Oracle® Financial Management Integration Pack for Oracle® Transportation Management and Oracle® E-Business Suite 2.5 - Implementation Guide

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Oracle Financial Management Integration Pack for Oracle Transportation Management and Oracle E-Business Suite 2.5 - Implementation Guide

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Oracle Order Management Integration Pack for Oracle Transportation Management, Oracle E-Business Suite and Siebel CRM 2.5 - Implementation Guide Preface

This preface discusses:

- Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide
- The Oracle Application Integration Architecture - Foundation Pack: Concepts and Technologies Guide
- Oracle Application Integration Architecture - Foundation Pack: Integration Developers Guide
- Oracle Application Integration Architecture Process Integration Packs
- Additional resources

Oracle Application Integration Architecture – Foundation Pack: Core Infrastructure Components Guide

The *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide* provides conceptual, setup, and usage information for the following Core Infrastructure Components:

- The Business Service Repository (BSR).
- The Composite Application Validation System (CAVS).
- Error handling and logging.
- The Diagnostics Framework.

Oracle Application Integration Architecture Foundation Pack Concepts and Technologies Guide

The *Oracle Application Integration Architecture - Foundation Pack: Concepts and Technologies Guide* is a companion volume to the *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide* and *Oracle Application Integration Architecture - Foundation Pack: Integration Developers Guide.* The *Oracle Application Integration Architecture - Foundation Pack: Concepts and Technologies Guide* provides definitions of fundamental Oracle Application Integration Architecture (AIA) concepts and discusses:

- Oracle AIA.
- Enterprise business objects and enterprise business messages.
- Enterprise business services.
- Application business connector services.
- Interaction patterns.
- Extensibility.
- Versioning.
- Business processes.
- Batch processing.
- Infrastructure services.
- Security

Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide

The *Oracle Application Integration Architecture - Foundation Pack: Integration Developers Guide* is a companion volume to *Oracle Application Integration Architecture - Foundation Pack: Concepts and Technologies Guide* and *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide*

The *Oracle Application Integration Architecture - Foundation Pack: Integration Developers Guide* discusses how to:

- Create an integration scenario.
- Define business service patterns.
- Design and develop enterprise business services.
- Design and develop enterprise business flows.

- Design and construct application business connector services.
- Work with message transformation, enrichment, and configuration.
- Develop custom xpath functions.
- Design and construct JMS Adapter services.
- Work with enterprise message headers.
- Work with message routing.
- Work with transactions.
- Develop Oracle AIA services to work with the Composite Application Validation System (CAVS).
- Configure Oracle AIA processes to be eligible for error handling and logging.
- Extend enterprise business objects.

In addition, this book provides, Application Integration Architecture naming standards.

Oracle Application Integration Architecture Process Integration Packs

A process integration pack (PIP) is a pre-built set of integrated orchestration flows, application integration logic, and extensible enterprise business objects and services required to manage the state and execution of a defined set of activities or tasks between specific Oracle applications associated with a given process. A PIP provides everything you need to deploy a selected integrated business process area. The PIP product offering is suited to those customers seeking to rapidly implement a discreet business process.

Additional Resources

The following resources are available:

Resource	Location
Installation Guide	My Oracle Support https://metalink.oracle.com/
Documentation updates	My Oracle Support https://metalink.oracle.com/
Release Notes	Oracle Technology Network http://www.oracle.com/technology/

Known issues, workarounds, and current list of patches	My Oracle Support https://metalink.oracle.com/

Chapter 1: Understanding the Process Integration Pack for Oracle Transportation Financial Management

This chapter provides an overview of the Financial Management Integration Pack and discusses the:

- Participating applications.
- Business process flows.
- Solution assumptions and constraints.

Oracle Transportation Financial Management Overview

Oracle Transportation Financial Management Process Integration Pack provides a best-of-breed solution that enables an organization to build a seamless and robust financial business process to manage invoice remittance between customers and service providers

This process integration pack (PIP) interacts with other applications, namely Oracle Transportation Management (OTM) and Oracle E-Business Suite that are required to enable the integration process.

Participating Applications Overview

This section provides an overview of the following applications participating in the process integration:

- Oracle Transportation Management
- Oracle E-Business Suite Financials - General Ledger (GL)
- Oracle E-Business Suite Financials – Payables (AP)
- Oracle E-Business Suite Financials – Receivables (AR)

Oracle Transportation Management

Oracle Transportation Management delivers robust transportation planning and execution capabilities to shippers and third-party logistics providers. It integrates and streamlines transportation planning, execution, freight payment, and business process automation on a single application across all modes of transportation, from full truckload to complex multi-leg air, ocean, and rail shipments.

Regardless of the size or the volume of the business, Oracle Transportation Management delivers the capabilities needed in an open-standards-based architecture that allows to start with a single component or any mix of components and also gives the flexibility to grow easily, without installing or reinstalling added functionality.

For more information, see the *Oracle Transportation Management User Guide*.

Oracle E-Business Suite Financials – General Ledger

Oracle General Ledger is a comprehensive financial management solution that provides highly automated financial processing, effective management control, and real-time visibility to financial results. It provides everything needed to meet financial compliance and improve the organizations bottom line. Oracle General Ledger is part of the Oracle E-Business Suite, an integrated suite of applications that drive enterprise profitability, reduce costs.

In today's complex, global, and regulated environment, finance organizations face challenges in trying to comply with local regulations and multiple reporting requirements. Oracle General Ledger allows companies to meet these challenges in a very streamlined and automated fashion. Multiple ledgers can be assigned to a legal entity to meet statutory, corporate, regulatory, and management reporting. All accounting representations can be simultaneously maintained for a single transaction. For example, a single journal entered in the main, record-keeping ledger can be automatically represented in multiple ledgers even if each ledger uses a different chart of accounts, calendar, currency, and accounting principle.

Additionally, Oracle General Ledger provides complete multi-currency and language functionality to satisfy the most demanding global financial requirements. The organization can capture and report on any number of currencies from the balance level to the sub-ledger level. Currency conversion, revaluation, re-measurement, and translation are all performed in accordance with local and international accounting standards to improve internal controls and increase efficiency.

For more information, see the *Oracle E-Business Suite Financials – General Ledger Guide*.

Oracle E-Business Suite Financials – Payables

Oracle Payables improves margins, instills corporate and fiscal discipline, and optimizes business relationships. It is the cornerstone of Oracles Procure to Pay and Travel & Expense Management solutions, seamless and comprehensive business flows that help manage the total enterprise spend.

Oracle Payables provides the tools to control your cash flow, minimize errors and overpayments, and eliminate inefficiencies with:

- Real-time, accurate cash position, and forecast information so the organization can plan payment runs and major disbursements appropriately
- Minimum and maximum payment controls to better manage cash flow
- Flexible discount management tools
- Standard reports that allow you to eliminate duplicate and unauthorized payments
- Disbursement requests that allow you to pay non-supplier payees and give detailed visibility of status

For more information, see the *Oracle E-Business Suite Financials - Payables Guide*.

Oracle E-Business Suite Financials – Receivables

Oracle Receivables allows organizations to streamline invoicing, receipt, and customer deduction processing while improving cash flow, optimizing customer relationships, and providing strategic information. It provides the flexibility to meet the demands of a global market with strong financial controls to assist in instilling corporate and fiscal discipline. Oracle Receivables is the cornerstone of Oracles Credit to Cash solution that helps you improve cash flow, increase efficiencies, and optimize customer relationships.

Oracle Receivables seamlessly manages invoicing requirements across the Oracle E-Business Suite and offers importing capabilities to extend this service to non-Oracle ordering systems. There is no need for complex coding and customization traditionally associated with creating customer or industry centric invoices. Invoicing types include traditional invoices, balance forward billing, installment billing, consolidated monthly billing, chargeback, and deposits.

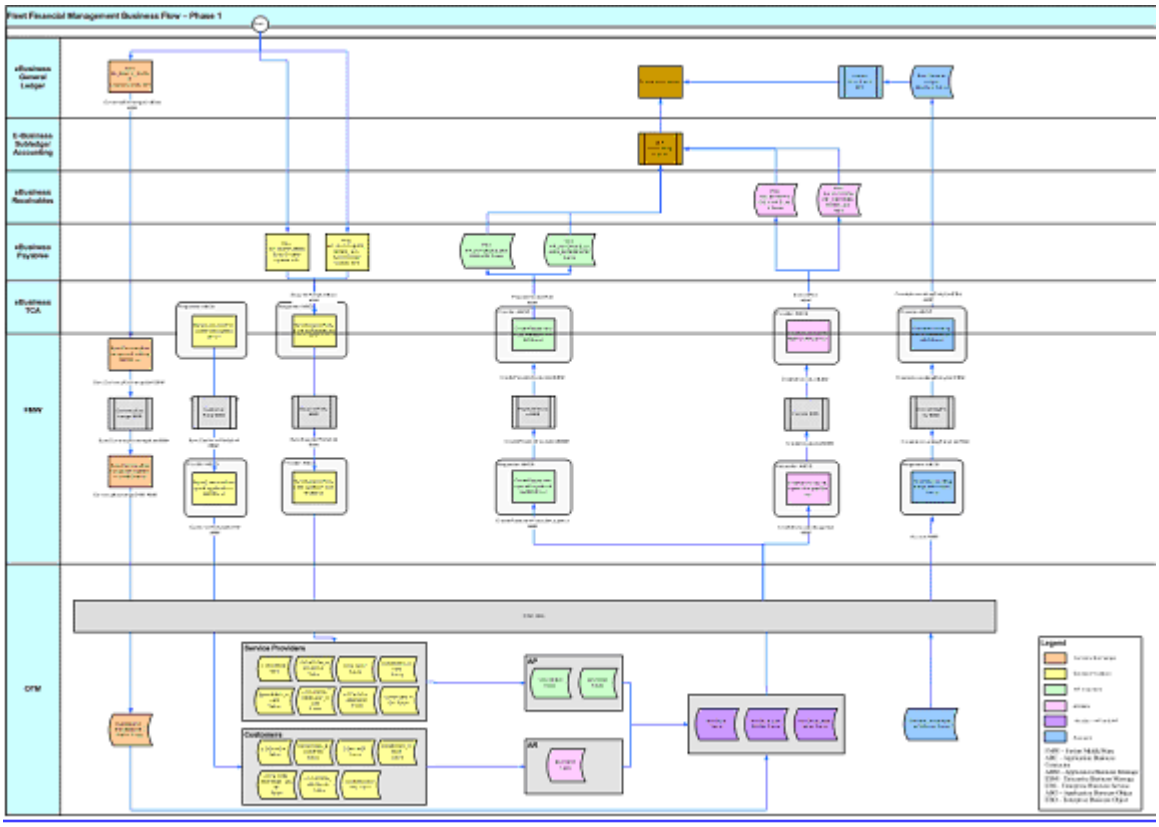
For more information, see the *Oracle E-Business Suite Financials - Receivables Guide*.

Oracle Transportation Financial Management Business Process Flow

The Oracle Transportation Financial Management process integration pack consists of these integration flows:

- Currency Exchange Rates
- Supplier Parties
- Payable Invoices
- Receivable Bills
- Accruals and Reversals
- Customer

This diagram represents the Financial Management business process flows:



Financial Management process flow

The integration pack for financial management allows an organization to synchronize their suppliers (service providers) as well as currency exchange rates between Oracle E-Business Suite and OTM. It also integrates the invoices created in OTM and sends them to the Oracle E-Business Suite Payables system so that they can be accounted and settled in the Financial System. The business processes support multiple payment methods and make sure that the payment is not duplicated for the same invoice.

The integration pack for financial management also allows an organization to synchronize their Customer information from Oracle E-Business Suite to OTM. This customer information can be used in the bills created in OTM to send as Accounts Receivables to get the payment from the Customer.

The financial management process integration sends a bill created in OTM to Oracle E-Business Suite Receivables for a product or service performed for the customers, matches it with the customer invoice, and sends the bill to the customer to receive the payment.

In addition, any accruals and reversals created in OTM are sent to Oracle E-Business General Ledger so they can be properly accounted.

Key Benefits

The Financial Management Integration Pack streamlines the Accounts Payable and Accounts Receivable process between Oracle Transportation Management and Oracle E-Business Suite Financials, including supplier synchronization, integrated freight payment, and customer billing, and accruals.

These are the key benefits for this integration pack

- Automate revenue recognition and cost accruals accurately
- Single source of truth for Supplier profiles and payments
- Automated customer billing process to support complex business rules
- Reduce integration time & costs

Security

The Financial Management Integration Pack also allows the organization to add one more level of security in the Integration. Integration Pack has been enhanced with Password Encryption feature for the Oracle Transportation Management Inbound flows, which allows the users to store the encrypted OTM password in the AIAConfigurationProperties file.

Financial Management Solution Assumptions and Constraints

These are the assumptions and constraints for this PIP:

Domain Value Maps:

1. An operating unit cannot be mapped to multiple domains

2. Several operating units can be mapped to one Domain.

General Setups:

3. OTM and Oracle E-Business Suite applications are implemented prior to the implementation of this PIP.
4. The same values for Siebel Business Units should be created in Oracle E-Business Suite for Operating Units.

Constraints

Customers switching from one financials application to another require reimplementation of the Integration Pack.

Note: Additional assumptions and constraints exist for each of the process integration flows; they are documented in the respective chapters.

Chapter 2: Describing the Process Integration for Currency Exchange Rates

This chapter provides an overview of the process integration for initial loading and incremental synchronization of currency exchange rates and discusses:

- Currency exchange rate integration details
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

Process Integration for Currency Exchange Rates

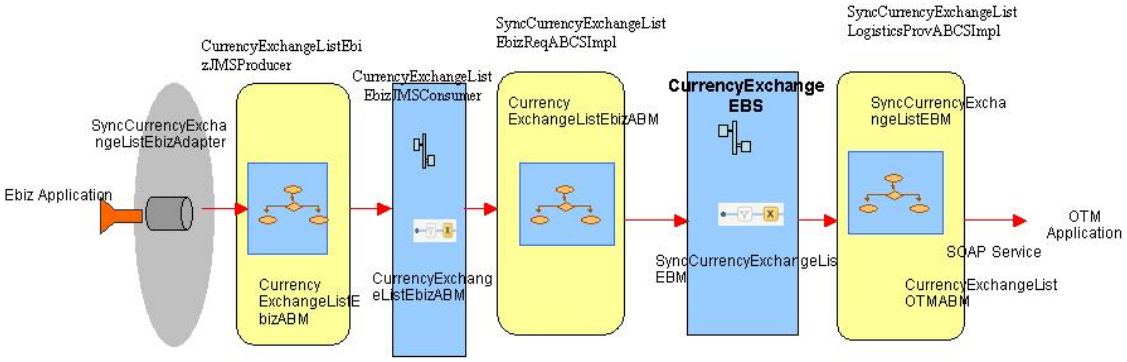
Currency exchange rate is the reference information used in the translation of monetary values from one currency to another. The exchange rate expresses the value of one currency in terms of another. The process integration for currency exchange rates enables you to use Oracle E-Business Suite Financials as an accounting engine and Oracle Transportation Management for invoices and bills transactions.

The process integration for currency exchange rates between Oracle E-Business Suite and OTM supports the following integration flows:

- **Initial Load of Currency Exchange Rates**: Extracts and loads the initial currency exchange rates from Oracle E-Business Suite to OTM.
- **Incremental Updates of Currency Exchange Rates**: Enables the synchronization of incremental creation and updates of the currency exchange rates from Oracle E-Business Suite to OTM.

This integration is not a point-to-point integration between Oracle E-Business Suite General Ledger and OTM. An AIA layer serves as an intermediate thin layer of application between Oracle E-Business Suite GL and OTM. As a part of the currency exchange rates integration, Oracle E-Business Suite GL sends the currency exchange rates to the AIA layer and the AIA layer delivers the information to OTM. The AIA layer performs message filtering, message transformation, and message routing.

This diagram shows the overall flow for the process integration of currency exchange rates.



Currency Exchange Rates process integration flow

Prerequisites

These are the prerequisites for the process integration for currency exchange rates:

- The list of valid currencies is maintained separately in each application and is mapped using a Domain Value Map (CURRENCY_CODE) in the integration layer
- Oracle E-Business applications maintain the exchange rate types manually and the rate types are mapped using a Domain Value Map (CURRENCYEXCHANGE_CONVERSIONTYPECODE) in the integration layer
- To Sync Currency Exchange Rates from Oracle E-business Suite to OTM, the user needs to be a DBA as the Currency Exchange Rates should be available to all the users, as the Currency Exchange Rates need to be synched to the public domain.
- To synchronize Currency Exchange from Oracle E-business Suite to OTM, the business event “oracle.apps.gl.CurrencyConversionRates.dailyRate.specify in the Oracle E-Business application should be enabled.

Solution Assumptions and Constraints

The integration design assumes that the following statements are true:

- The Oracle E-Business Suite is responsible for adding and maintaining the currency exchange rates and types. Oracle E-Business Suite is the currency exchange rate master and all data from the Oracle E-Business Suite is synchronized to OTM.
- The currency rate types and currency codes are different in Oracle E-Business Suite and OTM applications. The domain value maps (DVMs) are set up and maintained manually by both E-Business Suite and OTM in the AIA layer. Together they need to come up with the COMMON value.
- Oracle E-Business currency precision limit is limited to four digits (Example: $120.0001). OTM precision length must be setup at four digits in order to avoid rounding errors.

- The currency exchange rates in OTM are synchronized to the public domain and this is changed by a property in the AIA Configuration File.

Currency Exchange Rate Integration Details

This integration flow uses the following services:

- SyncCurrencyExchangeListEbizAdapter
- CurrencyExchangeEbizListJMSProducer
- CurrencyExchangeListEbizJMSConsumer
- SyncCurrencyExchangeListEbizReqABCSImpl
- CurrencyExchangeEBS
- SyncCurrencyExchangeListLogisticsProvABCSImpl
- CurrencyExchangeResponseEBS

Initial Load of Currency Exchange Rates

The purpose of this flow is to load the existing currency exchange rates from E-Business Suite into OTM by triggering the CurrencyExchangeListEbizJMSProducer service.

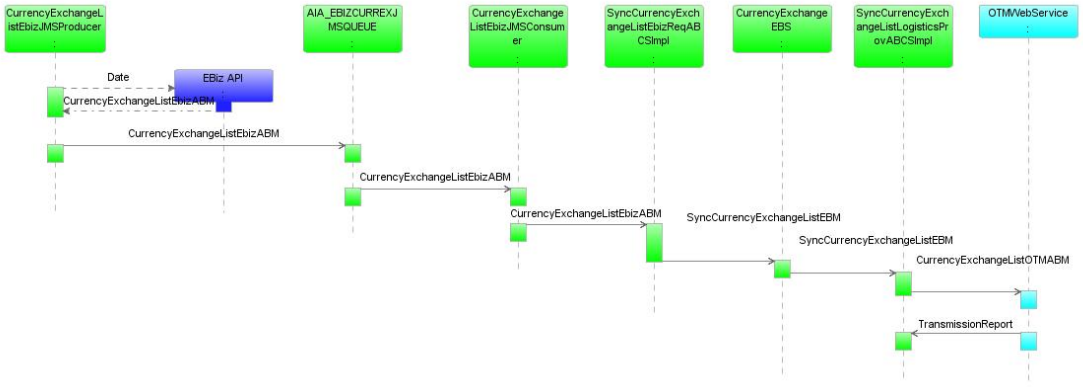
Contact the SOA Administrator to obtain the end point of the CurrencyExchangeListEbizJMSProducer web service.

The Service expects the following inputs:

from_currency		xsd:string
to_currency		xsd:string
from_date		xsd:date
to_date		xsd:date
conversion_rate_type		xsd:string

The from_date field is mandatory. If the to_date is not specified it takes the current date as the TO_DATE. The valid date format is YYYY-MM-DD (2008-02-09). The rest of the fields are optional and can be used to limit the rates, which are required to be loaded from Oracle E-Business Suite to OTM. Use the appropriate date range based on the load of data and performance of the server.

This sequence diagram shows the loading of currency exchange rates integration flow:



Initial Loading of Currency Exchange Rates

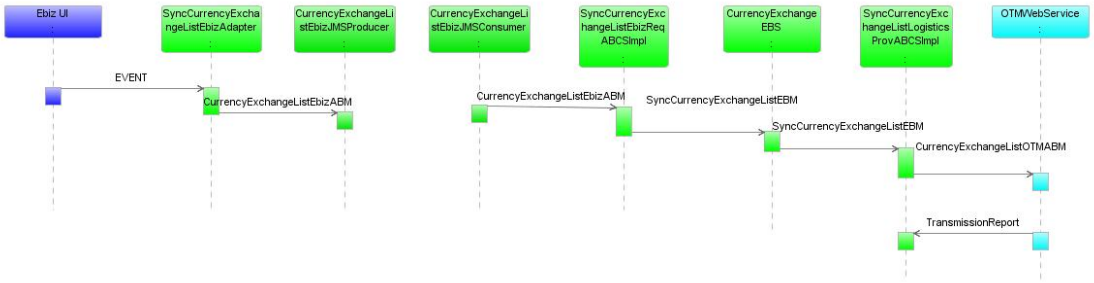
When you initiate the Initial Load of Currency Exchange Rates process the following events occur:

- Oracle E-Business Suite invokes the CurrencyExchangeListEbizJMSProducer whenever a currency exchange rate is created or loaded into Oracle E-Business Suite.
- The CurrencyExchangeListEbizJMSProducer extracts all the currency exchange rates from the Oracle E-Business Suite database based on the dates provided in the Business Process Execution Language (BPEL) console and moves the currency exchange rates into the AIA_CURREXJMSQUEUE.
- The CurrencyExchangeListEbizJMSConsumer service picks up the message from the AIA_CURREXJMSQUEUE and invokes the SyncCurrencyExchangeListEbizReqABCSImpl, which transforms the message into the SyncCurrencyExchangeListEBM. Then, the SyncCurrencyExchangeListEBM invokes the CurrencyExchangeEBS.
- The CurrencyExchangeEBS receives the SyncCurrencyExchangeListEBM and invokes the SyncCurrencyExchangeListLogisticsProvABCSImpl.
- The SyncCurrencyExchangeListLogisticsProvABCSImpl receives the SyncCurrencyExchangeListEBM and transforms it into the CurrencyExchangeOTMABM. Then, the LogisticsWebService is invoked with this transformed ABM and the instance asynchronously waits for a transmission report from OTM. If the transaction is successful, then the cross reference values are populated for OTM columns for each of the Currency Exchange Ids listed in the SyncCurrencyExchangeListEBM; otherwise it invokes the AIAAsyncErrorHandlingBPELProcess with an error message.

Incremental Updates of Currency Exchange Rates

The currency exchange rates that are created or updated in the Oracle E-Business Suite must be updated in the OTM.

This sequence diagram shows incremental currency exchange rates integration flow:



Incremental Updates of Currency Exchange Rates

- In the Oracle E-Business Suite user interface, the user updates or adds new currency exchange rates, which triggers and event that automatically invokes the SyncCurrencyExchangeListEbizAdapter. This adapter invokes the CurrencyExchangeListEbizJMSProducer, which queries the Oracle E-Business Suite database for currency exchanges rates and drops the message in AIA_CURREXJMSQUEUE.
- The CurrencyExchangeListEbizJMSConsumer service picks up the message from the AIA_CURREXJMSQUEUE and invokes the SyncCurrencyExchangeListEbizReqABCSImpl, which transforms the message into the SyncCurrencyExchangeListEBM. Then, the SyncCurrencyExchangeListEBM invokes the CurrencyExchangeEBS.
- The CurrencyExchangeEBS receives the SyncCurrencyExchangeListEBM and invokes the SyncCurrencyExchangeListLogisticsProvABCSImpl.
- The SyncCurrencyExchangeListLogisticsProvABCSImpl receives the SyncCurrencyExchangeListEBM and transforms it into the CurrencyExchangeListOTMABM, then the LogisticsWebService is invoked with this transformed ABM, and the instance asynchronously waits for a transmission report from OTM. If the Transaction is successful then the Cross Reference values are populated for OTM columns for each of the Currency Exchange Ids listed in the SyncCurrencyExchangeListEBM; otherwise it invokes the AIAAsyncErrorHandlingBPELProcess with an error message.

Data Requirements

There are no data requirements for this process integration.

Oracle E-Business Suite Interfaces

For the Currency Exchange Rates integration flow, these are the Oracle E-Business Suite interfaces:

- Oracle E-Business Suite GL exposes a business event called oracle.apps.gl.CurrencyConversionRates.dailyRate.specify as an interface to subscribe to the creation and updates of currency exchange rates.
- Apart from the business event, Oracle E-Business Suite also provides an API called the GET_CUR_CONV_RATES interface in the GL_EXCH_RATES_SYNC_PKG that helps to retrieve the complete information of exchange rates.

For more information about Oracle E-Business Suite web services, see the following Oracle E-Business Suite references:
Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the Oracle E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 12.1.1 Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

OTM Interfaces

OTM provides an interface through a WebService to connect to its application. This connectivity is established as a partner link in the Provider Service. Once invoked, the Logistics Webservice immediately returns an acknowledgement with a transmission number. Once the processing is complete, it sends a transmission report back indicating the success or the failure.

