



Infor XA Configuration Guide for Infor ION

XA 9.2,10.0 and 11.0
ION 2024-xx

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Publication Information

Release: Infor XA 9.2,10.0 and 11

Infor ION 2024.xx

Publication date: Aug 07, 2025

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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 setup instructions. It describes the ION connection points that are used in the integration. This document provides information about the 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” on page 37
 - “Infor ION overview” on page 12
- 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 Support portal, as described in “Contacting Infor” on page 8.

Infor ION documents

For more information about Infor ION, see these documents:

- *Infor ION Development Guide*
- *Infor ION Technology Connectors Administration Guide*
- *Infor ION Desk User Guide*

This table displays the types of documents that are related to ION integrations and their purpose:

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 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.
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.

Document type	Purpose
<i>Infor XA Configuration Guide for Infor LTR using System i Workspace AnyWhere</i>	This document provides prerequisites and instructions to deploy the product in Infor LTR ,either as a plug-in or by other methods. The guide describes the configuration of the product to use Single Sign-On (SSO) technology through ADFS, Active Directory or other methods. It may contain a reference to another guide where the SSO setup is described more fully. This guide also includes instructions to configure Infor LTR to launch drill backs to theproduct. This guide may include product-specific information that is needed to use the product within Infor LTR or troubleshooting information.

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 met.

Required products

Ensure that you have installed and configured these products:

- Infor Federation Services
Infor Federation Services is installed with Infor LTR. See the appropriate installation guide for Infor LTR.
- Infor ION Desk and Infor ION Connect
The server where you install ION must be able to connect to the servers where you install XA and other BOD-enabled products.
See the *Infor ION Desk User Guide*.
- Infor XA Release 9.2, 10.0 and 11.0

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 must be integrated. These files are stored in the \infor\plib\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 document listed in the next column from Infor Xtreme. This document is required for this configuration.	<i>Infor ION Development Guide</i>
☐	Review the description of the XA configuration with ION.	“Integration with other products through ION” on page 13 “Concepts and definitions specific to this ION configuration” on page 13
☐	Configure IDF System-Link.	“Configuring System-Link ” on page 15
☐	Configure XA for integration with Infor ION.	“Configuring XA ” on page 19
☐	Configure a XA connection point, and optionally generate and activate ION document flows between XA and other products.	“Connecting XA to Infor ION” on page 26
☐	Publish BODs.	“Publishing BODs” on page 31
☐	Verify the configuration.	“Verifying the configuration” on page 33, Infor ION Technology Connectors Administration Guide

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.

For a conceptual overview of what BODs are and how these are used, see “BOD overview” on page37.

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 to a 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 document flows between XA and other ION-enabled products.

The document flows between XA and other products represent the business relationship between the databases. You use the ION Document Flow Modeler page to define these document flows.

If a document 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 in 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 ESB 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.

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 how these are defined 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 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**.

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” on page 24.

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 the business 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.

Note: 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 Sync BOD 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 Power-Link, select the System-Link Destinations object.
- 2 Select **Maintain > Create**.
- 3 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 create

Select this check box.

- 4 On the Create System-Link Destination dialog box, continue to specify the information for the destination.

Infor ESB Process Logical ID

Specify **lid://default**

Tenant

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.

- 5 Click **Create**.

Activating the System-Link transformations

The System-Link transformation 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 fields.
 - d Specify the transformation Log start and Log end date and times.
- 6 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 fields. The replication destination specified through Replication Settings for the individual object record overrides the replication destination specified at the Object Settings level.

Note: 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 and 10 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 Client Data Connection User Profiles.
- 4 Specify option **2** next to the **MXABUS** user profile.
- 5 Specify the same password you entered in step 2 in the User Password field, 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 where 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.

Note: Make sure the length of Organization node is **not** more than ten characters. For example, if machine name is **USATLD06** and environment is **AB**, you can use either **USATLD06** or **D06.AB** or any other combination of characters that is less than or equal to ten characters.

Financial division prefix

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 is not 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. For example, if machine name is **USATLD06** and environment is **AB**, you can use either **USATLD06** or **D06.AB** or any other combination of characters that is less than or equal to ten characters.

If you change the Organization node attribute for the root Organization Node accounting entity, the PUB* 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 accounting entity.

- 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 Connecting XA to Infor ION

You must perform these tasks in Infor ION:

- Configure a connection point for the XA product.
- Optionally, set up and activate a document flow between products.

Understanding connection points and document flows

You 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" on page 58.

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

A connection point can be reused multiple times in one or more document flows. You can also create connection points during the modeling of a document flow in the details section of the document flow elements. The connection points that are created during the modeling of a flow are added to the shared list of connection points, and these can be reused.

