

# Infor TRANS4M Configuration Guide for Infor ION

**TRANS4M 10.1** 

ION 11.1x

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#### **Publication Information**

Release: TRANS4M Release 10.0.0.0 Publication date: January 5, 2016

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# About this guide

This guide provides configuration and implementation information for the integration of Infor TRANS4M 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 Infor TRANS4M that send Business Object Documents (BODs) to ION Connect.

# Intended audience

This guide is intended for the system administrator or consultant who configures Infor TRANS4M for use with ION. Before you read this guide, ensure that you are familiar with the other guides listed in "Related documents."

# Related documents

You can find the documents in the product documentation section of the Infor Xtreme Support portal, as described in "Contacting Infor" on page 7.

#### Infor ION documents

For more information about Infor ION, see these documents:

Infor ION Connect Administration Guide Infor ION Process Administration Guide Infor ION Installation Guide

# Documents related to ION integrations

Trans4m OnRamp Installation and Configuration
Trans4m Release 10.0 Setup and Installation Guide
Trans4m Release 10.1 Installation Guide
Infor10x ION Administration
Infor10x ION Installation Guides

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

Document type	Purpose
Infor TRANS4M Outbound BOD Mapping and Descriptions	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.
Infor TRANS4M Inbound BOD Mapping and Descriptions	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.
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. They contain requirements, configuration instructions, an overview of the integration, and any verification or troubleshooting steps.

# **Contacting Infor**

If you have questions about Infor products, go to the Infor Xtreme Support portal at www.infor.com/inforxtreme.

If we update this document after the product release, we will post the new version on this Web site. We recommend that you check this Web site periodically for updated documentation.

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

This section describes the products and other information that you require in order to complete the tasks in this guide.

#### Required Products

- Sql Server 2008 R2 or above
- .Net Framework 4.0 or above
- Infor ION Desk and Connect Version 11.1x or above
   The server where you install ION must be able to connect to the servers where you install Infor TRANS4M and other BOD-enabled applications. See the Infor ION Installation Guide.
- Infor Federation Services
   Infor Federation Services is installed with Infor Ming.le. See the appropriate installation
   guide for Infor Ming.le. If you plan to use Infor Federation Services without using other
   Infor Ming.le functionality, see the Infor Ming.le Installation Guide for Standalone IFS.

   Infor ION IFS users established if using Pulse processes.
- TRANS4M Server 10.1 and current Service Pack.
- TRANS4M Navigator 10 latest version
- Intermediate Database setup upgraded to v3 scheme or above
- TRANS4M OnRamp
   See TRANS4M OnRamp Installation and Configuration Guide.

# Required information

During the planning phase, you must provide this information:

- Name of the Infor TRANS4M logical ID that is used to connect with Infor ION for each account.
- Tenant ID that is used to connect the application to ION
- Parent Path to the physical directory on the TRANS4M Server. See <u>Chapter 4 Open</u> Integration Services on TRANS4M.

# Chapter 2 Integration checklist

Follow this checklist to integrate this product with Infor ION:

Complete	Task	Reference
	Collect the documents listed in the next column from Infor Xtreme. These documents are required for this configuration.	Infor ION Connect Administration Guide Infor ION Process Administration Guide
	Review the description of the Infor TRANS4M configuration with ION.	Chapter 3 Overview
	Open Integration Services in TRANS4M	Chapter 4 Open Integration Services on TRANS4M
	Configure Infor TRANS4M for integration with Infor ION.	Chapter 5 Configuring Integration Services on TRANS4M
	Configure TRANS4M OnRamp	Chapter 6 Configuring TRANS4M OnRamp
	If using Pulse update users with IFS identification	Chapter 7 ION IFS Users in TRANS4M
	Create Destinations in TRANS4M as needed	Chapter 8 Create Destinations
	Create Subscriptions in TRANS4M as needed	Chapter 9 Create Subscriptions
	Configure an Infor TRANS4M connection point, and optionally generate and activate ION document flows between Infor TRANS4M and other applications.	Chapter 10 Configuring ION
	Publish BODs.	Chapter 11 ION Pulse
		Chapter 12 Initial Data Load
		Appendix D Business events that generate outbound BODs

Complete	Task	Reference
	Verify the configuration.	Chapter 13 Verifying the data flow between applications
		Infor ION Connect Administration Guide

This section includes an overview of Infor ION, an overview of how Infor TRANS4M integrates with other applications through ION, and a list of the concepts and definitions that you must understand before you complete the configuration tasks.

#### Infor ION overview

Infor Intelligent Open Network (ION) is an enterprise messaging system that integrates Infor applications with each other and with non-Infor applications. Transactional and master data is passed between applications 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 applications. 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 applications, and manage other ION services.
- ION Connect is the component that you use to set up connections to various application databases and create document flows that collect and send data between applications. Through ION Connect, data is shared securely between applications. ION Connect routes and delivers messages to the appropriate applications by using data flows that you define. It communicates with applications by using message inboxes and outboxes.
- ION Workflow is the component that you use to set up workflows for automated business task routings and approvals.
- ION Event Management is the component that you use to monitor the completion of business tasks and to alert users about exceptions.
- ION Activity Deck is the component that you use to view and handle tasks, alerts, and notifications, and to drill down to applications.

For a conceptual overview of what BODs are and how they are used, see <a href="Appendix C BOD">Appendix C BOD</a>
Overview

# Integration with other applications through ION

An outbound operation typically begins when a user performs an action in Infor TRANS4M that requires a data exchange with another ION-enabled application. A BOD XML message is generated by Infor TRANS4M and placed in an area designated as the Infor TRANS4M 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 an application that can send and receive BODs. ION Connect routes BODs according to the document flows between Infor TRANS4M and other ION-enabled applications.

The document flows between Infor TRANS4M and other applications 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 Infor TRANS4M to another application for a particular BOD, then at specified intervals, ION places the outbound BOD from Infor TRANS4M in the other application's designated message inbox. Applications are responsible for validating and incorporating the data in inbound BODs according to their rules.

If a flow is defined from another application to Infor TRANS4M, ION retrieves BODs from the sending application's message outbox and delivers them to Infor TRANS4M's message inbox for processing. Infor TRANS4M retrieves, validates, and processes the BODs.

## Concepts and definitions specific to this ION configuration

To configure the Infor TRANS4M tenant, logical ID, accounting entity and location correctly, you must understand these terms and how they are defined in Infor TRANS4M. Together, these terms determine where inbound BOD information is processed, or the outbound instance and location to which the BOD information should 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 applications that exchange BODs. Data is not shared or accessible between tenants. Each TRANS4M account requires a tenant.

#### LOGICAL ID

The logical ID is the instance of the application that sends or receives BODs. You must provide the logical ID when you define the ION connection point.

#### **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.

#### **ACCOUNTING ENTITY**

In an Infor ION environment, business transactions take place within an accounting entity and an enterprise location.

The identification codes of these accounting entities and locations must be defined globally in an enterprise, known to each software instance connected to the Infor ION. Such accounting entity and location definitions have close correlations to Infor TRANS4M Company Codes as well as Infor TRANS4M locations. While it is possible to define Infor TRANS4M Company Codes and locations using the exact structure and naming as those for accounting entity and enterprise location, it is difficult to make that a requirement for every situation.

The TRANS4M Integration Services (INT) module must be opened before any using the TRANS4M ION Integration framework.

- 1. From the Navigator, go to Repetitive Manufacturing Administration, Repetitive Manufacturing Application Initialization\integration Services Initialization (C\_O168).
- 2. Click the stoplight to run the application.
- 3. Follow the directions to open the module.

#### Establish directories for XML files

The following directories need to be created on the TRANS4M Server. They must have read, write and delete access for all users.

- <ParentPath>\send
- <ParentPath>\receive
- <ParentPath>\send archive
- <ParentPath>\receive archive

Where <ParentPath> is a physical directory on the TRANS4M Server.

