to fix the issue.

SSLHandeShake Exception in SLO

This error indicates that the remote host's (Infor OS Portal) Certificate Authority (CA) is not trusted and needs to be imported into the JVM's keystore for XA to connect with IONCE.



Refer to **KB3602851** for solution.

Application connection point is not in active state Error in SLO

If the Logical ID(lid) of the XA environment connection point in ION is not matching with the XA expected LID, then below error is observed in SLO.

```
(NO SESSION) IONAPIHandler: Error response from ION API: 412 - Precondition Failed : (FAIL)  - 5004 Application connection point
'lid://infor.xa.fpiksys-dr' is not in active state
(ION) Error resending message
com.pjx.xaf.multicast.handler.HttpStatusException: The ION Application Endpoint for recipient ION is not in an active state.
    at com.pjx.xaf.multicast.handler.IONAPIHandler.handleResponse(IONAPIHandler.java:356)
    at com.pjx.xaf.multicast.handler.HttpHandler.sendMessageProtected(HttpHandler.java:195)
    at com.pjx.xaf.multicast.handler.IONAPIHandler.sendMessageProtected(IONAPIHandler.java:288)
    at com.pjx.xaf.multicast.handler.AbstractHandler.sendMessage(AbstractHandler.java:172)
    at com.pjx.slo.SLOServerProcessor.resendMessage(SLOServerProcessor.java:388)
    at com.pjx.slo.SLOServerProcessor.processMessage(SLOServerProcessor.java:217)
    at com.pjx.slo.SLOServerProcessor.processMessages(SLOServerProcessor.java:163)
    at com.pjx.slo.SLOServerProcessor.run(SLOServerProcessor.java:105)
    at java.lang.Thread.run(Thread.java:825)
```

Make sure the Logical ID of the connection point in ION matches with the lid in the above error. Refer to **KB2293388** for more information.

After the connection point LID changes are done in ION, restart SLO to pick the new LID.

Appendix I Extending Inbound BODs using User Area

XA is now enhanced to support processing User Area fields coming in inbound bods and update same in XA Standard Business objects to update in XA.

With this enhancement, Customers can write their own logic to process incoming User Area attributes and map them into XA specific tables by overriding new stylesheet called ***BOD_Input_XADefault_UserArea.xsl*** provided as part of this enhancement. Customers now need to modify this stylesheet code to use this functionality.

This solution currently supports below inbound bods.

ItemMaster

PurchaseOrder

SupplierInvoice

SalesOrder

This solution not only supports mapping incoming user fields, but also data from existing tags in bod into new attributes in XA.

This solution will be extended for all the inbound bods in future based on Customer/business need.

Pre-requisites

To implement this solution, user should have knowledge of standard BOD structure and XSLT coding to write their own logic in Overridden Stylesheet given by XA.

No server-side changes are needed for this implementation.

Should have access to KB **2253982** to download sample/template transformations and implement this solution.

This functionality is available in the latest Client releases mentioned in KB 2253982.

Before starting this implementation, the expectation is that the incoming bod is having the required “UserArea” tag/section and User fields in standard bod structure with required data.

Changes in XA Standard transformations

Below additional code is added in standard transformations to support this functionality.

Changes for ItemMaster Inbound

In XA, the inbound XA_Sync_ItemMaster_BOD_2_10_0.xsl transformation reads data from ItemMasterHeader section of incoming Sync.ItemMaster bod and creates Enterprise Item, Item Revision and Item Warehouse records in XA.

This new implementation allows this same transformation to search for UserArea section/tags in ItemMasterHeader section of Sync.ItemMaster bod and if found then allow users to write logic in new transformation to read data from User Area fields and map them to Item Revision and Item Warehouse related attributes.

In XA_Sync_ItemMaster_2_10_0.xsl related XA_Input_NOUN_ItemMaster.xsl

While creating Item Revision Object.