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* for additional information about connection points and document flows.

Creating 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.

Logical ID

Specify the logical ID. See “Setting up logical IDs, tenants, and accounting entities in XA” on page 24 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 24 to determine how this is defined in your product.

Logical ID Type

Specify **xa**, as the type that 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 attribute 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.

Username and Password

Specify the username 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** attribute.
- 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.

Defining 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 of the 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 58. 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** attribute 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.

Configuring a document flow between products

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

Note: Usually, document 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* for additional information about document flows in ION.

Defining the document flow

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

- 1 In ION Desk, select **Connect > Document Flows**.
- 2 Select the product icon in the toolbox.
- 3 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.

- 4 Click the Activity to view or change the properties in the Activity Task pane.
- 5 Click **Add** to add a connection point to the Activity.
- 6 Repeat steps 2-5 to add another product and its connection point to the flow.

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

8 Save the document flow.

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

Activating the document flow

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

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

- 1 In ION Desk, select **Connect > Document flows**.
- 2 Select the document flow which you want to activate.
- 3 Click **Activate**.
- 4 The document flow is activated.

Note:

- 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* for information about activation errors.

Adding 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 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.

Starting products and services

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

- XA
- IDF System-Link
- 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.

Sending 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 the host 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 42.

Chapter 8 Verifying the configuration

Verifying that BODs are generated

- 1 Use the information in “Business events that generate outbound BODs” on page 42 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 activate transaction logging in the Transaction Statuses object before you run the Publish host job. See “Activating the System-Link transformations”.

Checking 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 (Cntrl-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) in CAS from the green-screen XA menu.
 - b Select the option for unattached job status. The job you are checking for is **PSVTUS**.
 - c View the job queue to determine the reason why the job is in pending status.

Verifying that ION receives data

To verify that ION is receiving BODs from XA, monitor these areas in ION Desk:

- 1 Select **Oneview > Documents**.
- 2 Run a search by specifying the appropriate search criteria.
 - a For example, specify a suitable time range or select a given document type you are interested to verify.
 - b Click **Search**.
 - c The search results must match the documents published from XA.
- 3 Select **Connect > Active connection points** to display the message queue counts. If you encounter problems, see “Data is not flowing properly” on page 35.

Verifying 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 A Troubleshooting

This section describes actions to solve ION integration problems.

Data is not flowing properly

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 attribute.

See the “Error BODs” section in the *Infor ION Technology Connectors Administration Guide* 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 Technology Connectors Administration Guide* for more information about troubleshooting BOD flows.

Deleting obsolete BODs

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

- If **Delete Processed Messages in Outbox** is set to **true**, messages are deleted immediately after these are successfully processed by the ION Runtime.
- If **Delete Processed Messages in Outbox** is set to **false**, messages are deleted if these are older than the number of hours specified in **Outbox Cleaner Expire Time** and these have either been successfully sent or do 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 monitor the 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 size becomes a problem, you can manually delete the records from the inbox table with a SQL Server script.

Appendix B BOD 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. These 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 fields:

- @name holds the custom field name
- @type specifies the data type of the value, for example, StringType and DateType

This example displays an 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 displayed in this example: 2011-08-13T15:30Z. Dates that are received without 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 need to 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: 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 how XA database elements or calculations are mapped to specific BOD elements is explained in these guides:

- (OutBound) BOD Mapping and Descriptions for XA Integrations and (OutBound) BOD Mapping and Descriptions for XA 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 Integrations and (InBound) BOD Mapping and Descriptions for XA 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 attempts to provide 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. These have the same nouncontent, 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 kept, for example, the ledger account.

Transaction

Transaction BODs contain information about detailed business events. These 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 its inbound BOD messages are processed.

Appendix C Business events that generate outbound BODs

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 a: • 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

Verb	Noun	User action to generate the BOD
		- warehouse - XA currency
Transactional data		
Sync	AccountingChart	Publish a GL account. Publish a nature.
Sync	AccountingEntity	Create, update, or publish a: - 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 a: • 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 D Inbound BOD usage

This table displays the incoming BODs that XA can accept. It also indicates, when possible, what area of 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

Verb	Noun	Destination of processed data in XA
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 Poltem PoltemRelease PurchaseOrderVendorAcceptTxn PurchaseOrderItemVendorAcceptTxn PurchaseOrderItemReleaseVendorAcceptTxn
Sync	PurchaseOrder	PurchaseOrder Poltem PoltemRelease PurchaseOrderVendorAcceptTxn PurchaseOrderItemVendorAcceptTxn PurchaseOrderItemReleaseVendorAcceptTxn

