Oracle® Telecommunications Billing Integrator

Implementation Guide

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Contents

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Oracle Telecommunications Billing Integrator Implementation Guide, Release 11*i*

Part No. B16038-01

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Preface

Intended Audience

Welcome to Release 11*i* of the *Oracle Telecommunications Billing Integrator Implementation Guide*.

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.

- Oracle Telecommunication Billing Integrator

- Oracle XML Gateway

  To learn more about Oracle XML Gateway, read the *Oracle XML Gateway User's Guide*.

- Oracle Workflow

  To know more about Oracle Workflow, read the *Oracle Workflow Administrator's Guide.*

- Oracle Self-Service Web Applications.

  To learn more about Oracle Self-Service Web Applications, read the *Oracle Self-Service Web Applications Implementation Manual*.

- The Oracle Applications graphical user interface.

  To learn more about the Oracle Applications graphical user interface, read the *Oracle Applications User's Guide.*

See Related Documents on page x for more Oracle Applications product information.

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Structure

1 Introduction to Telecommunications Billing Integrator

This chapter provides a brief introduction to the features in TBI.

2 Implementing Telecommunications Billing Integrator

This chapter lists the prerequisites and other implementation considerations for TBI.

3 Implementation Tasks

This chapter discusses the tasks to implement Oracle Telecommunications Billing Integrator.

A Configuring Oracle Applications InterConnect

This appendix provides information on configuring Oracle Applications InterConnect.

B APIs in Telecommunications Billing Integrator

This appendix provides information on the APIs in TBI.

C Message Maps and DTDs for XML Gateway

This appendix provides information on the message maps and DTDs for XML Gateway.

D XML Messages in TBI

This appendix provides information on the XML messages in TBI.

Related Documents

Oracle Telecommunications Billing Integrator shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other guides when you set up and use Oracle Telecommunications Billing Integrator. You can read the guides online by choosing Library from the expandable menu on your HTML help window, by reading from the Oracle Applications Document Library CD included in your media pack, or by using a Web browser with a URL that your system administrator provides.

If you require printed guides, you can purchase them from the Oracle Store at http://oraclestore.oracle.com.

Guides Related to All Products

Oracle Applications User's Guide

This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI). This guide also includes information on setting user

profiles, as well as running and reviewing reports and concurrent processes. You can access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help.

Guides Related to This Product

Oracle Telecommunication Service Ordering Process Guide

This manual provides information on setting up Oracle Order Management that is specific to the Telecommunications Service Ordering solution.

Oracle Supply Chain Trading Connector Implementation Guide

This manual provides detailed information on the Collaboration History feature of the Supply ChainTrading Connector.

Oracle XML Gateway User's Guide

This manual describes the XML Gateway features and architecture and provides information on Message Designer, XML Gateway Setup, and Execution Engine.

Oracle Application Interconnect 9.0.4 Installation Guide

This manual explains the installation of Oracle Applications InterConnect 9.0.4.

Oracle Workflow Developer's Guide

This guide explains how to define new workflow business processes and customize existing Oracle Applications-embedded workflow processes. It also describes how to define and customize business events and event subscriptions.

Oracle9i Application Developer's Guide - Advanced Queuing

This manual describes features of application development and integration using Oracle Advanced Queuing.

Oracle Self–Service Web Applications Implementation Guide

This manual contains detailed information about the overview and architecture and setup of Oracle Self–Service Web Applications. It also contains an overview of and procedures for using the Web Applications Dictionary.

Installation and System Administration

Oracle Applications Concepts

This guide provides an introduction to the concepts, features, technology stack, architecture, and terminology for Oracle Applications Release 11*i*. It provides a useful first book to read before an installation of Oracle Applications. This guide also introduces the concepts behind Applications-wide features such as Business Intelligence (BIS), languages and character sets, and Self-Service Web Applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time to install Oracle Applications and the Oracle technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you must perform to finish your installation. You should use this guide in conjunction with individual product user guides and implementation

Oracle Applications Implementation Wizard User Guide

If you are implementing more than one Oracle product, you can use the OracleApplications Implementation Wizard to coordinate your setup activities. This guide describes how to use the wizard.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i* . This guide describes the upgrade process and lists database and product-specific upgrade tasks. You must be either at Release 10.7 (NCA, SmartClient, or character mode) or Release 11.0, to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

"About" Document

For information about implementation and user documentation, instructions for applying patches, new and changed setup steps, and descriptions of software updates, refer to the "About" document for your product. "About" documents are available on OracleMetaLink for most products starting with Release 11.5.8.

Maintaining Oracle Applications

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. It contains how-to steps, screenshots, and other information that you must run the AD utilities. This guide also provides information on maintaining the Oracle applications file system and database.

Oracle Applications System Administrator's Guide

This guide provides planning and reference information for the Oracle Applications System Administrator. It contains information on how to define security, customize menus and online help, and manage concurrent processing.

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff and describes the Oracle Application Object Library components that are needed to implement the Oracle Applications user interface described in the Oracle Applications User Interface Standards for Forms-Based Products. This manual also provides information to help you build your custom Oracle Forms Developer forms so that the forms integrate with Oracle

Oracle Applications User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms.

Other Implementation Documentation

Oracle Applications Product Update Notes

Use this guide as a reference for upgrading an installation of Oracle Applications. It provides a history of the changes to individual Oracle Applications products between

Release 11.0 and Release 11*i*. It includes new features, enhancements, and changes made to database objects, profile options, and seed data.

Oracle Workflow Administrator's Guide

This guide explains how to complete the setup steps necessary for any Oracle Applications product that includes workflow-enabled processes, as well as how to monitor the progress of runtime workflow.

Oracle Workflow Developer's Guide

This guide explains how to define new workflow business processes and customize existing Oracle Applications-embedded workflow processes. It also describes how to define and customize business events and event subscriptions.

Oracle Workflow User's Guide

This guide describes how Oracle Applications users can view and respond to workflow notifications and monitor the progress of their workflow processes.

Oracle Workflow API Reference

This guide describes the APIs provided for developers and administrators to access Oracle Workflow.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Telecommunications Billing Integrator implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This guide also provides information on creating custom reports on flexfields data.

Oracle eTechnical Reference Manuals

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing applications, integrate Oracle Applications data with non-Oracle applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on OracleMetalink.

Oracle Applications Message Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD-ROM for Release 11*i*.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using an Oracle Applications form can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get

out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

1

Introduction to Telecommunications Billing Integrator

This chapter provides a brief introduction to the features in TBI.

This chapter covers the following topics:

- Telecommunications Billing Integrator Overview
- Telecommunications Billing Integrator Features
- Publishing Information to the Billing Applications
- Technologies/Products Used in TBI

Telecommunications Billing Integrator Overview

Oracle Telecommunications Billing Integrator (TBI) is an integral part of the Oracle Telecommunications Service Ordering (TSO) solution. The TSO solution leverages multiple components in the Oracle E-Business Suite (EBS) to enable telecommunications service providers to order new telecommunication services and to update existing telecommunications service configurations by moving, adding, changing, or disconnecting customer services.

Telecommunications service providers create and maintain data that is essential for telecommunications services in the EBS and use external billing applications to bill the customers for the services and products ordered through EBS. Oracle TBI enables exchange of information between Oracle EBS and the billing applications to ensure that data essential for billing purposes is made available to the external billing application.

Telecommunications service providers can use the EBS to conduct post-sale interactions with customers, such as service requests and billing inquiries. Since the call centres of telecommunications service providers receive most calls related to billing, Oracle TBI addresses the need for fast and efficient access to billing information by providing the bill summary data via the Bill Summary UI. It also displays an image of the actual customer bill for each bill summary.

TBI is an interface between Oracle EBS and the external billing applications. Information on customers, accounts, products, sales orders, and so on which is maintained by the Oracle E-Business applications is replicated in the external billing applications and is kept in sync to ensure that the bills are computed accurately. Bill Summary information and actual customer bill images from the billing application are made available to the customer care agent through TBI.

In short, TBI provides a seamless out-of-the-box integration between Oracle EBS and one or more external billing applications to assist in customer management and enhance business benefits.

Telecommunications Billing Integrator Features

The following are the key features of TBI.

- Exchange Information: TBI enables exchange of information between Oracle EBS and the external billing applications. It publishes information that is essential for billing such as, details on accounts, products, and sales orders to the external billing applications as an 'outbound message'. TBI generates the outbound message in XML format and places it in the Oracle Advanced Queue. The middleware picks up the outbound messages from the advanced queue and ensures that they are delivered successfully to the billing applications. In the same manner, the Oracle E-Business Suite receives acknowledgments for the published messages in the form of 'inbound messages'. For more details on the information that is published to the external billing applications by TBI, see Publishing Information to the Billing Applications, page 1- 3 .

- Integrate with multiple billing systems: TBI can integrate with multiple heterogeneous billing applications at the same time.

- Track Status: Oracle TBI is integrated with the EBS Collaboration History module to monitor communication between EBS and the billing applications. TBI uses Collaboration History to:

  - Support integration with multiple heterogeneous billing systems. Using Collaboration History, TBI can determine if each subscribing billing application has successfully created accounts from account messages and orders from and sales order messages.

  - Ensure that order information is published to billing systems only after each billing system has successfully created a party and account.

  - Publish updates to party and account relevant to the billing system.

  - Track the status of each message that is published to the external billing application.

  - Allow business users to query for specific collaborations by Account Numbers, Order Numbers or Product/Item numbers to view the contents of the messages being published and the history of the events that have occurred.

    For more information, see Setting Up Collaboration History, page 3-10.

- Middleware Independent: TBI requires a middleware as an integration point to billing applications for messaging, transforming, and routing the XML messages. The middleware handles data transformation between the E-Business objects and the billing application objects. TBI integrates with any middleware that has a native AQ or JMS adapter. Oracle recommends using Oracle Applications InterConnect (OAI 9.0.4) for TBI. For information on configuring Oracle Applications InterConnect (OAI 9.0.4), see Configuring Oracle Applications InterConnect, page A- 1 .

- Display Bill Summary: The call centres of telecommunication service providers receive most enquires related to billing. TBI provides the call centre agents access to the bill summary data through the Bill Summary user interface. The Bill Summary UI displays the bill summary for a single account number. Each row in the table

summarizes a bill with relevant bill information (i.e., Bill Number, Bill Date, Current Charges, Previous Balance, etc.). The Bill Summary UI can be viewed from the 'Bill Summary' option in the Oracle Contact Centre 'Actions' menu. To enable the 'Bill Summary' option in Oracle Contact Centre, see Setting up Bill Summary UI, page 3-13.

- Bill Image Display : Customers may question a line number on a certain page of a specific bill. Such billing inquiries can often be addressed more effectively when customer service agents can view an image of the bill in question. TBI provides this capability by linking the bill number provided in the Bill Summary UI to the image data supplied by the billing application.

- Business Event Enabled: Business Event System is a real-time notification system. The Business Event System notifies TBI when an account or sales order is created or updated. For account update, the TBI users can choose the TCA events they wish to subscribe. For more information, see Subscribing to Account Update Events, page 3-22.

Publishing Information to the Billing Applications

TBI publishes information on the following E-Business entities to the external billing applications:

- New Account
- Account Update
- Item/Product
- Sales Order

Publishing New Account Details

The account information is maintained in TCA and has to be communicated to the external billing application for billing purposes. Account information is published to the external billing application only when an order is booked for the first time for an account.

For more information, see Integrating Workflow Process for Publishing Account Information, page 3-17 and Message Specifications for Account, page D- 7 .

Publishing Account Update Details

When changes that are relevant to the billing system are made to party or accounts in TCA, TBI communicates the changes to the billing system by generating and publishing an account message to the billing system.

To be notified about the updates that are made to accounts, TBI subscribes to a set of TCA events. When TCA raises an event, TBI verifies if the account updated in TCA is relevant to the billing system. If it is relevant, TBI publishes the account message to the billing system. The updated section is highlighted in the message. For example: If the Billing Preferences of an account (relevant to the billing system) is changed in TCA, TBI publishes the Account Message with the Billing Preference section flagged as "U" (Updated).

If multiple changes are made to an account in TCA, multiple account messages with the latest TCA data are published by TBI. The generation of each account message in update mode is triggered by an event raised by TCA. The section in the account message corresponding to the entity that raised the TCA event is flagged as "U" (Updated).

For more information, see Subscribing to Account Update Events, page 3-22 and Message Specifications for Account, page D- 7 .

Publishing Item/Product Details

To maintain accurate pricing, rating, and billing, the product catalog in the EBS must be synchronized with that of the billing system. For this purpose, TBI provides a concurrent manager program that can:

- automatically generate an XML or CSV file for all EBS product catalog items which must be uploaded to the billing system.

This method is suitable for synchronizing a large number of items between the EBS and the billing system.

- generate and asynchronously publish an XML message of items from the EBS product catalog to the billing system.

This method is suitable for synchronizing small additions.

For more information, see Setting up and Running the Item Publish Concurrent Program, page 3-20 and Message Specifications for Item/Product., page D-27

Publishing Sales Order Details

The sales order information is created and maintained by the Oracle Order Management system. Sales orders with multiple order lines are created in OM when:

- a new telecommunications service (example: wireless service) is ordered
- new features (example: voice mail) are added to a service
- changes are made to features (example: number of rings before voice mail is activated)
- changes (upgrade/downgrade) are made to price packages
- provisioning actions (example: service is suspended, resumed, moved or disconnected) are performed on an active service.