**Note:** Make note of the <ParentPath>. This value will be needed when configuring the TRANS4M Server account data.

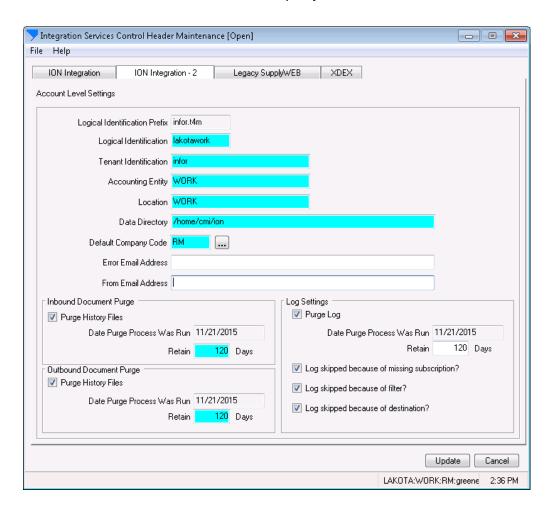
# Chapter 5 Configuring Integration Services on TRANS4M

Before the TRANS4M ION framework can be used certain data must be established at the account level and at the company code level.

- In the TRANS4M Navigator, go to Repetitive Manufacturing Application Header Update\Integration Services Control Header Maintenance (C\_O167).
- Click the Folder icon to open the application.

#### Account Level Data

Data established here affects all company codes for this account.



#### **LOGICAL IDENTIFICATION PREFIX**

This will always be infor.t4m for a TRANS4M installation.

#### **LOGICAL IDENTIFICATION**

This will be used within ION to identify this account. It maybe also used by other applications. It is recommended to be comprised of the server name and account name so it can be identified when tracing messages within ION. This value must be unique within a business infrastructure. It will pertain to all company codes within the given account.

#### **TENANT IDENTIFICATION**

This should normally be "infor".

#### **ACCOUNTING ENTITY**

This will default to the account name.

#### **LOCATION**

This will default to the account name.

#### **DATA DIRECTORY**

This is the full physical path to the <ParentPath> as established in Chapter 4. When the application is updated, it will create VOC pointers to the four subdirectories within the <ParentPath>.

#### **DEFAULT COMPANY CODE**

Certain inbound processes may not include company code data, this will be the default company code used in processing. Any data that will actually need to update a specific company code will contain the data needed to route it to the proper company code.

#### **ERROR EMAIL ADDRESS**

Any errors that occur on the trans4m server when attempting to process ION related documents will be emailed to the addresses found here.

#### FROM EMAIL ADDRESS

The email address that will be used as the from email for the above error emails.

#### **PURGE HISTORY FILES**

A check box that will determine if data is automatically purged.

#### **DATE PURGE PROCESS WAS LAST RUN**

The date the purge process was last run.

#### **RETAIN X DAYS**

How many calendar days of data to retain. This will depend on business needs.

#### **Purge Log**

A check box that will determine if data is automatically purged.

#### **DATE PURGE PROCESS WAS LAST RUN**

The date the purge process was last run.

#### LOG SKIPPED BECAUSE OF MISSING SUBSCRIPTION

If checked a log message will be created if no TRANS4M subscriptions exist for the given BOD type.

#### **LOG SKIPPED BECAUSE OF FILTER**

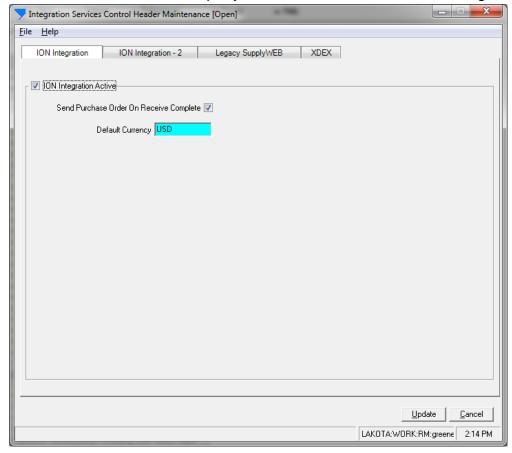
If checked a log message will be created if the message did not pass filters for the given BOD type and destination.

#### LOG SKIPPED BECAUSE OF DESTINATION

If checked a log message will be created if the message was not part of the integration for the given BOD type, destination and data item.

#### Company Code Level Data

Data on this screen will only affect the current company code. These values will need to be established for each company code in this account that ION Integration will be active.



#### **ION INTEGRATION ACTIVE**

This checkbox will control whether ION is active for this company code.

#### **SEND PURCHASE ORDER ON RECEIVE COMPLETE**

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If checked, when a discrete purchase order is received and marked complete then an updated purchase order BOD would be sent out with the line item zeroed out. If multiple requisitions are rolled to the same purchase order for an extended period this should not be checked.

#### **DEFAULT CURRENCY**

If currency is not active, a currency code needs to be specified here. Certain BODs require a currency code to be valid.

You will need to create a connection in the TRANS4M OnRamp for each TRANS4M account.

#### For each account

- 1. Create the Intermediate Database on the SQL server. See Chapter 2 Setting Up the Intermediate Database, in the TRANS4M OnRamp Installation and Configuration Guide.
- 2. Create a new connection in the TRANS4M OnRamp Configuration Editor, see Chapter 4 Configure the OnRamp, in the TRANS4M OnRamp Installation and Configuration Guide.



To setup IFS users consult the ION documentation.

To add the IFS user identification, run TRANS4M ION Integration, ION IFS User Maintenance (ION5).



#### **USER**

The selected RMS-User and their name.

#### **ION IFS USER**

If checked this user will be available to use in Pulse aware processes.

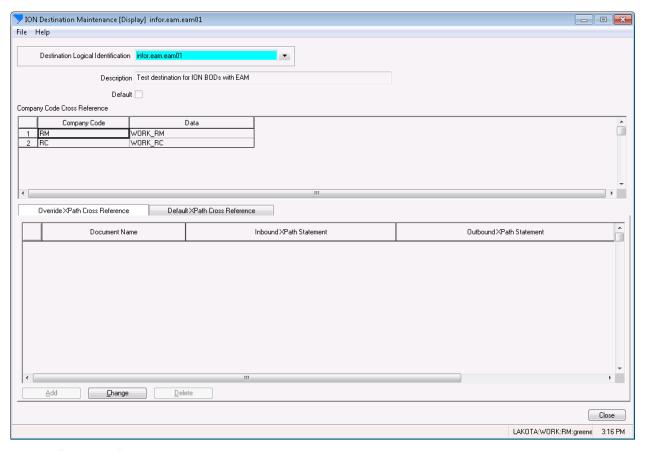
#### **ION IFS IDENTIFICATION**

The ION IFS user identification for this RMS user. This may or may not be the domain email address for the RMS user depending on how users were setup in IFS.



Destinations are created via ION Destination Maintenance found at TRANS4M ION Integration, ION Destination Maintenance (ION1).

See specific integrations for details on what to include on a destination.



#### **DESTINATION LOGICAL IDENTIFICATION**

This will be the logical identification as defined in the ION server.

#### **DESCRIPTION**

A description for this destination

#### **DEFAULT**

If this is a default destination developed by TRANS4M, this will be checked, and the record will not be able to be edited.

#### **COMPANY CODE CROSS REFERENCE**

For customer specific destinations this will contain the data used to map company code values to what the destination is expecting or sending. The TRANS4M OnRamp service will use this data to put in the proper value for the specific destination.

#### **COMPANY CODE**

The company codes.

#### **DATA**

The corresponding data for the given company code.

#### **OVERRIDE XPATH CROSS REFERENCE**

If required, the customer can override the XPath values for where the company code data will be located for a given BOD document. If not overridden the TRANS4M OnRamp service will use the default XPath Cross Reference values.

#### **DOCUMENT NAME**

The BOD document name.

#### **INBOUND XPATH STATEMENT**

The valid XPath that the service will look for and update.

Caution: The XPath must already exist in the xml.

#### **OUTBOUND XPATH STATEMENT**

The valid XPath that the service will look for and update.

Caution: The XPath must already exist in the xml.

#### **SWAP TAG**

A string that if it exists in the outbound BOD will be replaced with the company code cross-reference data. For standard TRANS4M outbound bods this is typically {AE}.

Add

Click Add to add a new Override XPath Cross Reference.