Verb	Noun	Destination of processed data in XA
Acknowledge	ReceiveDelivery	ExternalReceiveDeliveryHeaderNotification
		ExternalReceiveDeliveryItemNotification
		ExternalReceiveDeliveryItemDocRefNotification
		ExternalReceiveDeliveryItemHoldCodeNotification
		ExternalReceiveDeliveryUnitNotification
		ExternalReceiveDeliveryUnitItemNotification
		ExternalReceiveDeliveryUnitItemSerialNumber
		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

Verb	Noun	Destination of processed data in XA
Acknowledge	Shipment	ExternalShipmentHeaderNotification
		ExternalShipmentItemNotification
		ExternalShipmentUnitNotification
		ExternalShipmentHeaderRouteStopNotification
		ExternalShipmentHeaderRouteStopDetailNotification
		ExternalShipmentHeaderTrackingNotification
		ExternalShipmentItemRFIDNotification
		ExternalShipmentItemSerializedLotNotification
		ExternalShipmentItemHoldCodeNotification
		ExternalShipmentItemComponentNotification
		ExternalShipmentUnitRFIDNotification
		ExternalShipmentUnitContainerNotification
		ExternalShipmentUnitItemNotification
		ExternalShipmentUnitItemLotNotification
		ExternalShipmentUnitItemClassificationNotification
Load	Shipment	IssueExternalItemTxn
Process	Shipment	IssueExternalItemTxn
Sync	Shipment	ExternalShipmentHeaderNotification
		ExternalShipmentItemNotification
		ExternalShipmentUnitNotification
		ExternalShipmentHeaderRouteStopNotification
		ExternalShipmentHeaderRouteStopDetailNotification
		ExternalShipmentHeaderTrackingNotification
		ExternalShipmentItemRFIDNotification
		ExternalShipmentItemSerializedLotNotification
		ExternalShipmentItemHoldCodeNotification
		ExternalShipmentItemComponentNotification
		ExternalShipmentUnitRFIDNotification
		ExternalShipmentUnitContainerNotification
		ExternalShipmentUnitItemNotification
		ExternalShipmentUnitItemLotNotification
		ExternalShipmentUnitItemClassificationNotification

Verb	Noun	Destination of processed data in XA
Load	SupplierInvoice	ExternalInvoiceNotification
		ExternalInvoiceNotificationDocumentReference
		ExternalInvoiceNotificationCharge
		ExternalInvoiceNotificationLine
		ExternalInvoiceNotificationLineInvoiceCharge
Sync	SupplierInvoice	ExternalInvoiceNotification
		ExternalInvoiceNotificationDocumentReference
		ExternalInvoiceNotificationCharge
		ExternalInvoiceNotificationLine
		ExternalInvoiceNotificationLineInvoiceCharge
Sync	SupplierPartyMaster	Vendor
		VendorContact

Appendix E BODs 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.

These 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

Outbound BODs from XA to integrated products

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

Verb	Noun	To products
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

Verb	Noun	To products
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

Inbound BODs to XA from integrated products

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

BODs used in XA integrations

Verb	Noun	From products
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

Appendix F Installing IDFRequest and IDFResponse custom 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.

These are the steps for installing IDFRequest and IDFResponse Custom BODs for the previous versions of ION, i.e., before ION 12:

- 1 Log on to the server where ION is installed.
- 2 Map a network drive to the ADFS folder /Infor/vlib/ION
- 3 Copy files **IDFBods.zip** and **IDFNouns.zip** from the mapped ADFS folder to a temporary folder on the ION server.
- 4 Extract **IDFBods.zip** to the Custom BODs Developer folder in the ION registry. This folder is on the server where ION service is installed. For example, if ION is installed in the E: drive, this folder can be found in:

E:\Program Files\Infor\ION\Desk\bin\RegistryData\BodMetaData\Custom\BODs\Developer

- 5 Extract **IDFNouns.zip** to the Custom Resources Nouns folder in the ION registry. This folder is on the server where ION service is installed. For example, if ION is installed in the E: drive, this folder can be found in:

E:\Program Files\Infor\ION\Desk\bin\RegistryData\BodMetaData\Custom\Resources\Nouns

- 6 Edit the **NounIDsInstance.xml** in the ION registry using Notepad and add this XML snippet:

```
<Noun>
  <NounName>IDFRequest</NounName>
  <IDXpath>/IDFRequest/DocumentID/ID</IDXpath>
</Noun>
<Noun>
  <NounName>IDFResponse</NounName>
  <IDXpath>/IDFResponse/DocumentID/ID</IDXpath>
</Noun>
```