The Application ABM details can be seen in the GLOG xsd with the ExchangeRate element.

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

Core AIA Components

The currency exchange rate integration flow uses the following components:

- CurrencyExchangeEBO
- SyncCurrencyExchangeListEBM
- CurrencyExchangeEBS

The core EBO and EBM XSD files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/.

The core EBS WSDL files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or Enterprise Business Service (EBS).

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* “Using the BSR”, using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* “Extensibility for AIA Artifacts”.

Integration Services

These are the services delivered with this integration:

- SyncCurrencyExchangeListEbizAdapter
- CurrencyExchangeListEbizJMSProducer
- CurrencyExchangeListEbizJMSConsumer
- SyncCurrencyExchangeListEbizReqABCSImpl
- CurrencyExchangeEBS
- SyncCurrencyExchangeListLogisticsProvABCSImpl
- CurrencyExchangeResponseEBS

You can use the Integration Scenario Summary page in the Oracle AIA Console to search for and view integration scenarios that use a particular ABC service.

SyncCurrencyExchangeListEbizAdapter

This Service is used for incremental changes. This service listens to the oracle.apps.gl.CurrencyConversionRates.dailyRate.specify business event and invokes the CurrencyExchangeListEbizJMSProducer, which then queries the Oracle E-Business Suite Database for currency exchange rates with the EventID.

CurrencyExchangeEbizListJMSProducer

The CurrencyExchangeEbizJMSProducer service is a BPEL process. The Oracle E-Business application invokes this service when:

- A new currency exchange rate is created.
- An existing currency exchange rate is updated.

This service is also used when doing an initial load of the exchange rates from Oracle E-Business Suite

This service takes the FROM and TO DATE and the FROM and TO CURRENCY as inputs. These inputs can come from the event or are directly provided in the case of initial load. The Database adapter reads all the Currency Exchange Rates from the Oracle E-Business Suite Database based on the dates entered. If the TO_DATE is not provided, it assumes todays date. Based on the FROM_DATE, TO_DATE from the input and a property (NoOfDays) from the AIAConfigurationFile, the E-Business Suite API (get_cur_conv_rates) is called to obtain the currency exchange rates. Then, the Currency Exchange Rates are dropped in the AIA_CURREXJMSQUEUE. The NoOfDays property in the CURRENCYEXCHANGE module must be specified in order to determine the cursor size in which the exchange rates are retrieved. Based on the processing capabilities of the system, an appropriate value needs to be provided for this property.

CurrencyExchangeListEbizJMSConsumer

The CurrencyExchangeListEbizJMSConsumer is an Enterprise Service Bus (ESB) service. It has a JMS adapter called CurrencyExchangeListEbizJMSConsumer. This adapter listens to the AIA_CURREXJMSQUEUE and picks up the messages for which JMSCorrelationID is SyncEbizCurrencyExchange. This invokes the SyncCurrencyExchangeListEbizReqABCSImpl with the CurrencyExchangeListEbizABM.

SyncCurrencyExchangeListEbizReqABCSImpl

The SyncCurrencyExchangeListEbizReqABCSImpl is a BPEL process, which receives the CurrencyExchangeListEbizABM from the CurrencyExchangeListEbizJMSConsumer and transforms the message into the SyncCurrencyExchangeListEBM. The following Data Value Maps (DVMs) lookups are used by this service:

1. CURRENCY_CODE (CURRENCY95CODE) - Domain value mapping for currency codes
2. CURRENCYEXCHANGE_CONVERSIONTYPECODE (CURRENCYEXCHANGE95CONVERSIONYPECODE) - Domain value mapping for currency type codes.
3. CURRENCYEXCHANGE_STATUSCODE - Domain value mapping for Status Code of Currency Exchange rates.

In addition, this service populates the EBM header variable and Xref table and invokes the CurrencyExchangeEBS.

CurrencyExchangeEBS

The CurrencyExchangeEBS is an Enterprise Business Service that exposes all the enterprise operations related to the CurrencyExchange like CreateCurrencyExchange, Update CurrencyExchange, and so forth. This integration uses the “SyncCurrencyExchangeList” operation. This Enterprise Business Service routes the request to the appropriate provider like the SyncCurrencyExchangeListLogisticsProvABCSImpl or the Composite Application Validation System (CAVS), based on the filter condition and operations. Updates and creates are done using the Sync action. No transformations are done in this service. OTM determines whether this Sync Currency Exchange Rate message is for a create or an update action.

For more information about this EBS, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* “Designing and Developing Enterprise Business Services” and *Oracle Application Integration Architecture – Foundation Pack: Concepts and Technologies Guide,* “Understanding Enterprise Business Services”

SyncCurrencyExchangeListLogisticsProvABCSImpl

The SyncCurrencyExchangeListLogisticsProvABCSImpl is a BPEL process, which receives the SyncCurrencyExchangeListEBM, transforms the message into the CurrencyExchangeListOTMABM, invokes the LogisticsWebService with the SyncCurrencyExchangeListEBM and waits for the transmission report from the LogisticsWebService. If the transmission report specifies the transaction is successful, it populates the cross-reference values otherwise it invokes the AIAAsyncErrorHandlingBPEL process to generate the error messages.

The following DVMs lookups are used by this service:

1. CURRENCY_CODE (CURRENCY95CODE) - Domain value mapping for currency codes
2. CURRENCYEXCHANGE_CONVERSIONTYPECODE (CURRENCYEXCHANGE95CONVERSIONYPECODE) - Domain value mapping for currency type codes.

CurrencyExchangeResponseEBS

The CurrencyExchangeResponseEBS is the EBS used to route all Currency Exchange Response related actions to the requesting application like Create CurrencyExchange Rates, Update CurrencyExchange Rates, Delete CurrencyExchange Rates, and Sync CurrencyExchangeList Rates.

Chapter 3: Describing the Process Integration for Suppliers (Service Providers)

This chapter provides an overview of the process integration for initial loading and incremental synchronization of suppliers (service providers) and discusses:

- Suppliers (service providers) integration details
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

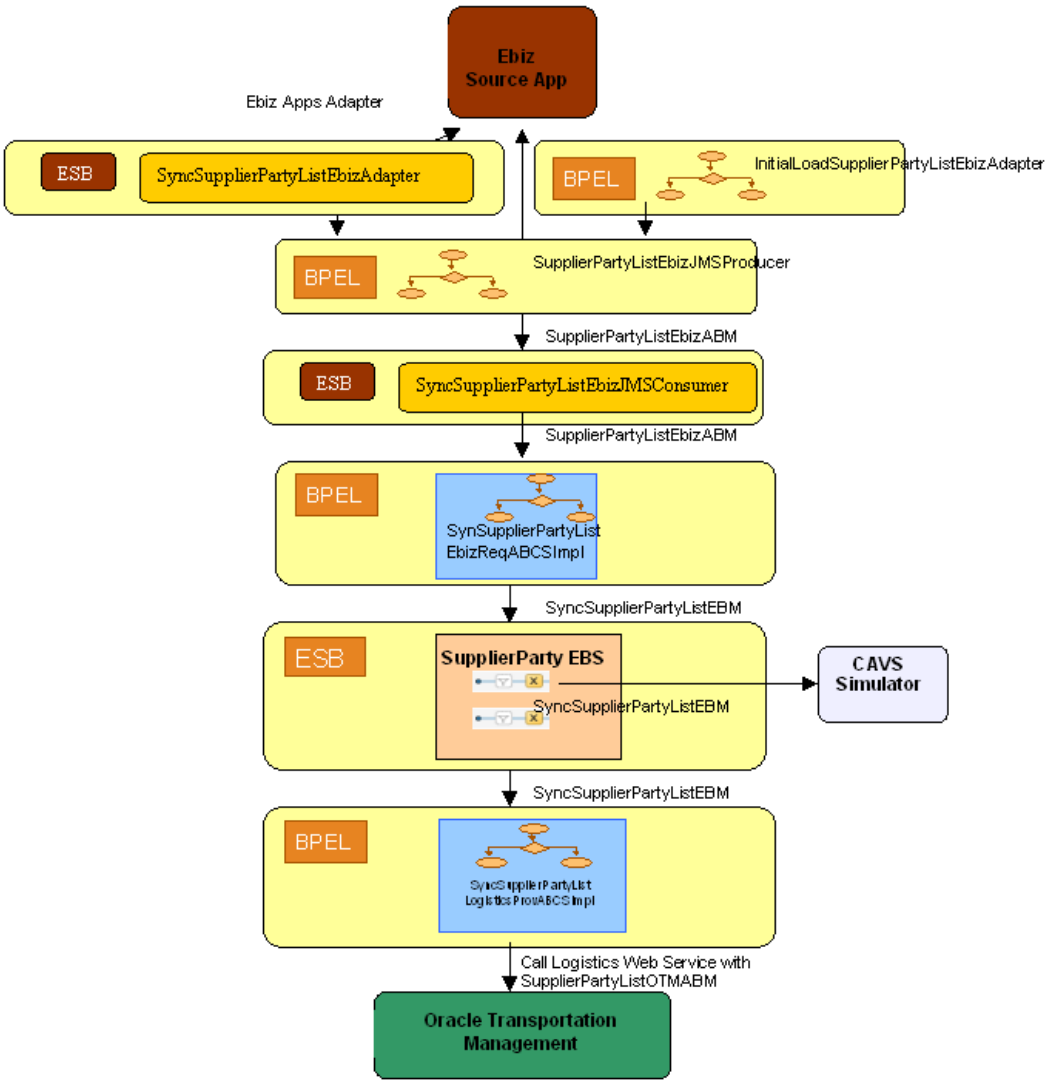
Process Integration for Suppliers

In this integration, Oracle E-Business Suite acts as a payable and accounting engine, and OTM creates the invoices. Therefore, Oracle E-Business Suite and OTM require the sharing of suppliers information between the applications. OTM requires the supplier information for several key functions including the creation and management of order releases and invoices. Oracle E-Business Suite requires the suppliers information for supplier payment. For end-to-end business integration, the same supplier instance and related information must be shared between these two applications.

Oracle E-Business Suite is the source of valid suppliers (service providers in OTM) and their locations and payment terms. The supplier integration synchronizes suppliers information from Oracle E-Business Suite to OTM through these integration flows:

- **Initial Loading of Supplier Information**: Extracts and loads initial supplier information from Oracle E-Business Suite to OTM.
- **Updating Supplier Information**: Enables the synchronization of incremental creation and updates of the newly created, modified, or inactivated supplier information from Oracle E-Business Suite to OTM.

This diagram shows the overall flow for the process integration of suppliers (service providers):



Suppliers (Service Providers) Integration flow

Prerequisites

These are the prerequisites for the process integration for suppliers:

1. The relevant Supplier Types/Location Roles should be set up in the "SUPPLIERPARTY_TYPECODE" DVM.
2. All the required Configuration properties should also be specified.

For more information on Configuration properties, refer to *Chapter 7: Implementing the Financial Management Process Integration Pack.*

Solution Assumptions and Constraints

The integration design assumes that the following statements are true:

- Oracle E-Business Suite Financials AP is the source system for suppliers, contacts, locations, and addresses.
- This integration is a one-way synchronization from Oracle E-Business Suite into OTM. Any update to supplier information in OTM is not synchronized into E-Business Suite.
- The capability of creating Service Providers in the OTM application must be disabled.
- The Supplier Header information is synchronized to OTM. Any purchasing sites that exist for the Supplier should be synchronized into OTM based on a configuration option. The Supplier pay sites are not stored in OTM. When invoices are received from OTM into E-Business Suite, the default Supplier Pay Site information is derived using the Supplier Number, Organization Unit details and/or purchasing site information.
- The Service Provider in OTM has the same value for Location ID and Corporation ID. In the case that purchasing sites are synchronized into OTM, the Corporation ID is the Supplier Number for that site or location.
- The Supplier information is created as Locations and Service Providers in OTM in the OTM Domain specified in the configuration file. This Domain can be overridden through a Custom.xsl.
- The authentication information for OTM is obtained using AIA Configuration File.
- If Oracle E-Business Suite is sending the Purchasing sites, then the contact and address information is updated with the purchasing site address/contact information.
- Whenever an inactive date is entered for a supplier associated with multiple purchasing sites in Oracle E-Business Suite, the synchronization of the inactive date does not happen to all the corresponding purchasing sites for the supplier in OTM. Therefore, the user should enter the inactive date for the purchasing sites in E-Business and this should be synchronized to OTM.
- The initial creation of supplier in Oracle E-Business Suite has no value set for the Supplier Type because the Supplier Type is not mandatory. On the other hand, in OTM the Supplier Type/Location Role is not mandatory. Therefore, the supplier records are created in OTM with the Location Role blank. In E-Business Suite, you can update the Supplier Type (through the Organization form field) and the Location Role is created in OTM. If you want to filter by Supplier Type, a routing rule can be added during implementation time.

Constraints:

- The Oracle E-Business Suite Vendor Name is 240 characters long and in OTM the Corporation Name is 120 characters; therefore, a vendor name longer than 120 are truncated in OTM.
- The Oracle E-Business Suite Vendor Alternate Name is 320 characters long and in OTM the Service Provider Alias is only 101 characters; therefore, an Alternate Name longer than 101 characters is truncated in OTM.

Supplier Integration Details

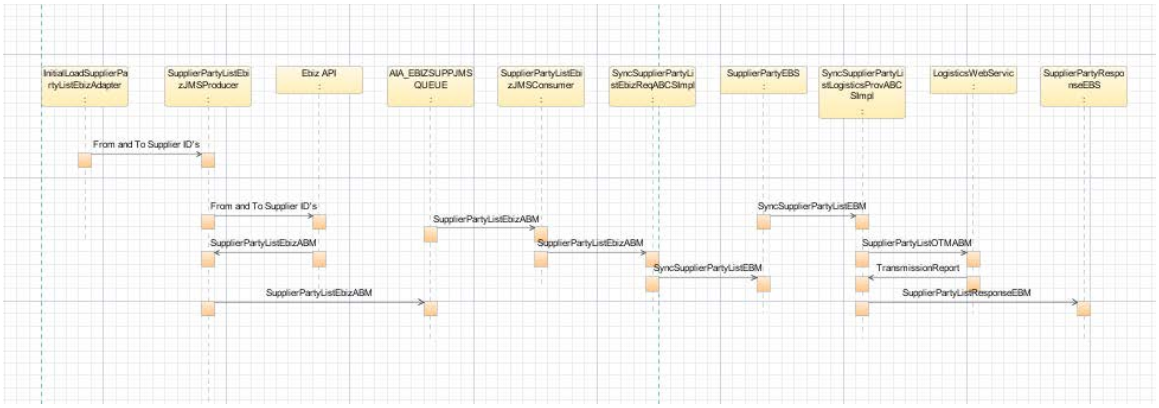
This integration flow uses the following services:

- InitialLoadSupplierPartyListEbizAdapter
- SyncSupplierPartyListEbizAdapter
- SupplierPartyListEbizJMSProducer
- SyncSupplierPartyListEbizJMSConsumer
- SyncSupplierPartyListEbizReqABCSImpl
- SupplierPartyEBS
- SyncSupplierPartyListLogisticsProvABCSImpl
- SupplierPartyResponseEBS

Initial Loading of Suppliers (Service Providers)

The purpose of this flow is to load into OTM the supplier information that was created in Oracle E-Business Suite by triggering the InitialLoadSupplierPartyListEbizAdapter service.

This sequence diagram shows the initial load of suppliers integration flow:



Initial Load of Suppliers (Service Providers)

When you initiate the process the following events occur:

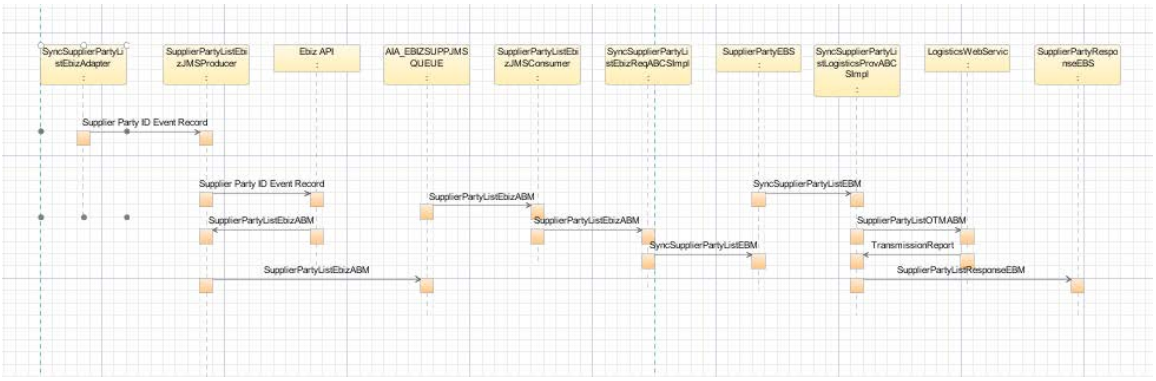
1. The InitialLoadSupplierPartyListEbizAdapter service queries the supplier information in Oracle E-Business Suite, counts the Vendor Ids to obtain a minimum and maximum number of Vendor Ids, and invokes the SupplierPartyListEbizJMSProducer.
2. The SupplierPartyListEbizJMSProducer invokes the Oracle E-Business Suite API to query for the SupplierPartyListEbizABM and drops the message into the AIA_EBIZSUPPJMSQUEUE.
3. The SyncSupplierPartyListEbizJMSConsumer picks up the message from the AIA_EBIZSUPPJMSQUEUE and invokes the SyncSupplierPartyListEbizReqABCSImpl.

4. The SyncSupplierPartyListEbizReqABCSImpl transforms the SupplierPartyListEbizABM message into the SyncSupplierPartyListEBM. The transformation does cross-referencing for systems specific values and calls the SupplierPartyEBS with operation SyncSupplierPartyList. The SupplierPartyEBS is a routing ESB service with several operations on the SupplierPartyEBO.
5. The SupplierPartyEBS routes the SyncSupplierPartyListEBM to the SyncSupplierPartyListLogisticsProvABCSImpl or CAVS.
6. The SyncSupplierPartyListLogisticsProvABCSImpl receives the message and transforms the SyncSuplierPartyListEBM into the SupplierPartyListOTMABM. The transformation invokes the LogisticsWebservice and waits for the transmission report from the LogisticsWebService. If the transaction is successful, it populates the cross-reference values. If the transaction is not successful, it invokes the AIAAsyncErrorHandlingBPELProcess.

Updating Suppliers Information

The purpose of this flow is to load into OTM the supplier information that was updated in Oracle E-Business Suite by triggering the SupplierPartyListEbizJMSProducer service.

This sequence diagram shows the incremental update of supplier information integration flow:



Incremental load of Suppliers (Service Providers)

When you initiate the Incremental Load of Suppliers process the following events occur:

1. In Oracle E-Business Suite, if you create or update the supplier information, the activity invokes the SyncSupplierPartyListEbizAdapter through a business event. This adapter service listens to the events and then invokes the SupplierPartyListEbizJMSProducer.
2. The SupplierPartyListEbizJMSProducer invokes the Oracle E-Business Suite API to query for the SupplierPartyListEbizABM and drops the message into the AIA_EBIZSUPPJMSQUEUE.
3. The SyncSupplierPartyListEbizJMSConsumer picks up the message from the AIA_EBIZSUPPJMSQUEUE and invokes the SyncSupplierPartyListEbizReqABCSImpl.
4. The SyncSupplierPartyListEbizReqABCSImpl transforms the SupplierPartyListEbizABM message into the SyncSupplierPartyListEBM. The transformation does cross-referencing for systems specific values and calls the SupplierPartyEBS with operation SyncSupplierPartyList. The SupplierPartyEBS is a routing ESB service with several operations on the SupplierPartyEBO.

5. The SupplierPartyEBS routes the SyncSupplierPartyListEBM to the SyncSupplierPartyListLogisticsProvABCSImpl or CAVS.
6. The SyncSupplierPartyListLogisticsProvABCSImpl receives the message and transforms the SyncSuplierPartyListEBM into the SupplierPartyListOTMABM. The transformation invokes the LogisticsWebservice and waits for the transmission report from the LogisticsWebService. If the transaction is successful, it populates the cross-reference values. If the transaction is not successful, it invokes the AIAAsyncErrorHandlingBPELProcess.

Data Requirements

There are no data requirements for the supplier party process flow.

Oracle E-Business Suite Interfaces

These are the Oracle E-Business Suite interfaces for the supplier integration flow:

- Oracle E-Business Suite AP exposes a business event called "oracle.apps.ap.supplier.event" as an interface to subscribe to the creation and updates of supplier data.
- Apart from the business event, Oracle E-Business Suite also provides an API called the "AP_SUPPLIER_INFO_PKG" that helps to retrieve the supplier information based on either a range of suppliers or a specific supplier.

For more information about Oracle E-Business Suite web services, see the following Oracle E-Business Suite references:
Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the Oracle E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 12.1.1 Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

OTM Interfaces

OTM provides an interface through a WebService to connect to its application. This connectivity is established as a partner link in the Provider Service. Once invoked, the Logistics Webservice immediately returns an acknowledgement with a transmission number. Once the processing is complete, it then sends a transmission report back indicating the success or the failure.

The Application ABM details can be seen in the GLOG xsd with the Location element.

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

Core AIA Components

The supplier party integration flow uses the following components:

- SupplierPartyEBO
- SyncSupplierPartyListEBM
- SupplierPartyEBS

The core EBO and EBM XSD files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/.

The core EBS WSDL files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that utilize a particular EBO or EBS.

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* “Using the BSR”, using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* “Extensibility for AIA Artifacts”.

Integration Services

These are the services delivered with this integration:

- InitialLoadSupplierPartyListEbizAdapter
- SyncSupplierPartyListEbizAdapter
- SupplierPartyListEbizJMSProducer
- SyncSupplierPartyListEbizJMSConsumer
- SyncSupplierPartyListEbizReqABCSImpl
- SupplierPartyEBS
- SyncSupplierPartyListLogisticsProvABCSImpl
- SupplierPartyResponseEBS

InitialLoadSupplierPartyListEbizAdapter

This service is an asynchronous BPEL process. This process is used for loading the initial load of suppliers from Oracle E-business Suite into the OTM WebService. This service queries the supplier information in Oracle E-Business Suite, counts the Vendor Ids to obtain a minimum and maximum number of Vendor Ids, and invokes the SupplierPartyListEbizJMSProducer.

SyncSupplierPartyListEbizAdapter

The SyncSupplierPartyListEbizAdapter is used only for incremental changes. This is an ESB service with one Oracle Applications adapter that subscribes to the “oracle.apps.ap.supplier.event”. Whenever a supplier, site, or contact is created or updated, this adapter service listens to the events and then invokes the SupplierPartyListEbizJMSProducer service.

SupplierPartyListEbizJMSProducer

The SupplierPartyListEbizJMSProducer service is a BPEL process used for both initial and incremental loads. The Oracle E-Business Suite application invokes this service when:

- A new supplier is created.
- An existing supplier is updated

This service reads the Supplier Party ID information either from the InitalLoadSupplierPartyEbizAdapter or the SyncSupplierPartyEbizAdapter for incremental changes, invokes the Oracle E-business Suite API (“ap_supplier_info_pkg”) to retrieve the SupplierPartyListEbizABM and drops the messages into the AIA_EBIZSUPPJMSQUEUE individually.

SyncSupplierPartyListEbizJMSConsumer

The SyncSupplierPartyListEbizJMSConsumer is an ESB service. It has a JMS adapter, which picks up the messages from AIA_EBIZSUPPJMSQUEUE and invokes the SyncSupplierPartyListEbizReqABCSImpl.

SyncSupplierPartyListEbizReqABCSImpl

The SyncSupplierPartyListEbizReqABCSImpl is a BPEL process and a single operations service that has the SupplierPartyEBS as a partner service. This service receives the SupplierPartyListEbizABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the SupplierPartyListEbizABM message from Oracle E-Business Suite. This message contains a cross-reference (XREF) for suppliers, sites and contacts.
- Transforms the SupplierPartyListEbizABM into the SyncSupplierPartyListEBM. While it is transforming from the ABM to the EBM, cross-references are looked up for the:
  - SUPPLIERPARTY_ID
  - SUPPLIERPARTY_ADDRESS_ID
  - SUPPLIERPARTY_LOCATION_ID
  - SUPPLIERPARTY_CONTACT_ID
- Sends the SyncSupplierPartyListEBM message as an input to the SyncSupplierPartyList operation in the SupplierPartyEBS service.

The following DVMs lookups are used by this service:

1. CURRENCY_CODE (CURRENCY95CODE) - Domain value mapping for currency codes.
2. ADDRESS_COUNTRYSUBDIVID – Domain value mapping for the state code values in address of supplier.
3. SUPPLIERPARTY_TYPECODE – Domain value mapping for the type of supplier.
4. ADDRESS_COUNTRYID – Domain value mapping for the country code values.
5. LANGUAGE_CODE – Domain value mapping for language.