#### Change

Click Change to change the selected Override XPath Cross Reference.

#### Delete

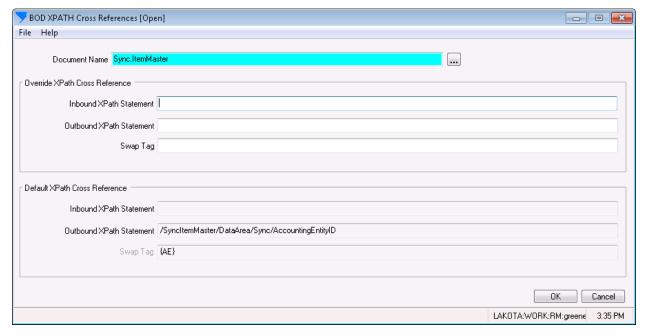
Click Delete to delete the selected Override XPath Cross Reference.

#### **OVERRIDE XPATH CROSS REFERENCE**

This will display the default XPath values established by TRANS4M and located on the default destination.

Note: For example, if the current destination is infor.eam.eam01, the default destination will be infor.eam.

#### **BOD XPATH Cross References**



#### **DOCUMENT NAME**

The BOD name.

#### **OVERRIDE XPATH CROSS REFERENCE**

If entered these paths will be used to set or retrieve the company code cross reference.

#### **INBOUND XPATH STATEMENT**

The valid XPath where the company code cross reference is stored in the inbound BOD.

#### **OUTBOUND XPATH STATEMENT**

The valid XPath where the company code cross reference is stored in the inbound BOD.

#### **SWAP TAG**

A string that is replaced with the actual company code cross-referenced data on outbound documents. This is typically {AE}.

#### **DEFAULT XPATH CROSS REFERENCE**

The default paths are established by TRANS4M Development.

#### **INBOUND XPATH STATEMENT**

The valid XPath where the company code cross reference is stored in the inbound BOD.

#### **OUTBOUND XPATH STATEMENT**

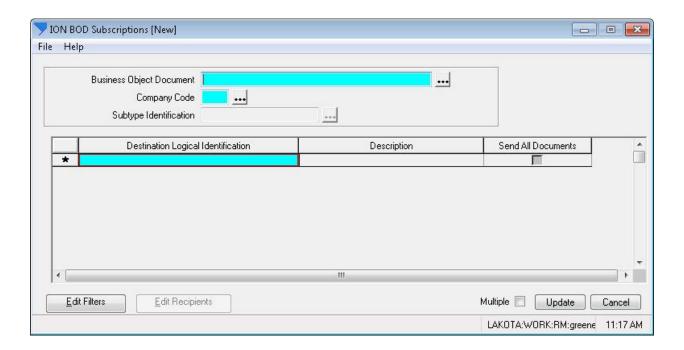
The valid XPath where the company code cross reference is stored in the inbound BOD.

#### **SWAP TAG**

A string that is replaced with the actual company code cross-referenced data on outbound documents. This is typically {AE}.

The ION BOD Subscriptions program allows users to create a subscription for a given BOD, company code and subtype if required. Subscriptions are used by the TRANS4M OnRamp to determine if an inbound BOD should be processed.

The TRANS4M framework uses subscriptions to determine if an outbound BOD should be sent for the given data. ION BOD Subscriptions is located at TRANS4M ION Integration, ION BOD Subscriptions (ION4).



#### **BUSINESS OBJECT DOCUMENT**

The predefined BOD.

#### **COMPANY CODE**

The desired company code.

#### **SUBTYPE IDENTIFICATION**

If supported by the BOD process, select the appropriate subtype.

#### **DESTINATION LOGICAL IDENTIFICATION**

One or more specific ION Destinations.

### **EDIT FILTERS**

If the BOD supports filtering, click Edit Filters to setup filters.

#### **EDIT RECIPIENTS**

If the BOD supports recipients, click Edit Recipients to setup recipients.

For detail instructions on installing and configuring ION in general please see the ION documents. For each TRANS4M account you will need to create a connection point in ION.

#### Understanding connection points and document flows

In ION Desk, a configuration page is available to create a list of connection points. Connection points provide the information that ION uses to connect to an application's message inbox and outbox. At least one connection point must be defined for each application instance that integrates to ION. For each connection point, you select the BOD documents that can be sent or received by the application instance. These correspond to the BODs that are listed in <a href="Appendix F BODs used in Infor TRANS4M">Appendix F BODs used in Infor TRANS4M</a> integrations.

In an integration between two BOD-enabled applications, 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. Connection points can also be created during the modeling of a document flow as part of the details 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 they can be reused.

Some integrations with Infor TRANS4M use a solution XML file to set up sample connection points and document flows.

See the *Infor ION Connect Administration Guide* for additional information about connection points and document flows.

#### **Connection Point**

Create one connection point for each TRANS4M account.

- 1. In ION Desk, select **Connect > Model > Connection points**.
- 2. A list of existing connection points is shown.
- 3. Click New > Infor > Infor Application.
- 4. Specify the following information:

#### NAME

Specify a name for this application instance. This is the last portion of the logical ID. See "Chapter 6" to determine how this is defined in your product.

#### **LOGICAL ID**

This will display the logical ID based on the name and logical id type. For example, if the logical ID type is **t4m** and the name is **lakotawork** then the logical ID is:

lid://infor.t4m.lakotawork.

#### **DESCRIPTION**

Optionally enter a description for this connection.

#### **LOGICAL ID TYPE**

Enter "t4m" for logical id type.

Specify the type that you want to use to construct the middle part of the logical ID.

#### **TENANT**

Leave the tenant box unchecked.

See "Chapter 6" to determine how this is defined in your product.

#### Connection Tab

#### **DATABASE DRIVER**

Specify **SQL Server**. The TRANS4M OnRamp only supports Microsoft SQL Server.

#### **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. 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 name of the database schema. This field is enabled if the **Basic** check box is selected and the **Database Type** is **SQLSERVER**, **DB2**, or **DB2\_400**.

#### **URL**

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

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

#### **CONNECTION USER NAME AND PASSWORD**

Specify the user name and password to connect to the database. If you use SQL Server with Windows authentication, specify a valid Windows domain user name instead of a SQL Server user name.

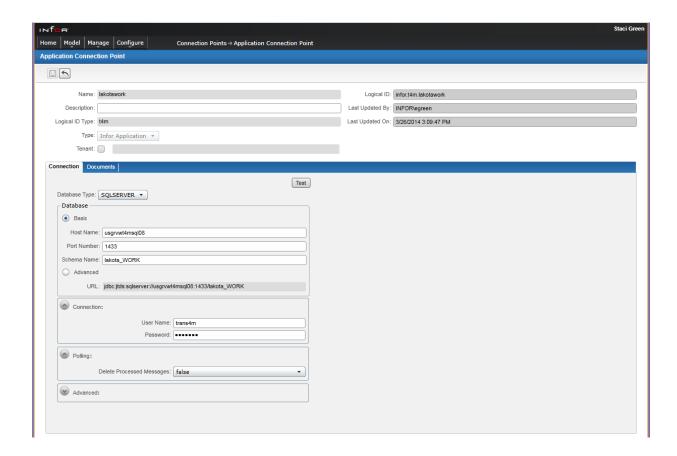
#### **DELETE PROCESSED MESSAGES**

While testing it is recommended to leave this as false. Once integration is successful, this can be set to true. This only removes the messages from the Intermediate Database. The historical data will still reside on the TRANS4M server until it is purged from there.

#### **TEST**

Click this button to test the connection to the intermediate database.

The connection point will look something like:



#### Documents Tab

This tab will show any documents that are defined for this connection. See any specific implementation for what document and verbs to add.

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

Button	Description
Standard	Show standard documents
Extended	Show standard documents that are customized
Custom	Show custom document

- 2. To add verbs for a document type, select the document and click **Add Verbs**. The documents and verbs are selected from the ION registry.
- 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.
- 5. Click **Save** to accept this connection point.
- 6. Click **Back** to return to the list.

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

#### **Document Flows**

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 application but there is not an appropriate integration guide, follow the steps in this section.