In the TSO solution, each order line includes a provisioning action, an item (example: a service, a feature, a price package, a one-time charge, a recurring charge), pricing, address and other information. The billing system requires all the information in the order. The billing system must also be able to start the billing process for each service/feature as soon as each order line is provisioned. This is important when the order is for multiple services. TBI publishes an XML message per Sales Order Line, to the billing system after each order line is fulfilled (provisioned).

Before the sales order is published, it is confirmed that the account that created the sales order has already been published. If the account is published, the sales order flow continues to publish the sales order message. If the account is not published, the account is published before publishing the sales order message.

For more information, see Integrating Workflow Process for Publishing Sales Order Information, page 3-18 and Message Specifications for Sales Order Line, page D-18.

Technologies/Products Used in TBI

Oracle TBI uses the following Oracle applications that provide the underlying technology stack, schema, and structure for TBI.

- Oracle Telecommunications Service Ordering (TSO)

- Oracle Collaboration History
- Oracle Contact Centre
- Oracle Workflow Business Systems
- Oracle XML Gateway
- Oracle Advanced Queuing

2

Implementing Telecommunications Billing Integrator

This chapter lists the prerequisites and other implementation considerations for TBI.

This chapter covers the following topics:

- Prerequisites for TBI
- Implementation Considerations
- TBI with TSO
- Middleware in TBI
- External Billing Applications

Prerequisites for TBI

The prerequisites for implementing TBI are as follows:

- 11.5.10 Maintenance Pack

or

11.5.9 Maintenance Pack + 11*i*.SCM_PF.J

- Oracle 9iAs/OAI 9.0.4 on Oracle RDBMS 9.2.0.2 or above if OAI is used as the middleware

Implementation Considerations

You must consider the following implementation points before implementing Oracle TBI:

- TBI with TSO, page 2- 1
- Middleware in TBI, page 2- 2
- External Billing Applications, page 2- 2

TBI with TSO

Oracle TBI is an integral part of the Oracle Telecommunications Service Ordering (TSO) solution.

The TSO solution leverages multiple components of the Oracle EBS to enable telecommunications service providers to order new telecommunications services for

their customers and to order updates (add/remove/change features or value added services, move, suspend, resume or disconnect services) to existing telecommunications service configurations. All products, accounts, and orders for telecommunications services captured in the EBS must be synchronized with the third party billing system(s) that rate and generate bills for the services ordered. Every implementation of the TBI solution requires integration to a billing system. A custom integration is usually costly and time consuming. It is also not reusable, extensible, and scalable. TBI addresses this need by providing an out-of-the-box integration from EBS to any third party billing application.

Refer to the *Telecommunications Service Ordering Process Guide* for details.

Middleware in TBI

TBI integrates with any middleware that has a native AQ or JMS adapter. Oracle recommends using Oracle Applications InterConnect (OAI 9.0.4) as the middleware in TBI. For details, see Configuring the Middleware., page 3-22

External Billing Applications

TBI provides a robust two-way integration which enables exchange of information between Oracle E-Business Suite and the external billing applications. Mapping of products and customer definition must be done before setting up TBI or during the setup process.

Integration with multiple heterogeneous billing applications is accomplished by using the routing rules in the middleware. Information on which billing application is billing which customer, account, or product is handled by the middleware. Middleware tracks the billing applications and the E-Business Suite communicates with the middleware. The routing rules must be setup in the middleware.

3

Implementation Tasks

This chapter discusses the tasks to implement Oracle Telecommunications Billing Integrator.

This chapter covers the following topics:

- Implementation Tasks
- Setting Up XML Gateway
- Defining XML Gateway Profile Values
- Defining UTL_FILE_DIR Parameters
- Defining XML Standards
- Defining a Hub
- Defining Hub Users
- Defining Transactions
- Defining Trading Partners
- Setting Up Collaboration History
- Defining Collaboration History Profile Values
- Defining Lookup Values
- Setting Up Collaboration Events
- Setting Up Final Collaboration Event
- Starting Agent Listeners
- Setting Up Bill Summary UI
- Defining Bill Summary UI Profile Options
- Providing Access to Bill Summary UI to a Responsibility
- Enabling the Bill Summary UI in Oracle Contact Centre
- Personalizing the Form
- Accessing the Bill Summary UI from Oracle Contact Centre
- Loading Bill Summary Data
- Integration with Order Management Workflow Processes
- Integrating Workflow Process for Publishing Account Information

- Integrating Workflow Process for Publishing Sales Order Information
- Defining Sales Order Line Profile Values
- Creating the Workflow Function
- Setting Up and Running the Item Publish Concurrent Program
- Defining Item Batch Export Profile Values
- Submitting the Request
- Subscribing to Account Update Events
- Configuring the Middleware

Implementation Tasks

You must have the TBI Administrator responsibility to access the Oracle XML Gateway database and forms.

Implementing Oracle TBI involves the following:

1. Setting Up XML Gateway, page 3- 2
2. Setting Up Collaboration History, page 3-10
3. Starting Agent Listeners, page 3-12
4. Setting Up Bill Summary UI, page 3-13
5. Integration with Order Management Workflow Processes, page 3-17
6. Setting Up and Running the Item Publish Concurrent Program, page 3-20
7. Subscribing to Account Update Events, page 3-22
8. Configuring the Middleware, page 3-22

Setting Up XML Gateway

Setting up XML Gateway or TBI involves the following:

1. Defining XML Gateway Profile Values, page 3- 2
2. Defining UTL_FILE_DIR Parameters, page 3- 3
3. Defining XML Standards, page 3- 3
4. Defining a Hub, page 3- 4
5. Defining Transactions, page 3- 5
6. Defining Trading Partners, page 3- 8

Defining XML Gateway Profile Values

Log into Oracle Forms with the System Administrator responsibility, navigate to Profile > System Values and set the XML Gateway profile values.

The following table lists the XML Gateway profile options.

XML Gateway Profile Options

Profile Option	Description	Required	Default Value
ECX: Log File Path	Log file path where XML messages, XSLT style sheets, and runtime log messages are stored	Yes	None
ECX: System Administrator Email Address	XML gateway system administrator's e-mail address	No	None
ECX_OAG_LOG ICALID	Identifier for sender's information system	Yes	None
ECX: Server Time Zone	The time zone in which server database is running	Yes	Null

Defining UTL_FILE_DIR Parameters

To use Oracle XML Gateway, you must first create directories to store the XML message process logs and the XSLT style sheets. Oracle XML Gateway uses the UTL_FILE package to read and write to the server.

The UTL_FILE package can only write to accessible directories. The directories are defined by the utl_file_dir parameter in the init<SID>.ora file. This file is usually found in the $ORACLE_HOME/dbs directory. In this file, each accessible directory is indicated as: utl_file_dir = directory_name.

Specifications for the Directory Name

The specifications for the directory name are as follows:

- The specification of the directory_name varies depending on the operating system. If the operating system is case sensitive, then the directory_name is also case sensitive.

- The value for the directory_name must be a physical directory. It cannot be a variable, logical, or an alias.

- The value for the directory_name must match the value defined in the Oracle XML Gateway profile for (i) ECX_UTL_LOG_DIR File Path (ECX: Log File Path).

Defining XML Standards

Use this procedure to define XML standards.

Steps:

1. Navigate to XML Gateway Setup > Define XML Standards.

2. In the Standard Code field, enter 'OAG'. This is the name or code for the standard body of the XML messages.

3. In the Standard Type field, enter 'XML'.

4. In the Description field, enter 'Open Applications Group'.

Defining a Hub

Use this procedure to define a Hub.

Steps:

1. Navigate to XML Gateway Setup > Define Hubs.

2. In the Name field, enter 'XNB_HUB'.

3. In the Protocol Type field, select IAS (Oracle Integration Server).

   This value identifies the type of messages that are passed through the hub and provides a method for inbound and outbound agent listeners to filter the messages from a common queue.

   If this value is not available in the LOV, it must be enabled for the XML Gateway. To enable the values:

   1. Select XML Gateway Setup > Define Lookup Values. The Oracle XML Gateway Lookups form appears.

   2. Query for the lookup type 'COMM_METHOD'.

   3. Locate the lookup value with code 'IAS' and enable it.

4. In the Protocol Address field, enter 'NO_VALUE' to suit the protocol type IAS chosen in this scenario. This value indicates the address related to the Protocol Type chosen, such as an e-mail address for the Protocol Type SMTP.

   > **Note:** Protocol Type is set to "IAS" in this scenario. This setting will work if there is only one middleware interacting and de-queuing messages from the Oracle Advanced Queue.
   >
   > If the Protocol Type IAS cannot be located, refer to the XML Gateway documentation for missing patches.

Related Topics

Defining Hub Users, page 3- 4

Defining Hub Users

A hub user definition represents an application that takes part in the message exchange. There is one hub user representing TBI and one user representing each of the billing applications to receive and send messages from and to the hub.

Use this procedure to define hub users.

Steps:

1. Define middleware as a user:

   1. In the Username field, enter 'XNB' for the hub user representing TBI.

   2. In the Password field, enter a password of minimum six characters.

   3. In the Hub Entity Code, enter 'XNB' for hub user representing TBI. This value identifies a hub user in the hub.

2. Define the Billing Application as an user:

1. In the Username field, enter username that represents the billing application.

2. In the Password field, enter a password of minimum six characters.

3. In the Hub Entity Code, enter the name of the billing application for the hub user representing the billing application. This value identifies a hub user in the hub.

   - The codes entered for the hub users representing the various billing applications setup in the hub must be unique.

   - Hub entity code values for the various billing applications must be same as the key value from BSR.SENDER.COMPONENT.

Defining Transactions

This step defines internal transactions that are used by the XML Gateway Execution Engine. These transactions are associated with the trading partner in the trading partner setup. Each internal transaction is associated with a number of external transactions that participate in the integration.

Use this procedure to define a transactions.

Steps:

1. Select XML Gateway Setup > Define Transactions.

2. In the Party Type field, select 'Customer'.

3. In the Transaction Type field, enter 'XNB'.

4. In the Transaction Subtype field, enter the transaction subtype.

   Transaction Subtype is a code for a particular transaction within the application specified by the Transaction Type. The last letter of the code represents the direction of the transaction i.e. "I" for inbound and "O" for outbound. The combination of the Transaction Type and the Transaction Subtype identifies an Oracle transaction with which the message is associated.

5. In the Transaction Description field, enter a description for the transaction.

6. In the Standard Code field, select 'OAG'.

7. In the Direction field, select "IN" for inbound messages, or "OUT" for outbound messages.

   Direction indicates if the message is inbound or outbound.

8. In the External Transaction Type field, enter a primary external identifier for the XML message.

9. In the External Transaction Subtype field, enter a secondary external identifier for the XML message.

   The combination of the External Transaction Type and the External Transaction Subtype references the message to the Oracle internal transaction identified by the Transaction Type and the Transaction Subtype.

10. In the Queue field, select the queue.

    The standard inbound queue used in TBI is APPS.ECX_IN_OAG_IN. The field is disabled for outbound messages. Default queues are defined during installation.

11. Click **Save**.

Internal and External Transactions in XML Gateway

The following internal transactions have associated external transactions in XML Gateway:

- Account Outbound, page 3- 6
- Sales Order Outbound, page 3- 6
- Inventory Item Outbound, page 3- 7
- Confirm BOD Inbound, page 3- 7

Provide the following values to define the transactions in TBI.

Account Outbound

Account Outbound Transaction Values

Attribute	Value
Party Type	Customer
Transaction Type	XNB
Transaction Subtype	AO
Transaction Description	XNB TCA Account Outbound

External Transactions for Account Outbound

External Transactions for Account Outbound

STD CODE	DIR	EXT. TXN. TYPE	EXT. TXN. SUBTYPE	QUEUE
OAG	OUT	ACCOUNT	SYNC	-

Sales Order Outbound

Sales Order Outbound

Attribute	Value
Party Type	Customer
Transaction Type	XNB
Transaction Subtype	SOO
Transaction Description	XNB OM Sales Order Outbound

External Transactions for Sales Outbound

STD CODE	DIR	EXT. TXN. TYPE	EXT. TXN. SUBTYPE	QUEUE
OAG	OUT	SALES ORDER	ADD	-

Inventory Item Outbound

Inventory Item Outbound

Attribute	Value
Party Type	Customer
Transaction Type	XNB
Transaction Subtype	IO
Transaction Description	XNB Inventory Item Outbound

External Transactions for Inventory Item Outbound

External Transactions for Inventory Item Outbound

STD CODE	DIR	EXT. TXN. TYPE	EXT. TXN. SUBTYPE	QUEUE
OAG	OUT	ITEM	SYNC	-

Confirm BOD Inbound

Confirm BOD Inbound

Attribute	Value
Party Type	Customer
Transaction Type	XNB
Transaction Subtype	CBODI
Transaction Description	XNB Confirm BOD Inbound

External Transactions for Confirm BOD Inbound

External Transactions for Confirm BOD Inbound

STD CODE	DIR	EXT. TXN. TYPE	EXT. TXN. SUBTYPE	QUEUE
OAG	IN	BOD	CONFIRM	APPS.ECX_IN_OAG_Q

Transactions Enabled for TBI

The following table lists the transactions enabled for TBI. A (XNB, CBODI) transaction must be enabled for each hub user representing a billing application with the correct Source Trading Partner Location Code. All transactions must be set as ENABLED.