SupplierPartyEBS

The SupplierPartyEBS is an Enterprise Business Service that exposes all the enterprise operations related to the SupplierParty like CreateSupplierParty, Update SupplierParty, and so forth This integration only uses the “SyncSupplierPartyList” operation. This Enterprise Business Service routes the request to the appropriate provider like the SyncSupplierPartyListLogisticsProvABCSImpl or the Composite Application Validation System (CAVS) based on the filter condition and operations. Updates and creates are done using the Sync action. No transformations are done in this service. OTM determines whether this Sync Supplier Party message is for a create or an update action.

For more information about this EBS, see Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide, “Designing and Developing Enterprise Business Services” and Oracle Application Integration Architecture – Foundation Pack: Concepts and Technologies Guide, “Understanding Enterprise

SyncSupplierPartyListLogisticsProvABCSImpl

The SyncSupplierPartyListLogisticsProvABCSImpl is a BPEL process, which receives the SyncSupplierPartyListEBM, transforms the message into the SupplierPartyListOTMABM, invokes the Logistics Web service with the SyncSupplierPartyListEBM, and waits for the transmission report from the LogisticsWebService. If the transmission report specifies the transaction is successful, it populates the cross-reference values otherwise it invokes the AIAAsyncErrorHandlingBPEL process to generate the error messages

The following DVMs lookups are used by this service:

1. CURRENCY_CODE (CURRENCY95CODE) - Domain value mapping for currency codes.
2. ADDRESS_COUNTRYSUBDIVID – Domain value mapping for the state code values in address of supplier.
3. SUPPLIERPARTY_TYPECODE – Domain value mapping for the type of supplier.
4. ADDRESS_COUNTRYID – Domain value mapping for the country code values.
5. LANGUAGE_CODE – Domain value mapping

SupplierPartyResponseEBS

The SupplierPartyResponseEBS is the EBS used to route all Supplier Party Response related actions to the requesting application like Create SupplierParty, Update SupplierParty, and Sync SupplierPartyList.

Chapter 4: Describing Process Integration for Payable Invoices

This chapter provides an overview of the process integration for accounts payable invoices and discusses:

- Payable Invoices integration details
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

Process Integration for Payable Invoices Overview

The Payables Invoice integration flow allows OTM to pay its service providers, carriers, and other parties by sending its invoice (vouchers) transactions to the Oracle E-Business Payables application. Oracle E-Business Payables will generate the payment and create the proper accounting for the payment transactions.

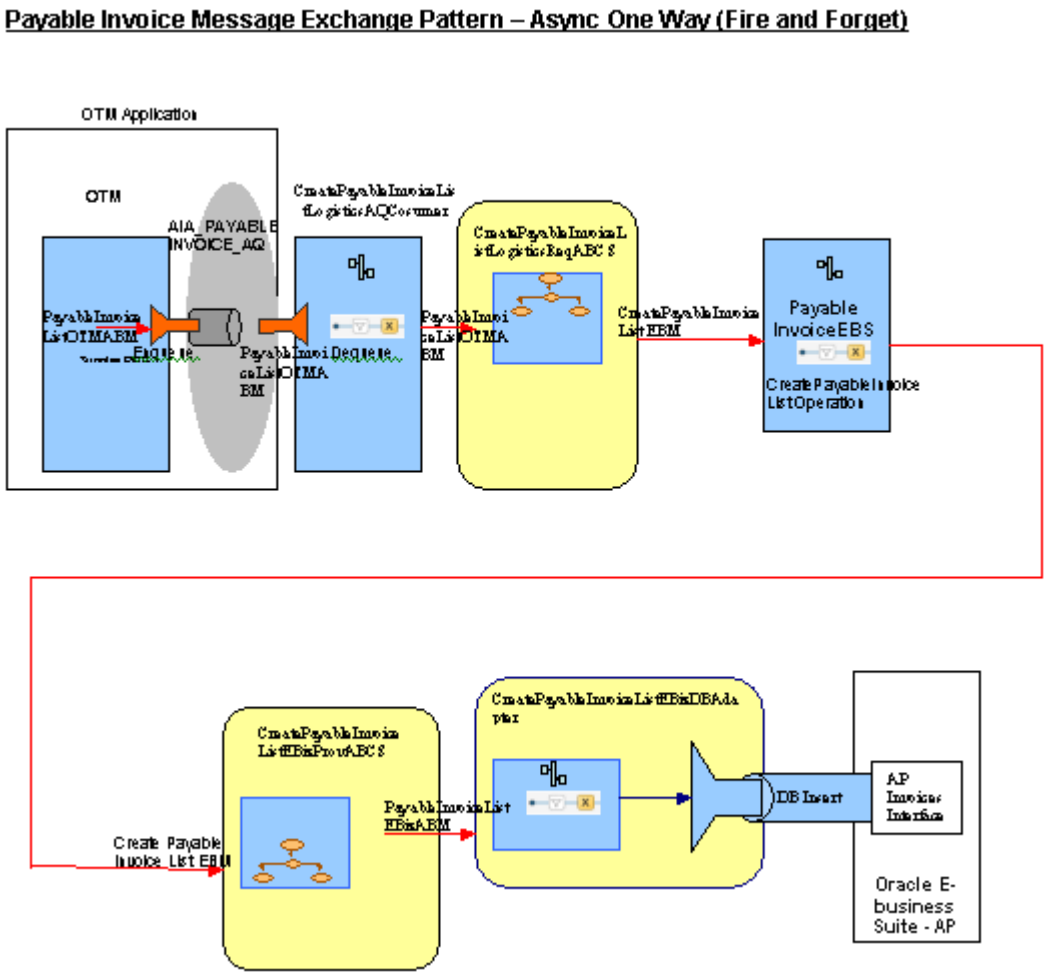
The process integration for payable invoices supports the following integration flows:

- Voucher Match and Pay (No Auto Pay): OTM receives the invoice from the service provider, matches it to the shipments based on the match rules, approves the invoice, creates the voucher, changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.
- Voucher Auto Pay: OTM calculates the freight charges for the shipments, approves the invoice, creates the voucher, changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.
- Consolidated Invoice Batches: OTM receives a consolidated invoice from a service provider for multiple shipments, matches the consolidated invoice with the shipments, approves the invoice for payment, creates a voucher, changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.
- One Invoice with Multiple Vouchers: OTM receives an invoice for multiple payments from a service provider and matches it with the shipments. The invoice is manually approved for partial payment. Then, OTM creates the voucher, changes the voucher status to

ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.

- Prepaid Invoice (Comcheck): The user manually creates a prepayment invoice both in OTM and Oracle E-business suite. When the service provider invoice arrives, OTM creates a voucher, which contains the total invoice amount, prepayment amount, advance fee, and outstanding approved voucher amount, changes the voucher status to ISSUED and sends the transaction using the VoucherXML to Oracle E-Business Suite AP. The prepayment application is done automatically based on the reference fields entered in the voucher.
- Credit Memo: OTM receives an invoice from the service provider, matches the invoice to the shipments, creates a credit memo for over payment, matches it with the original shipment, and creates the invoice with the status of PROCESS Hold. The user approves the invoice and creates the approved voucher. OTM changes the approved voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.
- Voucher with Third-party Payment: OTM receives a supplier invoice, which specifies that a third-party supplier should be paid for the service. For example, OTM plans the shipment and sends a tender to supplier A. Supplier A wants Supplier B to be paid for the service. OTM approves the invoice, creates the voucher, changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP to pay Supplier B.
- Foreign Currency Voucher: OTM receives an invoice in a foreign currency, matches it to the shipments based on the match rules, approves the invoice, creates the voucher with the foreign currency, changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.
- Voucher with Disputed Amount and Reason: If the shipment is partially paid, OTM approves the invoice, creates the voucher with the original invoice amount, approved payment amount, and dispute reason. Then, OTM changes the voucher status to ISSUED, and sends the transaction using the VoucherXML to Oracle E-Business Suite AP.

This diagram shows the overall flow for process integration flow for the payable invoices:



Payable Invoices process integration flow

Prerequisites

These are the prerequisites for the process integration for payable invoices:

1. Suppliers and their locations and currency exchange rates must be synchronized between Oracle E-Business Suite and OTM.
2. You can either set up the Distribution Set (distribution sets are an account derivation mechanism offered within Oracle E-Business Suite AP) with the correct accounting at the supplier site or if you are using Subledger Accounting (SLA) to derive the accounting, set up a dummy distribution set at the Supplier Site level (that is: 000-000-0000) and setup SLA with the account derivation rules to create the accounting. If you setup the Distribution Set at the Supplier Site level with the correct accounts and also setup the Account Derivation rules in SLA, the Account Derivation rules overrides the Distribution Set accounting and create the accounting in GL; therefore, when querying the invoices in AP, it has a different distribution versus the Journal in GL.
3. Calendar must be setup for transactions.
4. All the required Configuration properties should also be specified.

For more information on Configuration properties, refer to *Chapter 7: Implementing the Financial Management Process Integration Pack.*

Solution Assumptions and Constraints

This integration assumes that the following statements are true:

- OTM sends only approved vouchers for payment.
- OTM creates the vouchers and enqueues them in the AIA_PAYABLEINVOICE_AQ queue based on user defined agents.
- If any errors occur and the voucher does not reach Oracle E-business interface tables, then the AIA Error Handling Framework notifies the user. The user should manually re-submit the transactions that failed. In case that a batch of vouchers is sent in a single transmission, if a single voucher fails, the whole batch fails and should be sent again.
- This integration does not perform any validations and raise errors due to any business validation failure in OTM or in Oracle E-business Suite. For example, if the Oracle E-Business Suite invoice import process rejects the invoice due to a validation error, you should manually correct the data in the Oracle E-Business Suite interface tables and re-run the import process.
- This integration supports only the creation of a list of Payable Invoices. Update and Query of Payable Invoices is not supported in this integration.
- OTM matches the invoices against shipments and sends the approved vouchers to Oracle E-Business Suite AP based on a user-defined agent. Duplicate payment checking is done in OTM.

- OTM only sends single currency invoices for payment. Since the OTM Requester ABCS Service does not validate if the currency is different at the line level and at the header level; OTM must reject the invoices that have different currency at the header and line level.
- An invoice can only belong to one operating unit. Therefore, if there are consolidated invoices with multiple operating units, the payments are made from only one operating unit.
- Payment Terms are set up and maintained in Oracle E-Business Suite AP. OTM does not send the Payment Terms with an invoice; therefore, the Payment Terms will defaulted by Oracle E-Business Suite AP system.
- OTM does not send the invoice due date information to Oracle E-Business AP. Oracle E-Business Suite AP derives the due date of an invoice using a setup of the default terms and date at the Supplier site level. In the case of Auto Pay, the Invoice Received Date in OTM is blank. So, the user must set up the Suppliers Site Payment Terms based on the System Date.
- Payment method is maintained in Oracle E-Business Suite AP and can be overridden at the transaction level.
- Supplier Pay Site is derived by Oracle E-Business Suite AP based on the Supplier Number and the Operating Unit included in the invoice sent by OTM.
- If an Invoice comes into Oracle E-Business AP for an inactive Supplier and/or Supplier Site, Oracle E-Business Suite AP rejects the invoice.
- OTM populates the Reference Number to indicate the Operating Unit with a Reference Qualifier Type as OP_UNIT based on the agents defined to copy this value from Order Release to Shipment and Invoice.
- All invoices are assigned the default invoice type of STANDARD except when there is a negative amount at the voucher level, and then the invoice type is a Credit Memo.
- In the case of consolidated invoices, the parent invoice in OTM is the invoice header in Oracle E-Business Suite AP and the children invoice lines in OTM are the invoice lines in Oracle E-Business Suite AP.
- For a prepayment application, OTM should send a negative line amount and the Oracle AP prepayment invoice number as a reference number in the reference qualifier name PREPAY_INV_NUMBER. This is considered a Prepay Line Type and Oracle E-Business Suite AP applies the prepayment and reduce the total amount. If the user does not put a reference number value in the invoice, the invoice is treated as a negative invoice and a prepayment is not applied.
- Only one prepayment application invoice line is allowed for each invoice. If there is more than one prepayment invoice line in an invoice, it fails within the Oracle E-Business AP application.
- Users should use OTM for cancellations (either reverse, or issuing a Credit Note) instead of using standard Oracle E-Business Invoice Cancellation functionality.
- In the case of consolidated invoices, if a parent invoice has two or more invoices and each invoice has two or more lines, then there are four or more lines and one header in Oracle E-Business AP. For example, if an OTM consolidated invoice has 2 invoices and each invoice has 2 lines of $25 each, then there is an invoice of $100 in Oracle E-Business AP with four lines of $25 each.

Constraints

- The OTM Invoice Number and the Voucher XID together should not be more than 50 characters. Oracle E-Business Suites Invoice Number should be unique and should not be more than 50 characters.

Payable Invoices Integration Details

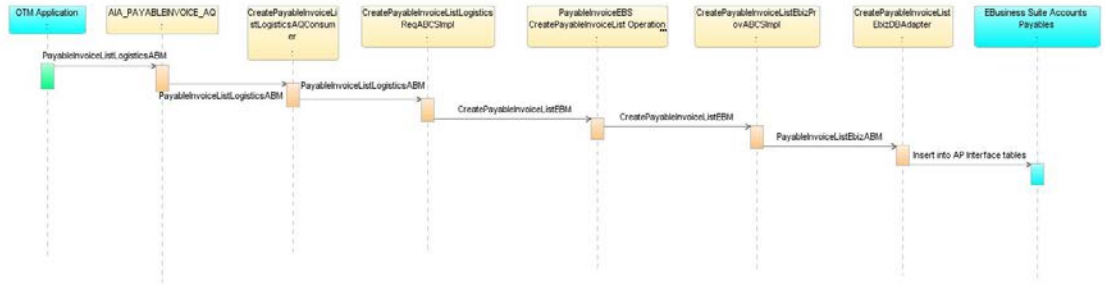
This integration flow uses the following services:

- CreatePayableInvoiceListLogisticsAQConsumer
- CreatePayableInvoiceListLogisticsReqABCS
- PayableInvoiceEBS
- CreatePayableInvoiceListEbizProvABCSImpl
- CreatePayableInvoiceListEbizDBAdapter

Sending Payable Invoices into Oracle E-Business Suite AP

The payable invoices integration flow creates the invoice in Oracle E-Business AP based on the voucher sent from OTM.

This diagram shows the payable invoice flow from OTM to E-Business Suite:



Oracle Transportation Management (Logistics) to Oracle E-business Suite Payable Invoice Flow

When you initiate the process the following events occur:

1. OTM enqueues the messages into the AIA_PAYABLEINVOICE_AQ queue. The CreatePayableInvoiceListLogisticsAQConsumer service dequeues the message s and invokes the CreatePayableInvoiceListLogisticsReqABCSImpl service.
2. The CreatePayableInvoiceListLogisticsReqABCSImpl service transforms the OTM PayableInvoiceListLogisticsABM into the CreatePayableInvoiceListEBM, populates the EBM Header, updates the cross-reference data, and invokes the PayableInvoiceEBS with the CreatePayableInvoiceList operation in Fire and Forget mode.
3. The PayableInvoiceEBS service with the CreatePayableInvoiceList operation routes the messages based on the CAVS flag to either the CreatePayableInvoiceListEbizProvABCSImpl service or the CAVS simulator in an ASYNC FIRE AND FORGET mode.
4. The CreatePayableInvoiceListEbizProvABCSImpl transforms the CreatePayableInvoiceListEBM into the Oracle E-Business Suite PayableInvoiceListEbizABM, and invokes the CreatePayableInvoiceListEbizDBAdapter.

5. The CreatePayableInvoiceListEbizDBAdapter service receives the PayableInvoiceListEbizABM and makes insert calls to the Oracle E-Business Suite Accounts Payable interface table.

Data Requirements

There are no data requirements for the payable invoices process flow.

Oracle E-Business Suite Interfaces

These are the Oracle E-Business Suite interfaces for the payable invoices integration flow:

- The schema is based on the following Oracle E-Business Suite Tables:
    - AP_INVOICES_INTERFACE
    - AP_INVOICE_LINES_INTERFACE

For more information about Oracle E-Business Suite web services, see the following Oracle E-Business Suite references:
Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the Oracle E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 12.1.1 Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

Oracle OTM Interfaces

Oracle Transportation Management uses PayableInvoiceListOTMABM to send approved vouchers for Payment to accounts payable financials system.

- GLogXML.xsd, element – Transmission, subelement - Voucher

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

Core AIA Components

The integration flow uses the following components:

- PayableInvoiceEBO
- CreatePayableInvoiceListEBM
- PayableInvoiceEBS

The core EBO and EBM XSD files can be located by EBO within this parent folder: http://[HOST: PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/.

The core EBS WSDL files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that utilize a particular EBO or EBS.

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* "Using the BSR", Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* "Extensibility for AIA Artifacts".

Integration Services

These are the services delivered with this integration:

- CreatePayableInvoiceListLogisticsAQConsumer
- CreatePayableInvoiceListLogisticsReqABCSImpl
- PayableInvoiceEBS
- CreatePayableInvoiceListEbizProvABCSImpl
- CreatePayableInvoiceListEbizDBAdapter
- UpdatePayableInvoiceListEbizXref
- PayableInvoiceResponseEBS

CreatePayableInvoiceListLogisticsAQConsumer

This ESB service dequeues the InvoiceListLogisticsABM message whenever OTM enqueues a message into AIA_INVOICE_AQ queue. This service takes the PayableInvoiceListLogisticsABM from the wrapper AQ xsd, which contains the entire Transmission element as CLOB. This service invokes the CreateInvoiceListLogisticsReqABCSImpl service.

CreatePayableInvoiceListLogisticsReqABCSImpl

The CreatePayableInvoiceListLogisticsReqABCSImpl is a BPEL process and a single operations service that has the PayableInvoiceEBS as a partner service. This service receives the PayableInvoiceListLogisticsABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the PayableInvoiceListLogisticsABM message from OTM.
- Transforms the PayableInvoiceListLogisticsABM into the CreatePayableInvoiceListEBM. While it is transforming from the ABM to the EBM, cross-references are populated for the:
  - PAYABLEINVOICE_PAYABLEINVOICEID
- Sends the CreatePayableInvoiceListEBM message as an input to the CreatePayableInvoiceList operation in the PayableInvoiceEBS service.

The following DVMs lookups are used by this service:

1. PAYMENTMETHOD_CODE – Domain value mapping for the Payment Method Codes.
2. PAYABLEINVOICE_PAYABLEINVOICELINETYPE – Domain value mapping for the Payable Invoice Line Types.

PayableInvoiceEBS

The PayableInvoiceEBS is an Enterprise Business Service that exposes all the enterprise operations related to the PayableInvoice like Create PayableInvoice, Update PayableInvoice, and so forth. This integration will only use the “CreatePayableInvoiceList” operation. This Enterprise Business Service will route the request to the appropriate provider like the CreatePayableInvoiceListEbizProvABCSImpl or the CAVS based on the filter condition and operations. No transformations are done in this service.

For more information about this EBS, see Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide, “Designing and Developing Enterprise Business Services” and Oracle Application Integration Architecture – Foundation Pack: Concepts and Technologies Guide, “Understanding Enterprise

CreatePayableInvoiceListEbizProvABCSImpl

The CreatePayableInvoiceListEbizProvABCSImpl is a BPEL process, which receives the CreatePayableInvoiceListEBM, transforms the message into the PayableInvoiceEbizABM, and invokes the CreatePayableInvoiceListEbizDBAdapter service.

The following DVMs lookups are used by this service:

1. PAYABLEINVOICE_PAYABLEINVOICETYPE – Domain value mapping for the Invoice Type (that is Standard, Credit Memo).
2. PAYMENTMETHOD_CODE – Domain value mapping for the Payment Method Codes.
3. PAYABLEINVOICE_PAYABLEINVOICELINETYPE – Domain value mapping for the Payable Invoice Line Types.

CreatePayableInvoiceListEbizDBAdapter

This service accepts the PayableInvoiceListEbizABM message from the CreatePaybleInvoiceListEbizProvABCSImpl and inserts the data into the Oracle E-Business Suite AP interface tables.

UpdatePayableInvoiceListEbizXref

The UpdatePayableInvoiceListEbizXref service is a BPEL process. When the payables open interface program successfully imports an invoice, it raises the business event oracle.apps.ap.invoice.import. The subscription to this event calls the UpdatePayableInvoiceListEbizXref service. This service using the UpdatePayableInvoiceListEbizXrefAdapter, fetches the invoice_ids and corresponding AIA GUID, and updates to the PAYABLEINVOICE_PAYABLEINVOICEID cross-reference table.

If you choose not to use this service, you can disable the event subscription in the Oracle E-Business Suite application.

PayableInvoiceResponseEBS

The PayableInvoiceResponseEBS is the EBS used to route all Payable Invoice Response related actions to the requesting application like Create Payable InvoiceResponse, Update Payable InvoiceResponse, Delete Payable InvoiceResponse, and Sync Payable InvoiceResponse. “CreatePayableInvoiceListResponse” is implemented as a part of this integration.

Chapter 5: Describing Process Integration for Receivable Bills

This chapter provides an overview of the process integration for receivable bills and discusses:

- Receivable bills integration flows
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

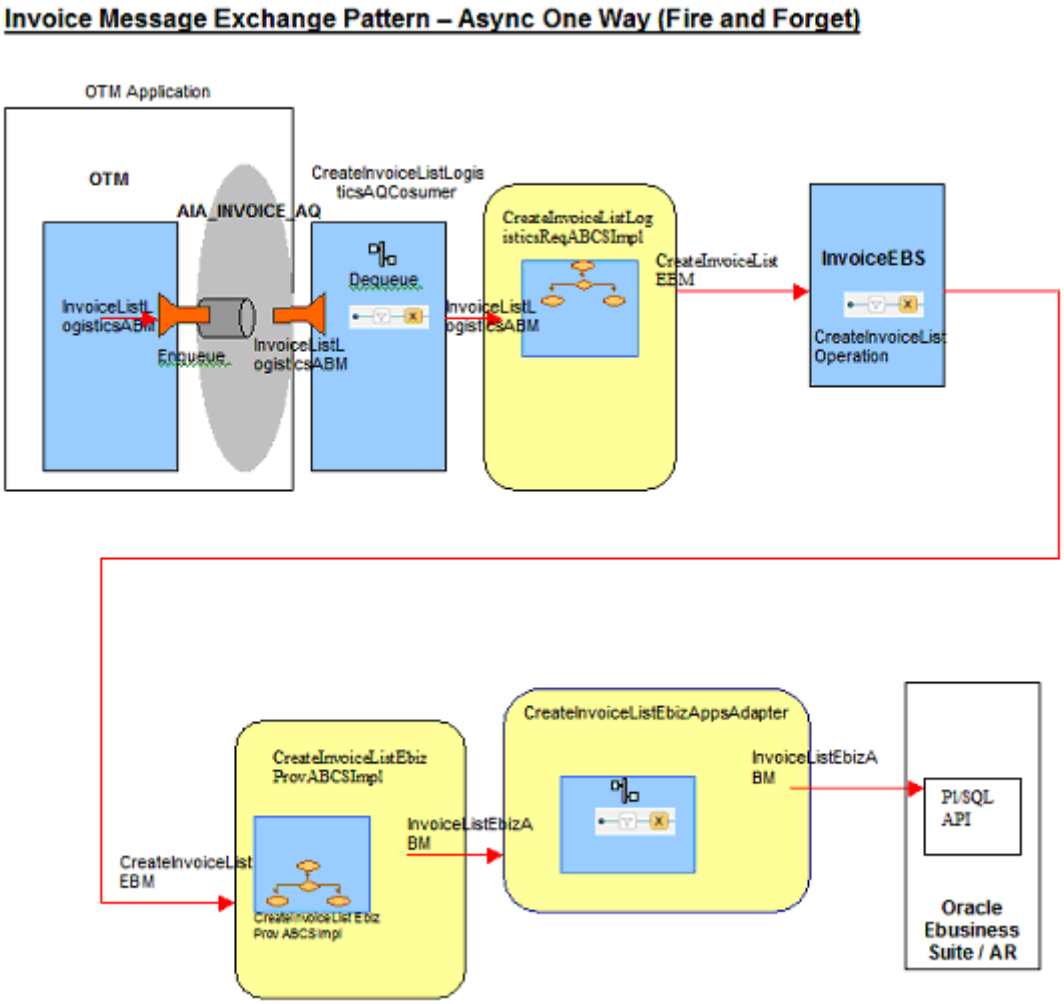
Process Integration for Receivable Bills Overview

The Receivable Bills integration flow allows OTM to manage and bill the sell-side settlement process by approving bills and sending the transaction to the financial application for collection and management of uncollectibles.

The process integration for receivable bills supports the following integration flows:

- Manual Bill: User creates the bill manually based on the sell shipment, OTM approves the bill amount to be received from the customer, and changes the bill status to ISSUED, and sends the transaction using the BillingXML to Oracle E-Business Suite AR.
- Auto Bill: OTM creates a sell shipment, creates a bill based on the sell shipment, approves the bill for the amount to be received from the customer, changes the bill status to ISSUED, and sends the transaction using the BillingXML to Oracle E-Business Suite AR.
- Consolidated Bill: OTM creates a sell shipment, creates a consolidated bill for multiple sell shipments, approves the bill for the amount to be received from the customer, changes the bill status to ISSUED, and sends the transaction using the BillingXML to Oracle E-Business Suite AR.
- Credit Memo: OTM creates a credit memo for over payment, matches it with the original shipment, and creates the bill with the status of PROCESS Hold. The user approves the bill and creates the approved bill. OTM changes the approved bill status to ISSUED, and sends the transaction using the BillingXML to Oracle E-Business Suite AR.