See the *Infor ION Connect 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 shown. You can add items to the flow, using this general method:

1. In ION Desk, select Connect > Model > Document Flows.

- 2. Select the application icon in the toolbox.
- **3.** Click the line where the application must be added. Alternatively, drag the item from the toolbox to the line where it must be added.
- 4. An Activity box is added.
- **5.** Click the Activity to view or change the properties in the Activity Task pane.
- **6.** Click Add to add a connection point to the Activity.
- 7. Repeat steps 2-5 to add another application and its connection point to the flow.
- **8.** Click the document icon between the applications to define the documents that flow from the first application to the second application.
- 9. Save the document flow.
- 10. 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 > Model > Document flows
- 2. Select one or more document flows.
- 3. Click Activate.
- 4. If you receive a message that the activation was successful, click **OK**. Your changes are effective immediately.
- 5. If you receive a warning message, the model is activated.
- 6. If you receive an error message, the model cannot be activated.
- 7. See the Infor ION Connect Administration Guide for information about activation errors

## Adding users and distribution groups

Set up users and distribution groups in Infor Federation Services (IFS) for Infor TRANS4M users who require access to ION in order to view or update information or to troubleshoot errors.

See the *Infor ION Connect Administration Guide* for information about adding ION Desk users and setting ION Desk authorization levels.

See the *Infor Federation Services Administration Guide* for information about configuring distribution groups.

# Setting up business events and workflows

Use the *Infor ION Process Administration Guide* to create and configure ION events,

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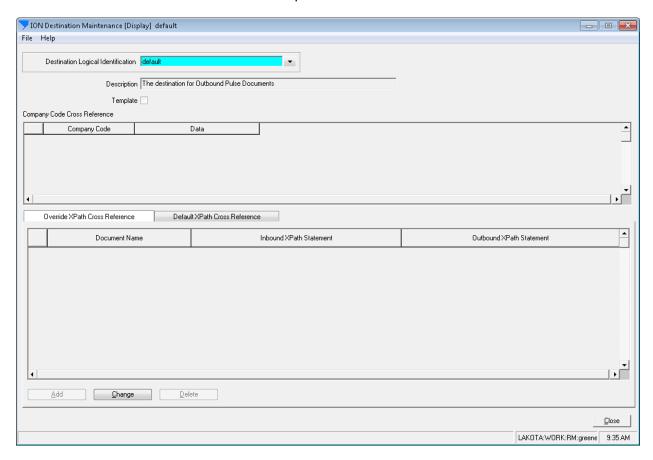
alerts, and workflows.		

- 1. Create IFS Users (Chapter 7)
- 2. Create the Pulse destinations, below.
- 3. Create Pulse subscriptions, below.
- 4. Send Pulse notifications, below.
- 5. Create EMC pulse notifications, below.
- 6. Setup EDI pulse notifications, below.

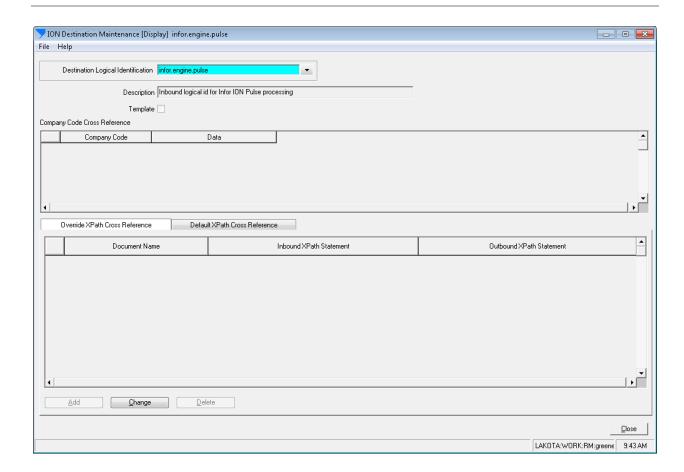
#### **Pulse Destinations**

It is necessary to create a destination for both inbound and outbound pulse documents.

Create the "default" destination for outbound pulse documents.



Create the "infor.engine.pulse" destination for inbound pulse documents.



# **Pulse Subscriptions**

Subscriptions will need to be created for any pulse documents that are to be sent out. There are three pulse outbound documents at this time, PulseAlert, PulseNotification and PulseTask. Only the PulseAlert and PulseNotification have been implemented so far.

#### **PULSENOTIFICATION**

Subtype Designation	Description	Used By
EMC	ION File Purge via	EMC Program Call: EMC_T4M_ION-
	EMC	DATAPURGE
EMC	EMC Processes	EMC Program, Paragraph, Query Calls
EDISTATUS	EDI Status Code	Status Code Update (EDI95)
EDINOTIFY	EDI Heartbeat	EDI Notification Maintenance (EDI94)
	Monitor	

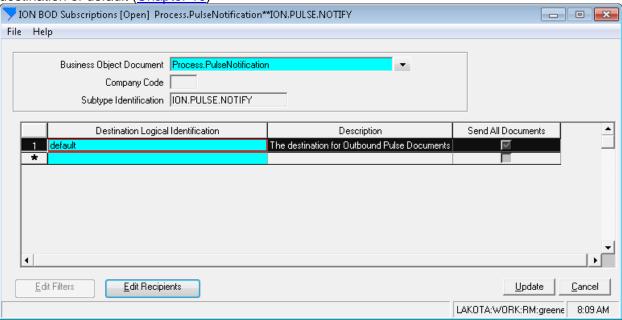
#### **PULSEALERT**

Subtype Designation	Description	Integrated into
EMC	ION File Purge via EMC	EMC Program Call:
		EMC_T4M_ION-DATAPURGE
EMC	EMC Processes	EMC Program, Paragraph,
		Query Calls
EDISTATUS	EDI Status Code	Status Code Update (EDI95)

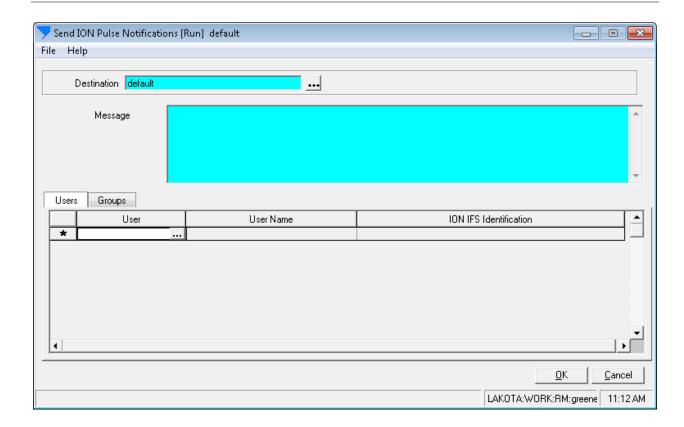
# Send ION Pulse Notifications

This program allows pulse notifications to be sent as needed to users or groups of users. Before the application can be used for the first time:

- 1. Update the IFS identification for the RMS user, (Chapter 6)
- 2. Create the "default" destination, see above.
- 3. Create the subscription for "Process.PulseNotification", subtype of ION.PULSE.NOTIFY, and destination of default (Chapter 10)



The application is found at TRANS4M ION Integration, Send ION Pulse Notifications (ION5).



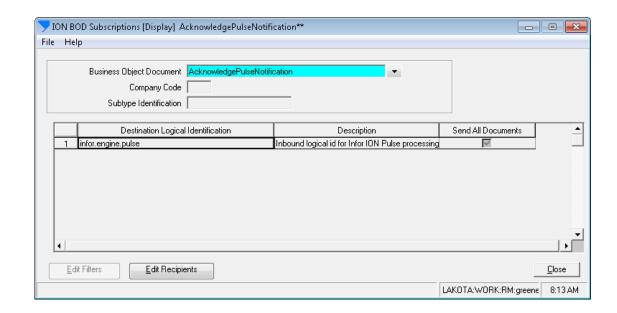
# **Event Management Console**

It is now possible to send EMC results via an ION PulseNotification or PulseAlert document. The results of these documents will be displayed on the Ion Activity Desk.