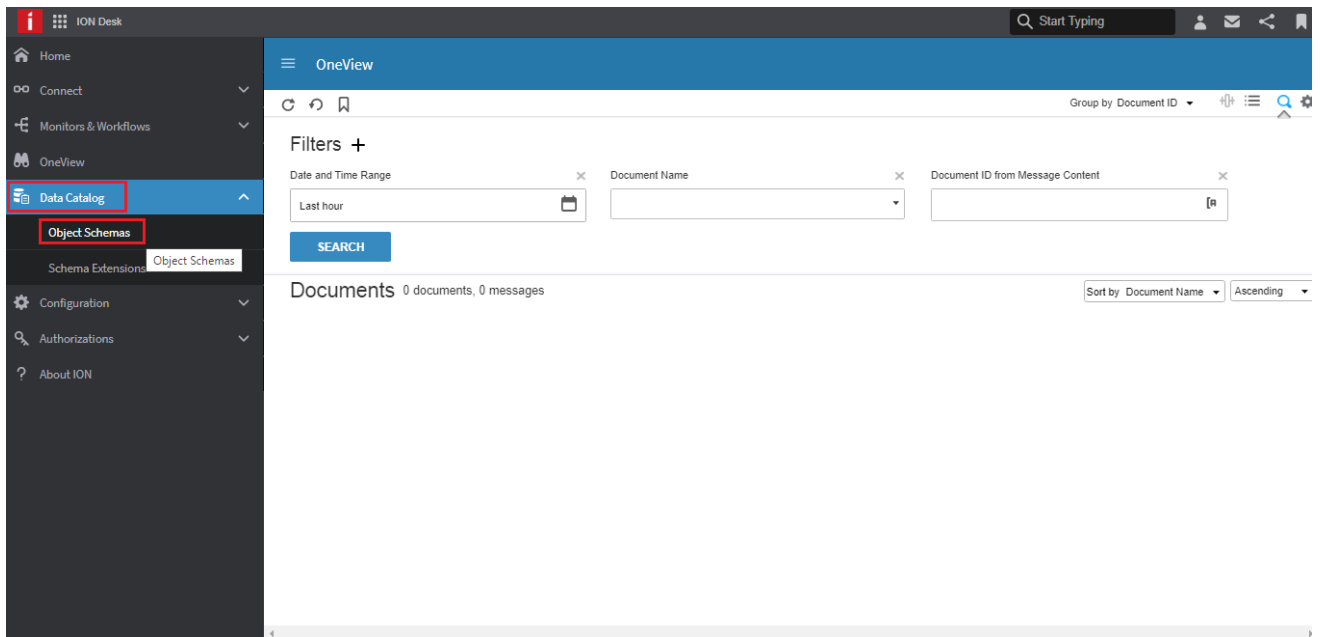
The **NounIDsInstance.xml** file is on the server where ION is installed. For example, if ION is installed in the E: drive, this file can be found in the folder:

E:\Program Files\Infor\ION\Desk\bin\RegistryData\BodMetaData\Custom\XML

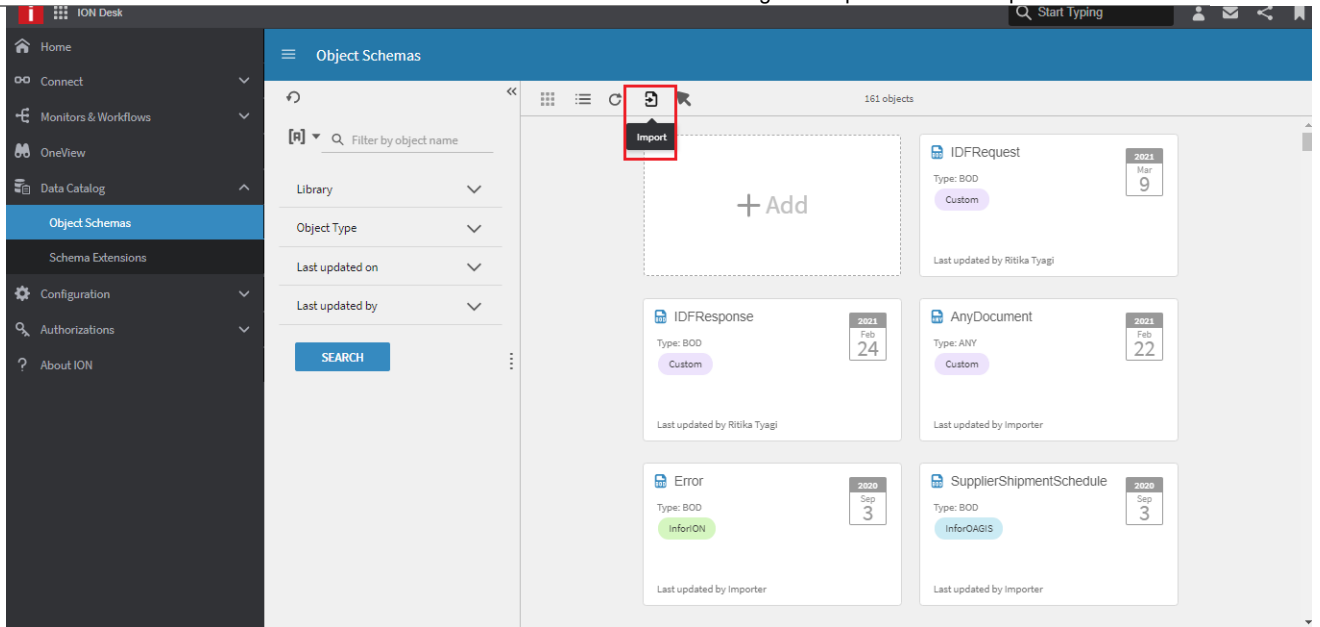
You can now access the IDfRequest and IDfResponse BODs from ION desk.