This diagram shows the overall flow for the process integration for the receivable bills:



Receivable bills process integration flow

Prerequisites

These are the prerequisites for the process integration for receivable bills:

1. Customers must be synchronized between Oracle E-Business Suite and OTM. The Logistics Order Management process integration pack provides customer synchronization between Siebel and Oracle E-Business Suite and also between Siebel and OTM.
2. Currency exchange rates must be synchronized between Oracle E-Business Suite and OTM.
3. If you are using Oracle E-Business Suite AR AutoAccounting functionality (an account derivation mechanism), you must define AutoAccounting to specify the general ledger accounts for transactions that you enter manually or import using AutoInvoice. AutoAccounting uses this information to create the default revenue, receivable, freight, tax, unearned revenue, unbilled receivable, bills receivable accounts, and AutoInvoice clearing (suspense) accounts. The default accounting that AutoAccounting creates is considered interim accounting only. Oracle E-Business Suite AR integrates with SLA, which accepts the default accounts that AutoAccounting derives without change. However, you can modify the accounting rules in Subledger Accounting to create accounting that meets your business requirements.
4. You must define AutoAccounting by Operating Unit before you can enter transactions in Receivables.
5. If you are using AutoInvoice, define the grouping rules to indicate how you want to group transaction lines imported by AutoInvoice. For example, to include specific transaction lines on a single transaction, certain attributes must be identical. Oracle E-Business Suite Receivables provides many attributes that you can use to define your grouping rules.
6. Define the invoice line ordering rules for transaction lines that you import into Oracle E-Business Suite AR using AutoInvoice. AutoInvoice uses these rules to order transaction lines when grouping the transactions it creates into invoices, debit memos, and credit memos.
7. Calendar must be setup for transactions.
8. All the required Configuration properties should also be specified.

For more information on Configuration properties, refer to *Chapter 7: Implementing the Financial Management Process Integration Pack.*

Solution Assumptions and Constraints

This integration assumes that the following statements are true:

- OTM sends only approved bills for collection.
- OTM creates the bill and enqueues them in the named queue in the AIA_INVOICE_AQ based on user defined agents.
- If any errors occur in the service layer and the bills do not reach Oracle E-Business Suite interface tables, then the AIA Error Handling Framework notifies the user. The user should manually re-submit the transactions that failed. In case that a batch of bills is sent in a single transmission, if a single bill fails, the whole batch fails and should be sent again.
- This integration does not perform any validations and raise errors due to any business validation failure in OTM or in Oracle E-business Suite. For example, if the Oracle E-Business Suite invoice import process rejects the bill due to a validation error, you should manually correct the data in the Oracle E-Business Suite interface tables and re-run the import process.
- This integration supports only the creation of a list of Receivable Invoices. Update and Query of Receivable Invoices is not supported in this integration.
- OTM matches the bills against shipments and sends the approved bills to Oracle E-Business Suite AR based on an user-defined agent. Duplicate bill checking is done in OTM.
- OTM only sends single currency bills for collection. Since the OTM Requester ABCS Service does not validate if the currency is different at the line level and at the header level; OTM must reject the bills that have different currency at the header and line level.
- A bill can only belong to one operating unit. Therefore, if there are consolidated bills with multiple operating units, the collections are made for only one operating unit.
- OTM sends only bills and Credit Memos to Oracle E-business Suite AR, other type of transactions - that is Debit Memos, must be created in Oracle E-business Suite.
- In Oracle E-Business Suite AR, all imported bills are assigned the default transaction type (Invoice). When there is negative amount, then the bill will have a transaction type of Credit Memo.
- When there are adjustments to a bill, a new bill with a different invoice number must be created.
- Payment method and terms are going to be maintained in Oracle E-Business Suite AR; therefore, imported bills will use the defaulted payment method and terms for the customer.
- If there is no value in the ServiceProviderGID in the OTM XML, the default Legal Entity for the Operating Unit will be used as the service provider.

- OTM populates the Reference Number to indicate the Operating Unit with a Reference Qualifier Type as OP_UNIT based on the agents defined to copy this value from Order Release to Shipment and Bill.
- In the case of consolidated bills, the parent bill in OTM is the bill header in Oracle E-Business Suite AR and the children bill lines in OTM are the bill lines in Oracle E-Business Suite AR.
- All consolidated bills in AR must have the same due date.
- All bills within the consolidated bill must contain the same currency.

Constraints:

- An AR bill number should be no longer than 20 characters. Hence, OTM should ensure to send a bill with a bill number with less than 20 characters, else the process fails.

Account Receivables Integration Details

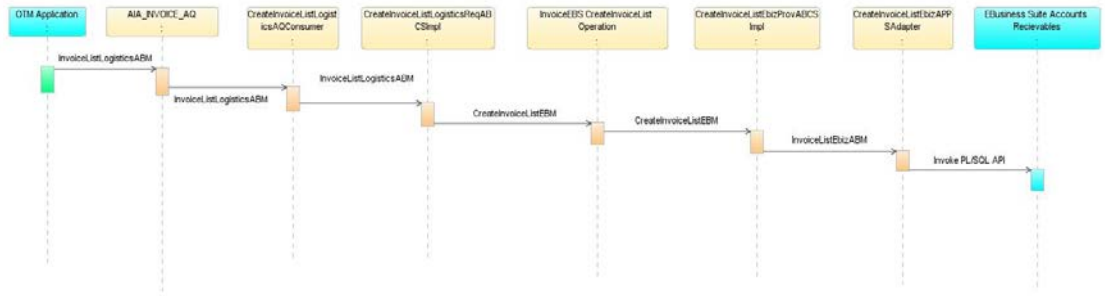
This integration flow uses the following services:

- CreateInvoiceListLogisticsAQConsumer
- CreateInvoiceListLogisticsReqABCSImpl
- InvoiceEBS
- CreateInvoiceListEbizProvABCSImpl
- CreateInvoiceListEbizAppsAdapter
- UpdateInvoiceListEbizXref
- InvoiceResponseEBS

Sending Receivable Bills into Oracle E-Business Suite AR

The receivable bills process integration flow creates the bill in Oracle E-Business AR based on the customer bill sent by OTM.

This diagram shows the receivable bills process integration:



Oracle Transportation Management (Logistics) to Oracle E-Business Suite Receivable Bill Flow

When you initiate the process the following events occur:

1. OTM enqueues the messages into the AIA_INVOICE_AQ queue. This service dequeues the messages and invokes the CreateInvoiceListLogisticsReqABCSImpl service.
2. The CreateInvoiceListLogisticsReqABCSImpl service transforms the OTM CreateInvoiceListLogisticsABM into the CreateInvoiceListEBM, populates the EBM Header, updates the cross-reference data, and invokes the InvoiceEBS with the CreateInvoiceList operation in Fire and Forget mode.
3. The InvoiceEBS service with the CreateInvoiceList operation routes the messages based on the CAVS flag to either the CreateInvoiceListEbizProvABCSImpl service or the CAVS simulator in an ASYNC FIRE AND FORGET mode.
4. The CreateInvoiceListEbizProvABCSImpl transforms the CreateInvoiceListEBM into the Oracle E-Business Suite InvoiceListEbizABM, and invokes the CreateInvoiceListEbizAppsAdapter.
5. The CreateInvoiceListEbizAppsAdapter service receives the InvoiceListEbizABM, sets the apps context, and invokes the Oracle E-Business Suite AR PL/SQL API - AR_EBI_INVOICE_PUB. ar_invoice_submission.

Data Requirements

There are no data requirements for accounts receivables process.

Oracle E-Business Suite Interfaces

These are the Oracle E-Business Suite interfaces for the receivable bills integration flow:

- The schema is based on the following Oracle E-Business Suite API:
- AR_EBI_INVOICE_PUB.AR_INVOICE_SUBMISSION

For more information about Oracle E-Business Suite web services, see the following Oracle E-Business Suite references:
Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the Oracle E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 12.1.1 Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

Oracle OTM Interfaces

Oracle Transportation Management uses InvoiceListLogisticsABM to send approved Bills for collection to accounts Receivable financials system.

GLogXML.xsd, element – Transmission, sub-element - Billing

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

Core AIA Components

The integration flow uses the following components:

- InvoiceEBO
- CreateInvoiceListEBM
- InvoiceEBS

The core EBO and EBM XSD files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/.

The core EBS WSDL files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that utilize a particular EBO or EBS.

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* "Using the BSR", Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* "Extensibility for AIA Artifacts".

Integration Services

These are the services delivered with this integration:

- CreateInvoiceListLogisticsAQConsumer
- CreateInvoiceLogisticsReqABCSImpl
- InvoiceEBS
- CreateInvoiceListEbizProvABCSImpl
- CreateInvoiceListEbizAppsAdapter
- UpdateInvoiceListEbizXref
- InvoiceResponseEBS

CreateInvoiceListLogisticsAQConsumer

This ESB service is implemented to route the message whenever OTM enqueues a message into the AIA_INVOICE_AQ queue. This service takes the BillingXML element from the wrapper AQ xsd and invokes the CreateInvoiceListLogisticsReqABCSImpl service.

CreateInvoiceListLogisticsReqABCSImpl

The CreateInvoiceListLogisticsReqABCSImpl is a BPEL process and a single operations service that has the InvoiceEBS as a partner service. This service receives the CreateInvoiceListLogisticsABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the CreateInvoiceListLogisticsABM message from OTM. The cross-reference table is populated for the unique identifier at the Receivable Invoice Header level.
- Transforms the CreateInvoiceListLogisticsABM into the CreateInvoiceListEBM. While it is transforming from the ABM to the EBM, cross-references are looked up for the:
  - INVOICE_INVOICEID
- Sends the CreateInvoiceListEBM message as an input to the CreateInvoiceList operation in the InvoiceEBS service.

The INVOICE_INVOICELINETYPE – Domain value mapping for the Receivable Invoice Line Type DVM is used by this service.

InvoiceEBS

The InvoiceEBS is an Enterprise Business Service that exposes all the enterprise operations related to the Invoice like Create Invoice, Update Invoice, and so forth. This integration will only use the “CreateInvoiceList” operation. This Enterprise Business Service will route the request to the appropriate provider like the CreateInvoiceListEbizProvABCSImpl or the CAVS based on the filter condition and operations. No transformations are done in this service.

For more information about this EBS, see Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide, “Designing and Developing Enterprise Business Services” and Oracle Application Integration Architecture – Foundation Pack: Concepts and Technologies Guide, “Understanding Enterprise”

CreateInvoiceListEbizProvABCSImplThe CreateInvoiceListEbizProvABCSImpl is a BPEL process, which receives the CreateInvoiceListEBM, transforms the message into the InvoiceListEbizABM, and invokes the CreateInvoiceListEbizAppsAdapter service.

The following DVMs lookups are used by this service:

1. INVOICE_INVOICETYPE – Domain value mapping for the Invoice Type (Standard, Credit Memo, and so forth.).
2. INVOICE_INVOICELINETYPE – Domain value mapping for the Receivable Invoice Line Types.

CreateInvoiceListEbizAppsAdapter

This service accepts the InvoiceListEbizABM message from CreateInvoiceListEbizProvABCSImpl. It sets the apps context and invokes the Oracle E-Business Suite PL/SQL “API AR_EBI_INVOICE_PUB.ar_invoice_submission”.

UpdateInvoiceListEbizXref

The UpdateInvoiceListEbizXref service is a BPEL process. When the Receivables AutoInvoice Master Program successfully imports an invoice, it raises a business event oracle.apps.ar.batch.AutoInvoice.run. The subscription to this event calls the UpdateInvoiceListEbizXref service. This service using the UpdateInvoiceListEbizXrefAdapter, fetches the invoice_ids and corresponding AIA GUID, and updates the cross-reference table.

If customers choose not to use this service, they can disable the event subscription in Oracle E-Business Suite application.

InvoiceResponseEBS

The InvoiceResponseEBS is the EBS used to route all Invoice Response related actions to the requesting application like Create InvoiceResponse, Update InvoiceResponse, Delete InvoiceResponse, and Sync InvoiceResponse. “CreateInvoiceListResonse” is implemented as a part of this integration.

Chapter 6: Describing Process Integration for Accruals and Reversals

This chapter provides an overview of the process integration for accruals and reversals discusses:

- Accruals and reversals integration details
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

Process Integration for Accruals and Reversals Overview

The accruals and reversals integration flow allows OTM to send accruals and reversals transactions to the Oracle E-Business Suite General Ledger so that the accounting entries are generated in the General Ledger.

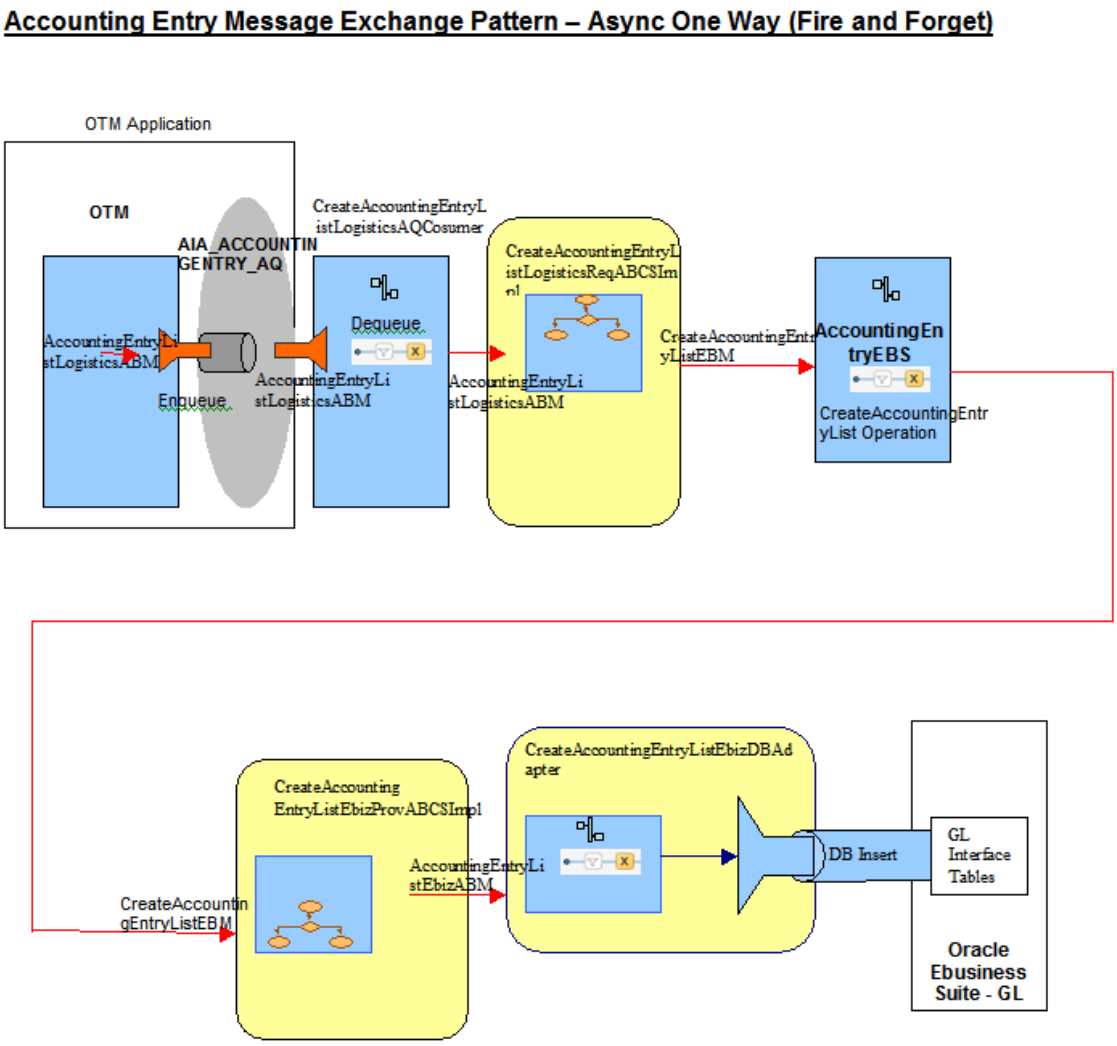
The process integration for accruals and reversals supports the following integration flows:

- Cost Accrual: OTM receives an order, plans a buy shipment, allocates the shipment, creates the accrual, and sends the transaction using the AccrualXML to the Oracle E-Business Suite General Ledger. Once the shipment is delivered and completed, OTM creates a voucher for payment and sends it to Oracle E-Business Suite AP. The accounting for the invoice in AP will also trigger the accrual reversal transaction in the General Ledger.
- Updated Cost Accrual: OTM receives an order, plans a buy shipment, allocates the shipment, creates the accrual, and sends the transaction using the AccrualXML to the Oracle E-Business Suite General Ledger. Then, the accessorial charge is added or changed for the shipment; therefore, OTM re-allocates the cost and creates a transaction that is sent using the VoucherXML to the Oracle E-Business Suite General Ledger. Once the shipment is delivered and completed, OTM creates a voucher for payment and sends it to Oracle E-Business Suite AP. The accounting for the invoice in AP will also trigger the accrual reversal transaction in the General Ledger.
- Recognize Revenue: OTM receives an order, plans a sell shipment, allocates the shipment, creates the accrual, and sends the transaction using the AccrualXML to the Oracle E-Business Suite General Ledger. Once the shipment is delivered and completed, OTM creates a bill for collection and sends it to Oracle E-Business Suite AR. The

accounting for the bill in AR will also trigger the accrual reversal transaction in the General Ledger.

- Updated Revenue Recognition: OTM receives an order, plans a sell shipment, allocates the shipment, creates the accrual, and sends the transaction using the AccrualXML to the Oracle E-Business Suite General Ledger. Then, the accessorial charge is added or changed for the shipment; therefore, OTM re-allocates the cost and creates a transaction that is sent using the VoucherXML to the Oracle E-Business Suite General Ledger. Once the shipment is delivered and completed, OTM creates a bill for collection and sends it to Oracle E-Business Suite AR. The accounting for the bill in AR will also trigger the accrual reversal transaction in the General Ledger.

This diagram shows the overall flow for process integration flow for accruals and reversals:



Accruals and reversals process integration flow

Prerequisites

These are the prerequisites for the process integration for accruals and reversals:

1. Currency exchange rates must be synchronized between Oracle E-Business Suite and OTM.
2. The Oracle E-Business Suite Journal Import process will use the Interface Data Transformer (IDT) functionality to derive the accounting entries for the accruals and reversals. IDT is a lightweight ETL tool that can be used to transform data in the GL interface table. As part of the IDT process several steps must be done in order to setup IDT:
    a. Create PL/SQL functions, if any that you want to use in an IDT transformation rule set and register the functions in the meta-data structure.
    b. Create value sets, if any, that you want to use in an IDT Transformation Rule Set.
    c. Create lookup tables, if any, that you want to use in an IDT Transformation Rule Set and register the tables in the meta-data structure.
    d. Define Transformation Rule Sets. IDT rules should be set up to look at the Perspective as well as the Is Reversal Flag in order to create the logic as to whether the entry is a Debit or a Credit. Based on the Perspective, IDT should be set up to create the accounting for the balancing entry. The same goes for the Delta costs.
    e. Run Transformation Rule Sets by launching the Program, GL Interface Data Transformer, either stand-alone or along with Journal Import.
3. If you want Journal Import to assign sequential numbers to your accrual entries, enable sequential numbering, specifying Automatic as both your numbering and document generation method.
4. Disable dynamic insertion. Journal Import runs much faster when it does not have to create new account combinations dynamically.
5. Calendar must be setup for transactions.
6. All the required Configuration properties should also be specified.

For more information on Configuration properties, refer to *Chapter 7: Implementing the Financial Management Process Integration Pack.*

Solution Assumptions and Constraints

This integration assumes that the following statements are true:

- OTM creates the accruals and enqueues them in the AIA_ACCOUNTINGENTRY_AQ queue based on a scheduled Send Integration in Process Management.
- If any errors occur in the service layer and the accruals do not reach Oracle E-Business Suite interface tables, then the AIA Error Handling Framework notifies the user. The user should manually re-submit the transactions that failed. In case that a batch of bills is sent in a single transmission, if a single bill fails, the whole batch fails and should be sent again.
- This integration does not perform any validations and raise errors due to any business validation failure in OTM or in Oracle E-business Suite. For example, if the Oracle E-Business Suite journal import process rejects the accrual due to a validation error, you should manually correct the data in the Oracle E-Business Suite interface tables and re-run the import process.
- This integration supports only the creation of a list of Accounting Entries (Accruals). Update and Query of Accounting Entries is not supported in this integration.
- For each accrual coming from OTM in Oracle E-Business Suite, two accrual lines are created in GL Interface table, one as a credit line, and one as a debit line. You must use the IDT tool to derive the account values based on the Perspective (BUY Vs SELL), the is_reversal flag and if it is delta/base cost.
- The credit and debit accounts of the accruals are derived by IDT based on the information sent by OTM.
- IDT will derive the period name and ledger ID.
- OTM should ensure to send the Accrual only once. If OTM sends the same Accrual ID more than once, the data is imported successfully to GL and separate Journal Batches are created. You must review the journals for correct accounting and reverse the incorrect entries.

Accruals and Reversals Integration Details

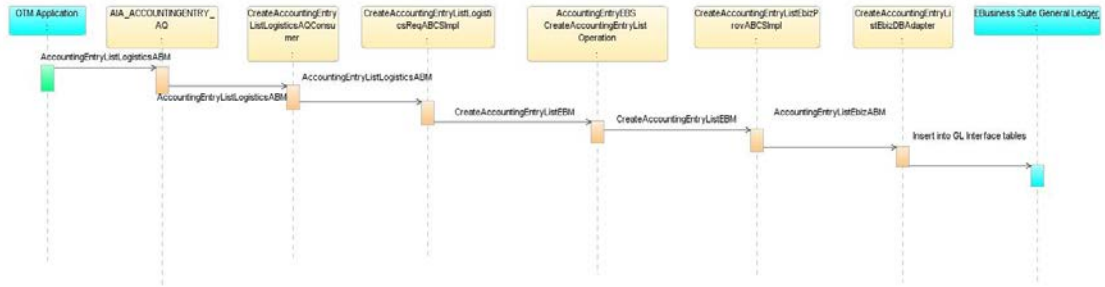
This integration flow uses the following services:

- CreateAccountingEntryListLogisticsAQConsumer
- CreateAccountingEntryListLogisticsReqABCSImpl
- AccountingEntryEBS
- CreateAccountingEntryListEbizProvABCSImpl
- CreateAccountingEntryListEbizDBAdapter
- AccountingEntryResponseEBS

Accruals and Reversals Integration Details

The accruals and reversals integration flow creates the accrual transactions in Oracle E-Business GL based on the accruals/reversals sent from OTM.

This diagram shows the accruals and reversals flow from OTM to E-Business Suite:



Oracle Transportation Management (Logistics) to Oracle E-business Suite General Ledger Accounting Entry Flow

When you initiate the process the following events occur:

- OTM sends the messages into the AIA_ACCOUNTINGENTRY_AQ queue based on a scheduled Send Integration in Process Management.
- The CreateAccountingEntryListLogisticsAQConsumer service dequeues the messages and invokes the CreateAccountingEntryListLogisticsReqABCSImpl service.
- The CreateAccountingEntryListLogisticsReqABCSImpl service transforms the Accrual ABM into the CreateAccountingEntryListEBM, populates the EBM Header, updates the cross-reference data, and invokes the AccountingEntryEBS with the CreateAccountingEntryList operation in Fire and Forget mode.
- The AccountingEntryEBS service with the CreateAccountingEntryList operation routes the messages based on the CAVS flag to either the CreateAccountingEntryListEbizProvABCSImpl service or the CAVS simulator in an ASYNC FIRE AND FORGET mode.

- The CreateAccountingEntryListEbizProvABCSImpl transforms the CreateAccountingEntryListEBM into the Oracle E-Business Suite CreateAccountingEntryListEbizABM and invokes the CreateAccountingEntryListEbizDBAdapter service.
- The CreateAccountingEntryListEbizDBAdapter service receives the AccountingEntryListEbizABM and makes insert calls to the Oracle E-Business Suite General Ledger interface table.

Data Requirements

There are no data requirements for the accruals and reversals process flow.

Oracle E-Business Suite Interfaces

These are the Oracle E-Business Suite interfaces for the accruals and reversals integration flow:

- The schema is based on the following Oracle E-Business Suite Tables:
    - GL_INTERFACE

For more information about Oracle E-Business Suite web services, see the following Oracle E-Business Suite references:
Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the Oracle E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 12.1.1 Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

Oracle OTM Interfaces

Oracle Transportation Management uses the AccountingEntryListLogisticsABM to send the estimated cost and revenues to any financial systems General Ledger for accounting.

GLogXML.xsd, element – Transmission, sub-element - Accrual.