BOD_Input_XADefault_UserArea.xsl | XA_Input_NOUN_ItemMaster.xsl

```
386                         <xsl:value-of select="normalize-space(in4:SerialControlIndicator)"/>
387                     </Value>
388                 </Property>
389             </xsl:if>
390             <xsl:if test="in4:UserArea">
391                 <xsl:call-template name="InboundUserArea">
392                     <xsl:with-param name="domainClass">com.mapics.epdm.ItemRevision</xsl:with-param>
393                 </xsl:call-template>
394             </xsl:if>
395         </DomainEntity>
```

While creating Item Warehouse Object.

BOD_Input_XADefault_UserArea.xsl | XA_Input_NOUN_ItemMaster.xsl

```
453                         <xsl:value-of select="in4:ProcurementParameters/in4:DefaultSource/in4:Supplier
454                     </Value>
455                 </Property>
456             </xsl:if>
457             <xsl:if test="in4:UserArea">
458                 <xsl:call-template name="InboundUserArea">
459                     <xsl:with-param name="domainClass">com.mapics.epdm.ItemWarehouse</xsl:with-param>
460                 </xsl:call-template>
461             </xsl:if>
```

Above newly added code checks for UserArea section/tag in incoming ItemMasterHeader section of Sync.ItemMaster bod while creating ItemRevision and ItemWarehouse records/Objects in XA.

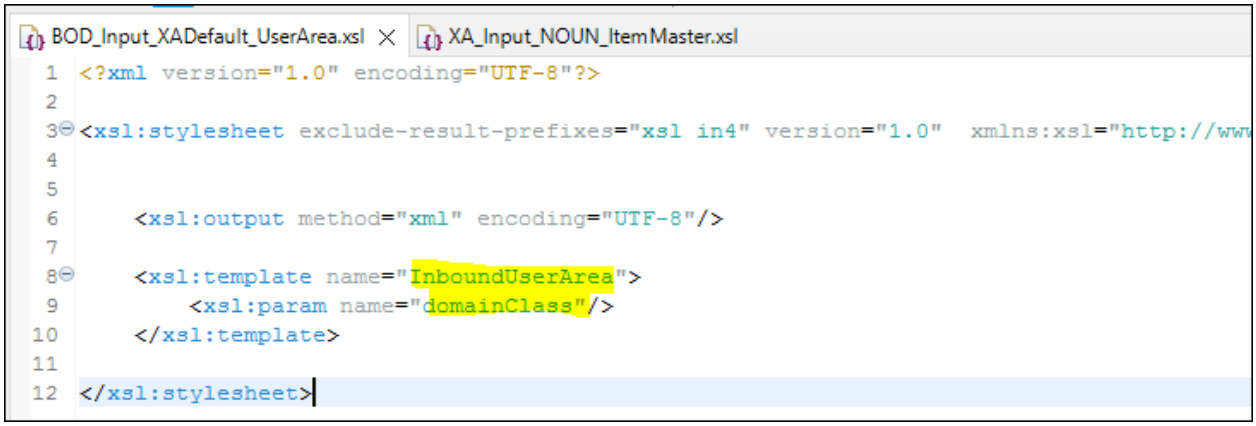
This code calls the InboundUserArea template by passing a parameter called domainClass.

This parameter sends respective business objects class name as value from the where the InboundUserArea template is called.

In the above screen shots, we can see that Item Revision and Item Warehouse specific class names are passed as input while calling InboundUserArea template.

This “domainClass” parameter will help the user in determining the Business Object and attributes to which the user field data need to mapped.

Below is the default implementation of InboundUserArea template in standard XA code/Jars.



Since this is an empty template without any logic, no action is taken by code even though the code is able to find UserArea section in ItemMasterHeader section of BOD.

Users need to override this transformation and write their own logic to read data from UserArea section of ItemMasterHeader section of BOD.

Implementation

Refer to **KB 2253982** for more details on Supported User Area section in BODs and how to implement this solution with examples.