In ION 12, these are the steps to install IDf Request and IDf Response Custom BODs.

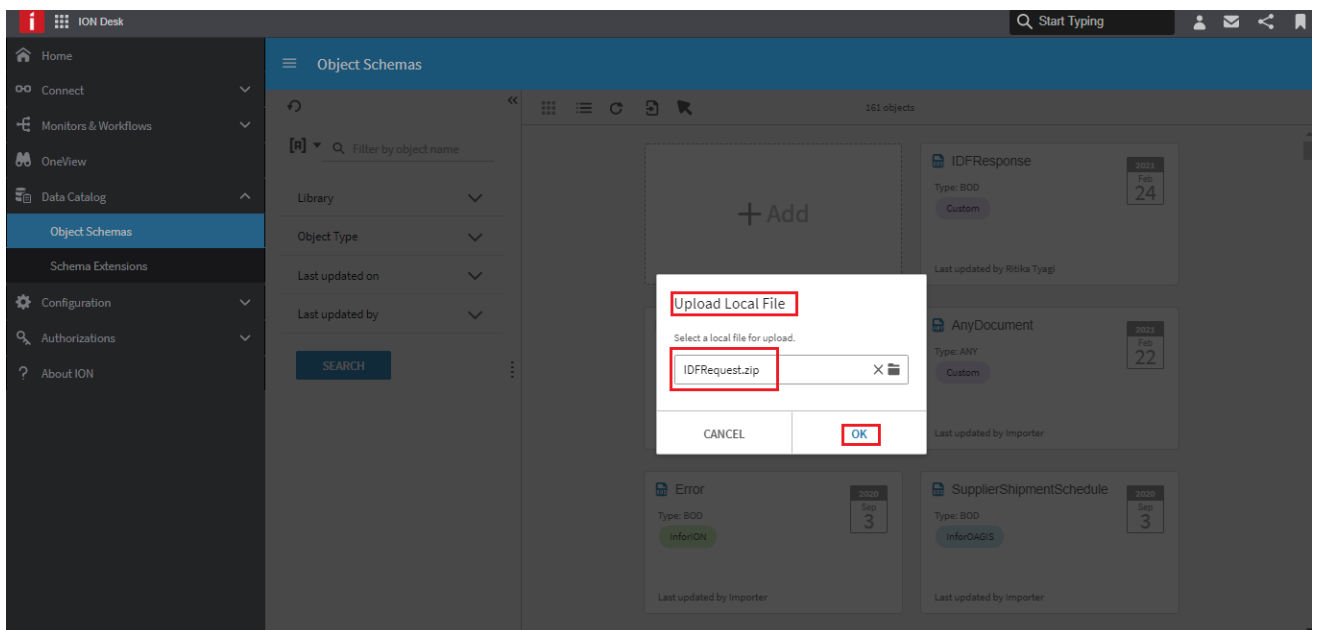
- 1 Map a network drive to the ADFS folder - /Infor/vlib/ION
- 2 Copy files **IDfRequest.zip** and **IDfResponse.zip** from the mapped ADFS folder to a temporary folder.
- 3 Then log on to ION.
- 4 Go to Data Catalog > Object Schemas.