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

Core AIA Components

The integration flow uses the following components:

- AccountingEntryEBO
- AccountingEntryListEBM
- AccountingEntryEBS

The core EBO and EBM XSD files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/.

The core EBS WSDL files can be located by EBO within this parent folder: http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that utilize a particular EBO or EBS.

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* “Using the BSR”, Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide,* “Extensibility for AIA Artifacts”.

Integration Services

These are the services delivered with this integration:

- CreateAccountingEntryListLogisticsAQConsumer
- CreateAccountingEntryListLogisticsReqABCSImpl
- AccountingEntryEBS
- CreateAccountingEntryListEbizProvABCSImpl
- CreateAccountingEntryListEbizDBAdapter
- AccountingEntryResponseEBS

CreateAccountingEntryListLogisticsAQConsumer

This ESB service is implemented to route the message whenever OTM enqueues a message into the AIA_ACCOUNTINGENTRY_AQ queue. This service takes the AccrualXML from the wrapper AQ xsd and invokes the CreateAccountingEntryListLogisticsReqABCSImpl service.

CreateAccountingEntryListLogisticsReqABCSImpl

The CreateAccountingEntryListLogisticsReqABCSImpl is a BPEL process and a single operations service that has the AccountingEntryEBS as a partner service. This service receives the CreateAccountingEntryListLogisticsABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the AccrualABM message from OTM. The cross-reference table is populated for the unique identifier of the Accounting Entry element.
- Transforms the AccrualABM into the CreateAccountingEntryListEBM. While it is transforming from the ABM to the EBM, cross-references are looked up for the:
  - ACCOUNTINGENTRY_ ACCOUNTINGENTRY ID
- Sends the CreateAccountingEntryListEBM message as an input to the CreateAccountingEntry operation in the AccountingEntryEBS service.

AccountingEntryEBS

The AccountingEntryEBS is an Enterprise Business Service that exposes all the enterprise operations related to the AccountingEntry like Create AccountingEntry, Update AccountingEntry, and so forth. This integration will only use the “CreateAccountingEntryList” operation. This Enterprise Business Service will route the request to the appropriate provider like the CreateAccountingEntryListEbizProvABCSImpl or the CAVS based on the filter condition and operations. No transformations are done in this service.

For more information about this EBS, see Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide, “Designing and Developing Enterprise Business Services” and Oracle Application Integration Architecture – Foundation Pack: Concepts and Technologies Guide, “Understanding Enterprise

CreateAccountingEntryListEbizProvABCSImpl

The CreateAccountingEntryListEbizProvABCSImpl is a BPEL process, which receives the CreateAccountingEntryListEBM, transforms the message into the CreateAccountingEntryListABM, and invokes the CreateAccoutingEntryListEbizDBAdapter service.

The following DVMs lookups are used by this service:

1. ACCOUNTINGENTRY_ACCOUNTINGENTRYTYPE – Domain value mapping for the Accrual Type (that is Actual, Budget, and so forth).
2. ACCOUNTINGENTRY_JOURNALCATCODE – Domain value mapping for the Journal Category Code (that is Accrual, Adjustment, etc).

CreateAccountingEntryListEbizDBAdapter

This service accepts the AccountingEntryListABM, message from the CreateAccountingEntryListEbizProvABCSImp and inserts the data into the GL_INTERFACE table in Oracle E-business Suite.

AccountingEntryResponseEBS

The AccountingEntryResponseEBS is the EBS used to route all AccountingEntry Response related actions to the requesting application like Create AccountingEntryResponse, Update AccountingEntryResponse, Delete AccountingEntryResponse, and Sync AccountingEntryResponse. “CreateAccountingEntryResponse” is implemented as a part of this integration.

Chapter 7: Describing Process Integration for Customer Objects Synchronization

This chapter provides an overview of the process integration for Customer Objects Synchronization. It discusses the following:

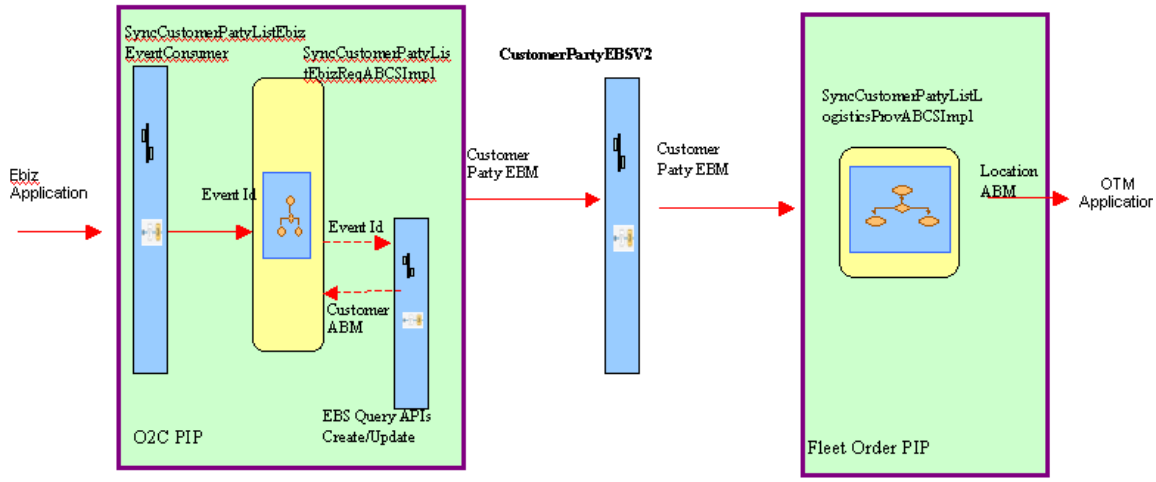
- Customer Objects Synchronization Overview
- Data requirements
- Oracle E-Business Suite interfaces
- OTM interfaces
- Core AIA components
- Integration services

Process Integration for Customer Objects Synchronization - Overview

The Customer Objects Synchronization integration supports the following operations and corresponding synchronization of Customer records from Oracle E-Business Suite (EBS) to Oracle Transportation Management (OTM):

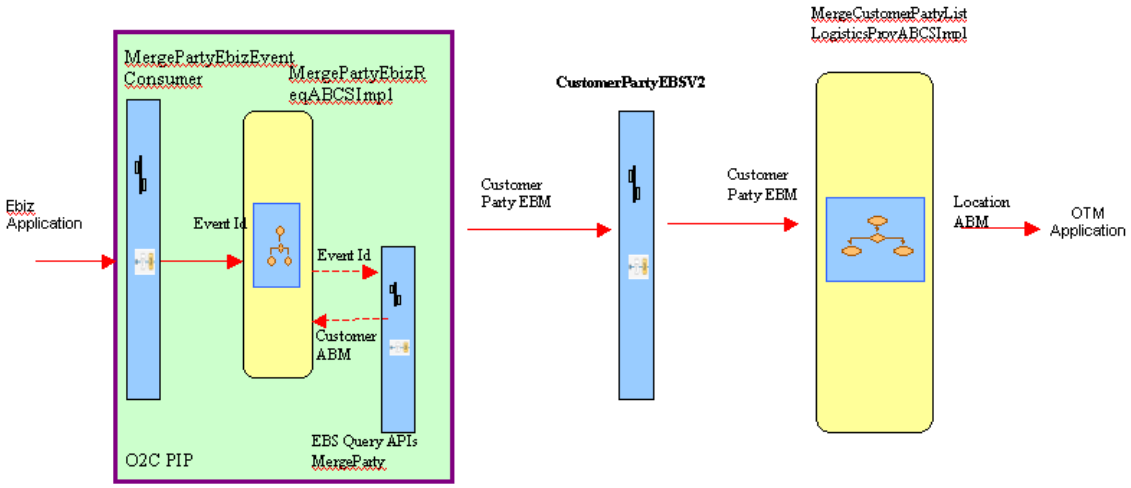
- Sync Customer: Defines the ability to synchronize the new or updated records from EBS to OTM. Sync represents a single service to perform either a CREATE or UPDATE call depending on the existence of the customer in the source and target applications.
- Merge Customer: When customers are merged in Oracle EBS and are of the designated type, the data is synchronized to OTM. The types of mergers that can take place in Oracle EBS are
    - Duplicate records are created for the same account/location and merged, making one inactive and that reverts to the above description
    - Two or more companies merge. As the result, there will be a losing account and a winning account. All locations for the losing account (corporation in OTM) are modified to refer to the winning account. *(Can we use "obsolete and active" or something else instead of "losing and winning"?)*
- Inactivate Customer: When in Oracle EBS an account is inactivated, that is recorded in OTM. When customer locations are made inactive the date of inactivation is recorded on the location within OTM. If you plan to implement this solution, you need to decide how exactly this information should be used in OTM if at all (setting a status, placing orders on hold, and so on).

This diagram shows the Customer Flow – Sync Operation:



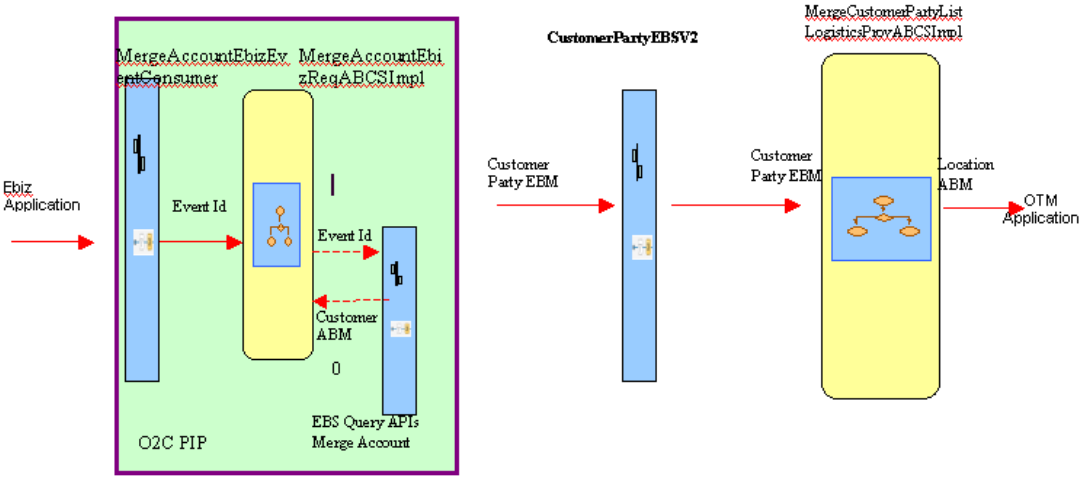
Customer Flow – Sync Operation

This diagram shows the Customer Flow – Merge Party Operation:



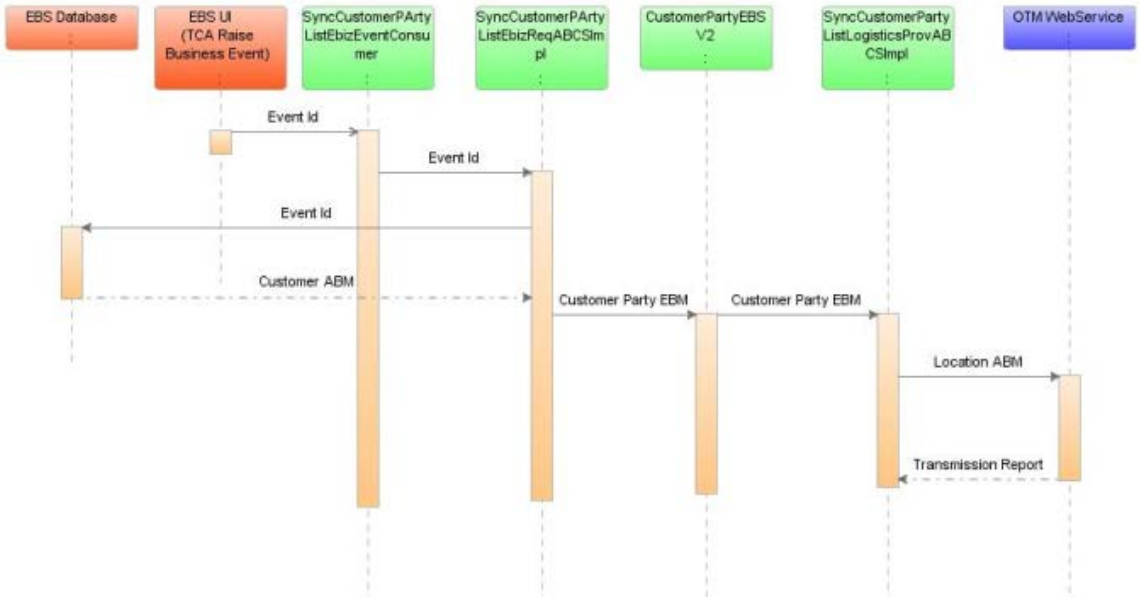
Customer Flow – Merge Party Operation

This diagram shows the Customer Flow – Merge Account Operation:



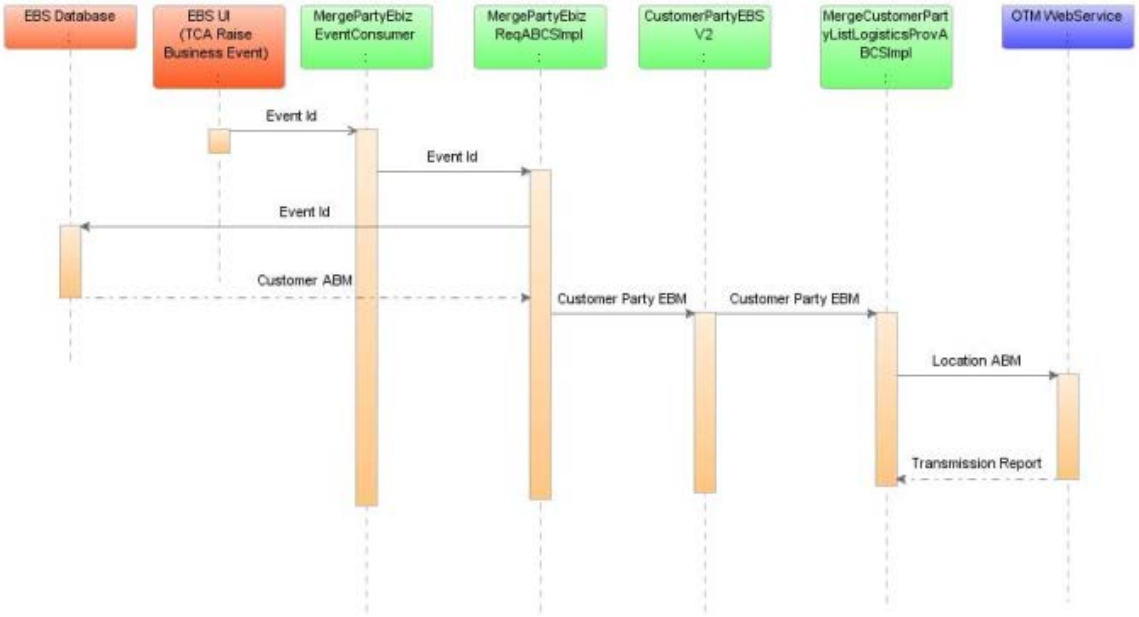
Customer Flow – Merge Account Operation

This diagram shows the sequence for incremental changes in the Customer Party Sync:



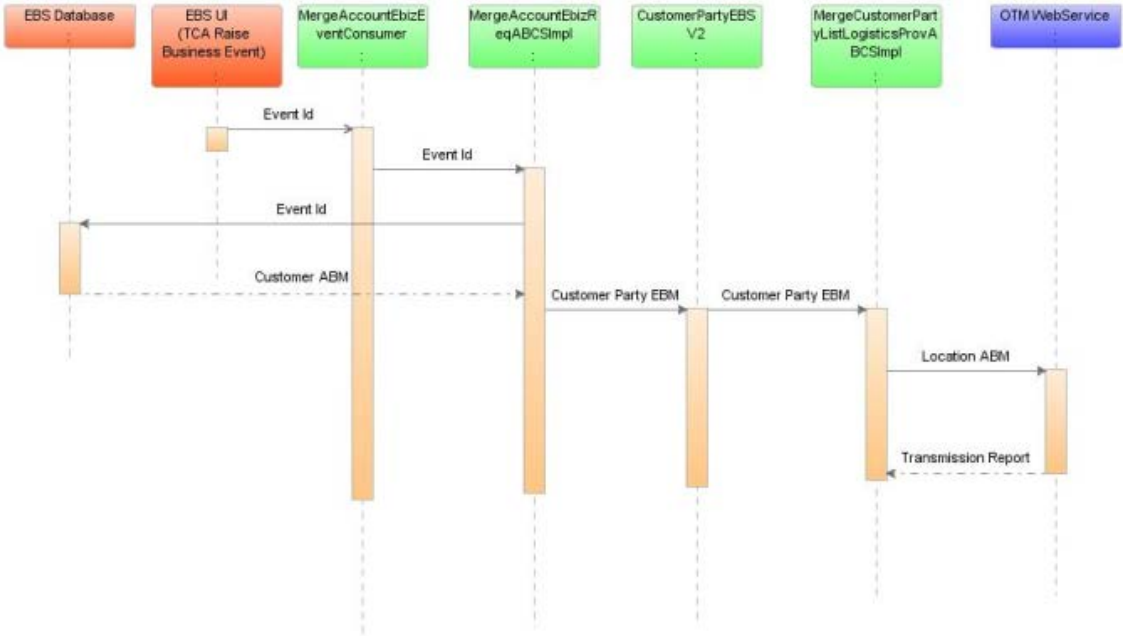
Sequence diagram for incremental changes in the Customer Party sync

This diagram shows the sequence for incremental changes in the Customer Party Merge:



Sequence diagram for incremental changes in the Customer Party Merge

This diagram shows the sequence for incremental changes in the Account Merge:



Sequence diagram for incremental changes in the Account Merge

Installation

The following services from O2C are available:

- SyncCustomerPartyListEbizEventConsumer
- MergeAccountEbizEventConsumer
- SyncCustomerPartyListEbizReqABCSImpl
- CustomerPartyEBSV2
- SyncCustomerPartyListLogisticsProvABCSImpl
- MergeAccountEbizReqABCSImpl
- MergePartyEbizReqABCSImpl
- MergeCustomerPartyListLogisticsProvABCSImpl
- CreatePayableInvoiceLogisticsReqABCSImpl
- QueryCustomerPartyListEbizCreateAdapter
- QueryCustomerPartyListEbizUpdateAdapter
- QueryCustomerPartyEbizAdapter
- MergeAccountEbizEventConsumer
- MergePartyEbizEventConsumer
- MergeAccountEbizReqABCSImpl
- MergePartyEbizReqABCSImpl
- TransformAppContextEbizService
- QueryMergeAccountEbizAdapter
- QueryPartyMergeEbizAdapter
- QueryMergeOrgCustEbizAdapter
- QueryRelatedOrgCustEbizAdapter

Data Requirements

Populate the ORGANIZATION_ID transfer table with valid EBIZ_01, COMMON and OTM_01 Columns.

Solution Assumptions and Constraints

This integration assumes that the following statements are true:

- Only Parties of type ORGANIZATION are synchronized into OTM.
- Delete for the accounts (customers) is not covered in the synchronization.
- In case if any error occurs in the service layer and the customer message does not reach target application, then AIA Error Handling Framework will be invoked and that will notify the administrator. The administrator should manually re-submit that transmission at various places that failed for re-processing.
- This integration will not validate and raise errors due to any business validation failure in OTM or EBS Suite.
- O2C PIP code will take care of the requestor transformation (from EBS to EBO) and Fleet Order PIP code will take care of OTM provider (EBO to OTM) transformation. These code segments will be used as is and no changes are expected in this design.
- The cross references will be populated based on the identifiers passed from main transformation to OTM. If implementers want to pass a different value to the OTM identifier, then transformations extensibility can be used to update the cross reference.

Constraints:

- Since majority of the artifacts for this flow are re-used as is from other PIP development teams, there is little scope for any of further enhancements/major bug fixes in those artifacts.

Oracle E-Business Suite Interfaces

For more information on E-Business Suite WSDL and schema definition, see Customer Hub MDM PIP documentation.

For more information about EBS web services, see the following E-Business Suite references: E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support under the E-Business Suite Information Center,
Oracle Integration Repository located at http://irep.oracle.com, Oracle Applications Release 11.5.10+ Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

OTM Interfaces

The OTM provides an interface through a web service to connect to its application. This connectivity will be established as a partner link in the Provider Service. The Logistics web service on being called will immediately return an Acknowledgement with a transmission number. Once the processing is complete, it will then send a Transmission Report back indicating the success or the failure.

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide.*

Core AIA Components

The integration flow uses the following components:

- CustomerPartyEBO
- CustomerPartyEBM

The core EBO and EBM XSD files can be located by EBO within the http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ parent folder. The core EBS WSDL files can be located by EBO within the http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ parent folder.

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that utilize a particular EBO or EBS.

For more information, see *Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide,* “Using the BSR”, using the BSR UI to View Integration Scenarios.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developers Guide, “Extensibility for AIA Artifacts”.

Integration Services

These are the services delivered with this integration:

- CustomerPartyEBSV2
- CustomerPartyResponseEBSV2
- MergeCustomerPartyListLogisticsProvABCSImpl

CustomerPartyEBSV2

CustomerPartyEBSV2 is the Enterprise Business Service to route all Location related actions such as Create Customer, Update Customer, Delete Customer, and Sync Customer. The ESB service routes to SyncCustomerPartyListLogisticsProvABCSImpl in case of Create and Update operations of Customer. The ESB service routes to MergeCustomerPartyListLogisticsProvABCSImpl in case of Merge operations of Customer. The ESB service routes to CAVS based on the filter condition and operation.

CustomerPartyResponseEBSV2

CustomerPartyResponseEBSV2 is the Enterprise Business Service to route all Customer related actions such as Create Customer, Update Customer, Delete Customer, and Sync Customer.

The ESB service routes the response message to MergeAccountEbizReqABCSImpl in case of Merge of Customer Accounts. The ESB service routes to CAVS based on the filter condition and operation.

MergeCustomerPartyListLogisticsProvABCSImpl

MergeCustomerPartyListLogisticsProvABCSImpl is a BPEL Process which receives SyncCustomerPartyListEBM as input from CustomerPartyEBSV2. This message is transformed to LogisticsABM. Cross-reference values are populated here. SyncCustomerPartyListEBM is transformed into CustomerPartyLogisticsABM and then the LogisticsWebService is invoked with this transformed ABM. Then the instance Asynchronously waits for TransmissionReport from OTM. If the Transaction is Successful, then Cross Reference values are populated otherwise AIAAsyncErrorHandlingBPELProcess is invoked with the Error Message.

Chapter 8: Implementing the Financial Management Process Integration Pack

This chapter discusses how to:

- Set up participating applications
- Set up Organizations
- Set up cross-references for Oracle E-Business Suite Entities
- Perform an initial load of Currency Exchange Rates
- Perform an initial load of Suppliers
- Identify cross-references
- Describe domain value maps
- Set up configuration properties
- Handle errors
- EBO Implementation Maps (EIMs)

Oracle E-Business Suite and OTM must be set up in order for the financial process integration pack to work properly. The following sections describe these setups in detail.

Set Up Participating Applications

This section discusses setting up:

- Oracle Transportation Management
- Oracle E-Business Suite

Oracle Transportation Management

Before using this integration, you must set up the Oracle Transportation Management, In addition OTM uses the following qualifiers for this integration:

1. Suppliers Integration Flow

   a. ServiceProviderAliasQualifierXid = VENDOR_NAME_ALT; this qualifier value contains the Alternate Vendor Name.

   b. LocationRefnumXid = INACTIVE; this qualifier value contains the Inactive Date of Supplier / Site.

   c. LocationRefnumXid = SUPPLIER_SITE_ID; this qualifier value contains the Site Id.

2. Payable Invoices Integration Flow

   a. ServiceProviderAliasQualifierXID = GLOG; this qualifier value contains the Supplier Number or Supplier Site Number (based on sync supplier site profile).

   b. ServiceProviderAliasQualifierXID = SUPPLIER_ID; this qualifier value contains the Supplier Number (based on sync supplier site profile).

   c. InvoiceRefNumQualifierXID = OP_UNIT; this qualifier value contains the AIA GUID That is ORGANIZATION_ID.COMMON value.

   d. InvoiceRefNumQualifierXID = PREPAY_INV_NUMBER; this qualifier value contains the E-Business Prepayment Invoice Number

   e. InvolvedPartyQualifierXID = REMIT-TO; this qualifier value contains the Remit to Supplier Number

3. Receivable Invoices Integration Flow

   a. InvoiceRefNumQualifierXID = OP_UNIT; this qualifier value contains the AIA GUID that is ORGANIZATION_ID.COMMON value.

   b. InvolvedPartyQualifierXID = BILL-TO; this qualifier value contains the Bill to Customer Party ID.

   c. InvolvedPartyQualifierXID = CUSTOMER; this qualifier value contains the Ship to Customer Party ID.

4. Accruals and Reversals Integration Flow

   a. ReleaseRefNumQualifierXID = OP_UNIT; this qualifier value contains the AIA GUID That is ORGANIZATION_ID.COMMON value.

For more information, see the *Oracle Transportation Management User Guide*.