**Note:** The ION subscriptions will need to be created just once for all EMC pulse notifications/alerts.

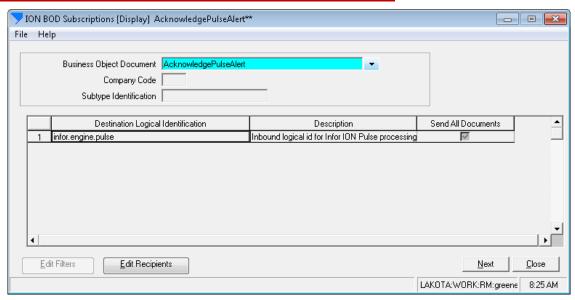
Create ION Subscriptions for the following documents:

ACKNOWLEDGEPULSENOTIFICATION WITH A DESTINATION OF INFOR.ENGINE.PULSE.

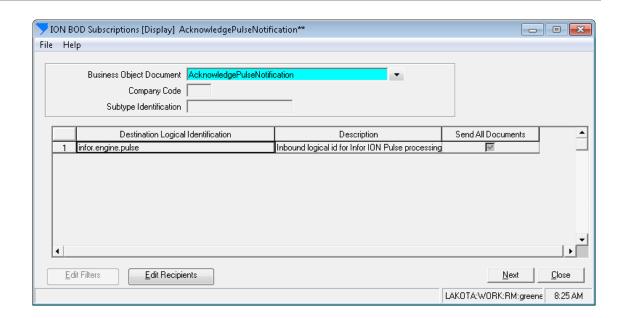


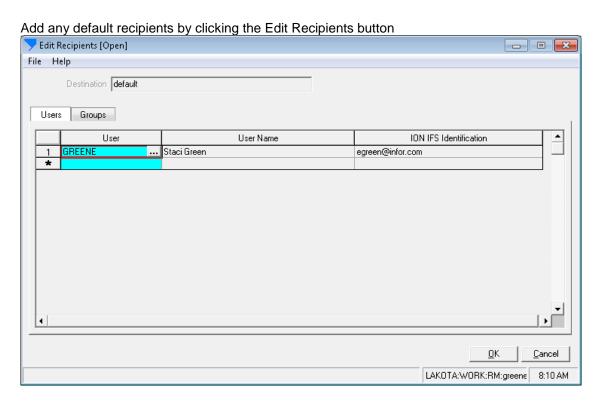
The messages need to be sent to the "default" destination you created above. Any users and or groups setup on the subscription will automatically load into the Send Notifications program. These can be overridden as needed. The messages will show up in the ION Activity Desk.

# ACKNOWLEDGEPULSEALERT, DESTINATION OF INFOR.ENGINE.PULSE

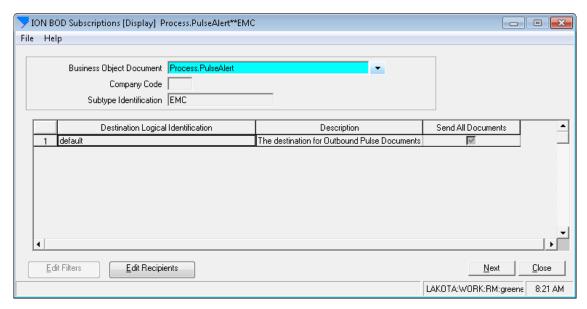


ACKNOWLEDGEPULSENOTIFICATION, DESTINATION OF INFOR.ENGINE.PULSE

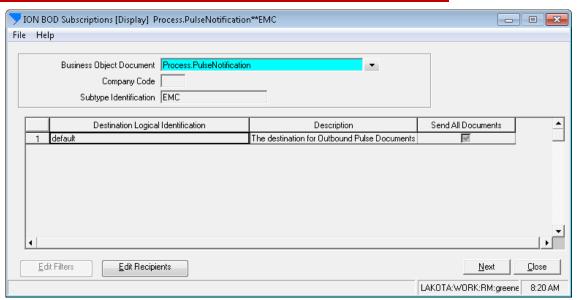




PROCESS.PULSEALERT, SUBTYPE OF EMC, DESTINATION OF DEFAULT



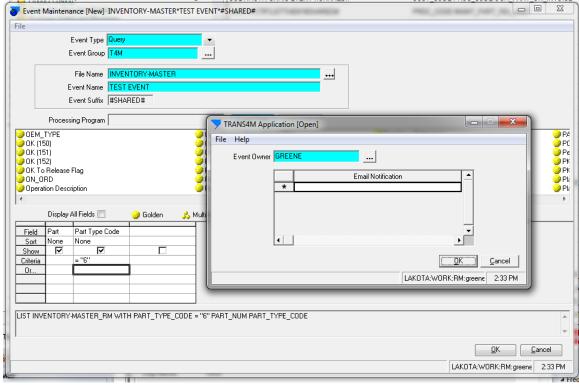
# PROCESS.PULSENOTIFICATION, SUBTYPE OF EMC, DESTINATION OF DEFAULT



# **CREATE AN EMC EVENT AS NORMAL.**

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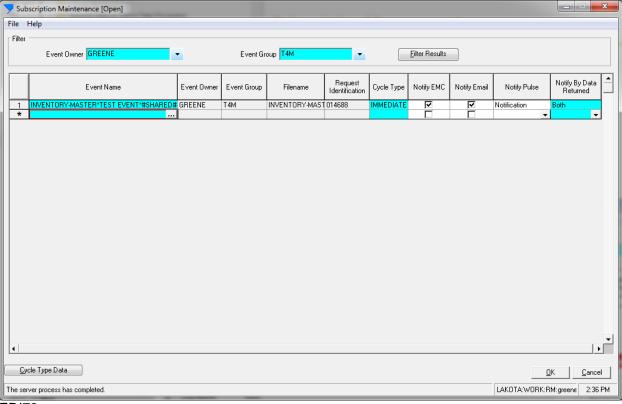
1. Add one or more users in the Email Notification grid on the Event Data form. The event owner will automatically receive the message if they are an IFS user with a valid IFS identification.



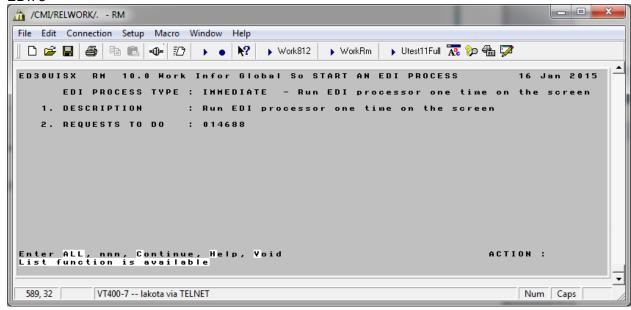
2. Make sure the users have a valid IFS user identification.