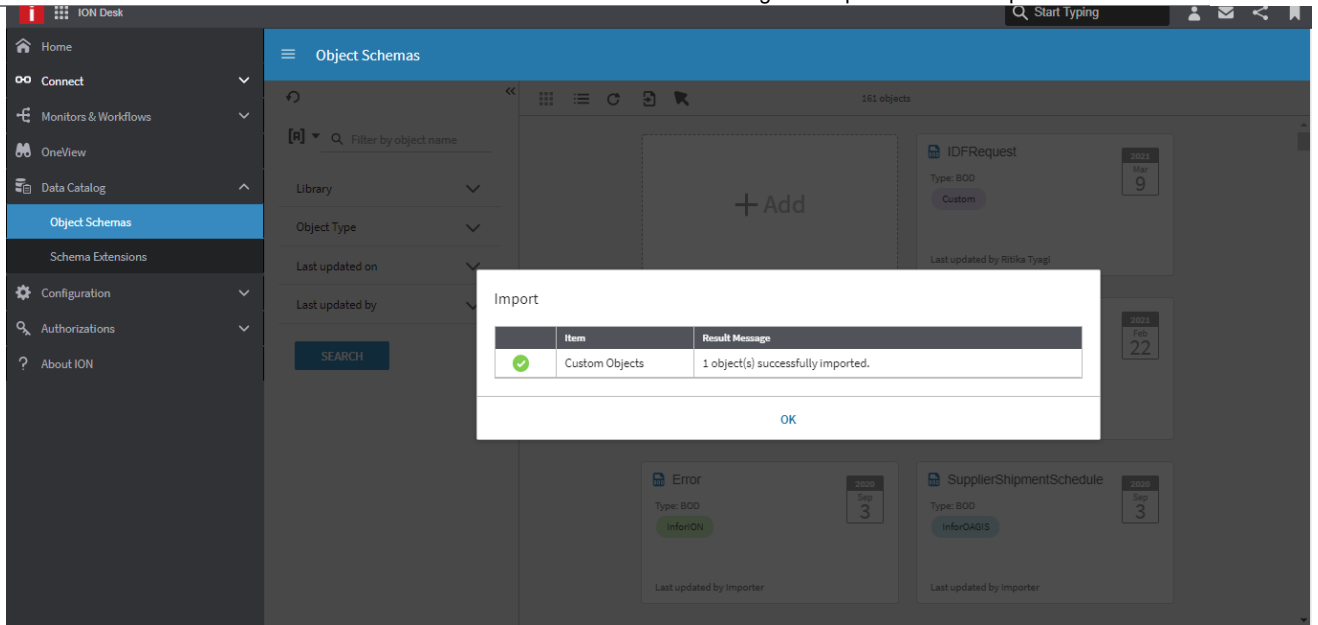
- 5 Click on Import.