Set up External Systems

External systems should be defined and set up in Oracle Transportation Management for each of the flow with the queue name as following.

a. AIA_PAYABLEINVOICE_AQ

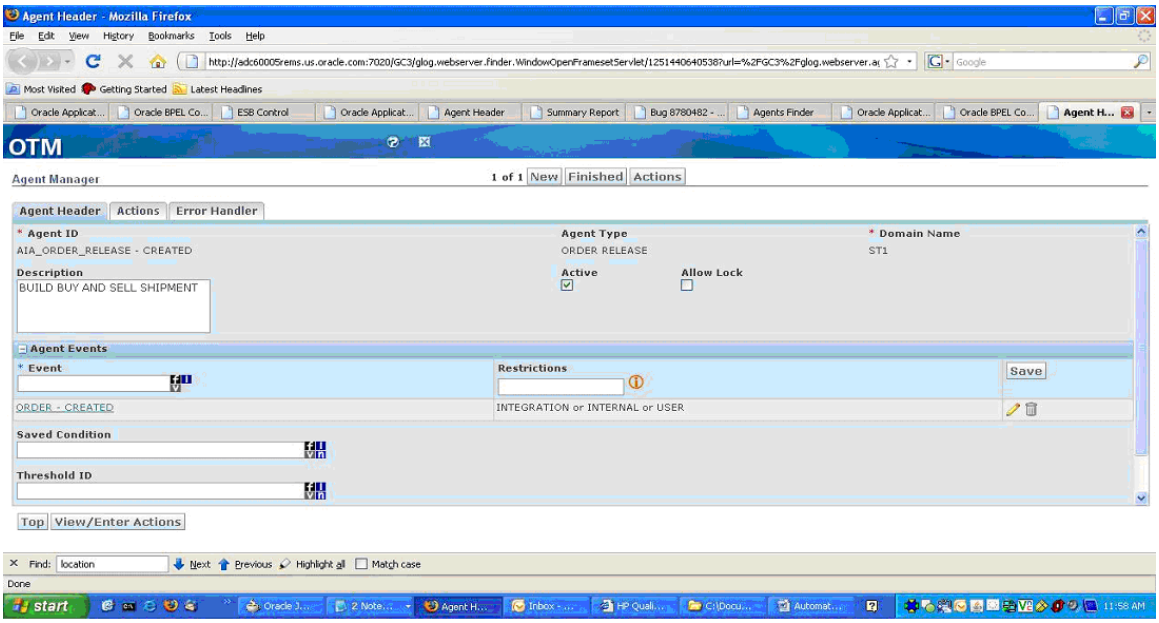
b. AIA_INVOICE_AQ

c. AIA_ACCOUNTINGENTRY_AQ

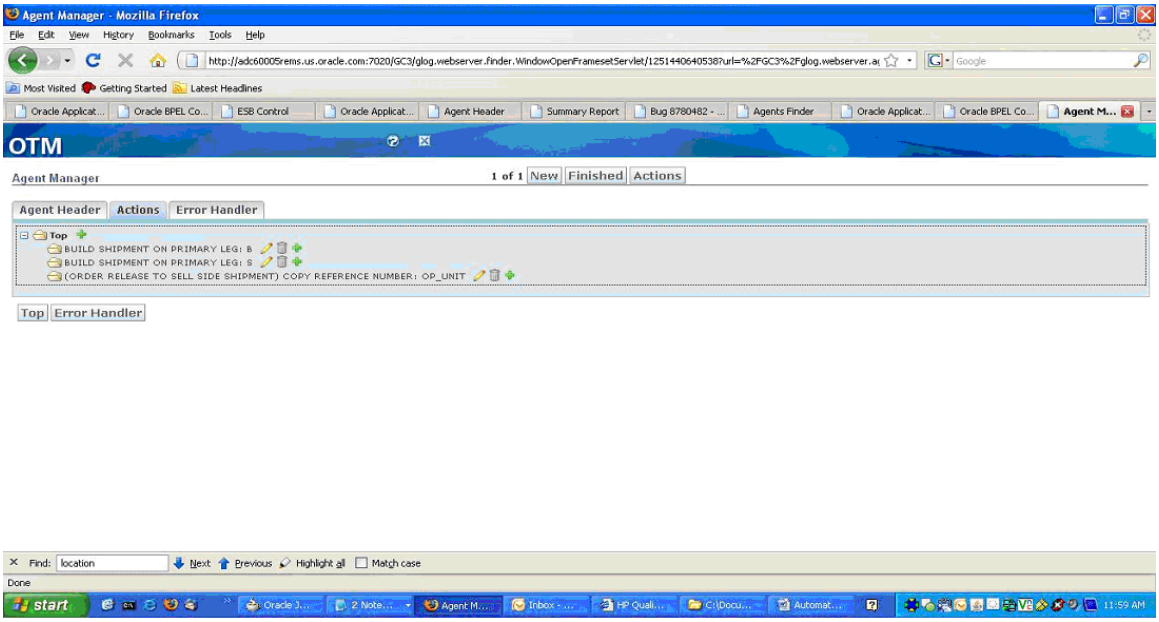
Set up Automation Agents in OTM

1. Order Release Created

- Event: Order – Created
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



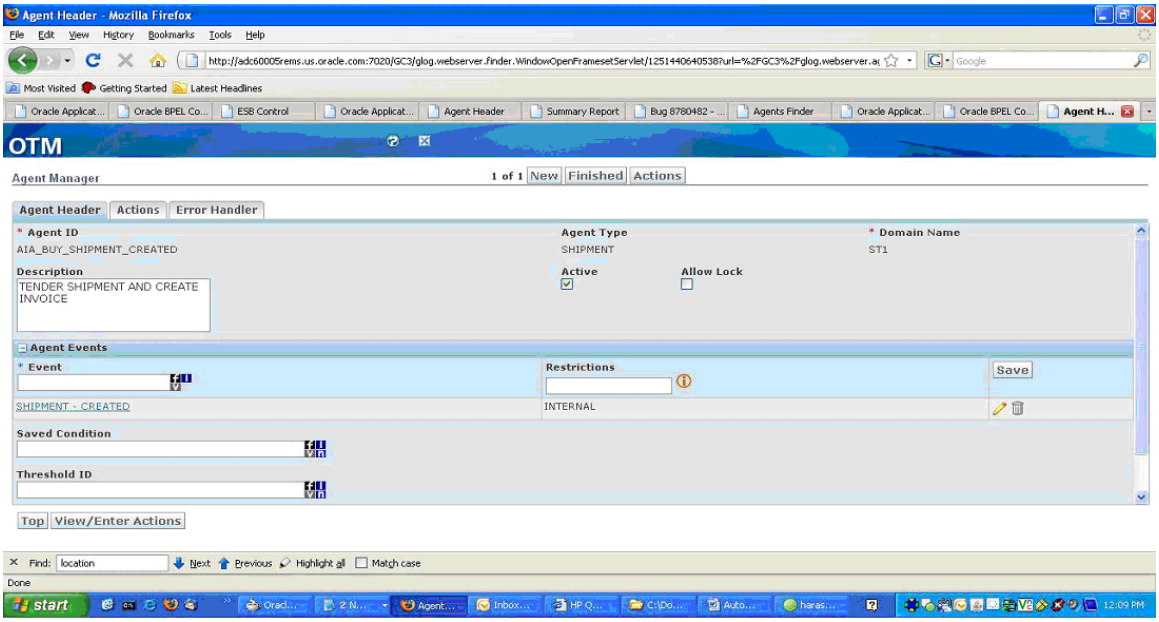
- View/Enter Actions:



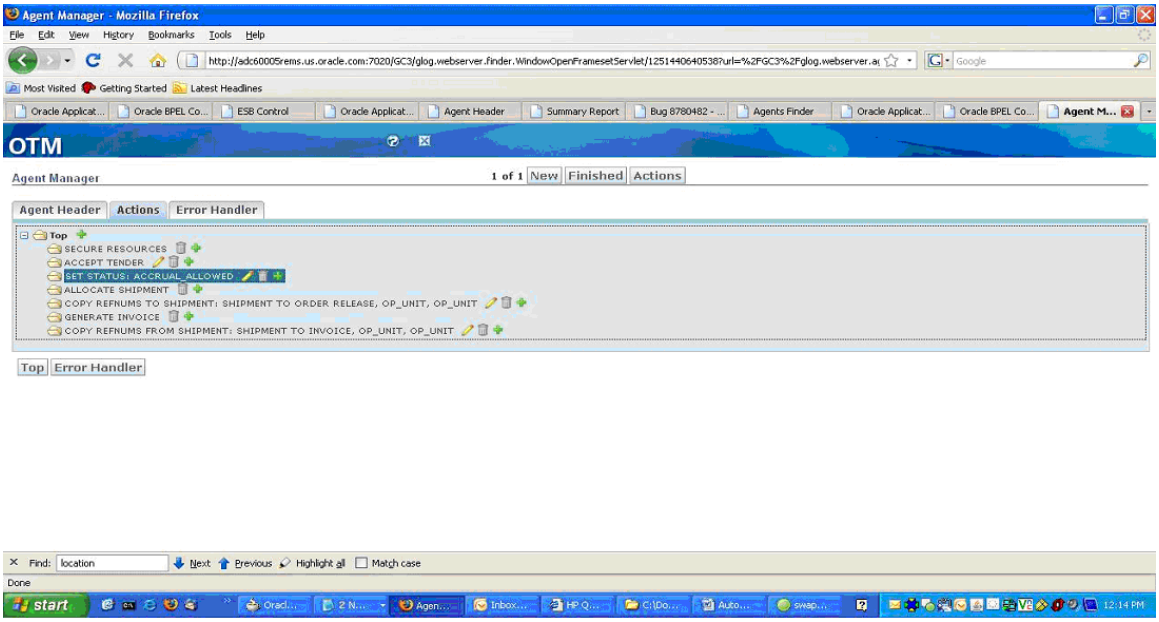
- Click Finished.

2. Buy Shipment Created

- Event: SHIPMENT - CREATED
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



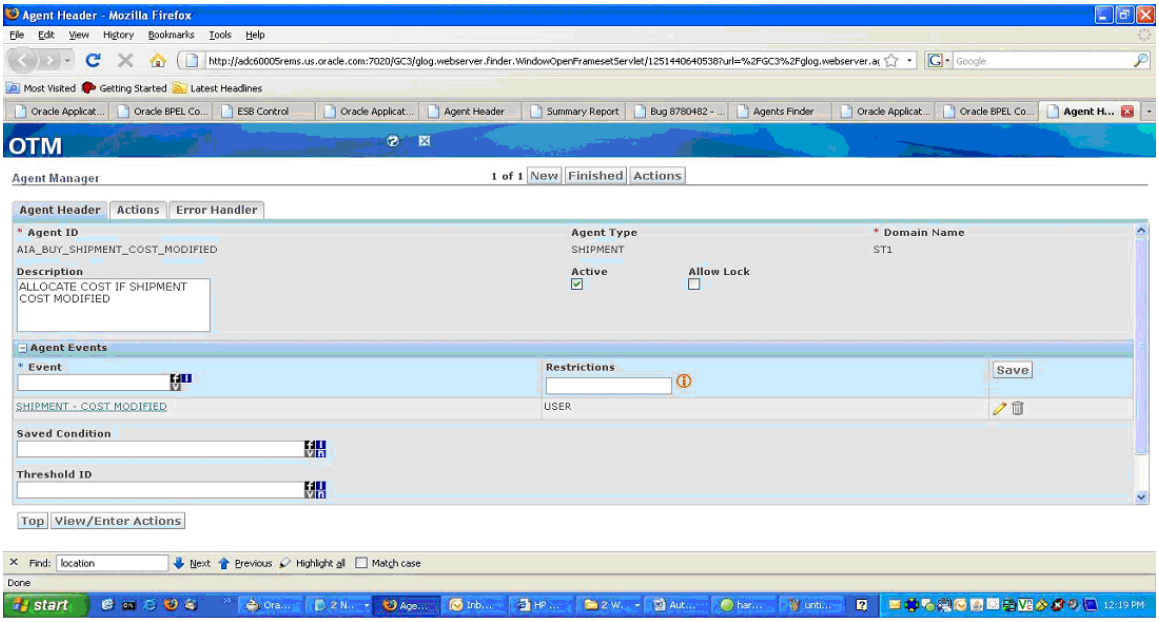
- View/Enter Actions:



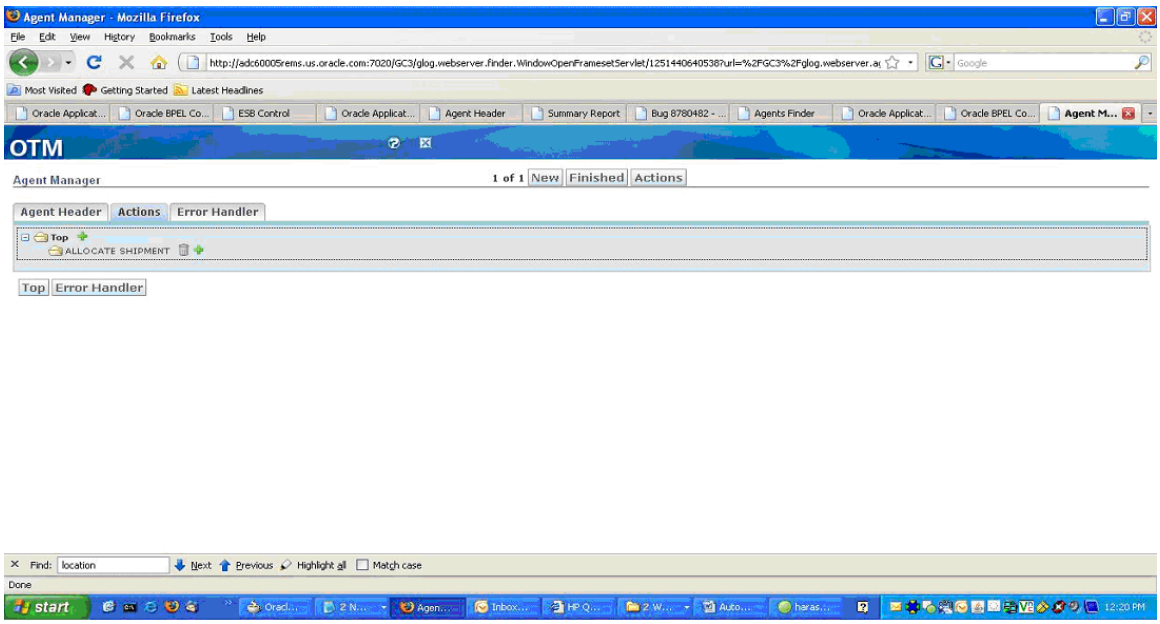
- Click Finished.

3. Buy Shipment Cost Modified

- Event: SHIPMENT - COST MODIFIED
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



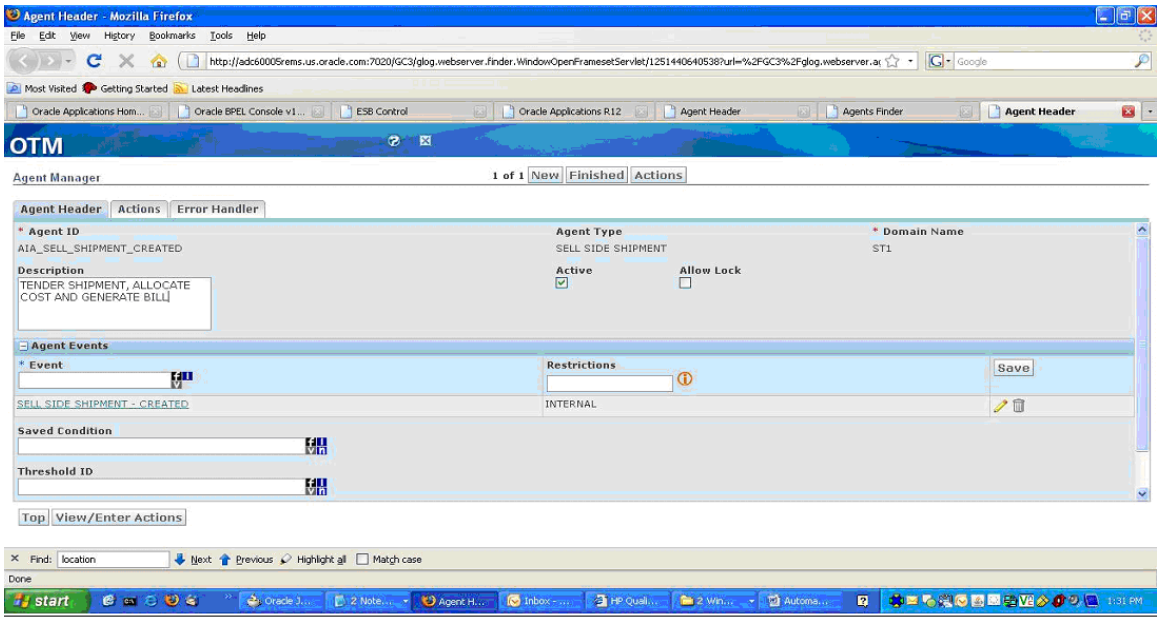
- View/Enter Actions:



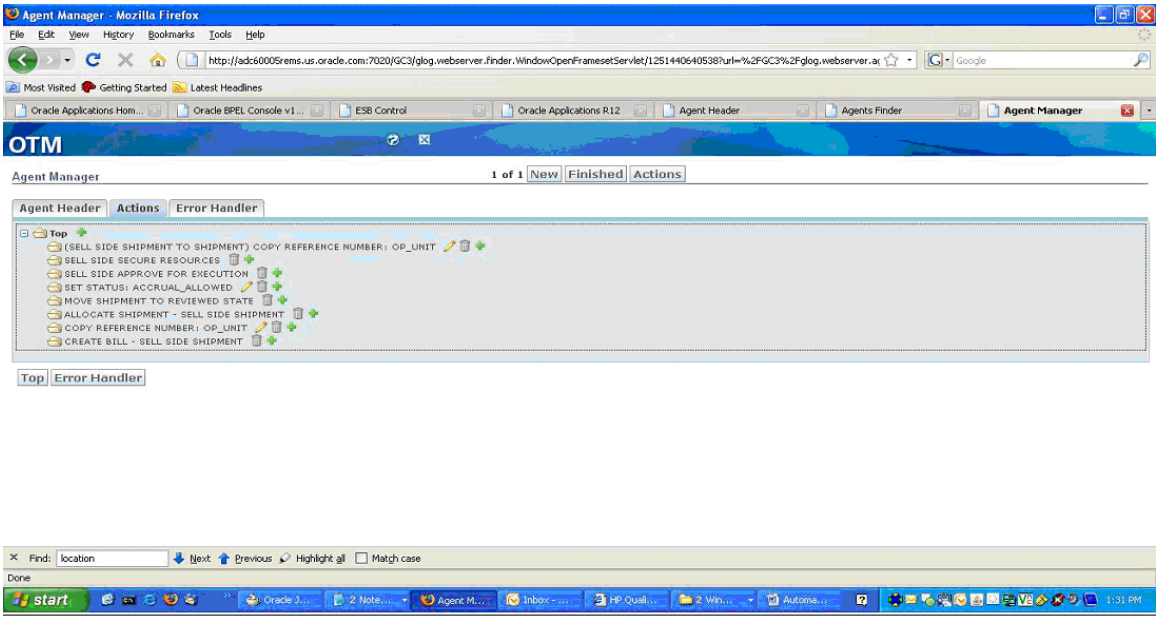
- Click Finished.

4. Sell Shipment Created

- EVENT: SELL SIDE SHIPMENT - CREATED
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



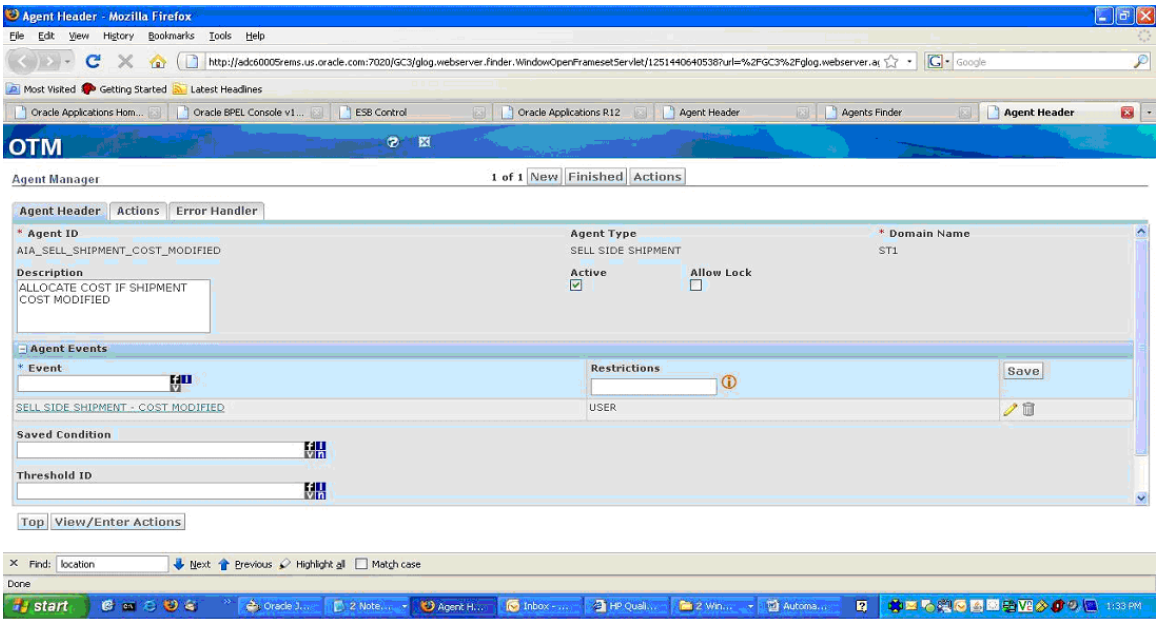
- View/Enter Actions



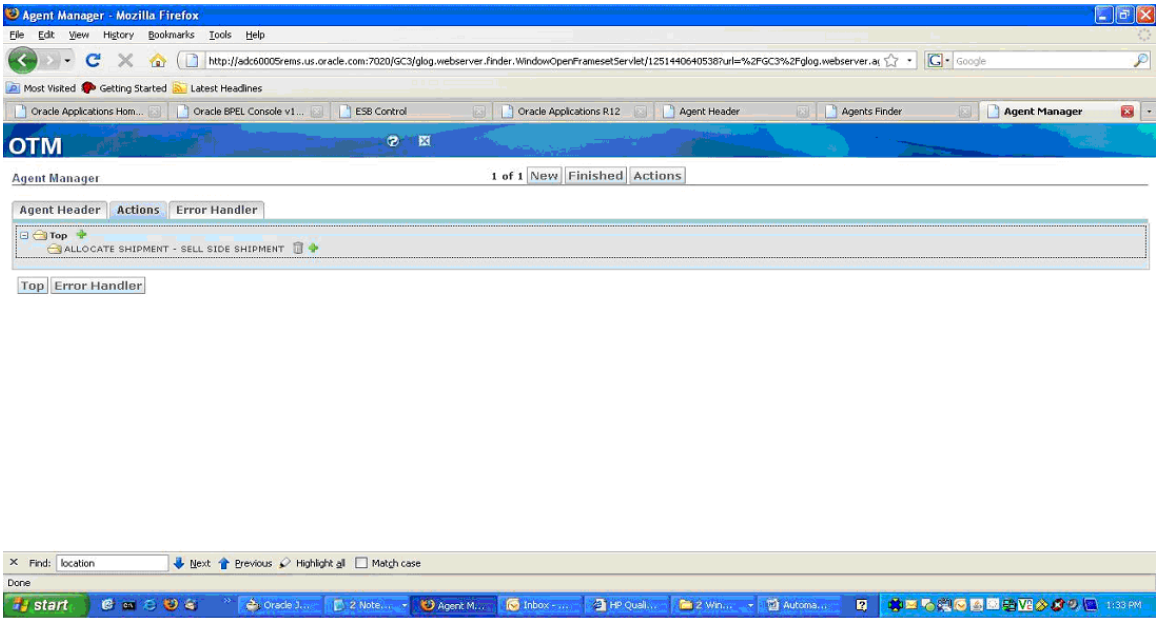
- Click Finished.