3. Create EMC Subscription and select Alert or Notification in the Notify Pulse column drop down:



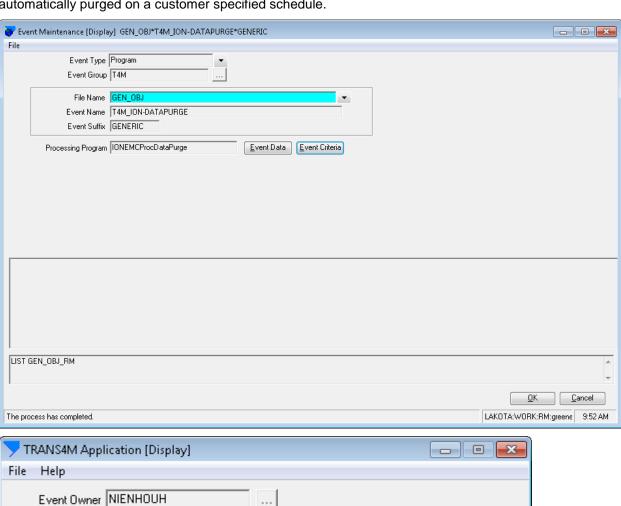
4. EDI73

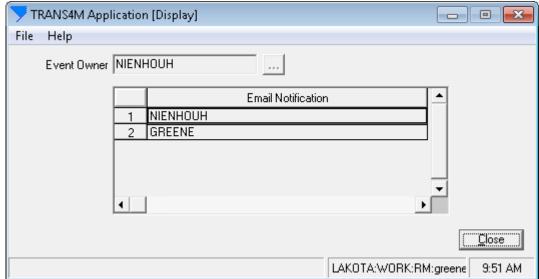


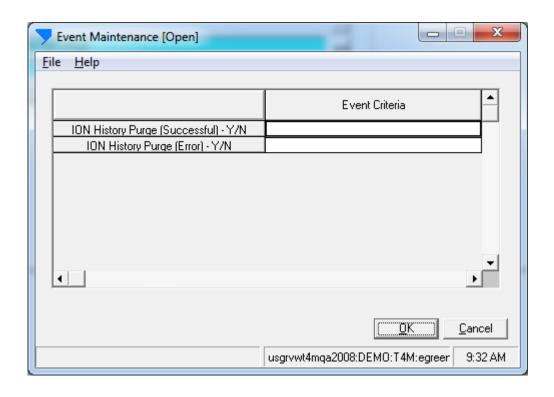
# ION Data Purge

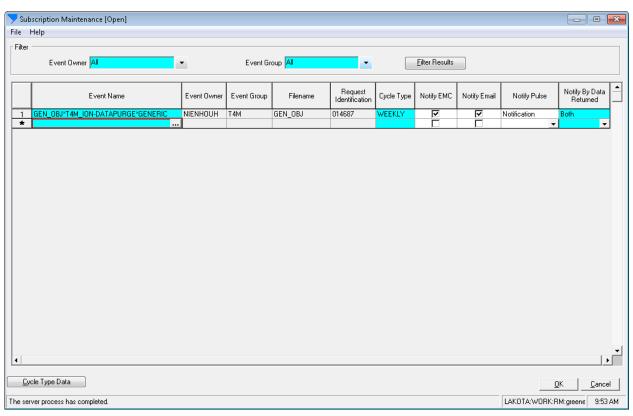
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The EMC\_T4M\_ION-DATAPURGE event is delivered to allow the ION history data to be automatically purged on a customer specified schedule.







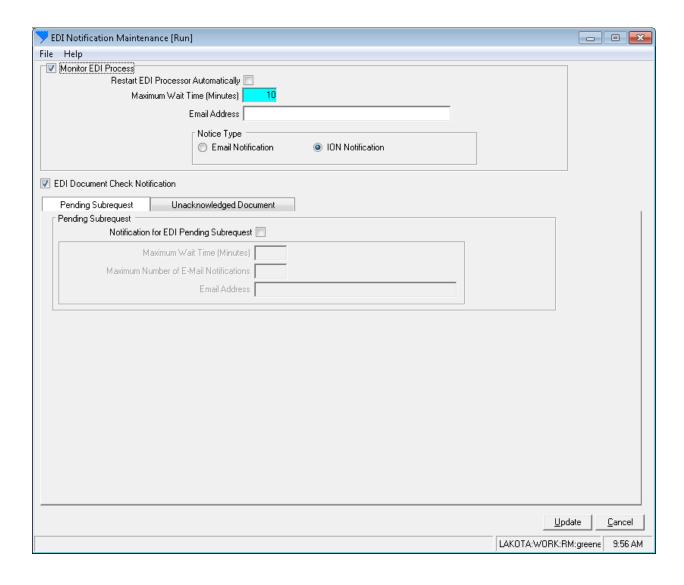


# **EDI Status Code Notices**

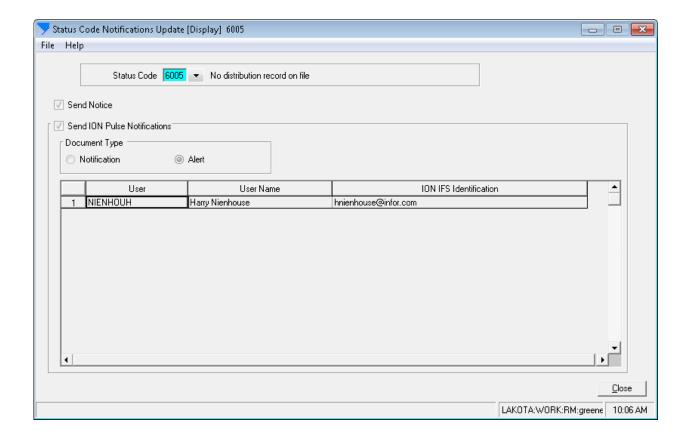
- 1. Setup IFS Identification on necessary users (Chapter 7).
- 2. Create "default" destination (Chapter 9)
- 3. Create ION Subscription (Chapter 10 & below)
- 4. Select ION Notification

## **EDI Notification Maintenance, EDI94**

Select ION Notification in Notice Type in order for ION Notifications to be created.



#### EDI95





# Chapter 12 Initial Data Load

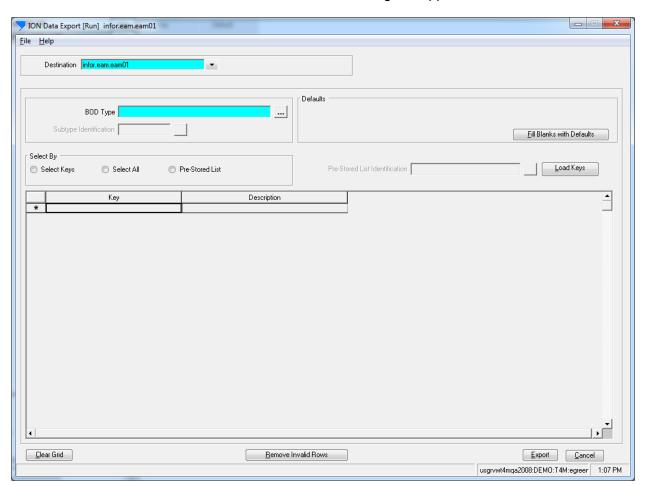
During normal processing, BODs are generated when a user makes a data change or completes a transaction. However, when you start a new integration with another product, you must manually generate BODs that pass the current set of Infor TRANS4M data to the other application, so that the base systems are synchronized. The BODs are placed in the message outbox, from which Infor ION retrieves them and passes them to the other application.

To perform an initial load of Infor TRANS4M data into BODs that are placed in the message outbox: you will need to use export data using the ION Data Export (ION12) application.

After the initial data export, Infor TRANS4M sends BOD updates when users change certain data or when certain transactions occur in Infor TRANS4M.

For a list of the events that generate BODs, see <u>Appendix D Business events that generate</u> outbound BODs on

See the TRANS4M Online documentation for details on using this application.





This section describes the steps to verify that the connections are set up correctly.

# Verifying that BODs are generated

- 1. Use the information in "Business events that generate outbound BODs" in Appendix D to determine what user actions generate certain BODs.
- 2. Perform those user actions in Infor TRANS4M.
- 3. Check the message outbox queue, ION Outbox Display (ION7) and message outbox, ION Outbox Display (ION10) to see if the BODs were generated. You can also see the XML data for the BOD.

**Note:** Depending on TRANS4M OnRamp polling settings, it may take some time for the messages to be moved from ION Queue Maintenance (ION7).

# Verifying that ION receives data

To verify that ION is receiving BODs from Infor TRANS4M, monitor these areas in Infor ION Desk:

- Select Manage > Connect > Active Connection Points to show the message queue counts.
- Select Manage > Connect > Message Trace to show individual messages, if they are enabled.

# Verifying the data flow between applications

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.

**Note:** If you encounter problems, see <u>Appendix A Troubleshooting</u>.



# Appendix A Troubleshooting



This section describes actions to solve ION integration issues.