6 Then upload the file which was copied in the previous step, i.e., **IDRequest.zip**. Click OK.

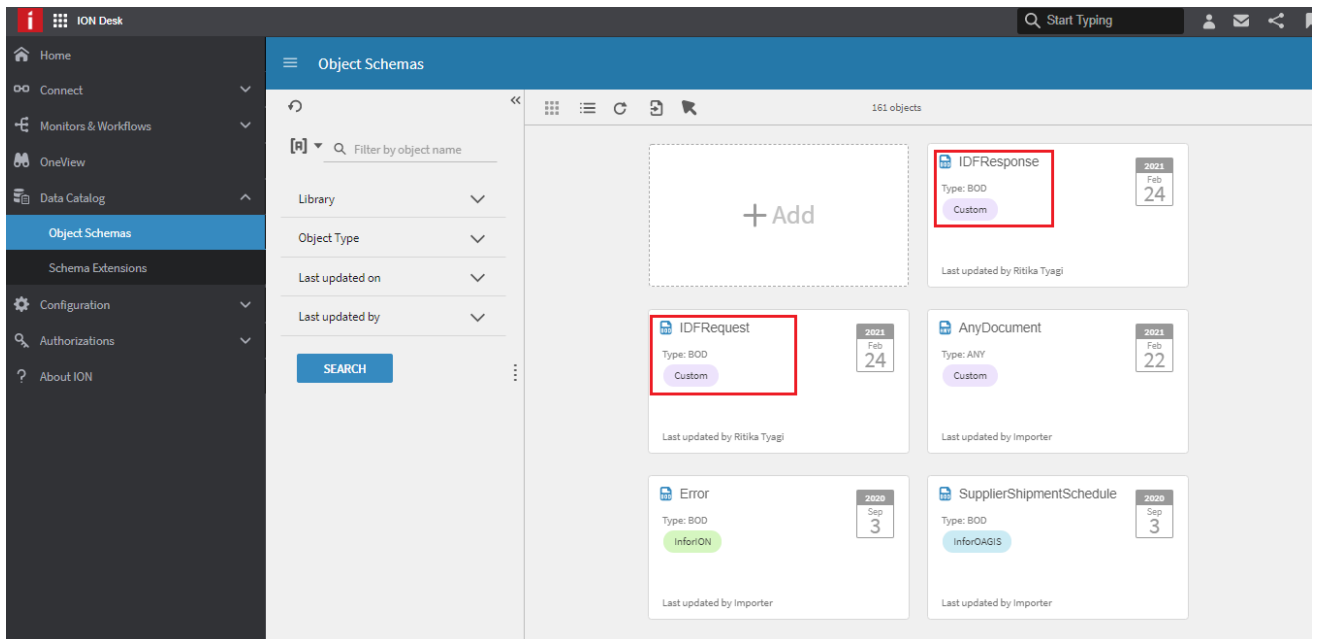


7 Click OK once the files are imported.



8 Similarly import for IDf Response, i.e., **IDfResponse.zip** file.

9 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 fields can be used as is by the receiving application, or these 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 field to the XA business object.
- 2 Create field 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 attribute 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 only available 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 change 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 have to 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, you need to 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 now 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 from the selected business object or 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 67

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 use the XSLT mapping function from ION Desk to map standard user area attributes to other BODs. 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*.

When creating the user area element and its property in the BOD tag, these rules apply:

- 1 All User Area attribute names starts with ‘xa.’
- 2 The User Area attribute has name of the attribute, which was added in “**System-Link Request UserExtended Attributes**”
- 3 The User Area attribute has type of the value.
- 4 The User Area attribute has value of that attribute.
- 5 The User Area attribute 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 XSLT to create mapping in ION:

Note: This is an example. 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 add
Name 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 this
case 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>

```

Creating a document flow

When the XSLT mapping is completed, you need to create a document flow to allow the XA data to pass through the XSLT code that provides the standard BOD with user area mapping attributes. You create a document flow through the Document Flows modeler in ION Desk. See “Creating and using document flows” in the *Infor ION Desk User Guide*.

Select the BOD that has to be translated using the XSLT, save the configuration, and then activate the document flow. After the document flow is active, when a related BOD is published from XA, the BOD is transformed and the final BOD is sent to the recipient application.

Appendix H 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 is currently supports below inbound bods.

Sync.ItemMaster

Sync.PurchaseOrder

Load.SupplierInvoice

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.

This is available with Client release R9.2 - 02.09.02.02.43 (or higher) or R10 - 03.10.00.01.16 (or higher) or R11 - 03.11.00.01.01 applied to the environment.

No server side changes needed for this implementation.

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

Before starting this implementation, expectation is that the incoming bod is having the required "UserArea" 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.

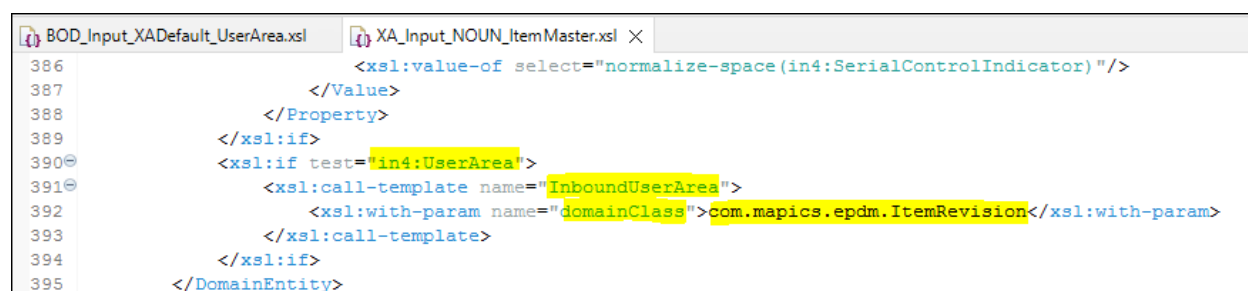
Changes for Sync.ItemMaster Inbound

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

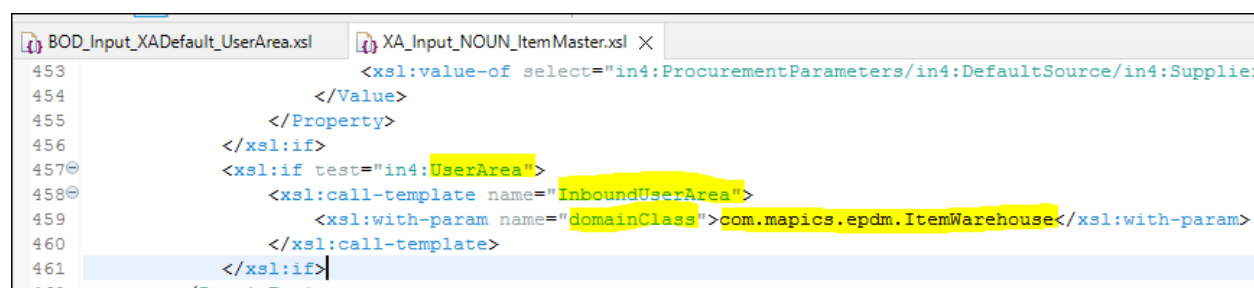
While creating Item Revision Object.