5. Sell Shipment Cost Modified

- EVENT: SELL SIDE SHIPMENT - COST MODIFIED
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



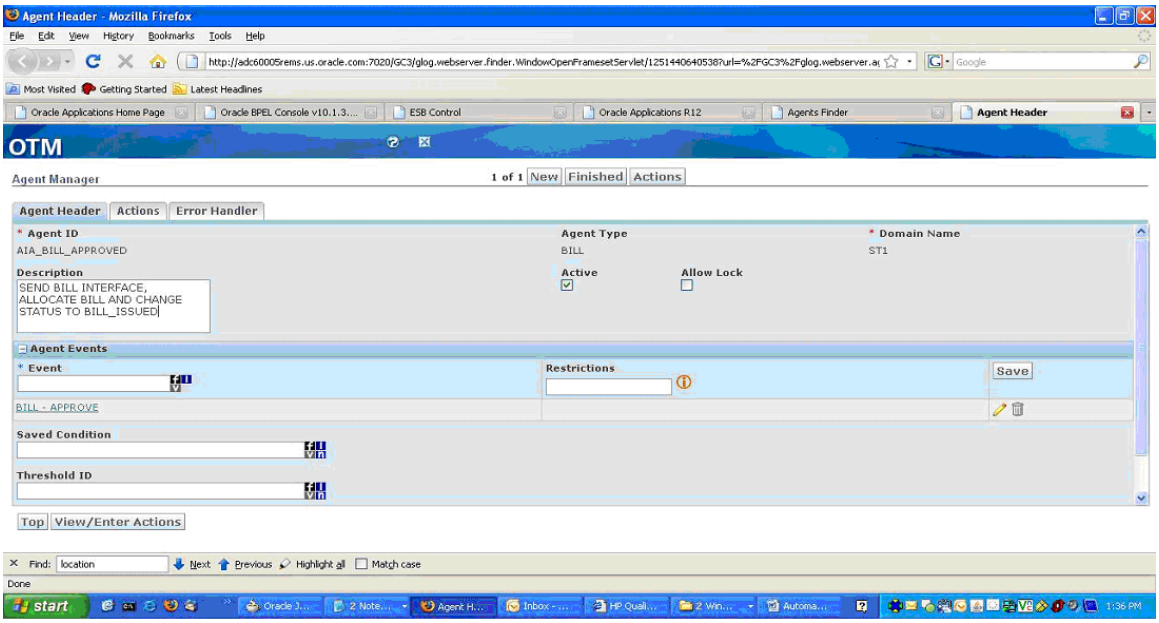
- View/Enter Actions:



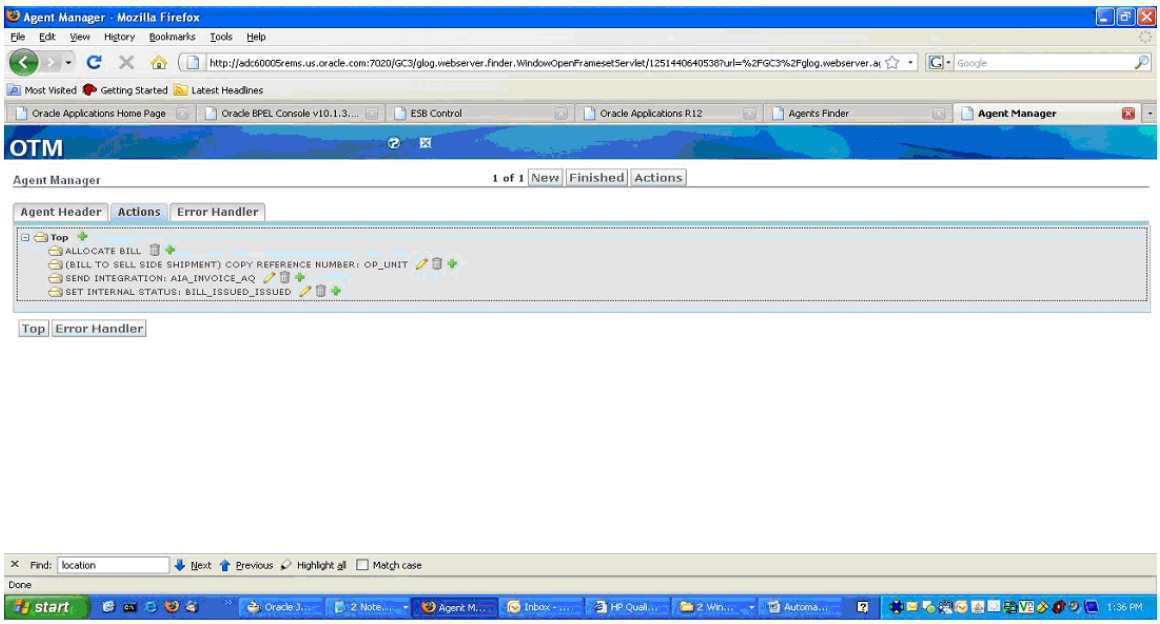
- Click Finished.

6. Bill Approved

- EVENT: BILL - APPROVE
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



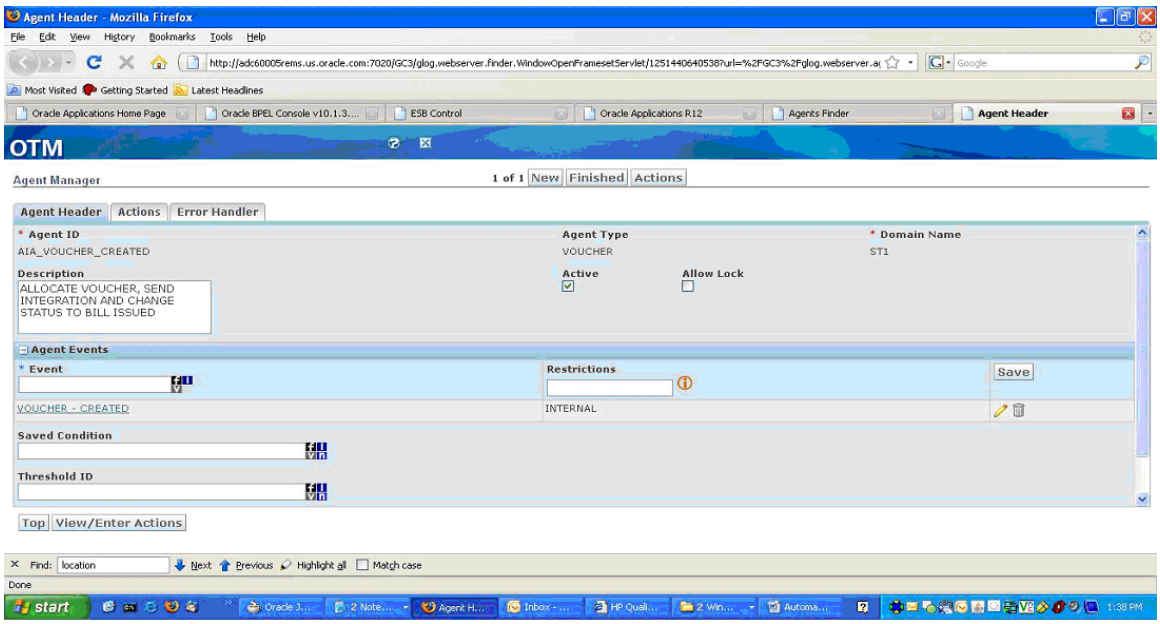
- View/Enter Actions



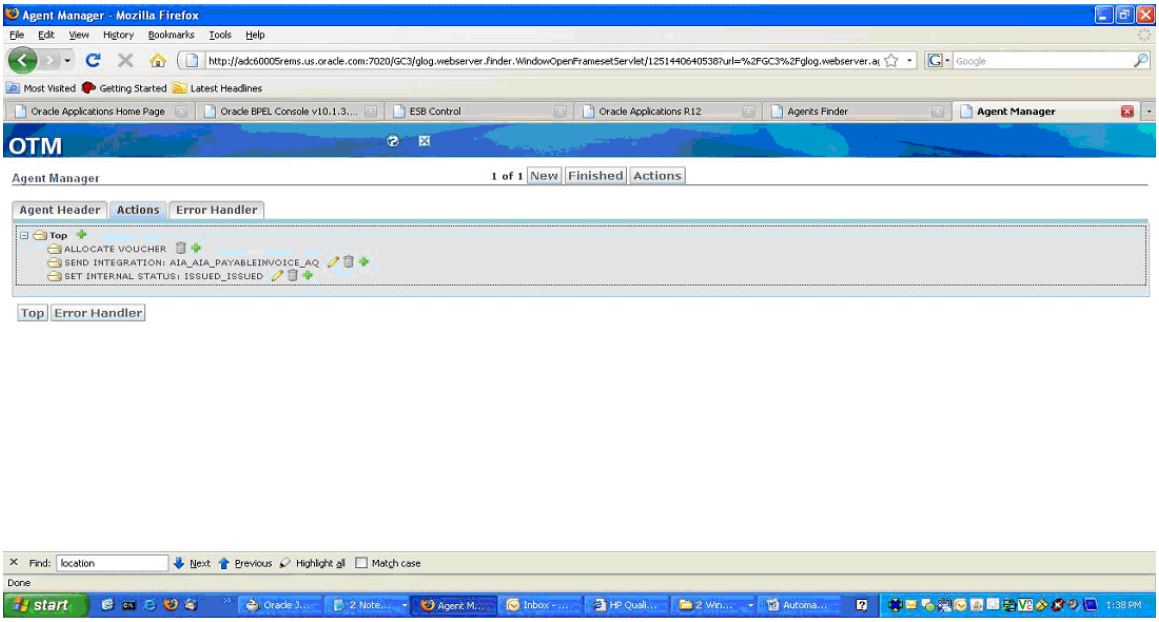
- Click Finished.

7. Voucher Created

- EVENT: VOUCHER - CREATED
- Navigation in OTM: Business Process Automation -> Agents and Milestones -> Automation Agent -> New



- View/Enter Actions:



- Click Finished.

Oracle E-Business Suite

This section discusses setting up:

Oracle E-Business Suite

General Setup

Create Oracle E-Business Suite System Profiles Options:

1. Log in to Oracle EBS using the System Administrator responsibility.
2. Open the System Profile Values form.
3. Query these profile options, and set the indicated values at the site level:

For Oracle E-Business Suite 11.5.10.2 and 12.1.1:

- HZ: Generate Party Number to Yes
- HZ: Generate Party Site Number to Yes
- HZ: Raise API Events to All Events Enabled or Only Business Object Events Enabled
- HZ: Format Business Object Business Events as Bulk to N.

Currency Exchange Integration Flow

1. To synchronize the currency exchange rates, enable the Currency Exchange Business Event oracle.apps.gl.CurrencyConversionRates.dailyRate.specify in Oracle E-Business Suite GL: Daily Conversion Rates Specified. Navigating to Workflow Administrator Menu -> Business Event can do this.

Note: The status of the event should be *Enable*.

2. If the status is not Enabled, then do the following:

   a. Click “Update” and change the status to “Enabled” and save the event.

   b. The subscription is automatically created during the installation of the PIP. Verify the value for the “Phase” field for the subscription.

   c. Click the pencil button to see the Business Events Subscription details. The value in the Phase filed should be changed to less than 100 and save the subscription.

Supplier Integration Flow

To synchronize the supplier data, enable the Payables Supplier Event "oracle.apps.ap.supplier.event" in E-Business Suite.

Payable Invoices Integration Flow

1. Define Payment Terms
2. Define Distribution Sets or SLA Account Derivation Rules
    a. You can either set up the Distribution Set with the correct accounting at the supplier site or if you are using Subledger Accounting (SLA) to derive the accounting, set up a "dummy" distribution set at the Supplier Site level (that is: 000-000-0000) and set up SLA with the account derivation rules to create the accounting. If you set up the Distribution Set at the Supplier Site level with the correct accounts and also set up the Account Derivation rules in SLA, the Account Derivation rules overrides the Distribution Set accounting and create the accounting in GL; therefore, when querying the invoices in AP, it has a different distribution versus the Journal in GL.
3. Define Source Lookup, add Code "OTM_01
4. Define Line Source Lookup, add Code OTM_01
5. Define Supplier, with primary pay site and attach payment term and distribution set to the pay site.
6. Open Payables Accounting Period.

Receivable Invoices Integration Flow

1. Define Transaction Source – OTM_01

    Batch Source Options

    a. Set Automatic Batch Numbering = Unchecked

    b. Set Automatic Transaction Numbering = Unchecked

    c. Set Copy Document Number to Transaction Number = Unchecked

    d. Set Allow Duplicate Transaction Numbers = Unchecked

    e. Set Reference Field Default Value= interface_header_attribute2

Customer Information Options

a. Set Bill To Customer = ID

b. Set Bill To Address= ID

c. Set Bill To Contact = None

d. Set Ship To Customer = ID

e. Set Ship To Address= ID

f. Set Ship To Contact = None

Accounting Information Options

g. Set Payment Terms = ID

2. Define Payment Terms

3. Define Auto Accounting or SLA Account Derivation Rules

   a. If you are using Oracle E-Business Suite AR AutoAccounting functionality, you must define AutoAccounting to specify the general ledger accounts for transactions that you enter manually or import using AutoInvoice. AutoAccounting uses this information to create the default revenue, receivable, freight, tax, unearned revenue, unbilled receivable, bills receivable accounts, and AutoInvoice clearing (suspense) accounts. The default accounting that AutoAccounting creates is considered interim accounting only. Oracle E-Business Suite AR integrates with SLA that accepts the default accounts that AutoAccounting derives without change. However, you can modify the accounting rules in Subledger Accounting to create accounting that meets your business requirements.

   b. You must define AutoAccounting by Operating Unit before you can enter transactions in Receivables.

4. Define Balance Forward Billing for Consolidated Billing

5. Define Line Transaction Flexfield

   a. Context Code =OTM

   b. Segment1 = Domain, Column=INTERFACE_LINE_ATTRIBUTE1

   c. Segment2= InvoiceXid, Column=INTERFACE_LINE_ATTRIBUTE2

   d. Segment3=InvoiceLineNumber

6. Attach payment terms to customer account sites

Accruals Integration Flow

1. Define Interface Data Transformation Rules

   a. Derive Period Name from the Accounting Date

   b. Derive Ledger ID from the Operating Unit

   c. Derive Code Combination ID

   d. Create PL/SQL functions, if any that you want to use in an IDT transformation rule set and register the functions in the meta-data structure.

   e. Create value sets, if any, that you want to use in an IDT Transformation Rule Set.

   f. Create lookup tables, if any, that you want to use in an IDT Transformation Rule Set and register the tables in the meta-data structure.

   g. Define Transformation Rule Sets. IDT rules should be set up to look at the Perspective as well as the Is Reversal Flag in order to create the logic as to whether the entry is a Debit or a Credit. Based on the Perspective, IDT should be set up to create the accounting for the balancing entry. Same goes for the Delta costs.

   h. Run Transformation Rule Sets by launching the Program, GL Interface Data Transformer, either stand-alone or along with Journal Import.

2. Define Journal import

   a. If you want Journal Import to assign sequential numbers to your accrual entries, enable sequential numbering, specifying Automatic as both your numbering and document generation method.

   b. Disable dynamic insertion. Journal Import runs much faster when it does not have to create new account combinations dynamically.

Customer Integration Flow

1. Synchronize the Customers

   - Navigate to Workflow Administrator Menu -> Business Event
   - Enable the following Customers Business Events in Oracle E-Business Suite:
     - oracle.apps.ar.hz.OrgCustBO.create
     - oracle.apps.ar.hz.OrgCustBO.update
     - oracle.apps.ar.hz.CustAccount.merge
     - oracle.apps.ar.hz.Party.merge

Note: The status of the event should be Enabled".

2. If the status is not Enabled, then perform the following for each Event listed:

   - Click Update and change the status to Enabled and save the event.

- The subscription is automatically created during the installation of the PIP. Verify the value for the Phase field for the subscription.
- Click the Pencil button to review the Business Events Subscription details. The value in the Phase field should be changed to less than 100 and save the subscription.

Set Up Organizations

Obtaining Oracle E-Business Suite Operating Unit IDs

Users need to determine what organizations they want to support and then get the IDs for those organizations.

To get the Operating Unit details:

1. Login to Oracle E-Business Suite database.
2. Identify the Operating Units that need to be synchronized or maintained in Oracle E-Business Suite.

   a. If you want to pick other Operating Units, use the following query:

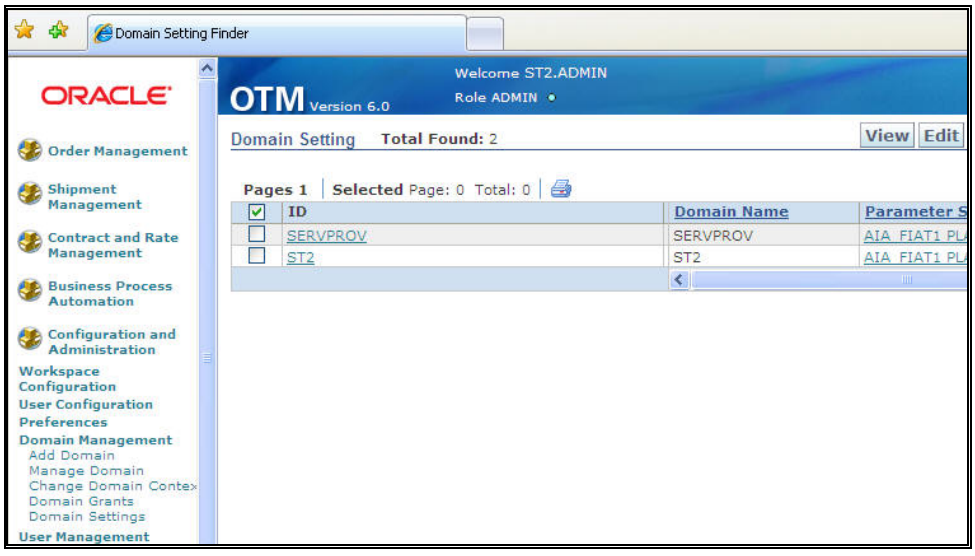
```
select organization_id, name from hr_operating_units
```

Obtaining Oracle Transportation Management Domains

Implementers need to determine what Domains in OTM have to support.

To get the Domain details:

1. Login to OTM application.
2. Navigate to Configuration and Administration.
3. Click Domain Management.
4. Select Domain Settings and click Search. The screen as in following screenshot appears with Domains setup.

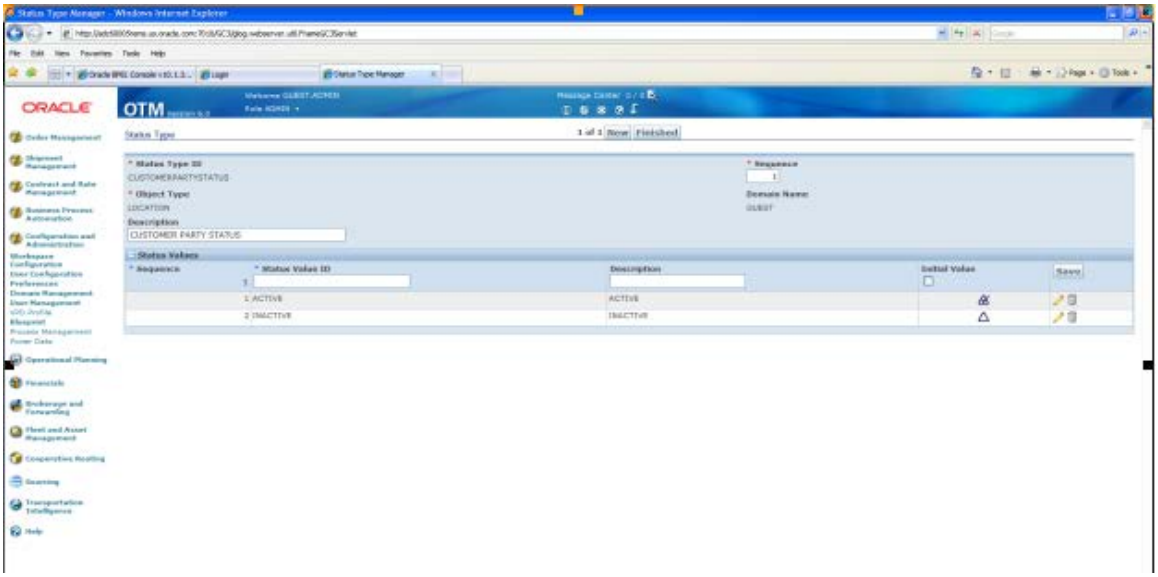


Creating StatusType for Location in Oracle Transportation Management

Implementers need to determine what StatusType in OTM is required. For example, CUSTOMERPARTYSTATUS.

To Create a StatusType:

1. Login to OTM application.
2. Navigate to Configuration and Administration.
3. Click New button.
4. Enter Status Type ID. E.g: CUSTOMERPARTYSTATUS
5. Select LOCATION as Object Type.
6. Enter Sequence 1.
7. Enter two rows ACTIVE and INACTIVE.
8. Check the initial Value for ACTIVE row.



Set Up Cross-References for Oracle E-Business Suite Entities

This section discusses:

- Populating Cross-References
- Validating Cross-References

Populating Cross-References

To populate cross-references:

1. Create Organization.xml using the following samples. Update the XML files with the Ids.

   Oracle IDs for this remains same until different organizations are selected, created, or both.

   Sample Organization.xml:

```
<xref xmlns="http://xmlns.oracle.com/xref">
   <table name="ORGANIZATION_ID">
         <columns>
               <column name="EBIZ_01"/>
               <column name="OTM_01"/>
         </columns>
         <rows>
               <row>
                     <cell colName="EBIZ_01">204</cell>
                     <cell colName="OTM_01">ST2</cell>
               </row>

         </rows>
   </table>
</xref>
```

For more information about creating the cross references, see *Oracle Enterprise Service Bus Developers Guide 10g (10.1.3.4.0),* Creating Cross References.

2. Run the xrefimport tool to import the cross-references.
3. Copy the files to a temp directory on the SOA server.
4. Telnet to the SOA Server and change dir to the xrefimport tool home:

```
-bash-3.00$ cd $SOA_HOME/integration/esb/bin
```

5. Set the following env variables:

```
-bash-3.00$ export OC4J_USERNAME=oc4jadmin
-bash-3.00$ export OC4J_PASSWORD=welcome1
-bash-3.00$ export DB_USER=aia
-bash-3.00$  export DB_PASSWORD=aia
-bash-3.00$ export
DB_URL="jdbc:oracle:thin:@adc60119fems.us.oracle.com:1549:o2c2sysa"
```

6. Run the import for ORGANIZATION xref using the following command:

```
bash-3.00$. xrefimport.sh -file ~/orginvsetup/Organization.xml -
generate COMMON
```

Validating Cross-References

To validate cross-references:

1. Log in to the AIA XREF database.
2. Query the Table XREF_DATA to confirm that every organization used in the XML files has three records.

   Use the following query:

```
select value||:::||Xref_column_name from xref_Data where
row_number in (select row_number from xref_data where
xref_table_name = ORGANIZATION_IDand value in (204))
```

Replace the value for the organizations you selected. (The number of operating units depends on your setup.)

Perform an Initial Load of Currency Exchange Rates

The General Ledger application within Oracle E-Business Suite is responsible for maintaining and storing currency exchange rates. Currency Exchange Rates data should be loaded from the Oracle E-Business Suite Financials – General Ledger - to the Oracle Transportation Management. Existing currency exchange rates present in E-Business can be synchronized (initial load) to OTM using the following process.

How to start / run initial load of exchange rates

These are the steps to load the currency exchange rates initially from Oracle E-Business Suite to OTM.

1. Contact youre SOA Administrator and obtain the endpoint location of the following process CurrencyExchangeListEbizJMSProducer. The endpoint is like Obtain the endpoint URL for the following process CurrencyExchangeListEbizJMSProducer". The endpoint is like
   `http://<SOA_HOST>:<SOA_PORT>/orabpel/default/CurrencyExchangeListEbizJMSProducer/1.0`
2. Open the endpoint and the following parameters appear,

from_currency		xsd:string
to_currency		xsd:string
from_date		xsd:date
to_date		xsd:date
conversion_rate_type		xsd:string
SystemID		xsd:string

The from_date" field is mandatory field. If the to_date" is not specified, it takes the current date as the TO DATE. The valid date format is YYYY-MM-DD (2008-02-09). The rest of the elements are optional and can be used to limit the rates, which are required to be loaded from Oracle E-Business Suite to OTM. Use the appropriate date range based on the load of data and performance of the server.

If a USER defined conversion rate type needs to be loaded, provide the internal id / number of the rate type in the parameter list.

Click Invoke" and the exchange rates within the input range specified are sent from Oracle E-Business into OTM.

Perform an Initial Load of Suppliers

Oracle E-Business Suite Accounts Payable is responsible for adding and maintaining the Supplier and Supplier Site Profiles. For this integration, the supplier information should be initially loaded or synchronized from Oracle E-Business Suite to OTM using the following process.

How to start / run initial load of Supplier Parties

1. Obtain the Endpoint URL for the InitialLoadSupplierPartyListEbizAdapter. The endpoint is:

   <SOA_HOST>:<SOA_PORT>/orabpel/default/InitialLoadSupplierPartyListEbizAdapter/1.0.

2. Click this link to display the following parameter:

   ChunkSize [ ] xsd:string

Enter an appropriate value for the chunk size field based on the memory of the system, the number of suppliers present in the Oracle E-Business Suite for initial load. It is appropriate to give this value between 50 and 100 or even smaller based on the kind of supplier profiles existing in the system.

3. Click Invoke. This starts the initial load of the suppliers from E-Business to OTM.

Performance tuning parameters:

In case of any issues during the initial load, the following properties can be fine-tuned by referring to the SOA Guide.