Transactions Enabled for TBI

TXN TYPE	TXN SUB TYPE	MAP	CONN/ HUB	USERNAME	SRCT P LOC CODE	DOC CONF
XNB	AO	XNB_ TCA_ ACCOUNT_ OAG72_ OUT	XNB_HUB	XNB	XNB	2
XNB	SOO	XNB_OM_ SALESORDER_ OAG72_ OUT	XNB_HUB	XNB	XNB	2
XNB	IO	XNB_ INV_ ITEM_ OAG72_ OUT	XNB_HUB	XNB	XNB	2
XNB	CBODI	XNB_ CLN_ CBOD_ OAG72_ IN	-	-	BILLAPP_ 1	0

Defining Trading Partners

A trading partner is an entity with which the XML Gateway exchanges messages. The trading partner has many transactions enabled for each hub user. The transactions enabled for each hub user determines the type of messages generated/consumed and the direction of the message.

Trading Partner Setup

Transaction Type	Transaction SubType	Standard Code	External Transaction Type	External Transaction SubType	Direction	Map	Connection/ Hub	Protocol Type
XNB	AAO	OAG	ACCOUNT	ADD	OUT	XNB_TCA_AC	XNB_HUB	IAS
XNB	UAO	OAG	ACCOUNT	UPDATE	OUT	XNB_TCA_AC	XNB_HUB	IAS
XNB	CBODI	OAG	BOD	CONFIRM	IN	XNB_CLN_CB		
XNB	IO	OAG	ITEM	SYNC	OUT	XNB_INV_ITE!	XNB_HUB	IAS
XNB	SOO	OAG	SALESORDE	ADD	OUT	XNB_OM_SAL	XNB_HUB	IAS

Use this procedure to define trading partners.

Prerequisites

❒ Party and Location for the Hub must be created in TCA. For details, see *Oracle Applications Trading Community Architecture User Guide*.

Steps:

1. Select XML Gateway Setup > Define Trading Partners.

2. In the Trading Partner Type field, select 'Customer'.

3. In the Trading Partner Name field, select the TCA party created to reference the middleware.

4. In the Trading Partner Site field, select the TCA party location created for this purpose.

5. In the Company Admin Email field, enter the System Administrator's e-mail ID. The System Administrator will receive notifications regarding warnings and errors.

6. In the Transaction Type field, select a transaction type. The following fields are automatically updated:

   • Transaction SubType

   • Standard Code

   • External Transaction Type

   • External Transaction SubType

   • Direction

7. In the Map field, select the appropriate map.

8. In the Connection/Hub field, enter 'XNB_HUB'. This is required only for outbound messages.

9. The Protocol Type is populated for outbound messages from the hub protocol type. Protocol Type is not applicable for inbound messages.

10. In the Username field, select the hub user 'XNB'. This is required only for outbound messages.

11. In the Password field, enter the password (optional).

12. In the Protocol Address field, the values are populated for the outbound messages from the hub definition.

13. In the Source Trading Partner Location Code field, the values are populated to the Hub Entity Code for the hub user XNB.

    For outbound messages, this is the code for the sending organization. For inbound messages, this is the code for the trading partner's location from where messages are received.

14. Leave the Destination Trading Partner Location Code field blank because no messages are addressed directly to a trading partner.

15. In the Document Confirmation field, select 2 (i.e. Always send a confirmation) for outbound messages and select 0 (Never send a confirmation) for inbound messages.

    Document Confirmation specifies if the Trading Partner would like to send or receive a confirmation.

Setting Up Collaboration History

Collaboration History monitors communication between EBS and the billing applications. Setting up Collaboration History involves the following:

1. Defining Collaboration History Profile Values, page 3-10

2. Defining Lookup Values, page 3-11

3. Setting up Collaboration Events, page 3-12

4. Setting up Final Collaboration Event, page 3-12

Defining Collaboration History Profile Values

Log into Oracle Forms and navigate to Setup > Profile System Values and set up profile values for Collaboration History.

The following table lists the profile values for Collaboration History.

Collaboration History Profile Values

Profile Option	Value
CLN: ENABLE_HISTORY_TRACKING	Set this profile value to ALWAYS to enable Collaboration History.
CLN: DEBUG LEVEL	Set this profile value to Statement to enable Low level logging message to get maximum details.
CLN: DEBUG LOG DIRECTORY	Set this profile value to the UTL_FILE_DIR path of the environment.

Defining Lookup Values

These lookups are used to integrate XML Gateway with Supply Chain Trading Connector to enable Collaboration History Tracking. Select Application Developer Responsibility > Application > Lookup Values and enter the required lookup values.

The following table lists the lookup types and the values to be provided for each of the lookup type.

Lookup Types

Lookup Type	Lookup Code	Description	Enabled?
CLN_APPLICAT ION_ID	881	Oracle Telecommunications Billing Integrator	Y
CLN_COLLABORAT ION_TYPE	XNB_ITEM	TBI Sync Item	Y
CLN_COLLABORAT ION_TYPE	XNB_ACCOUNT	TBI Account	Y
CLN_COLLABORAT ION_TYPE	XNB_SALESORDER	TBI Sales Order	Y
CLN_COLLABORAT ION_DOC_TYPE	XNB_SYNC_ITEM	TBI Sync Item	Y
CLN_COLLABORAT ION_DOC_TYPE	XNB_SYNC_ ACCOUNT	TBI Sync Account	Y
CLN_COLLABORAT ION_DOC_TYPE	XNB_ADD_ SALESORDER	TBI Add Sales Order	Y

> **Note:** After the lookup values are updated, the Apache server on the environment should be bounced only if the values are not reflected in the Collaboration Setup UI.

Setting Up Collaboration Events

Use this procedure to setup the collaboration events.

Steps:

1. Navigate to Supply Chain Trading Connector > Collaboration Event Definition.

2. In the Transaction Type field, select the transaction type.

3. In the Transaction Subtype field, select the transaction sub type.

4. In the Document Direction, select IN or OUT to indicate the direction of the document.

5. In the Application field, select the Oracle Application that owns the collaboration.

6. In the Document Type field, select the Document Message Payload identified for the event.

7. In the Collaboration Type field, select the Collaboration Name. This is defined in the lookup code for collaboration setup.

8. Click **Go**.

Setting Up Final Collaboration Event

The final collaboration event must be set up in the Collaboration History to record a final status of the overall collaboration. The final event is generally the occurrence of an inbound or outbound message in the XML Gateway. After the collaboration is created or updated from the business flow, the collaboration can be tracked using the Collaboration History function.

Use this procedure to setup the final collaboration event.

Steps:

1. Navigate to Supply Chain Trading Connector > Collaboration Final Event Definition.

2. In the Application field, select the Oracle Application that owns the collaboration.

3. In the Collaboration Type field, select the Collaboration Name.

   This is defined in the lookup code for collaboration setup.

4. In the Document Type field, select the Document Message Payload identified for the event.

5. In the Document Direction field, select IN or OUT to indicate the direction of the document.

6. Click **Go**.

Starting Agent Listeners

The following Agent Listeners must be running for TBI to function:

- ECX Inbound Agent Listener

- ECX Transaction Agent Listener

- Workflow Deferred Agent Listener

- Workflow Deferred Notification Agent Listener
- Workflow Error Agent Listener
- Workflow Inbound Notifications Agent Listener

The ECX Inbound Agent Listener and the ECX Transaction Agent Listener have to be started manually. To start these agent listeners, navigate to Oracle Application Manager > Workflow > Agents.

The other Agent Listeners start automatically if the concurrent manager instance is running in the environment. If this is not setup, contact the System Administrator.

Setting Up Bill Summary UI

The Bill Summary UI is integrated with the Oracle Contact Centre and can be accessed from the Oracle Contact Centre through a special menu extension. Oracle TBI uses the OA Framework for Bill Summary UI.

Setting up Bill Summary UI involves the following:

1. Defining Bill Summary UI Profile Values, page 3-13
2. Providing Access to Bill Summary UI to a Responsibility, page 3-14
3. Enabling the OA Framework UI for bill summary, page 3-15
4. Personalizing the Form, page 3-15
5. Accessing the Bill Summary UI from Oracle Contact Centre, page 3-16
6. Loading Bill Summary Data, page 3-17

Defining Bill Summary UI Profile Options

Log into Oracle Forms and navigate to Setup > Profile System Values and set up profile values for Bill Summary UI.

The following table lists the profile values for Billing Summary UI.

Billing Summary UI Profiles Values

Profile Option	Value
XNB: Bill Image Source	This specifies the source of the image displayed on the bill. The possible values are:
	• Application: The source of the bill image is application specific. A URL to the bill details is supplied by the billing application along with bill summary.
	• File System: The bill image can be retrieved from the file system.
XNB: Bill Image Location	This specifies the location of the bill image in the file system. 'XNB: Bill Image Source' must be set to 'File System'. The path specified must be a relative file system path accessible to the application web server.
	The path specified is appended to the $OA_HTML path of the web server to retrieve the bill image.
	Example: billImageLoc/img. The image path should be part of the web server directory i.e. $OA_HTML. "/" does not precede or append in the path specified.
XNB: Bill Image Format	This specifies the format of the bill image that is displayed. This value is used as the file system extension for the image name, which is same as the bill number. Provide the file name extension. For example: gif, jpeg. "." is not included for gif or jpeg.

Providing Access to Bill Summary UI to a Responsibility

To access Bill Summary UI from Oracle Contact Centre, the responsibility should have access to the Contact Centre in the E-Business Suite.

Use this procedure to provide access to the responsibility.

Steps:

1. Navigate to Security > Responsibility > Define.

2. Query for 'Menu' to identify the root level menu attached to the responsibility.

3. Navigate to Security > Application > Menu. Query for the menu identified in the previous step.

4. Add the seeded function XNB_OA_ACCT_BILL_DETAILS to the menu with the following values:

   • Prompt: Leave this field blank

   • Submenu: Leave this field blank

   • Function: XNB_OA_BILL_DETAILS

   • Description: XNB Account Bill Details OA Page

Enabling the Bill Summary UI in Oracle Contact Centre

Use this procedure to enable the Bill Summary UI in Oracle Contact Centre.

Steps:

1. Navigate to Security > Application > Menu.

2. Add the seeded function XNB_OA_ACCT_BILL_SUMMARY to the menu identified in Providing Access to Bill Summary UI to the Responsibility. Provide the following values:

   - Prompt: Leave this field blank

   - Submenu: Leave this field blank

   - Function: XNB_OA_ACCT_BILL_SUMMARY

   - Description: XNB Account Bill Summary OA Page

Personalizing the Form

TBI allows personalization of the Contact Centre form in order to invoke the Bill Summary UI.

Use this procedure to personalize the Contact Center form.

Steps

1. Navigate to Contact Center form > Help > Diagnostic > Custom Code > Personalize.

2. Create a Function. Name the function 'Bill Summary Function' or as appropriate.

3. Select the 'Enabled' check box to enable the function.

4. Select the Condition tab and enter the following details.

   - In the Trigger Event field, enter 'WHEN-NEW-FORM-INSTANCE.'

   - In the Processing Mode field, enter 'Not in Enter-Query Mode'.

   - For Context Level, select Site or anything appropriate.

5. Select the Action Tab and enter the following details.

   - From the Type drop down, select Menu.

   - From the Language drop down, select All.

   - Select the Enabled check box.

   - From the Menu Entry drop down, select 'SpecialXX'. XX represents the number that is not used by any other entry.

   - In the Menu Label field, enter Bill Summary.

6. Create another function. Name the function 'OA Bill Summary Page' or as appropriate.

7. Select the 'Enabled' check box to enable the function.

8. Select the Conditions Tab and enter the following details.

   - Select the Trigger event. It must be same as the one specified in the Menu i.e. SpecialXX.

- From the Type drop down, select Builtin.

- From the Language drop down, select All.

- Select the Enabled check box.

- For Builtin Type, select Launch a Function.

- In the Function Code field, enter XNB_OA_ACCT_BILL_SUMMARY.

- In the Function Name field, enter XNB_OA_ACCT_BILL_SUMMARY.

- In the Parameters field, enter ='AccountNumber='||:CUSTOMER_HEADER_BLK.CUST_ACCOUNT_NUMBER.

Accessing the Bill Summary UI from Oracle Contact Centre

Navigate to Oracle Contact Centre > Identify Customer and Account > Actions > Bill Summary. The Bill Summary is displayed.

Bill Summary UI

The following fields are available in the Bill Summary UI.

- Balance Summary: The balance summary of a customer account.

- Account Number: The customer account number.

- Account Name: The customer account name associated with the account number.

- Bill Number: A bill reference for the bill.

- Billing Cycle End Date: The end period (timestamp) in which the charges are calculated and included in the bill.

- Previous Balance: The previous balance.

- Payment: Total payment received on this bill till the current billing cycle.

- Adjustment: The un-applied adjustments or payments up to the current billing cycle. It includes multiple billing applications un-applied amount.

- Balance Forward: The total amount due for all open bills.

- Current Charges: New charges for the current bill.

- Ending Balance: Balance for the current bill (after the adjustments etc.)

- Due Date: Timestamp indicating when the bill is due.

Loading Bill Summary Data

Data must be uploaded at regular intervals (based on business needs) to the XNB_BILL_SUMMARIES table for the billing details to be displayed accurately in the Bill Summary. It is recommended that the data be loaded at the end of every billing cycle. Refer Bill Summary Bulk Insert APIs for details, page B- 1 .

Integration with Order Management Workflow Processes

Oracle TBI works in conjunction with the following Order Management Workflow processes to achieve the required integration/functionality:

- The XNBFLOWS.ACCOUNT_PROCESS is used to publish the new account information.

  For more information, see Integrating Workflow Process for Publishing Account Information, page 3-17.

- The XNBFLOWS.SALES_ORDER_PROCESS is used to publish the sales order (line) information.

  For more information, see Integrating Workflow Process for Publishing Sales Order Information., page 3-18

Integrating Workflow Process for Publishing Account Information

When a order is created for a new account (i.e. an account that has not been published to the billing system) in Order Management, the Order Management header flow uses the Business Event System to trigger the TBI account publish process. The TBI account publish process generates the XML and loads it into the AQ.