```

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.



```

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>
462 </DomainEntity>
    
```

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.

```

1  <?xml version="1.0" encoding="UTF-8"?>
2
3  <xsl:stylesheet exclude-result-prefixes="xsl in4" version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
4
5
6      <xsl:output method="xml" encoding="UTF-8"/>
7
8      <xsl:template name="InboundUserArea">
9          <xsl:param name="domainClass"/>
10         </xsl:template>
11
12 </xsl:stylesheet>
    
```

Since this is 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.

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

Changes for Sync.PurchaseOrder Inbound

Similar to Item Master, new UserArea section checking and calling InboundUserArea template is added in XA_Sync_PurchaseOrder_2_10_0.xsl related XA_Input_NOUN_PurchaseOrder.xsl.

While creating Item Purchase Order Object.

```

706         </xsl:if>
707         <xsl:if test="in4:UserArea">
708             <xsl:call-template name="InboundUserArea">
709                 <xsl:with-param name="domainClass">com.mapics.pm.PurchaseOrder</xsl:with-param>
710             </xsl:call-template>
711         </xsl:if>
712     </DomainEntity>
    
```

While creating Item Purchase Order Item Object.

```

880         </xsl:if>
881         <xsl:if test="in4:UserArea">
882             <xsl:call-template name="InboundUserArea">
883                 <xsl:with-param name="domainClass">com.mapics.pm.PoItem</xsl:with-param>
884             </xsl:call-template>
885         </xsl:if>
886     </DomainEntity>
    
```

While creating Item Purchase Order Schedule Object.

Extending BODs using User Area

```
XA_Input_NOUN_PurchaseOrder.xml X
1053         </xsl:if>
1054         <xsl:if test="in4:UserArea">
1055             <xsl:call-template name="InboundUserArea">
1056                 <xsl:with-param name="domainClass">com.mapics.pm.PoItemRelease</xsl:with-param>
1057             </xsl:call-template>
1058         </xsl:if>
1059     </DomainEntity>
```

Changes for Load. SupplierInvoice Inbound

Similar to Item Master and PurchaseOrder, new UserArea checking and calling InboundUserArea template is added in XA_Load_SupplierInvoice_2_10_0.xsl related XA_Input_NOUN_SupplierInvoice.xsl.

While creating Item External Invoice Notification Object.

```
XA_Input_NOUN_SupplierInvoice.xml X
277         -->
278         <xsl:if test="in4:UserArea">
279             <xsl:call-template name="InboundUserArea">
280                 <xsl:with-param name="domainClass">com.mapics.pm.ExternalInvoiceNotification</xsl:with-param>
281             </xsl:call-template>
282         </xsl:if>
283     </DomainEntity>
284 </xsl:template>
```

While creating Item External Invoice Notification Line Object.

```
XA_Input_NOUN_SupplierInvoice.xml X
412         <xsl:if test="in4:UserArea">
413             <xsl:call-template name="InboundUserArea">
414                 <xsl:with-param name="domainClass">com.mapics.pm.ExternalInvoiceNotificationLine</xsl:with-param>
415             </xsl:call-template>
416         </xsl:if>
417     </DomainEntity>
418 </xsl:template>
```

While creating Item External Invoice Notification Charge Object from Invoice header Tax and Invoice Line Tax data.

```
XA_Input_NOUN_SupplierInvoice.xml X
1006         </Property>
1007     </xsl:if>
1008     <xsl:if test="in4:UserArea">
1009         <xsl:call-template name="InboundUserArea">
1010             <xsl:with-param name="domainClass">com.mapics.pm.ExternalInvoiceNotificationCharge</xsl:with-param>
1011         </xsl:call-template>
1012     </xsl:if>
1013 </DomainEntity>
1014 </xsl:template>
```

Implementation

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