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

**Note:** See Appendix B for a flow chart of the export process in TRANS4M.

## OUTBOUND BOD DOES NOT EXIST IN ION OUTBOX DISPLAY (ION10)

- If BOD message exists in ION Queue Maintenance, (ION7) and Processed field = 0 then verify that the TRANS4M OnRamp is configured and running. See *TRANS4M OnRamp Installation and Configuration for more information*.
- If BOD message exists in ION Queue Maintenance, (ION7) and Processed field = 2 then an error occurred when the OnRamp attempted to remediate the BOD. Open the message and review the Error Message and the XML data to determine what is wrong.
- BOD message does not exist in ION Queue Maintenance. Check the ION Log Maintenance (ION11) for a message. If the Error Level = "E" then open the message to see the details of the error. If the Error Level = "I" then the data item did not pass all the tests to be exported. A BOD may not have been created for several reasons that are not errors:
  - No subscription exists for the BOD type and destination.
  - o Item doesn't pass any filtering logic for the BOD type and destination.
  - Item wasn't flagged for ION export.
  - o Item isn't part of the specific integration. For example, the only subscription that exists is for an infor.eam.<specificinstance> destination, but the item isn't flagged for EAM.

**Note:** The log settings in C\_O167 determine whether the informational messages will be logged. It is suggested to have these settings checked during initial implementations.

### **OUTBOUND BOD EXISTS IN ION OUTBOX DISPLAY (ION10)**

If a message exists ION Outbox Display (ION10) with a Was Processed = "1" then the message was successfully moved to the Intermediate Database. If a message exists, but the Was Processed = "0", and has been for an extended period of time, then check the state of the TRANS4M OnRamp service.

If the BOD successfully reaches the intermediate database then check the following areas in ION Desk.

### **ERROR BODS DISPLAY**

Found from Connect > Manage > Error BODs. BODs that caused a ConfirmBOD to be created will be displayed here. For more information see the "Error BODs" section in the *Infor ION* 

Connect Administration Guide. ION Logging to view processed BODs and to find errors due to connection problems

# **INFOR ION QUEUE VIEWER**

To check for unprocessed messages for each integrated application in its message inbox or outbox

To avoid business discrepancies between this Infor TRANS4M and integrated applications, correct any errors as soon possible.

**Note:** For more information about troubleshooting BOD flows, see the Infor ION Connect Administration Guide.

# Appendix B Modifying BOD structure in ION

B

During Infor TRANS4M integration with other Infor products through Infor ION, some BOD elements populated by sender application are not anticipated or acceptable by the receiver application. If you wish to suppress these BOD elements when the BOD arrives at receiver application or you want to move some BOD element value to another BOD element that the receiver application anticipates, you can use ION transformation when you configure ION for the integration.

For example, during SyncItemMaster integration from TRANS4M to EAM, you do not wish to synchronize ItemLocation elements in BOD and ItemLocation elements are populated by TRANS4M, you can use the following transformation stylesheet in ION configuration to remove ItemLocation elements when the BOD is routed from TRANS4M to EAM in ION.

Modifying BOD structure in ION		

This section provides an overview of BODs. It explains how BODs are defined, and how some of the most common XML tags are used. This section also describes the types of BODs that are used in Infor applications.

### 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. They can be hierarchical, as shown 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 applications, the only element that can be placed in the UserArea is Property. Multiple instances of Property within the UserArea can exist. Only the UserArea fields in the header, detail, and root of a noun are supported by Infor. If you require additional fields, you must define them in the UserArea.

Each Property element contains a NameValue element that holds the value being passed. The NameValue element also contains these attributes:

- @name holds the custom field name
- @type specifies the data type of the value, for example, StringType and DateType This
  example shows a 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 shown 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.

# 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 applications 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 applications require the information. The entire contents of the document are published in the Sync message. All applications 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 application. The Process message is usually sent from a non-system of record to the system of record (SOR). These action codes are supported:
  - o Add: Requests that the other application create new document or record.

- Change: Requests that the other application 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 applications 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 applications that a document or record has been created.
  - Replace: Notifies other applications 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 shown.
- 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 application 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 application 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 an
  application, 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 should 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. Applications send only one document per message.

# **Data mapping**

Information about how Infor TRANS4M database elements or calculations are mapped to specific BOD elements is explained in these guides:

- Infor TRANS4M Outbound BOD Mappings and Descriptions: For each BOD that Infor TRANS4M 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 Infor TRANS4M, then the document also provides the details about the data that is published.
- Inbound BOD Mappings and Descriptions: For each BOD that Infor TRANS4M has certified, this document provides the details about how each inbound BOD receives information or requests information.

information or requests information.

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

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

# Appendix D Business events that generate outbound BODs



Verb	Noun	User action to generate the BOD
Process	PulseAlert	User specifies PulseAlert Message in EMC Subscription Management (UTL33).
Process	PulseNotification	User specifies PulseAlert Message in EMC Subscription Management (UTL33). User creates notification using Send ION Pulse Notifications (ION6)
Sync	CodeDefinition	
	Incoterms. Freight Terms, Payment Methods, Payment Terms, Transportation Methods	Export a discrete purchase order with one or more purchasing terms.
	Unit Of Measure	Add or Update a record in the Unit Of Measure Update application (C_O36), or export using ION Data Export (ION12).
Sync	ItemMaster (Stockroom Parts Only)	When a user creates or updates a record in Part Master Update (SRC37), or export using ION Data Export (ION12).
Sync	PurchaseOrder	When a user creates or updates a record in Complete Purchase Orders (P_O11).
		When a user rolls a requisition to a purchase order using Purchase Requisition Update (P_O54).

Verb	Noun	User action to generate the BOD
Sync	ReceiveDelivery	When a user receives items via Purchase Order Receipts Entry (P_O37) on a Purchase Order that had previously been exported.
		It can all be re-exported from Purchase Order Receipts or Rejection History Inquiry (P_O48).
Sync	Requisition	When a user creates or updates a requisition using Purchase Requisition Update (P_54), or export using ION Data Export (ION12).
Sync	SupplierPartyMaster	When a user creates or updates a Supplier using Supplier Maintenance (VEN1), or export using ION Data Export (ION12).

# Appendix E Inbound BOD Usage



This table shows the incoming BODs that Infor TRANS4M can accept. It also indicates, when possible, what area of Infor TRANS4M shows the processed inbound data.

Verb	Noun	User action to generate the BOD
Process	Requisition	Purchase Requisition Update (P_54).

Inbound BOD Usage	

# Appendix F BODs used in Infor TRANS4M integrations

This appendix contains two tables that list the BODs that are available with Infor TRANS4M in the rows. The applications columns list the products where the BOD is used in Infor TRANS4M's integration with that product. Where the application is blank, the BOD is not currently used by interfacing applications, but the BOD is generated by Infor TRANS4M and is available to be processed through ION and any application that is set up to receive it.

# Outbound BODs from Infor TRANS4M to integrated applications

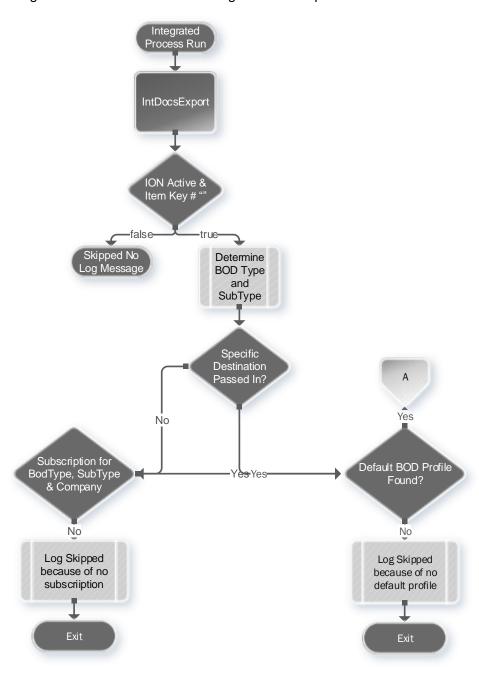
Verb	Noun	To Applications
Sync	CodeDefinition	EAM
Sync	ItemMaster	EAM
	(Stockroom Parts Only)	
Sync	PurchaseOrder	EAM
Sync	ReceiveDelivery	EAM
Sync	Requisition	EAM
Sync	SupplierPartyMaster	EAM