Use this procedure to create the workflow function for publishing accounts:
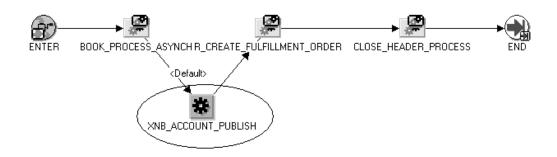
Steps:

1. In WorkFlow Builder, open the OM Order Header (OEOH) workflow.

2. Create a new workflow function. Enter the following parameters for the new function:

   - Internal Name: XNB_ACCOUNT_PUBLISH

   - Display Name: XNB Account Publish

   - Description: Publishes the Account Information

   - Function Name: xnb_cmn_pvt.publish_account_info

   Positioning the Account Process Flow

   The XNB_ACCOUNT_PUBLISH function should be placed as shown in the Account Process figure below.

Integrating Workflow Process for Publishing Sales Order Information

When an order is created in Oracle Order Management, the Order Management order line flow uses the Business Event System to trigger the TBI sales order publish process. Each Sales Order line is an individual XML message because each order line corresponds to an item ordered by a customer.

Integrating Workflow Process for Publishing Sales Order Information involves the following:

1. Defining Sales Order Line Profile Values, page 3-18
2. Creating the Workflow Function, page 3-19

Defining Sales Order Line Profile Values

The following table lists the profile values for Sales Order Line.

Sales Order Line Profile Value

Profile Option	Value
XNB: Account Republish at Sales Order Line	• NEVER: If the profile is set to NEVER, then the account information in the sales order line is published only if that account was never published. Note: This is the default behavior of the flow, if the profile 'XNB: Account Republish at Sales Order Line' is not set to any value.
	• ALWAYS: If the profile is set to ALWAYS, then the account information in the sales order line is published till all the billing applications (in case of multiple Billing Applications) send a confirmation BOD with status SUCCESS to the Oracle E-Business Suite.
	• ONERROR: If the profile is set to ON_ERROR, then the account information in the sales order line is published only if a failure confirmation BOD with status ERROR was sent by at least one of the billing applications and that billing application has not sent a confirmation BOD with status SUCCESS in the past.

Creating the Workflow Function

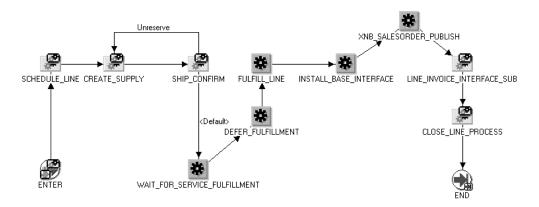Use this procedure to create the workflow function for publishing sales order information.

Steps:

1. In WorkFlow Builder, open the OM Order Line (OEOL) workflow.

2. Create a new workflow function. Enter the following parameters for this new function:

   • Internal Name: XNB_SALESORDER_PUBLISH

   • Display Name: XNB Sales Order Publish

   • Description: Publishes sales order information to the biller

   • Function Name: xnb_cmn_pvt.publish_salesorder_info

Positioning the Sales Process Flow

The XNB_SALESORDER_PUBLISH function should be placed as shown in the Sales Process figure below.

Sales Process Flow

Setting Up and Running the Item Publish Concurrent Program

You must have the System Administrator responsibility and the Telecommunications Billing Integrator Administrator responsibility to setup and run the concurrent program for Oracle TBI.

Setting up and running the item publish concurrent program involves:

1.   Defining Item Batch Export Profile Values, page 3-20

2.   Submitting the Request, page 3-21

Defining Item Batch Export Profile Values

Log into Oracle Forms and navigate to Setup > Profile System Values and set up profile values for Item Batch Export.

The following table lists the profile values for Item Batch Export Profile.

Item Batch Export Profile Values

Profile Option	Value
XNB: Items Batch Message Type	This profile can be set to any of the following values. • CSV Batch File: A batch file in Comma Separated Values format is generated. • XML Batch File: A batch file in XML format is generated. • XML Message: A XML message is generated for each inventory item and is published through the middleware.
XNB: Items Batch File Location	This profile value should be set to the file system directory in which TBI generates the Inventory Items Batch file (XML or CSV). The file is generated by the Item Batch Export Concurrent Request. This is required if the XNB: Items Batch Message Type profile value is set to CSV Batch File or XML Batch File.

The following table lists the seeded values for Item Batch Export concurrent program.

Seeded Values for Item Batch Export Concurrent Program

Name	Value
Program	Telecom Billing Integrator Items Publish
Short Name	XNB_ITEMS_PUBLISH
Application	Telecommunications Billing Integrator
Executable	XNB_ITEMS_PUBLISH

Submitting the Request

Every time an item is added to the inventory, it must be communicated to the Billing Application. This can be accomplished using any of the following two options:

1. Using the batch file which supports CSVs and XML flat files

2. Publishing the details in a real time asynchronous mode using Item Publish Flow. TBI uses the workflow process 'XNBFLOWS.ITEM_PROCESS' to publish the item/product information.

For both the options, the Item Batch Export concurrent program is used. You can select the items that need to be published based on the parameters of the concurrent program which initiate the item publish flow. Only the items that are invoiceable (INVOICEABLE_ITEM_FLAG = N) by the external billing applications are published.

Use this procedure to submit the request:

Steps:

1. Login to Oracle Applications and select TBI Administrator responsibility.

2. Select Requests > Submit Request.

3. In the Submit a New Request form, select Single Request.

4. In the Request Name field, select 'Telecommunications Billing Integrator Items Publish'.

5. Set the following parameters:

   • Billing Application: Name of the trading partner as specified in the XML Gateway.

   • Inventory Organization: Inventory organization of the items to be published/exported.

   • Inventory Category Set: Inventory category set of the items to be published/exported.

   • Inventory Category: Inventory category of the items to be published/exported.

   • From Date: Last update date for the items which need to be published/exported. All the items updated between the entered date and the current date (sysdate) are published/exported.

6. Click **Submit**.

   For more information on concurrent programs, refer *Oracle Applications Developers Guide*.

Subscribing to Account Update Events

TBI subscribes to a set of available TCA events. The implementor can select the required events. When TCA raises one of the selected events, TBI verifies if the account updated in TCA is relevant to the billing system. If it is, then TBI publishes the entire account XML message to the billing system. The updated element of the XML message is marked with a "U".

Use this procedure to subscribe to the account update events.

Steps:

1. Navigate to Setup > Subscribe to Events > Account Update Events.

2. In the resulting OA page, under the Available Events column, select the events you wish to subscribe and click **Move**.

3. Click **Submit**.

Configuring the Middleware

If Oracle Applications Interconnect (OAI 9.0.4) is used as the middleware, refer Configuring Oracle Applications InterConnect for details on configuring OAI 9.0.4. If a non-OAI middleware is used, please refer to the respective documentation for the configuration details.

Middleware Interaction with TBI

Oracle TBI uses generic JMS compatible Advance Queues (AQ) for all outgoing and incoming messages. They are:

1. **XNB_JMS_OUTBOUND:** This queue is used for outbound messages that are published by TBI to the external billing applications. When an outbound message is published it is enqueued onto XNB_JMS_OUTBOUND queue. All the attributes are present in the HEADER.PROPERTIES of the JMS Message. The middleware dequeues the message on XNB_JMS_OUTBOUND and routes it to the appropriate biller.

2. **XNB_JMS_INBOUND:** This queue is used for all the inbound messages that are sent to TBI. When an inbound message is enqueued onto XNB_JMS_INBOUND by the middleware, TBI dequeues the message and submits the same to the XML Gateway for further processing. The Billing application that sends an inbound message must include all the relevant details in the HEADER.PROPERTIES of the Inbound JMS message.

For information on the structure of the JMS Advanced Queue messages, refer JMS Message Structure, page D- 2 .

A

Configuring Oracle Applications InterConnect

This appendix provides information on configuring Oracle Applications InterConnect.

This appendix covers the following topics:

- Oracle Applications InterConnect Overview
- Setting Up OAI Hub
- Installing and Setting Up OAI Adapter for Advanced Queues
- Importing Saved OAI Maps to the Repository
- Dropping The Existing Hub Schema
- Importing the OAI Maps

Oracle Applications InterConnect Overview

Oracle Applications InterConnect (OAI 9.0.4) functions as the middleware for the TBI. The OAI Hub and the OAI Adapter for Advanced Queues (AQ) are the two components of OAI that are applicable to TBI.

The OAI Hub functions as the point of integration and holds all the data for integration in its repository. The hub repository is maintained in an Oracle database on the hub machine. Each OAI adapter is attached to an application participating in the integration and is responsible for transfer of data from and to the respective application and the OAI hub. Each adapter performs the necessary transformations on the data as specified in the OAI repository metadata.

Configuring OAI as the middleware for TBI involves:

1. Setting Up OAI Hub, page A- 1
2. Installing and Setting Up OAI Adapter for Advanced Queues, page A- 2
3. Importing saved OAI maps to the repository, page A- 4

Setting Up OAI Hub

Use this procedure to set up the OAI hub.

Steps

1. Choose the hub machine. For information on the hardware and operating environment requirements, refer Oracle Application Interconnect Installation Guide.

2. Install Oracle 9iR2 database version 9.2.0.2.1 or higher on the hub machine. Use Oracle Database Configuration Assistant to create an empty database instance to serve as the hub repository. Note the following parameters as they are required during OAI hub installation:

   • The HOST: SID: PORT information for the new database instance.

   • The passwords for system and sys users for the new database instance.

   • The TNS name entry for the new database instance.

3. Install Oracle Applications InterConnect Hub version 9.0.4.0.1 on the hub machine. The OAI Hub must be installed in a separate Oracle Home.

4. Provide the following details during installation:

   • Hub DB Parameters: Provide the Host/Port/SID information.

   • Schema Names: 'oaihub904' is the default name for the OAI hub repository schema. Provide the following schema details.

   • Schema: Oaihub904, owf_mgr

   • Schema User Name: oaihub904, Owf_mgr

   • Password: <hub_user_password>, <workflow_user_password>

5. The following post-installation steps should be performed to create the database objects in the hub schema which is used to store the integration metadata. At the command prompt:

   1. Change folder to OAI_HOME/oai/9.0.4/repository. The Oracle Home for OAI is OAI_HOME.

   2. Execute: hubschema - create system/<system_user_pwd> <hub_user_pwd> <HubDB_TNS_Name>. The script values are as follows:

   • system_user_pwd: The system user password of the database.

   • hub_user_pwd: The password to the oaihub904 user of the database.

   • HubDB_TNS_Name: The TNS entry for the database.

   • Verify from the console output that the scripts are executed correctly.

6. Run the following script to start the repository service:

   ```
   <OAI_HOME>/oai/9.0.4/repository/start
   ```

7. Optionally, to stop the repository service use the following command:

   ```
   <OAI_HOME>/oai/9.0.4/repository/stop
   ```

For more information, refer *Oracle Application Interconnect Installation Guide*.

Installing and Setting Up OAI Adapter for Advanced Queues

The Advanced Queuing Adapter (AQ Adapter) allows an instance of E-Business Suite to send or receive information to and from the OAI Hub. The AQ adapter connects to the E-Business Suite database and OAI Hub. The AQ adapter reads and writes into the Advanced Queues in the E-Business database.

Use this procedure to install and setup the OAI Adapter for Advanced Queues.

1. Install Oracle Application Server InterConnect AQ Adapter v.9.0.4. Provide the following information during installation:

   - Hub DB parameters (Host/ Port/ SID): The connection information to the hub database.

   - Password: The password of the hub schema user.

   - App Name: Used to identify an application participating in the integration. Every instance of an AQ adapter is associated with a particular application and is named after it. Example: ORA_APPS.

   - Application Spoke DB (Host/ Port/ SID): Connection information to the application database on which the advanced queues are configured. This information usually pertains to an apps database instance. For example: (myserver.domain.com:<port number>:mySID).

   - Spoke Application Database User and Password: User name and password to connect to the Application Spoke DB.

   - Consumer: This field can be left blank because the XML Gateway queues are single-consumer queues.

2. After installation, ensure that the aq_bridge_owner parameter in the adapter.ini file is set to the schema name in the Spoke DB (Example: "APPS").

3. Optionally, to configure the adapter after installation, customize the parameters in the adapter.ini file. Locate the adapter.ini file in <OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME> folder on the host. OAI_HOME is the Oracle home of OAI and ADAPTER_NAME is the application name given to the adapter. Edit the following parameters in adapter.ini file:

   - application: The application name given to the adapter.

   - aq_bridge_host: The host name of the Application Spoke DB.

   - aq_bridge_port: The DB port of the Application Spoke DB.

   - aq_bridge_instance: The SID of the Application Spoke DB.

   - aq_bridge_username: The username to connect to the Spoke DB.

   - encrypted_aq_bridge_password: The encrypted password of the aq_bridge_username. To encrypt a password, use the OAI_HOME/oai/9.0.4/bin/encrypt utility from the console. The utility generates the cipher text and prints it on the console which can be copied and pasted into the adapter.ini file.

   - aq_bridge_owner: The name of the schema to which the AQs in the spoke database belongs. This value should be set to a valid schema name before the adapter is started.

4. Optionally, you can configure the following parameters to improve the performance of the adapter:

   - agent_pipeline_to_hub = false

   - agent_pipeline_from_hub = false

   - agent_log_leve l = 0

5. Copy the DTDs from APPL_TOP at the following location: $XNB_TOP/xml/oag72, and place them in the home folder of the adapter on the host file system, i.e. <OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>. The AQ Adapter requires the DTDs of the XML messages that it reads and writes into the AQs.

6. To start an adapter service, run the following script from the console:

```
<OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>/start
```

7. Optionally, to stop an adapter service, run the following script from the console:

```
<OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>/stop
```

> **Note:** The log of the adapter activity is available in the following file:
>
> <OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>/logs/<latest_timestamp>/oailog.txt

Importing Saved OAI Maps to the Repository

Before importing the OAI maps to the repository, you may need to drop the existing Hub Schema. For details, see Dropping The Existing Schema, page A- 4 .

Dropping The Existing Hub Schema

Use this procedure to drop the existing hub schema:

Steps

1. Run the following script from the console to stop the adapters:

```
<OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>/stop
```

2. Run the following script from the console to stop the repository service:

```
<OAI_HOME>/oai/9.0.4/repository/stop
```

3. Run the following script at the command prompt:

```
<OAI_HOME>/oai/9.0.4/repository/hubschema –drop system/<system_us
er_pwd> <hub_user_pwd> <HubDB_TNS_Name>
```

4. Verify from the console that the command is completed successfully.

Importing the OAI Maps

The seeded integration maps are provided as a database export file. This metadata must be imported into an existing OAI 9.0.4 hub repository.

Use this procedure to import a saved OAI map to the repository.

Steps

1. Run the following script at the command prompt:

```
<OAI_HOME>/oai/9.0.4/repository/oaiimport <IntegrationMap_file> <
hub_user_name> system/<system_user_pwd> <hub_user_pwd> <HubDB_TNS_
Name>
```

2. If the repository service is stopped, run the following script to start the repository service:

    ```
    <OAI_HOME>/oai/9.0.4/repository/start
    ```

3. If the adapter service is stopped, run the following script from the console to start the adapter service:

    ```
    <OAI_HOME>/oai/9.0.4/adapters/<ADAPTER_NAME>/start
    ```

    > **Note:** The script values for importing the OAI Maps are as follows:
    >
    > *   OAI_HOME : The Oracle home of OAI.
    > *   IntegrationMap_file: The path to the database export file containing the map.
    > *   hub_user_name: The hub schema owner user name. Default is 'oaihub904'.
    > *   system_user_pwd: The password to the system user of the database.
    > *   hub_user_pwd: The password of the hub schema user.
    > *   HubDB_TNS_Name: The TNS entry for the database.

For more information, refer Oracle Application Interconnect 9.0.4 Installation Guide.

B

APIs in Telecommunications Billing Integrator

This appendix provides information on the APIs in TBI.

This appendix covers the following topics:

- Bill Summary Bulk Insert APIs
- Procedure: INSERT_ROW_BATCH
- Procedure: UPDATE_ROW_BATCH
- Bill Summary Public Table Type: BILL_SUMMARIES_TABLE
- Bill Summary Public Record Type: BILL_SUMMARIES_REC

Bill Summary Bulk Insert APIs

The summary data in the Bill Summary UI is fetched from the XNB_BILL_SUMMARIES table in Oracle E-Business Suite. The XNB_BILL_SUMMARIES_PKG public package provides the API to do a bulk insert in the XNB Bill Summary tables.

Procedure: INSERT_ROW_BATCH

The INSERT_ROW_BATCH procedure is used for inserting, creating, and populating new bill summary records from external billing applications into Oracle E-Business Suite.

It can be called as XNB_BILL_SUMMARIES_PKG.Insert_Row_Batch(p_api_version , bill_summaries, x_return_status, x_msg_data);

The following table lists the specifications for the procedure.

Procedure: INSERT_ROW_BATCH

Parameter Name	IN /Out	Data Type	Description
p_api_version	IN	NUMBER	Version of the API
p_bill_summaries	IN	bill_summaries_table	PL/SQL table type that contains record type required for creating bill summaries.
x_return_status	OUT	VARCHAR2	Out parameter that returns the status of the create operation to the invoking program. The values returned are: • S: When the operation is a success. • E: When the operation is not a success due to a known error.
x_msg_data	OUT	VARCHAR2	A concatenated string of all the error/warning messages that are put into the message stack.

Procedure: UPDATE_ROW_BATCH

The UPDATE_ROW_BATCH procedure is used for updating existing bill summary records from external billing application into Oracle E-Business Suite.

It can be called as XNB_BILL_SUMMARIES_PKG.Update_Row_Batch(p_api_version , bill_summaries, x_return_status, x_msg_data);

Specifications for UPDATE_ROW_BATCH

Procedure: UPDATE_ROW_BATCH

Parameter Name	In /Out	Data Type	Description
p_api_version	IN	NUMBER	Version of the API
p_bill_summaries	IN	bill_summaries_table	PL/SQL table type that contains record type required for creating bill summaries.
x_return_status	OUT	VARCHAR2	Out parameter that returns the status of the create operation to the invoking program. The values returned are: • S : When the operation is a success. • E: When the operation is not a success due to a known error.
x_msg_data	OUT	VARCHAR2	A concatenated string of all the error/ warning messages that are put into the message stack.

Bill Summary Public Table Type: BILL_SUMMARIES_TABLE

The following table lists the specifications.

Specifications for BILL_SUMMARIES_TABLE

Table Type Name	Record Type	Description
bill_summaries_table	TABLE OF bill_summaries_rec	PL/SQL record type that contains all the attributes required for creating bill summaries.

Bill Summary Public Record Type: BILL_SUMMARIES_REC

The following table lists the specifications.

Specifications for BILL_SUMMARIES_REC

Attribute Name	Data Type	Description
Account Number	-	-
account_number	VARCHAR2(30)	Account Number of the customer that must exist in Oracle E-Business Suite. This field is mandatory for insert record. The foreign key is hz_cust_accounts.account_number.
bill_number	VARCHAR2(30)	The Bill number represents a bill reference for the bill. This field is for insert and update record and must be unique.
billing_vendor_name	VARCHAR2 (240)	Name of the billing vendor
bill_cycle_end_date	DATE	Billing cycle contains an end date of the cycle. This is required for insert API only (not for update API).
Non-Required Attributes	-	-
total_amount_due	VARCHAR2 (30)	The total amount due for all open bills
adjustments	VARCHAR2 (30)	This field defines the unapplied adjustments or payments up to this bill cycle
unresolved_disputes	VARCHAR2 (30)	This field defines the total amount of open disputes
bill_cycle_start_date	DATE	Billing cycle contains a start date of the cycle
due_date	DATE	Timestamp indicating when the bill is due
new_charges	VARCHAR2 (30)	New charges for this bill
Payment	VARCHAR2 (30)	Total payment received on this bill up to this billing cycle
Balance	VARCHAR2 (30)	Balance for this bill, after the payments etc.
previous_balance	VARCHAR2 (30)	Previous Balance
bill_location_url	VARCHAR2 (240)	Location of the bill online
due_now	VARCHAR2 (30)	Defines the amount currently due for an account

Attribute Name	Data Type	Description
created_by	NUMBER (15)	Standard who column
last_updated_by	NUMBER (15)	Standard who column
last_update_login	NUMBER (15)	Standard who column
object_version_number	NUMBER	Used for locking purposes.
attribute_category	VARCHAR2 (30)	Descriptive flexfield structure defining column
attribute1	VARCHAR2 (150)	Descriptive flexfield segment column
attribute2	VARCHAR2 (150)	Descriptive flexfield segment column
attribute3	VARCHAR2 (150)	Descriptive flexfield segment column
attribute4	VARCHAR2 (150)	Descriptive flexfield segment column
attribute5	VARCHAR2 (150)	Descriptive flexfield segment column
attribute6	VARCHAR2 (150)	Descriptive flexfield segment column
attribute7	VARCHAR2 (150)	Descriptive flexfield segment column
attribute8	VARCHAR2 (150)	Descriptive flexfield segment column
attribute9	VARCHAR2 (150)	Descriptive flexfield segment column
attribute10	VARCHAR2 (150)	Descriptive flexfield segment column
attribute11	VARCHAR2 (150)	Descriptive flexfield segment column
attribute12	VARCHAR2 (150)	Descriptive flexfield segment column
attribute13	VARCHAR2 (150)	Descriptive flexfield segment column
attribute14	VARCHAR2 (150)	Descriptive flexfield segment column
attribute15	VARCHAR2 (150)	Descriptive flexfield segment column

C

Message Maps and DTDs for XML Gateway

This appendix provides information on the message maps and DTDs for XML Gateway.

This appendix covers the following topics:

- Maps and DTDs Overview
- Loading Maps to the XML Gateway
- Loading DTDs to the XML Gateway

Maps and DTDs Overview

TBI provides predefined maps and the corresponding DTDs for the XML Gateway. All the maps and DTDs are automatically loaded into the XML Gateway repository during the installation process and attached to the transactions in the XML Gateway.

The map files are placed under the product top at $XNB_TOP/patch/115/xml/US.

The DTD files for TBI and OAGIS are placed under the product top at $XNB_TOP/xml/oag72.

Maps in XML Gateway

The following table lists the maps in XML Gateway:

Maps in XML Gateway

Supported Flow	Map Internal Name
TCA Account Publish (Add and Update)	XNB_TCA_ACCOUNT_OAG72_OUT.xgm
OM Sales Order Publish	XNB_OM_SALESORDER_OAG72_OUT
Inventory Item Publish	XNB_INV_ITEM_OAG72_OUT
XNB Confirm BOD	XNB_CLN_CBOD_OAG72_IN

> **Note:** The message maps for XML Gateway are named after the internal names of the map and have an .xgm extension. For example, the file name for TCA Account Publish Map is XNB_TCA_ACCOUNT_OAG72_OUT.xgm.

The following table lists the DTDs in XML Gateway:

DTDs in XML Gateway

Map Internal Name	DTD	Root Element
XNB_TCA_ACCTUPDATE_ OAG72_OUT.xgm	xnb_update_account_001.dtd	CUSTOMER_ACCOUNT_001
XNB_OM_SALESORDER_ OAG72_OUT	xnb_add_salesorder_001.dtd	SALES_ORDER_001
XNB_INV_ITEM_OAG72_ OUT	xnb_update_item_001.dtd	ITEM_SYNC_001
XNB_CLN_CBOD_OAG72_ IN	xnb_002_confirm_bod_004. dtd	CONFIRM_BOD_004

OAG Conforming DTDs

The following OAG conforming DTDs are provided by TBI:

- oagis_domains.dtd
- oagis_entity_extensions.dtd
- oagis_extensions.dtd
- oagis_fields.dtd
- oagis_resources.dtd
- oagis_segments.dtd

The OAG (Open Applications Group) Integration Specification DTDs are available in the same directory as the XNB-specific DTDs when they are loaded into the XML Gateway repository.

Loading Maps to the XML Gateway

Maps can be reloaded manually into the repository using the XML Gateway Map loader.

1. Run the following command, from the APPL_TOP to open the Map Loader:

   ```
   $ java oracle.apps.ecx.loader.LoadMap <uname> <passwd> <host:port
   :sid> <map_name.xgm>
   ```

- Optionally, to delete the old maps from the repository, run the following command:

   ```
   $ java oracle.apps.ecx.loader.DeleteMap <uname> <passwd> <host:po
   rt:sid> <map_internal_name>
   ```

   Note: map_name.xgm is the internal name of the map. For more information, refer Message Maps and DTDs for XML Gateway, page C-1

Loading DTDs to the XML Gateway

While loading the TBI-Specific DTDs, ensure that the OAGIS DTDs are present in the same directory.

- To load the DTDs, open the '$XNB_TOP/xml/oag72' directory under APPL_TOP and use the following command:

  ```
  $ java oracle.apps.ecx.loader.LoadDTDToClob <uname> <passwd> <host:port:sid><dtd_name.dtd> <root_element> <runtime_location>
  ```

- Optionally, use the following command to delete the DTD associated with a map:

  ```
  $ java oracle.apps.ecx.loader.DeleteDTDFromClob <uname> <passwd> host:port:sid <dtd_name.dtd> <root_element> <runtime_location>
  ```

The script values are:

- uname, passwd, host, port, sid are the database connection parameters.
- dtd_name.dtd is one of the TBI specific DTDs
- root_element is the root element of the DTD
- runtime_location is always specified as xnb/oag72
    - Every time a patch is applied and the existing DTDs are updated or new DTDs are introduced, the DTDs are automatically loaded to the repository so there is no need to load them manually. For more information on loading DTDs and maps, refer *Oracle XML Gateway User Guide*.
    - The OAG conformant DTDs need not be loaded into the repository.

D

XML Messages in TBI

This appendix provides information on the XML messages in TBI.

This appendix covers the following topics:

- XML Message Overview
- XML Message Format
- Outbound Messages
- Inbound Messages
- Seeded XML Messages
- Message Specifications for Account
- Message Specifications for Sales Order Line
- Message Specifications for Product/Item

XML Message Overview

TBI uses XML Gateway to generate XML messages. The XML messages in TBI conform to the Open Applications Group Integration Specifications (OAGIS) standard and are published as OAG Business Object Documents (BOD) to the external billing applications.

A BOD contains the following:

1. The Control Area (CNTROLAREA): The control area communicates information that can be used by the infrastructure to communicate the message. This is the header area defining the identification of the message, the purpose, the sender details, and the time stamping information. All BODs have the same structure for the Control Area.

2. The Data Area (DATAAREA): The data area contains the business specific payload or data that is being communicated by the BOD. This area defines the actual business object, such as the TCA account or the OM Sales Order. The structure and content of this area varies from message to message, as defined by the respective DTDs.