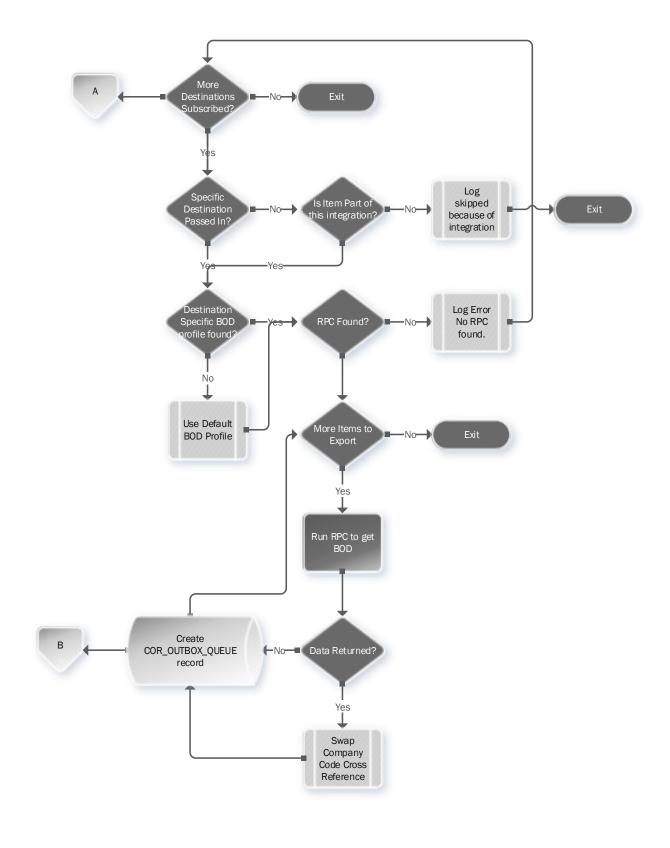
# Inbound BODs to Infor TRANS4M from Integrated applications

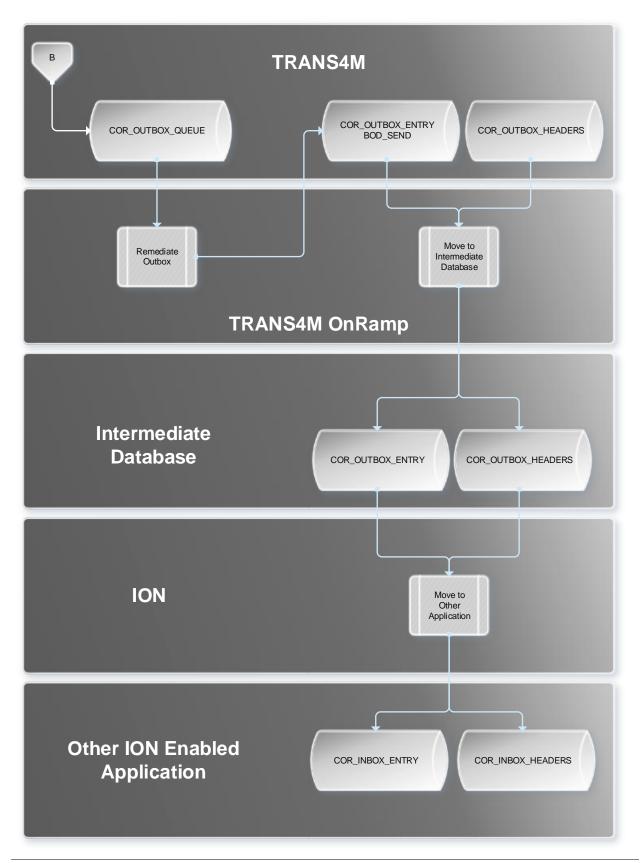
Verb	Noun	User action to generate the BOD
Process	Requisition	EAM

ODs used in Infor TRANS4M integrations

The following flow charts demonstrate the logic used to export TRANS4M data as a BOD.





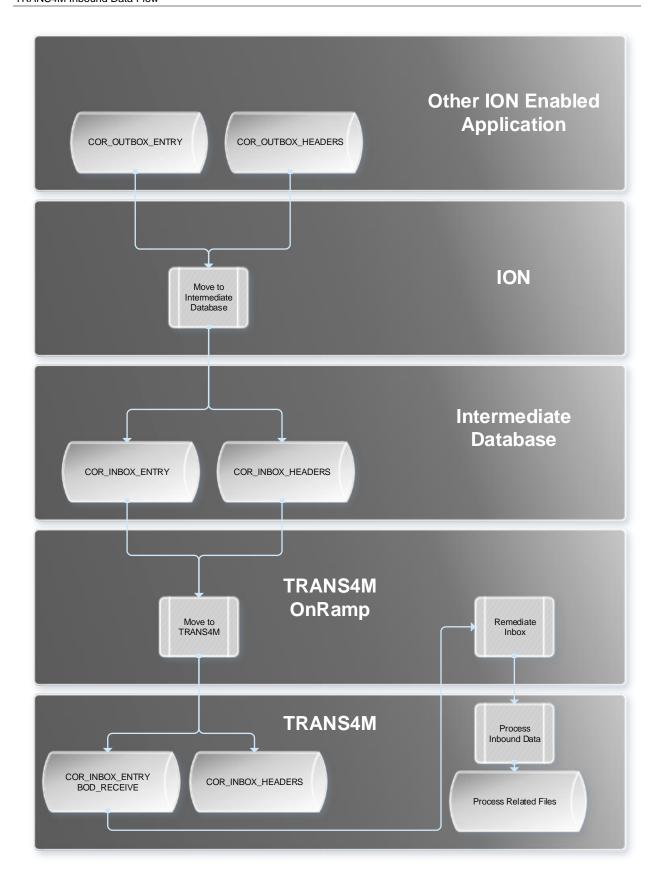


TRANS4M Outbound Data Flow

# Appendix H TRANS4M Inbound Data Flow



The following flow charts demonstrate the flow of inbound data.



# Appendix I TRANS4M Definitions



Definitions of terms used in TRANS4M are listed alphabetically below.

### **ATTRIBUTE - TRANS4M**

Field in a file, either data or virtual.

## **ATTRIBUTE - XML**

Tag found within an XML element. The attribute normally contains data that relates to the element. If a document is Attribute-centric, the data is found in attributes for a given element instead of child elements.

### **CONNECTION**

Data connection between the portal and a TRANS4M account and company code. There is a connection for each company code on a given account. This is required data for incoming SOAP messages.

### **DEFAULT STYLESHEET**

XSL stylesheet that was created for this process. The attributes selected represent the standard (non-custom) attributes for the given process in the proper format (ISO-formatted dates, decimal-formatted numbers, etc.).

#### **ELEMENT**

XML tag that is enclosed in < and >. It may contain zero or more attributes. It may have zero or more element children. If a document is Element-centric, the data is found in children elements.

## NAMESPACE - XML

Abstract container providing context for the items (names, or technical terms, or words) it holds and allowing disambiguation of items having the same name (residing in different namespaces). An XML namespace is a W3C recommendation for providing uniquely named elements and attributes in an XML instance. An XML instance may contain element or attribute names from more than one XML vocabulary. If each vocabulary is given a namespace, the ambiguity between identically named elements or attributes can be resolved. XML namespaces provide a simple method for qualifying element and attribute names used in Extensible Markup Language documents by associating them with namespaces identified by URI references. All element names within a namespace must be unique.

#### **PHANTOM**

Program that is kicked off and runs without user interaction. The portal sends data processing requests to a phantom RPC.

### **PROCESS**

RPC that is called to either import or export data. Processes have default XML and XSL data associated with them.

# **RPC (REMOTE PROCESS CALL)**

Program that runs on a TRANS4M server.

### **SCHEMA**

Generic term used to refer to documents that can be used to validate an XML document.

## **URI (UNIFORM RESOURCE IDENTIFIER)**

Compact string of characters used to identify or name a resource. The main purpose of this identification is to enable interaction with representations of the resource over a network, typically the World Wide Web, using specific protocols. URLs are defined in schemes defining a specific syntax and associated protocols.

## XML (EXTENSIBLE MARKUP LANGUAGE)

General-purpose markup language. It is classified as an extensible language because it allows its users to define their own tags. Its primary purpose is to facilitate the sharing of structured data across different information systems, particularly via the Internet.

### **XSD (XML SCHEMA DEFINITION)**

One of several XML schema languages. It is used to validate xml.