Outbound and Inbound BODs

TBI provides the XML DTDs for all the messages exchanged between E-Business Suite and the external billing applications. These DTDs must be used to define BODs in the messaging middleware. TBI generates three outbound BODs corresponding to:

1. TCA Account (Add and Update)

2. OM Sales Order

3. Inventory Item

TBI consumes only one inbound known as the ConfirmBOD (CBOD). The CBOD is used by the billing application to return the status of processing the outbound BODs.

> **Note:** TBI provides the XML DTDs for all the messages exchanged between E-Business Suite and the external billing applications. The DTDs for BODs must be used along with the OAG base DTDs to define the business objects in the messaging middleware. The OAG based DTDs are modified to include extensions for TBI.

XML Message Format

The outbound messages in Oracle TBI are generated by Oracle XML Gateway and are delivered as Advanced Queue payloads. The inbound messages (CBOD messages) from a billing application must contain information that the E-Business Suite can use to track success or failure of a published outbound message.

Outbound Messages

The outbound messages publish information on the Oracle E-Business Suite objects, such as customers, products, sales orders, and so on to the external billing applications. Messages are delivered to the Outbound AQ: XNB_JMS_OUTBOUND queue and are picked up by the middleware adapters from the queue.

JMS Message Structure

The structure of the JMS standard message is as follows:

HEADER	Main Header
HEADER.REPLYTO	Reply to Information
HEADER.REPLYTO.NAME	Name of the Application Replied To
HEADER.REPLYTO.ADDRESS	Address of the Application Replied To
HEADER.REPLYTO.PROTOCOL	Protocol Used in Replying
HEADER.USERID	User Id
HEADER.APPID	Application Id
HEADER.GROUPID	Group Id
HEADER.GROUPSEQ	Group Sequence
HEADER.PROPERTIES	Properties
TEXT_LEN	Length of the Payload
TEXT_VC	Has the Payload If TEXT_LEN < 4000 bytes
LOB	Has the Payload If TEXT_LEN > 4000 bytes

JMS Message Header Properties

The message properties contains fields that identify the type of message, the standard it uses, the entity that the message refers to, the sender details, the transportation, and the authentication information. In CBOD messages, XML Gateway refers these properties to identify the correct map to execute.

The following table explains the properties that are published in the Advanced Queue message.

Fields in the Advanced Queue Message

Field	Description
MESSAGE_TYPE	XML is the required value.
MESSAGE_STANDARD	OAG is the required value.
TRANSACTION_TYPE	BOD is the required value.
TRANSACTION_SUBTYPE	CONFIRM is the required value.
DOCUMENT_NUMBER	Ignored for CBODs
PARTYID	Hub Entity Code set in XML Gateway for the sender billing application is the required value.
PARTY_SITE_ID	Hub Entity Code set in XML Gateway for the sender billing application is the required value.
PARTY_TYPE	C is the required value.
PROTOCOL_TYPE	Ignored for CBODs
PROTOCOL_ADDRESS	Ignored for CBODs
USERNAME	Ignored for CBODs
PASSWORD	Ignored for CBODs
ATTRIBUTE1	Ignored for CBODs
ATTRIBUTE2	Ignored for CBODs
ATTRIBUTE3	Ignored for CBODs
ATTRIBUTE4	Ignored for CBODs
ATTRIBUTE5	Ignored for CBODs

Inbound Messages

Inbound messages contain acknowledgements for the published messages or information on the bill summary.

Structure of the CBOD XML Message

The Confirm BOD message generated by a billing application is another BOD and follows the OAG definition for a BOD. This message contains a control area as well as a data area.

```
<CONFIRM_BOD_004>

    <CNTROLAREA>

        <BSR>
```

```
            <VERB value="CONFIRM">CONFIRM</VERB>

            <NOUN value="BOD">BOD</NOUN>

            <REVISION value="004">004</REVISION>

        </BSR>

        <SENDER>

            <LOGICALID>NO_VALUE(SNDR)</LOGICALID>

            <COMPONENT>Bill_App_1</COMPONENT>

            <TASK>CONFIRM</TASK>

            <REFERENCEID>NO_VALUE(REF)</REFERENCEID>

            <CONFIRMATION>0</CONFIRMATION>

            <LANGUAGE>en</LANGUAGE>

            <CODEPAGE>ISO 8859-1</CODEPAGE>

            <AUTHID>NO_VALUE(AUTHID)</AUTHID>

        </SENDER>

        <DATETIME qualifier="CREATION">

            <YEAR>2004</YEAR>

            <MONTH>05</MONTH>

            <DAY>12</DAY>

            <HOUR>11</HOUR>

            <MINUTE>12</MINUTE>

            <SECOND>39</SECOND>

            <SUBSECOND>1010</SUBSECOND>

            <TIMEZONE>+0000</TIMEZONE>

        </DATETIME>

    </CNTROLAREA>

    <DATAAREA>

        <CONFIRM_BOD>

            <CONFIRM>

                <CNTROLAREA>
```

```
<BSR>

    <VERB value="ADD">ADD</VERB>

    <NOUN value="ACCOUNT">ACCOUNT</NOUN>

    <REVISION value="001">001</REVISION>

</BSR>

<SENDER>

    <LOGICALID>ORACLE</LOGICALID>

    <COMPONENT>XNB</COMPONENT>

    <TASK>AAO</TASK>

    <REFERENCEID>LM0001:oracle.apps.xnb.account.cre
ate:        XNBPUBLISH_ACCOUNT04-Jan-2005 21:05:57</REFERENCEID>

    <CONFIRMATION>2</CONFIRMATION>

    <LANGUAGE>US</LANGUAGE>

    <CODEPAGE>UTF8</CODEPAGE>

    <AUTHID>APPS</AUTHID>

</SENDER>

<DATETIME qualifier="CREATION">

    <YEAR>2005</YEAR>

    <MONTH>01</MONTH>

    <DAY>04</DAY>

    <HOUR>21</HOUR>

    <MINUTE>06</MINUTE>

    <SECOND>06</SECOND>

    <SUBSECOND>0000</SUBSECOND>

    <TIMEZONE>+0000</TIMEZONE>

</DATETIME>

</CNTROLAREA>

<STATUSLVL>00</STATUSLVL>

<DESCRIPTN>THE BOD WAS PROCESSED SUCCESSFULLY</DESCRI
PTN>
```

```
            </CONFIRM>

        </CONFIRM_BOD>

    </DATAAREA>

</CONFIRM_BOD_004>
```

- The value of CNTROLAREA.SENDER.COMPONENT in the inbound messages should correspond to the XML Gateway hub user identification (Hub Entity Code) that is set for the respective external billing application. TBI uses this field to identify the billing application that sent a given confirm BOD.

- The DATAAREA.CONFIRM_BOD.CONFIRM.CNTROLAREA field should contain the control area of the message being confirmed. For example, if a CBOD is confirming a TCA account message, this field should contain the control area of the account message. The SENDER.REFERENCEID field is used by the XML Gateway to identify the message being confirmed. The control area of the message being confirmed can be copied exactly in this field.

- The DATAAREA.CONFIRM_BOD.CONFIRM.STATUSLVL field contains the status of the processing done on the message being confirmed. If the status is '00', it indicates that the processing was successful. If the status is '99', it indicates that the processing was a failure.

Seeded XML Messages

TBI provides seeded XML messages for the following:

- Account information

- Sales order information

- Item information

Message Specifications for Account

The following table lists the specifications for account information.

Message Specifications for Account Information

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ACCOUNT_INFO	DATAAREA	Account information	
CUST_ACCOUNT_ ID	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. CUST_ ACCOUNT_ID	Customer account identifier

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ACCOUNT_ NUMBER	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_ NUMBER	Account Number
STATUS	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. STATUS	Customer status flag
ACCOUNT_NAME	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_NAME	Description chosen by external party
DATETIME	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_ESTABL ISHED_DATE	Date when the customer account was originally established
TAX_CODE	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. TAX_ CODE	Tax code for this customer
TAX_HEADER_ LEVEL _FLAG	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. TAX_ HEADER_LEVEL_ FLAG	Indicate if item is tax header or a line item
HOLD_BILL_FLAG	ACCOUNT_INFO	HZ_CUST_ ACCOUNTS. HOLD_ BILL_FLAG	Indicates if the bill receivable should be held or not
ACCOUNT_EXT _ATTRIBUTES	*ACCOUNT_INFO*	*Extended Attributes*	-
ATTRIBUTE1	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE1	Descriptive Flexfield segment for Account
ATTRIBUTE2	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE2	Descriptive Flexfield segment for Account
ATTRIBUTE3	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE3	Descriptive Flexfield segment for Account
ATTRIBUTE4	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE4	Descriptive Flexfield segment for Account
ATTRIBUTE5	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE5	Descriptive Flexfield segment for Account

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ATTRIBUTE6	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE6	Descriptive Flexfield segment for Account
ATTRIBUTE7	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE7	Descriptive Flexfield segment for Account
ATTRIBUTE8	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE8	Descriptive Flexfield segment for Account
ATTRIBUTE9	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE9	Descriptive Flexfield segment for Account
ATTRIBUTE10	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE10	Descriptive Flexfield segment for Account
ATTRIBUTE11	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE11	Descriptive Flexfield segment for Account
ATTRIBUTE12	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE12	Descriptive Flexfield segment for Account
ATTRIBUTE13	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE13	Descriptive Flexfield segment for Account
ATTRIBUTE14	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE14	Descriptive Flexfield segment for Account
ATTRIBUTE15	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTR IBUTE15	Descriptive Flexfield segment for Account
BILL_INFO	*DATAAREA*	*Billing Information*	-
BILL_DISPATCH_ METHOD	BILL_INFO	HZ_BILLING_ PREFERENCES. MEDIA_TYPE	The type of media on which the bill is to be presented. Example: printed, or electromagnetic
BILL_FORMAT	BILL_INFO	HZ_BILLING_ PREFERENCES. MEDIA_FORMAT	An identifier for the type of media such as tape, CD, or diskette on which the bill is to be copied for distribution to the customer.

XML Tag	XML Parent tag	Field in E-Business Suite	Description
BILL_LANGUAGE	BILL_INFO	HZ_BILLING_ PREFERENCES. BILL_LANGUAGE	The language that the bill is printed in. Example: English or Spanish
BILL_TYPE	BILL_INFO	HZ_BILLING_ PREFERENCES. BILL_TYPE	Detail or summary
BILL_CURRENCY	BILL_INFO	HZ_BILLING_ PREFERENCES. CURRENCY_CODE	ISO code for the currency that should appear on a billing document
RELATED_ ACCOUNTS	*DATAAREA*	*Related Accounts Information*	-
RELATED_CUST _ACCOUNT_ID	RELATED_ ACCOUNTS	HZ_CUST_ ACCT_RELATE_ ALLRELATED_ CUST_ACCOUNT_ ID	Related Customer Account Id
RELATED_CUST _ACCOUNT_ NUMBER	RELATED_ ACCOUNTS	HZ_CUST_ ACCOUNTS. ACCOUNT_ NUMBER	Related Customer Account Number
RELATED_CUST _ACCOUNT_NAME	RELATED_ ACCOUNTS	HZ_CUST_ ACCOUNTS. ACCOUNT_NAME	Related Customer Account Name
RELATIONSHIP_TY PE	RELATED_ ACCOUNTS	HZ_CUST_ACCT_ RELATE_ALL. RELATIONSHIP_ TYPE	Relationship Type
ORG_ID	RELATED_ ACCOUNTS	HZ_CUST_ACCT_ RELATE_ALL.ORG_ ID	Organization Id
BILL_TO_FLAG	RELATED_ ACCOUNTS	HZ_CUST_ACCT_ RELATE_ALL.BILL_ TO_FLAG	Bill To Relationship Flag
SHIP_TO_FLAG	RELATED_ ACCOUNTS	HZ_CUST_ACCT_ RELATE_ALL.SHIP_ TO_FLAG	Ship To Relationship Flag
TAX_EXEMPTIONS	*DATAAREA*	*Tax Data*	-
EXEMPTION_TYPE	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. EXEMPT ION_TYPE	Exemptions can be for customers at a location, or for items at a location

XML Tag	XML Parent tag	Field in E-Business Suite	Description
STATUS	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. STATUS	Approval status for this exemption
TAX_CODE	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. TAX_ CODE	Tax code that this exemption applies to
PERCENT_EXEMPT	TAX_EXEMPTIONS	RA_TAX_EXEM PTIONS_ALL. PERCENT_EXEMPT	Percentage that is exempt from tax
CUSTOMER_EXEM PTION _NUMBER	TAX_EXEMPTIONS	RA_TAX_EXEM PTIONS_ALL. CUSTOMER_EXEM PTION _NUMBER	Exemption certificate number
DATETIME	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. END_ DATE	Last date that this exemption is effective
DATETIME	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. START_ DATE	First date that this exemption is effective
REASON_CODE	TAX_EXEMPTIONS	RA_TAX_EXEM PTIONS_ALL. REASON_CODE	The reason for this exemption
EXEMPT_PERCENT1	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. EXEM PT_PERCENT1	Percentage of the exemption to apply to this portion of the Sales Tax Location Flexfield
EXEMPT_PERCENT2	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. EXEM PT_PERCENT2	Percentage of the exemption to apply to this portion of the Sales Tax Location Flexfield
EXEMPT_PERCENT3	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. EXEM PT_PERCENT3	Percentage of the exemption to apply to this portion of the Sales Tax Location Flexfield
EXEMPT_PERCENT4	TAX_EXEMPTIONS	RA_TAX_EXEMPT IONS_ALL. EXEM PT_PERCENT4	Percentage of the exemption to apply to this portion of the Sales Tax Location Flexfield
RECEIPT_METHODS	*DATAAREA*	*Various Receipt Methods*	-

XML Tag	XML Parent tag	Field in E-Business Suite	Description
CUST_RECEIPT_ METHOD _ID	RECEIPT_METHODS	RA_CUST_RECEIPT_ METHODS.CUST_ RECEIPT_METHOD_ ID	Uniquely identifies the customer receipt method
RECEIPT_METHOD_ ID	RECEIPT_METHODS	RA_CUST_RECEIPT_ METHODS.RECEI PT_METHOD_ID	Identifies the receipt method identifier
RECEIPT_METHOD_ NAME	RECEIPT_METHODS	AR_RECEIPT_ METHODS. RECE IPT_METHOD_ NAME	Receipt Method Name
PRIMARY_FLAG	RECEIPT_METHODS	RA_CUST_RECEI PT_METHODS.PR IMARY_FLAG	Indicates if customer receipt method is primary
DATETIME	RECEIPT_METHODS	RA_CUST_RECEIPT_ METHODS.START_ DATE	Start date of the customer receipt methods
DATETIME	RECEIPT_METHODS	RA_CUST_RECEIPT_ METHODS.END_ DATE	End date of the customer receipt methods
CUSTOMER_INFO	*DATAAREA*	*Customer Personal Information*	-
PARTY_NUMBER	CUSTOMER_INFO	HZ_PARTIES. PARTY_NUMBER	Unique identification number for the customer
PARTY_NAME	CUSTOMER_INFO	HZ_PARTIES. PARTY_NAME	Customer Name
PARTY_TYPE	CUSTOMER_INFO	HZ_PARTIES. PARTY_TYPE	The party type can only be Person, Organization, Group or Relationship
TAX_REFERENCE	CUSTOMER_INFO	HZ_PARTIES.TAX_ REFERENCE	Taxpayer registration number, also known as the VAT number
JGZZ_FISCAL_CODE	CUSTOMER_INFO	HZ_PARTIES.JGZZ_F ISCAL_CODE	Taxpayer identification number, often unique identifier of person or organization. Can be SSN or income taxpayer ID in US, fiscal code or NIF in Europe

XML Tag	XML Parent tag	Field in E-Business Suite	Description
EMAIL_ADDRESS	CUSTOMER_INFO	HZ_PARTIES.EMAIL_ADDRESS	Email- Address
SALUTATION	CUSTOMER_INFO	HZ_PARTIES. SALUTATION	Phrase used to address a party in any correspondence
ADDRESS	*CUSTOMER_INFO*	*Identifying Address*	-
ADDRLINE	ADDRESS	CONTACT(HZ_PARTIES. ADDRESS1; HZ_ PARTIES.ADDRESS2; HZ_PARTIES. ADDRESS3; HZ_ PARTIES.ADDRESS4)	Identifying Address Line of the Customer
CITY	ADDRESS	HZ_PARTIES.CITY	City
COUNTRY	ADDRESS	HZ_PARTIES. COUNTRY	Country
COUNTY	ADDRESS	HZ_PARTIES. COUNTY	County
STATEPROVN	ADDRESS	HZ_PARTIES.STATE	State
POSTALCODE	ADDRESS	HZ_PARTIES. POSTAL_CODE	Postalcode
CUSTOMER_NAME	*CUSTOMER_INFO*	*Name of the Customer*	-
PERSON_IDENTIFIER	CUSTOMER_NAME	HZ_PARTIES. PERSON_IDENTIFIER	Personal identifier, such as driver's license or passport number
PERSON_TITLE	CUSTOMER_NAME	HZ_PARTIES. PERSON_TITLE	A professional or family title. For example, Don or The Right Honorable
PERSON_PRE_NAME_ ADJUNCT	CUSTOMER_NAME	HZ_PARTIES. PERSON_PRE_ NAME_ADJUNCT	Salutary introduction, such as Mr. or Herr
PERSON_FIRST_ NAME	CUSTOMER_NAME	HZ_PARTIES. PERSON_FIRST_ NAME	First name of the person
PERSON_MIDDLE_ NAME	CUSTOMER_NAME	HZ_PARTIES. PERSON_MIDDLE_ NAME	Middle name of the person

XML Tag	XML Parent tag	Field in E-Business Suite	Description
PERSON_LAST_ NAME	CUSTOMER_NAME	HZ_PARTIES. PERSON_LAST_ NAME	Last or surname of the person
PERSON_NAME_ SUFFIX	CUSTOMER_NAME	HZ_PARTIES. PERSON_NAME_ SUFFIX	Indicates the place in a family structure. For example, in Tom Jones III, the "III" is the suffix
CUSTOMER_EXT_ ATTRIBUTES	*CUSTOMER_INFO*	*Customer Extended Attributes*	-
ATTRIBUTE1	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE1	Descriptive Flexfield segment for Customer
ATTRIBUTE2	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE2	Descriptive Flexfield segment for Customer
ATTRIBUTE3	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE3	Descriptive Flexfield segment for Customer
ATTRIBUTE4	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE4	Descriptive Flexfield segment for Customer
ATTRIBUTE5	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE5	Descriptive Flexfield segment for Customer
ATTRIBUTE6	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE6	Descriptive Flexfield segment for Customer
ATTRIBUTE7	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE7	Descriptive Flexfield segment for Customer
ATTRIBUTE8	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE8	Descriptive Flexfield segment for Customer
ATTRIBUTE9	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE9	Descriptive Flexfield segment for Customer
ATTRIBUTE10	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE10	Descriptive Flexfield segment for Customer
ATTRIBUTE11	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE11	Descriptive Flexfield segment for Customer
ATTRIBUTE12	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE12	Descriptive Flexfield segment for Customer

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ATTRIBUTE13	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE13	Descriptive Flexfield segment for Customer
ATTRIBUTE14	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE14	Descriptive Flexfield segment for Customer
ATTRIBUTE15	CUSTOMER_EXT_ ATTRIBUTES	HZ_PARTIES.ATTR IBUTE15	Descriptive Flexfield segment for Customer
RELATIONSHIP_ INFO	*CUSTOMER_INFO*	*Customer Relationship Information*	--
PARENT_PARTY_ID	RELATIONSHIP_ INFO	HZ_PARTIES. PARTY_ID	Parent Customer Id
PARENT_PARTY_ NAME	RELATIONSHIP_ INFO	HZ_PARTIES. PARTY_NAME	Parent Customer Name
PARENT_RELAT IONSHIP_TYPE	RELATIONSHIP_ INFO	HZ_RELATIONSHI PS. RELATIONSHIP_ CODE	Either a forward or a backward relationship code
DATETIME	RELATIONSHIP_ INFO	HZ_RELATIONSHI PS.END_DATE	Date relationship ends
CUSTOMER_ CONTACT_INFO	*CUSTOMER_INFO*	*Customer Contact Information*	-
CONTACT_POINT_ TYPE	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_PO INTS.CONTACT_PO INT_TYPE	Lookup: CONTACT_ POINT_TYPE of phone, fax, e-mail, web, telex, or EDI
PRIMARY	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_PO INTS.PRIMARY_ FLAG	Flag to Identify the Primary Contact Info
EDI_TRANSACTION _HANDLING	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.EDI_ TRANSACTION_ HANDLING	ANSI standard code for EDI transaction type
EDI_ID_NUMBER	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.EDI_ID_ NUMBER	EDI trading partner number for the supplier site
EDI_PAYMENT_ METHOD	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.EDI_ PAYMENT_ METHOD	Indicates how a payment is to be made through EDI. Valid methods are ACH and BOP.

XML Tag	XML Parent tag	Field in E-Business Suite	Description
EDI_PAYMENT_ FORMAT	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.EDI_ PAYMENT_FORMAT	Indicates type of information being transmitted with the funds if using EDI_PAYMENT_ METHOD ACH. Valid values are CCD, CCP, CHZ, CTX, PPD, and PPP.
EMAIL_ADDRESS	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.EMAIL_ ADDRESS	E-mail address of the contact point
URL	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_PO INTS.URL	Uniform resource locator
PHONE_LINE_TYPE	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_PO INTS.PHONE_LINE_ TYPE	Lookup code for the type of phone line. For example, general, fax, inbound, or outbound.
PHONE_NUMBER	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.PHONE_ NUMBER	A telephone number formatted in the local format. The number should not include area code, country code, or extension
PHONE_COUNTRY_ CODE	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.PHONE_ COUNTRY_CODE	International country code for a telephone number. For example, 33 for France.
PHONE_AREA_ CODE	CUSTOMER_ CONTACT _INFO	HZ_CONTACT_ POINTS.PHONE_ AREA_CODE	The area code within a country code.
PARTY_GROUP	*CUSTOMER_ CONTACT _INFO*	*Party Group Code*	-
GROUP	PARTY_GROUP	AST_PARTY_CLASS IFICATION_V. CLASS_CODE	Classification code
BANK_ACCOUNT_ INFO	*DATAAREA*	*Bank Account Information*	-

XML Tag	XML Parent tag	Field in E-Business Suite	Description
BANK_ACCOUNT _NUMBER	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. BANK_ACCOUNT_ NUMBER	Bank Account Number
BANK_ACCOUNT_ NAME	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. BANK_ACCOUNT_ NAME	Bank Account Name
BANK_BRANCH_ID	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. BANK_BRANCH_ID	Bank Branch Identifier
CURRENCY_CODE	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. CURRENCY_CODE	Currency Code
ACCOUNT_ HOLDER _NAME	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. ACCOUNT_ HOLDER_NAME	Account Holder Name
DATETIME	BANK_ACCOUNT_ INFO	AP_BANK_ ACCOUNTS_ALL. INACTIVE_DATE	Inactive Date
BANK_NUMBER	BANK_ACCOUNT_ INFO	AP_BANK_ BRANCHES.BANK_ NUMBER	Bank Number
ADDRESS	*DATAAREA*	*Bill To Address*	-
ADDRLINE	ADDRESS	CONTACT(HZ_LOCATIONS. ADDRESS1;HZ_ LOCATIONS. ADDRESS2;HZ_ LOCATIONS. ADDRESS3;HZ_ LOCATIONS. ADDRESS4)	Bill To Address Line of the Account
CITY	ADDRESS	HZ_LOCATIONS.C ITY	City
COUNTRY	ADDRESS	HZ_LOCATIONS. COUNTRY	Country
COUNTY	ADDRESS	HZ_LOCATIONS. COUNTY	County

XML Tag	XML Parent tag	Field in E-Business Suite	Description
STATEPROVN	ADDRESS	HZ_LOCATIONS. STATE	State
POSTALCODE	ADDRESS	HZ_LOCATIONS. POSTAL_CODE	Postalcode

Message Specifications for Sales Order Line

The following table lists the specifications for sales order line information.

Message Specifications For Sales Order Line

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ORDER_LINE_INFO	*DATAAREA*	*Sales order line information*	-
ORDER_LINE_ID	OER_LINE_INFO	OE_ORDER_LINES_ ALL. LINE_ID	Primary Key to Identify the Order Line
TOP_MODEL_LINE_ ID	ORDER_LINE_INFO	OE_ORDER_LINES_ ALL. TOP_MODEL_LINE_ ID	Identifier of configuration top parent line
LINK_TO_LINE_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ ALL. LINK_TO_LINE_ID	Identifier of immediate parent component line
ORDER_NUMBER	ORDER_LINE_INFO	OE_ORDER_ HEADERS_ALL. ORDER_NUMBER	Unique Identifier for Order
SOLD_TO_PARTY_ NUMBER	ORDER_LINE_INFO	HZ_PARTIES. PARTY_NUMBER	Unique Identifier for Customer
SOLD_TO_ PARTY_ NAME	ORDER_LINE_INFO	HZ_PARTIES. PARTY_NAME	Customer Name
SOLD_TO_ ACCOUNT_ NUMBER	ORDER_LINE_INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_ NUMBER	Unique Identifier for Account
SOLD_TO_ ACCOUNT_ NAME	ORDER_LINE_INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_NAME	Account Name

XML Tag	XML Parent tag	Field in E-Business Suite	Description
PRICE_LIST_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. PRICE_LIST_ID	Price List
PRICE_LIST_NAME	ORDER_LINE_INFO	QP_LIST_HEADERS_VL.DESCRIPTION	Price List Name used to identify the Price List Name
INVENTORY_ITEM_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. INVENTORY_ITEM_ID	Inventory Item Id
INVENTORY_ITEM_NAME	ORDER_LINE_INFO	MTL_SYSTEM_ITEMS_VL. SEGMENT1	Name of the Product
INVENTORY_ITEM_DESCRIPTION	ORDER_LINE_INFO	MTL_SYSTEM_ITEMS_VL.DESCRIPTION	Description of the Product
ORG_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. ORG_ID	Operating Unit which performed this transaction
DATETIME	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. PRICING_DATE	Determines effective list and price modifiers
UNIT_SELLING_PRICE	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. UNIT_SELLING_PRICE	Actual price charged to customer
UNIT_LIST_PRICE	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. UNIT_LIST_PRICE	Price List price for the item
QUANTITY	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. ORDERED_QUANTITY	Quantity Ordered
QUANTITY	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. PRICING_QUANTITY	Quantity based on pricing unit of measure
INVOICE_TO_ORG_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ALL. INVOICE_TO_ORG_ID	Invoice To Organization ID

XML Tag	XML Parent tag	Field in E-Business Suite	Description
SHIP_TO_ORG_ID	ORDER_LINE_INFO	OE_ORDER_LINES_ ALL. SHIP_TO_ORG_ID	Ship To Organization ID
ACTION	ORDER_LINE_INFO	OE_TRANSACTION_ TYPES_TL.ACTION	Type of Service performed on the Order
CURRENCY_CODE	ORDER_LINE_INFO	QP_LIST_HEADERS_ VL.CURRENCY_ CODE	Currency Code
TAX_INFO	*ORDER_LINE_INFO*	*Tax Information*	-
TAX_CODE	TAX_INFO	OE_ORDER_LINES_ ALL. TAX_CODE	Tax code for the line
TAX_RATE	TAX_INFO	OE_ORDER_LINES_ ALL. TAX_RATE	The tax rate in percentage
DATETIME	TAX_INFO	OE_ORDER_LINES_ ALL. TAX_DATE	It will store the date for tax calculation
AMOUNT	TAX_INFO	OE_ORDER_LINES_ ALL. TAX_VALUE	The Tax amount in order currency
EXT_ATTRIBUTES	*ORDER_LINE_INFO*	*Order Line Extended Attributes*	-
ATTRIBUTE1	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE1	Descriptive Flexfield segment for Order Line
ATTRIBUTE2	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE2	Descriptive Flexfield segment for Order Line
ATTRIBUTE3	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE3	Descriptive Flexfield segment for Order Line
ATTRIBUTE4	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE4	Descriptive Flexfield segment for Order Line

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ATTRIBUTE5	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE5	Descriptive Flexfield segment for Order Line
ATTRIBUTE6	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE6	Descriptive Flexfield segment for Order Line
ATTRIBUTE7	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE7	Descriptive Flexfield segment for Order Line
ATTRIBUTE8	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE8	Descriptive Flexfield segment for Order Line
ATTRIBUTE9	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE9	Descriptive Flexfield segment for Order Line
ATTRIBUTE10	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE10	Descriptive Flexfield segment for Order Line
ATTRIBUTE11	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE11	Descriptive Flexfield segment for Order Line
ATTRIBUTE12	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE12	Descriptive Flexfield segment for Order Line
ATTRIBUTE13	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE13	Descriptive Flexfield segment for Order Line
ATTRIBUTE14	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE14	Descriptive Flexfield segment for Order Line
ATTRIBUTE15	EXT_ATTRIBUTES	OE_ORDER_LINES_ ALL. ATTRIBUTE15	Descriptive Flexfield segment for Order Line
INSTALL_BASE_ INFO	*DATAAREA*	*INSTALL_BASE_ INFO*	-
INSTANCE_ID	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. INSTANCE_ID	Unique ID that identifies an item unit instance

XML Tag	XML Parent tag	Field in E-Business Suite	Description
INSTANCE_NAME	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. INSTANCE_DESCRI PTION	Used to describe the Instance Id
DATETIME	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. INSTALL_DATE	Installation Date for an Instance.
DATETIME	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. ACTIVE_START_ DATE	Activation Start Date
DATETIME	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. ACTIVE_END_DATE	Activation End Date
QUANTITY	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. QUANTITY	Quantity
INSTALL_LOCAT ION_ID	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. INSTALL_LOCAT ION_ID	Install Location Identifier
LAST_OE_ORDER_L INE_ID	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. LAST_OE_ORDER_L INE_ ID	Last Order Line Identifier that touched the Instance
ADDRESS	INSTALL_BASE_ INFO	CSI_ITEM_ INSTANCES. INSTALL_AT_ ADDRESS	Install At Address
ATTRIBUTE_VALUES	*INSTALL_BASE_ INFO*	*Attribute Value Pairs of Install Base*	-
ATTRIBUTE_INFO	*ATTRIBUTE_VALUES*	*Attribute Information*	-
ATTRIBUTE_ID	ATTRIBUTE_INFO	CSI_I_EXTENDED_ ATTRIBS.ATTR IBUTE_ID	Attribute Identifier
ATTRIBUTE_LEVEL	ATTRIBUTE_INFO	CSI_I_EXTENDED_ ATTRIBS.ATTR IBUTE_LEVEL	Attribute Level

XML Tag	XML Parent tag	Field in E-Business Suite	Description
MASTER_ORGANIZATION_ID	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.MASTER_ORGANIZATION_ID	Master Organization Identifier
INVENTORY_ITEM_ID	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.INVENTORY_ITEM_ID	Inventory Item Identifier
ITEM_CATEGORY_ID	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ITEM_CATEGORY_ID	Item Category Identifier
ATTRIBUTE_CODE	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ATTRIBUTE_CODE	Attribute Code
ATTRIBUTE_NAME	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ATTRIBUTE_NAME	Attribute Name
ATTRIBUTE_CATEGORY	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ATTRIBUTE_CATEGORY	Attribute Category
DESCRIPTION	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.DESCRIPTION	Description
ACTIVE_START_DATE	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ACTIVE_START_DATE	Activation Start Date
ACTIVE_END_DATE	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.ACTIVE_END_DATE	Activation End Date
SECURITY_GROUP_ID	ATTRIBUTE_INFO	CSI_I_EXTENDED_ATTRIBS.SECURITY_GROUP_ID	Security Group Identifier
VALUE_INFO	*ATTRIBUTE_VALUES*	*Value Information*	-
ATTRIBUTE_VALUE_ID	VALUE_INFO	CSI_IEA_VALUES.ATTRIBUTE_VALUE_ID	Instance Extended Attribute Value Identifier.
ATTRIBUTE_VALUE	VALUE_INFO	CSI_IEA_VALUES.ATTRIBUTE_VALUE	Instance Extended Attribute Value.
ACTIVE_START_DATE	VALUE_INFO	CSI_IEA_VALUES.ACTIVE_START_DATE	Activation Start Date

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ACTIVE_END_DATE	VALUE_INFO	CSI_IEA_VALUES. ACTIVE_END_DATE	Activation End Date
BILL_TO_PARTY_ INFO	*DATAAREA*	*BILL_TO_PARTY_ INFO*	-
BILL_TO_OWNER_ FLAG	BILL_TO_PARTY_ INFO	HZ_PARTIES.BILL_ TO_OWNER_FLAG	Bill To Owner Flag
PRIMARY_BILL_TO_ FLAG	BILL_TO_PARTY_ INFO	HZ_PARTIES.PR IMARY_BILL_TO_ FLAG	Primary Bill To Flag
BILL_TO_PARTY_ NUMBER	BILL_TO_PARTY_ INFO	HZ_PARTIES. PARTY_NUMBER	Unique Identifier of the Customer
BILL_TO_PARTY_ NAME	BILL_TO_PARTY_ INFO	HZ_PARTIES. PARTY_NAME	Customer Name
BILL_TO_ ACCOUNT_ NUMBER	BILL_TO_PARTY_ INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_ NUMBER	Unique Identifier of the Account
BILL_TO_ ACCOUNT_NAME	BILL_TO_PARTY_ INFO	HZ_CUST_ ACCOUNTS. ACCOUNT_NAME	Account Name
ADDRESS	*BILL_TO_PARTY_ INFO*	*Bill To Address*	-
ADDRLINE	ADDRESS	CONCAT(HZ_LOCATIONS. ADDRESS1;HZ_ LOCATIONS. ADDRESS2;HZ_ LOCATIONS. ADDRESS3;HZ_ LOCATIONS. ADDRESS4)	Bill To Address Line of the Account
CITY	ADDRESS	HZ_LOCATIONS.C ITY	City
COUNTRY	ADDRESS	HZ_LOCATIONS. COUNTRY	Country
COUNTY	ADDRESS	HZ_LOCATIONS. COUNTY	County
STATEPROVN	ADDRESS	HZ_LOCATIONS. STATE	State

XML Tag	XML Parent tag	Field in E-Business Suite	Description
POSTALCODE	ADDRESS	HZ_LOCATIONS. POSTAL_CODE	Postalcode
PARTY_EXT_ATTR IBUTES	*BILL_TO_PARTY_ INFO*	*Party Extended Attributes*	-
ATTRIBUTE1	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE1	Descriptive Flexfield segment for Customer
ATTRIBUTE2	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE2	Descriptive Flexfield segment for Customer
ATTRIBUTE3	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE3	Descriptive Flexfield segment for Customer
ATTRIBUTE4	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE4	Descriptive Flexfield segment for Customer
ATTRIBUTE5	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE5	Descriptive Flexfield segment for Customer
ATTRIBUTE6	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE6	Descriptive Flexfield segment for Customer
ATTRIBUTE7	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE7	Descriptive Flexfield segment for Customer
ATTRIBUTE8	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE8	Descriptive Flexfield segment for Customer
ATTRIBUTE9	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE9	Descriptive Flexfield segment for Customer
ATTRIBUTE10	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE10	Descriptive Flexfield segment for Customer
ATTRIBUTE11	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE11	Descriptive Flexfield segment for Customer
ATTRIBUTE12	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE12	Descriptive Flexfield segment for Customer
ATTRIBUTE13	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE13	Descriptive Flexfield segment for Customer
ATTRIBUTE14	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE14	Descriptive Flexfield segment for Customer
ATTRIBUTE15	PARTY_EXT_ATTR IBUTES	HZ_PARTIES.ATTR IBUTE15	Descriptive Flexfield segment for Customer
ACCOUNT_EXT_ ATTRIBUTES	*BILL_TO_PARTY_ INFO*	*Account Extended Attributes*	-

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ATTRIBUTE1	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE1	Descriptive Flexfield segment for Account
ATTRIBUTE2	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE2	Descriptive Flexfield segment for Account
ATTRIBUTE3	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE3	Descriptive Flexfield segment for Account
ATTRIBUTE4	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE4	Descriptive Flexfield segment for Account
ATTRIBUTE5	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE5	Descriptive Flexfield segment for Account
ATTRIBUTE6	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE6	Descriptive Flexfield segment for Account
ATTRIBUTE7	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE7	Descriptive Flexfield segment for Account
ATTRIBUTE8	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE8	Descriptive Flexfield segment for Account
ATTRIBUTE9	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE9	Descriptive Flexfield segment for Account
ATTRIBUTE10	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE10	Descriptive Flexfield segment for Account
ATTRIBUTE11	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE11	Descriptive Flexfield segment for Account
ATTRIBUTE12	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE12	Descriptive Flexfield segment for Account

XML Tag	XML Parent tag	Field in E-Business Suite	Description
ATTRIBUTE13	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE13	Descriptive Flexfield segment for Account
ATTRIBUTE14	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE14	Descriptive Flexfield segment for Account
ATTRIBUTE15	ACCOUNT_EXT_ ATTRIBUTES	HZ_CUST_ ACCOUNTS. ATTRIBUTE15	Descriptive Flexfield segment for Account

Message Specifications for Product/Item

The following table lists the specifications for product/item.

Message Specifications For Product/Item

XML Tag	Parent Component	Field in E-Business Suite	Description
ITEM_INFO	*DATAAREA*	*Item Information*	-
ITEM_ID	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. INVENTORY_ITEM_ ID	EBS Inventory Item Identifier
ITEM_NAME	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. SEGMENT1	EBS Inventory item
ITEM_DESCRIPTION	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. DESCRI PTION	Item/ Product description
ITEM_TYPE_CODE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ITEM_ TYPE	Inventory Item Type
ITEM_TYPE_DESC	ITEM_INFO	FND_LOOKUP_ VALUES_VL.MEAN ING	Inventory Item Type Description
ITEM_STATUS_ CODE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. INVENTORY_ITEM_ STATUS_CODE	Inventory Item status code
ITEM_STATUS_DESC	ITEM_INFO	MTL_ITEM_STATUS. DESCRIPTION	Inventory Item status description

XML Tag	Parent Component	Field in E-Business Suite	Description
ITEM_CLASS	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.	Derive from the UOM CLASS.
		PRIMARY_UOM_ CODE	As this is not stored in any entity and it is derived from UOM we need to know all the distinct values of UOM
UNIT_OF_MEASURE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. PR IMARY_UNIT_OF_ MEASURE	Primary Unit of Measure for the item in inventory
BOM_ITYPE_CODE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL. BOM_ ITEM_TYPE	E-Business Suite BOM item type code.
BOM_ITYPE_DESC	ITEM_INFO	MFG_LOOKUPS. MEANING	E-Business Suite BOM item type description.
START_DATE_ACT IVE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.	Start date for the item
		START_DATE_ACT IVE	
END_DATE_ACTIVE	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.	End date for the item
		END_DATE_ACTIVE	
ATTRIBUTE1	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE1	Descriptive Flexfield segment for Item
ATTRIBUTE2	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE2	Descriptive Flexfield segment for Item
ATTRIBUTE3	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE3	Descriptive Flexfield segment for Item
ATTRIBUTE4	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE4	Descriptive Flexfield segment for Item
ATTRIBUTE5	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE5	Descriptive Flexfield segment for Item
ATTRIBUTE6	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE6	Descriptive Flexfield segment for Item

XML Tag	Parent Component	Field in E-Business Suite	Description
ATTRIBUTE7	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE7	Descriptive Flexfield segment for Item
ATTRIBUTE8	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE8	Descriptive Flexfield segment for Item
ATTRIBUTE9	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE9	Descriptive Flexfield segment for Item
ATTRIBUTE10	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE10	Descriptive Flexfield segment for Item
ATTRIBUTE11	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE11	Descriptive Flexfield segment for Item
ATTRIBUTE12	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE12	Descriptive Flexfield segment for Item
ATTRIBUTE13	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE13	Descriptive Flexfield segment for Item
ATTRIBUTE14	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE14	Descriptive Flexfield segment for Item
ATTRIBUTE15	ITEM_INFO	MTL_SYSTEM_ ITEMS_VL.ATTR IBUTE15	Descriptive Flexfield segment for Item