Go to the Fusion Middleware machine and change the domain level configurations as following:

1. <SOA_ORACLE_HOME>/bpel/domains/<domain_name>/config/domain.xml
   Property Name: syncMaxWaitTime
   Property Value: 120

2. <SOA_ORACLE_HOME>/integration/esb/config/esb_config.ini
   Property Name: xa_timeout
   Property Value: 120
   Property Name: jms_receive_timeout
   Property Value: 120

3. <SOA_ORACLE_HOME>/j2ee/<domain_name>/application-deployments/orabpel/ejb_ob_engine/orion-ejb-jar.xml
   Property Name: xa_timeout
   Property Value: 120

4. <SOA_ORACLE_HOME>/j2ee/<domain_name>/config/transaction-manager.xml
   Property Name: transaction-timeout
   Property Value:>120

5. In BPEL Console Go to Configuration Tab and change the value for "auditLevel" to off/minimal
6. In opmn.xml,process type id="oc4j_soa" at start-parameters give as -Xmx2048M
7. Provide a lesser value for the chunk size to run the initial load.

Alternative Option:

An alternative approach to run the initial load of suppliers from Oracle E-Business into OTM is described here.

The initial load of supplier information from Oracle E-Business to OTM can also be done in the following manner provided the range of supplier ids are known:

1. Obtain the Endpoint location for the SupplierPartyListEbizJMSProducer. It is like the URL given: http://<SOA_HOST>:<SOA_PORT>/orabpel/default/SupplierPartyListEbizJMSProducer/1.0
2. Choose the operation as ProduceSupplierPartyABMInitLoad.
3. Enter the data in From Vendor ID and To Vendor ID fields for which the data should be synchronized from Oracle E-Business Suite to OTM.
4. Click Invoke – the suppliers present in Oracle E-Business Suite between the from" and to" values are synchronized to OTM.

Identify Cross-References

Cross-references map and connect the records within the application network and enable these applications to communicate in the same language. The integration server stores the relationship in a persistent way so that others can refer to it.

For more information about cross-references, see Oracle Application Integration Architecture – Foundation Pack - Integration Developers Guide and the Oracle Cross Reference User Guide.

These are the cross references for Financial Management Integration:

Name	Description	Columns	Mapping Details
CURRENCYEXCHANGE_ID	This is used to store the Xref for the exchange rates among the different applications	EBIZ_01, COMMON, OTM_01	Xref value for Oracle E-Business Suite and OTM is concatenation of FromCurrency, ToCurrency, CurrencyExchangeRateType and ConversionDate with ::" separating them. GUID is a common value.
SUPPLIERPARTY_ID	This is used to store the Xref for the Supplier ID among the different applications	EBIZ_01, COMMON, OTM_01	Common - GUID OTM - LocationGid/DomainName and LocationGid/Xid. EBIZ_01 – VENDOR ID
SUPPLIERPARTY_ADDRESS_ID	This is used to store the Xref for the Address information that exists for a supplier	EBIZ_01, COMMON	Common – GUID Oracle E-Business Suite - Site ADDRESS ID. OTM doesnt have any specific id for address
SUPPLIERPARTY_LOCATION_ID	This is used to store the Xref for Sites that belong to a supplier	EBIZ_01, COMMON, OTM_01	Common - GUID, Oracle E-Business Suite - VENDOR_SITE_ID OTM - LocationGid/DomainName and LocationGid/Xid
SUPPLIERPARTY_CONTACT_ID	This is used to store the Xref for contact information of a supplier	EBIZ_01, COMMON, OTM_01	Common - GUID OTM is - Location/Contact/ContactGid/Gid/Xid Oracle E-Business Suite - VENDOR_Contact_ID
ORGANIZATION_ID	This is used to look up the Xef values for the Operating Unit / Business Unit / Domain information of supplier	EBIZ_01, COMMON, OTM_01	Common - GUID. OTM -Domain names EBIZ - ORG_ID

PAYMENTTERM_ID	This is used to look up the xref values for the payment terms ID	EBIZ_01,Common,	This is used for Retek enhancement.
INVOICE_INVOICEID	To maintain the cross-reference between OTM and Oracle E-Business Suite Invoice ID	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<BillingXid> COMMON AIA GUID EBIZ_01 - INVOICE_ID
PAYABLENVOICE_PAYABLEINVOICEID	To maintain the cross-reference between OTM and Oracle E-Business Suite PayableInvoiceID	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<VoucherXid> COMMON AIA GUID EBIZ_01 - INVOICE_ID
ACCOUNTINGENTRY_ACCOUNTINGENTRYID	To maintain the cross-reference between OTM and Oracle E-Business Suite AccountingEntryID.	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<AccrualXid> COMMON AIA GUID
PAYABLEINVOICE_PAYABLEINVOICEID	To maintain the cross reference between the PayableInvoice ID between OTM and E-Business Suite	OTM_01, COMMON, EBIZ_01	Xref value for Oracle E-Business Suite and OTM is concatenation of FromCurrency, ToCurrency, CurrencyExchangeRateType and ConversionDate with ::" separating them. GUID is a common value.
INVOICE_INVOICEID	To maintain the cross-reference between OTM and Oracle E-Business Suite Invoice ID	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<BillingXid> COMMON AIA GUID EBIZ_01 - INVOICE_ID
PAYABLENVOICE_PAYABLEINVOICEID	To maintain the cross-reference between OTM and Oracle E-Business Suite PayableInvoiceID	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<VoucherXid> COMMON AIA GUID EBIZ_01 - INVOICE_ID
ACCOUNTINGENTRY_ACCOUNTINGENTRYID	To maintain the cross-reference between OTM and Oracle E-Business Suite AccountingEntryID.	OTM_01, COMMON, EBIZ_01	OTM_01 - <Domain>::<AccrualXid> COMMON AIA GUID EBIZ_01 – ACCRUAL_ID

The following table provides the cross references information:

Name	Columns	Mapping Details
ORGANIZATION_ID	SEBL_01, COMMON, OTM_01, EBIZ_01	This table is used to determine the domain value in OTM from the ORG_ID that is being sent from Ebiz.
CUSTOMERPARTY_PARTYID	SEBL_01, COMMON, OTM_01, EBIZ_01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&Domain,"::" separating them.
CUSTOMERPARTY_ACCOUNTID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&Domain",::" separating them.
CUSTOMERPARTY_LOCATIONREFID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&Domain,"::" separating them.
CUSTOMERPARTY_ADDRESSID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&Domain,"::" separating them.
CUSTOMERPARTY_CONTACTID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&Domain,"::" separating them.
CUSTOMERPARTY_CONTACT_COMMID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&UseCode,"::" separating them.
CUSTOMERPARTY_PARTYCONTACTID	SEBL_01, COMMON, OTM_01, EBIZ _01	Common will be a GUID generated by BPEL.Xref value for OTM is concatenation of common&UseCode,"::" separating them.
PAYMENTTERM_ID	COMMON, OTM_01, EBIZ 01, RETL_01	Common will be a GUID generated by BPEL.Xref value. TBD. Payment Code is the value of EBIZ_01.

Describe Domain Value Maps

Domain value maps (DVMs) are a standard feature of the Oracle Service Orientation Architecture (SOA) suite. They are tables containing mapping between related information in the participating applications. They enable you to equate lookup codes and other static values across applications, for example, FOOT and FT or US and USA. These DVM tables are maintained in the AIA layer. The AIA layer uses these DVM tables in transforming the messages from one system in the expected format of the other system.

These are the domain value mappings (DVMs) for the Financial Management Integration:

Name	Description	Columns	Mapping Details
CURRENCY_CODE (CURRENCY95CODE)	Domain value mapping for currency codes	EBIZ_01, COMMON, OTM_01	Contains all the currency codes in the Oracle E-Business Suite and OTM
CURRENCYEXCHANGE_CONVERSIONTYPECODE (CURRENCYEXCHANGE95CONVERSIONTYPECODE)	Domain value mapping for currency type codes.	EBIZ_01, COMMON, OTM_01	Contains the conversion type code
CURRENCYEXCHANGE_STATUSCODE	Domain value mapping for status code of currency exchange rates.	EBIZ_01, COMMON,	Contains the Oracle E-Business Suite currency exchange status code.
ADDRESS_COUNTRYSUBDIVID	Domain value mapping for state code in supplier address	EBIZ_01, COMMON, OTM_01	Contains the state and country sub division values for Oracle E-Business Suite and OTM
SUPPLIERPARTY_TYPECODE	Domain value mapping for supplier type	EBIZ_01, COMMON, OTM_01	Contains the type of the supplier like Contractor, Vendor etc…
ADDRESS_COUNTRYID	Domain value mapping for country codes	EBIZ_01, COMMON, OTM_01	Contains the country ids in Oracle E-Business Suite and OTM
LANGUAGE_CODE	Domain value mapping for Languages	EBIZ_01, COMMON, OTM_01	Contains the different Language codes for Oracle E-Business Suite and OTM
SUPPLIERPARTY_PAYSITEFLAG	Domain value mapping to map Pay site flag Y/N to True/False	EBIZ_01, COMMON, OTM_01	Contains the value True/False against EBS value Y/N, if the paysite flag check box is either selected or not in EBS.
SUPPLIERPARTY_PRIMARYSITEFLAG	Domain value mapping to map Primary site flag Y/N to True/False	EBIZ_01, COMMON, OTM_01	Contains the value True/False against EBS value Y/N, if the primary site flag check box is either selected or not EBS.
SUPPLIERPARTY_ADDRESSTYPE	Domain value mapping to map type of site pay/purchase	EBIZ_01, COMMON	If the pay site flag check box is selected in EBS then this value is used for UsageCode, same with purchase site flag. It is used for multiple addresses.
INVOICE_INVOICETYPE	Domain Value mapping for the Invoice Type	COMMON, EBIZ, OTM doesnt have corresponding value	Oracle E-Business Suite contains the AR Invoice Type Lookup Code.

INVOICE_INVOICELINETYPE	Domain Value mapping for the Receivable Invoice Line Type	COMMON, OTM, EBIZ	OTM - Billing/Payment/PaymentModeDetail/GenericDetail/GenericLineItem/CommonInvoiceLineElements/Commodity/Description Oracle E-Business Suite - P_LINES_ALL_ITEM/LINE_TYPE
APPS_USER	Domain Value mapping for the Oracle E-Business Suite User and Language Code	USER_NAME, LANG_CODE	This is not used for mapping. It is used to identify the user language and setting the context before calling the Oracle E-Business Suite API.
PAYABLEINVOICE_PAYABLEINVOICETYPE	Domain Value mapping for the Invoice Type.	COMMON, EBIZ, OTM doesnt have corresponding value.	ORACLE E-BUSINESS SUITE contains AP Invoice Type Lookup Code.
PAYMENTMETHOD_CODE	Domain Value mapping for the Payment Method Codes	COMMON, OTM, EBIZ	OTM – Voucher/Payment/PaymentHeader/PaymentMethodCodeGid/Gid/Xid E-Business Suite – AP Payment Method Code Lookup.
PAYABLEINVOICE_PAYABLEINVOICELINETYPE	Domain Value mapping for the Payable Invoice Line Types.	COMMON, OTM, EBIZ	OTM – Voucher/Payment/PaymentModeDetail/GenericDetail/GenericLineItem/CommonInvoiceLineElements/Commodity/Description Oracle E-Business Suite – LineType
ACCOUNTINGENTRY_ACCOUNTINGENTRYTYPE	Domain value mapping for the Accrual Type	COMMON, EBIZ, OTM doesnt have corresponding value	Oracle E-Business Suite contains the flag for this column: Actual-A, Budget-B.
ACCOUNTINGENTRY_JOURNALCATCODE	Domain value mapping for Journal Category Code	COMMON, EBIZ	Oracle E-Business Suite - GlInterface/UserJeCategoryName

The following table displays the domain value mappings (DVMs) seeded data:

Name	Purpose	Columns	Mapping Details
LOCATION_ROLE	Ship To, Bill To etc	Common, OTM_01, EBIZ_01	
STATE		Common, OTM_01, EBIZ_01	
ADDRESS_COUNTRYID		Common, OTM_01, EBIZ_01	
CONTACT_SALUTATION	Mr., Mrs., etc.	Common, OTM_01, EBIZ_01	
COMMUNICATION_METHOD		Common, OTM_01, EBIZ_01	
CUSTOMERPARTY_STATUSCODE	ACTIVE, INACTIVE	Common, OTM_01, EBIZ_01	
CUSTOMERPARTY_ACCTSITESTATUS	ACTIVE, INACTIVE	Common, OTM_01, EBIZ_01	

Set up Configuration Properties

Set these properties in the AIAConfigurationProperties.xml file. The file is located in <aia.home>/config/.

Note: Whenever the AIAConfigurationProperties.xml file is updated; the file must be reloaded for updates to be reflected in the applications or services that use the updated properties. To perform this reload by click the Reload button on the Configuration page in the Oracle AIA Console. Alternatively, you can perform the reload by rebooting the server.

For more information, see the Oracle Application Integration Architecture Core Components Guide, “Working with the BSR”, Loading Oracle AIA Configuration Properties File Updates.

The table lists the properties that need to be set in the configuration file.

For more information, see the Oracle Application Integration Architecture Core Components Guide, “Working with the BSR”, Loading Oracle AIA Configuration Properties File Updates.

Settings for Currency Exchange Module

Property Name	Value/Default Value	Description
NoOfDays	Days in Number	This property is used to call Oracle E-Business Suite API by chunking the input

Property Name	Value/Default Value	Description
		date range for initial loads.

Settings for Logistics Module

Property Name	Value/Default Value	Description
OTM_01.LANG	ENG	OTM works in a single language at a time. This property is set to OTM operating language. All AIA Inbound transactions read this property and set the OTM language attribute in the XML.

Settings for E-Biz Module

Property Name	Value/Default Value	Description
EBIZ_01.SERVER_TIMEZONE		Oracle E-Business Suite runs in a single time zone. This property is set to Oracle E-Business Suite time zone. All Oracle E-Business Suite requester service converts the date time data from this time zone to GMT and all Oracle E-Business Suite providers converts the EBM time zone to this server time zone.

Settings for the SyncCurrencyExchangeListEbizReqABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	Ebiz_01	It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send the SystemID, AIA picks the default SystemID from this configuration property.
Routing.CurrencyExchangeEBS.SyncCurrencyExchangeList.RouteToCAVS	True/False	This property populates EBMHeaders EnvironmentCode and decides whether the CurrencyExchangeEBS should invoke CAVS or the provider applications business connector service. If the property value is set to true, EBMHeaders EnvironmentCode is set to CAVS and the EBS routes the request to CAVS. If the value is set to false, EBMHeaders Environment Code is set to the EnvCode specified in the AIAConfig property Routing.CurrencyExchangeEBS.SyncCurrencyExchangeList.MessageProcessingInstruction.EnvironmentCode. If this property is not set, the default EnvCode is PRODUCTION.

Property Name	Value/Default Value	Description
Routing.CurrencyExchangeEBS.SyncCurrencyExchangeList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS.
Routing.CurrencyExchangeEBS.SyncCurrencyExchangeList.CAVS.EndpointURI		This property defines the Definition IDto be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This property holds the URI of the CAVS simulator.
ABCSExtension.PreXformABMtoEBM	True/False	An Enterprise Business Flow can invoke custom code during its execution. These serve as extensibility points. Typical ABCS can have four extension points. This property is used as an extension point before ABM is transformed to EBM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.PreInvokeEBS	True/False	This property is used as an extension point before ABM is transformed to EBM and before Invoking the EBS. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/False	This property should be set to true when customers want to customize the attribute mapping specified in xsl.

Settings for SyncCurrencyExchangeListLogisticsProvABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	It is the responsibility of the customers to set the SystemID in EBMHeader to which the request should be sent in the EBS. If not set, the ProviderABCS route the message to this DefaultSystemID picked from the configuration file.
Routing.LogisticsWebService.RouteToCAVS	True/False	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service. The URI of partnerlink is dynamically decided through a java activity based on this property.

Property Name	Value/Default Value	Description
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the java activity from this property.
Routing.LogisticsWebService.OTM_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partnerlink is dynamically through the java activity based on this property. This property holds the endpoint URI of the provider application or the adapter service connected to the provider application.
Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeListResponse.RouteToCAVS	True/False	RouteToCAVS property decides, whether the Response message from the provider application is sent to the requestor application or to CAVS based on the value of the Environment Code. If RouteToCAVS is set to true, EnvCode is set to CAVS and then the simulator URI is picked up from Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeList Response.CAVS.EndpointURI. If RouteToCAVS is set to false, Envcode is set to the value of Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeList Response.MessageProcessingInstruction.EnvironmentCode. If this value is NULL, EnvCode is set to PRODUCTION by default.
Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeListResponse.CAVS.EndpointURI		
Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeList Response.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	
ABCSExtension.PreXformEBMtoABM	True/False	This property is used as an extension point after EBM is transformed to ABM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.ABCSExtension.PreInvokeABS	True/False	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/False	This property should be set to true when customers want to customize the attribute mapping specified in xsl.
OTM_01.USERNAME	GUEST.ADMIN	This property should be set to the username of the OTM Instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.

Property Name	Value/Default Value	Description
OTM_01.PASSWORD	CHANGEME	This property should be set to the password of the OTM Instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
CallBackURL		This property is set to use by OTM to send back the Transmission Report.
OTM_01.ISPASSWORDENCRYPTED	True/False Default=false	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, DecryptionService is being called to decode the OTM password.

Settings for SyncCustomerPartyListLogisticsProvABCSImpl Service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	Based on the SenderHostName obtained from ABM, sender SystemID is derived, but if that value is not available in ABM, AIA reads it from the config file using this property.
Routing.LogisticsWebService.RouteToCAVS	True/False, Default=False	Determines whether the EndpointURI should be routed either to the end application service or CAVS for simulating the service.
Routing.LogisticsWebService.OTM_01.EndpointURI		This property is used to derive the EndpointURI for the target application.
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.CAVS.EndpointURI		This property is used to determine the end point URI when the response message should be routed to CAVS.
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.MessageProcessingInstruction.EnvironmentCode	CAVS/PRODUCTION	Sets the Response EBM message header EnvironmentCode element to the value depending on what is mentioned here.
OTM_01.USERNAME		Property specifies the OTM instance Username.
OTM_01.PASSWORD		Property specifies the OTM instance password
LogisticsWebService.LanguageCode		This property is used for checking the LanguageCode coming from requestor. If that code matches with the acceptable language code of OTM, then the processing moves on forward. If the language codes do not match, the process is terminated.
CallBackURL		Property specifies the URL used by OTM to return the response.
ABCSExtension.PreProcessABM	True/False Default=False	This property sets an extension point before EBM is transformed to ABM. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PreProcessEBM	True/False Default=False	This property sets an extension point before EBM is transformed to ABM. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PostProcessABM	True/False Default=False	This property is used as an extension point after EBM is transformed to ABM and after invoking Logistic web service. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PostProcessEBM	True/False Default=False	This property sets an extension point before EBM is transformed to ABM and after invoking Logistic web service. It determines whether a service has to be invoked or not based on its value.
Routing.LogisticsWeb		This property sets the EndpointURI for the CAVS simulator.

Property Name	Value/Default Value	Description
Service.CAVS.EndpointURI		
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.RouteToCAVS	True/False Default=False	Determines whether the response message from the provider application should be sent to the requestor application or to CAVS.
Transformation.EnableExtensions	True/False Default=False	This property determines enabling extensions in the transformations based on customer requirements.
Default.ComMethod	FAX	This property is used to read the default communication method of a contact for a location.
OTM_01.ISPASSWORDENCRYPTED	True/False Default=False	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, DecryptionService is being called to decode the OTM password.
Default.CustomerPartyStatusType	CUSTOMERPARTYSTATUS	Determines the StatusType value to be used for the Location in OTM.

For more information about Customer Hub MDM service related configuration properties, refer to the Customer Hub MDM PIP implementation guide.

Settings for MergeCustomerPartyListLogisticsProvABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	Based on the SenderHostName obtained from ABM, sender SystemID is derived, but if that value is not available in ABM, AIA reads it from the config file using this property.
Routing.LogisticsWebService.RouteToCAVS	True/False, Default=False	Determines whether the EndpointURI should be routed either to the end application service or CAVS for simulating the service.
Routing.LogisticsWebService.OTM_01.EndpointURI		This property is used to derive the EndpointURI for the target application.
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.CAVS.EndpointURI		This property is used to determine the end point URI when the response message should be routed to CAVS.
Routing.LogisticsWebService.MessageProcessingInstruction.EnvironmentCode	CAVS/PRODUCTION	Sets the Response EBM message header EnvironmentCode element to the value depending on what is mentioned here
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.	CAVS/PRODUCTION	Sets the Response EBM message header EnvironmentCode element to the value depending on what is mentioned here

Property Name	Value/Default Value	Description
MessageProcessingInstruction.EnvironmentCode		
OTM_01.USERNAME		Property specifies the OTM instance Username.
OTM_01.PASSWORD		Property specifies the OTM instance password
OTM_01.ISPASSWORDENCRYPTED	True/False Default=false	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, DecryptionService is being called to decode the OTM password.
LogisticsWebService.LanguageCode		This property is used for checking the LanguageCode coming from requestor. If that code matches with the acceptable language code of OTM, then the processing moves on forward If the language codes dont match, the process is terminated.
CallBackURL		Property specifies the URL used by OTM to return the response.
ABCSExtension.PreProcessEBM	True/False Default=False	This property sets an extension point before EBM is transformed to ABM. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PreProcessABM	True/False Default=False	This property sets an extension point after EBM is transformed to ABM. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PostProcessABM	True/False Default=False	This property sets an extension point before ABM is transformed to EBM after getting the response from the Target System. It determines whether a service has to be invoked or not based on its value.
ABCSExtension.PostProcessEBM	True/False Default=False	This property sets an extension point after ABM is transformed to EBM after getting the response from the Target System. It determines whether a service has to be invoked or not based on its value.
Routing.LogisticsWebService.CAVS.EndpointURI		This property sets the EndpointURI for the CAVS simulator.
Routing.CustomerPartyResponseEBSV2.SyncCustomerPartyList.RouteToCAVS	True/False Default=False	Determines whether the response message from the provider application should be sent to the requestor application or to CAVS
Transformation.EnableExtensions	True/False Default=False	This property determines enabling extensions in the transformations based on customer requirements
Default.ComMethod	FAX	This property is used to read the default communication method of a contact for a location
Default.CustomerPartyStatusType	CUSTOMERPARTYSTATUS	Determines the StatusType value to be used for the Location in OTM.

Settings for CreatePayableInvoiceListLogisticsReqABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the default SystemID from this configuration property.
Routing.PayableInvoiceEBS.CreatePayableInvoiceList.RouteToCAVS	True/false. Default = false	This property populates EBMHeaders EnvironmentCode and decides whether the PayableInvoiceEBS should invoke CAVS or the Provider applications business connector service. If the value is set to true, EBMHeaders Env Code is set to CAVS and the EBS routes the request to CAVS. If the value is set to false, EBMHeaders Env Code is set to the EnvCode specified in the AIAConfig property Routing.PayableInvoiceEBS.CreatePayableInvoiceList.MessageProcessingInstruction.EnvironmentCode. If this property is not set, then the default EnvCode is PRODUCTION.
Routing.PayableInvoiceEBS.CreatePayableInvoiceList .MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS.
Routing.PayableInvoiceEBS.CreatePayableInvoiceList.CAVS .EndpointURI		This property defines the Definition IDto be populated in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator.
ABCSExtension.PreXformABMtoEBM	True/false. Default = false.	This property is used as an extension point before ABM is transformed to EBM. It determines invocation of service at the extension point is to be made or not based on the property value.
ABCSExtension.PostXformABMtoEBM	True/false. Default = false.	
ABCSExtension.PreInvokeEBS	True/false. Default = false	This property is used as an extension point after transforming ABM to EBM and before invoking the EBS.
ABCSExtension.PostInvokeEBS	True/false. Default = false	
Transformation.EnableExtensions	True/false. Default = false	This property should be set to true when

Property Name	Value/Default Value	Description
		customers want to customize the attribute mapping specified in xsl.

Settings for CreatePayableInvoiceListEbizProvABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	It is the responsibility of the customers to set the SystemID in EBMHeader to which the request should be sent in the EBS. If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.CreatePayableInvoiceListEbizDBAdapter.RouteToCAVS	True/false. Default = false	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service. The URI of the partner link is dynamically decided through a java activity based on this property.
Routing.CreatePayableInvoiceListEbizDBAdapter.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived through the java activity from this property.
Routing.CreatePayableInvoiceListEbizDBAdapter.EBIZ_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partner link is dynamically derived by the java activity from this property. This property should hold the endpoint URI of the provider application or the adapter service connected to provider application.
Routing.PayableInvoiceResponseEBS.CreatePayableInvoiceListResponse.RouteToCAVS	True/false. Default = false	RouteToCAVS property decides, whether the Response message from the provider application is sent to the requestor application or to CAVS based on the value of the Environment Code. If RouteToCAVS is set to true, EnvCode is set to CAVS and then the simulator URI is picked up from
Routing.PayableInvoiceResponseEBS.CreatePayableInvoiceListResponse.CAVS.EndpointURI		

Property Name	Value/Default Value	Description
Routing.PayableInvoiceResponseEBS.CreatePayableInvoiceListResponse. MessageProcessingInstruction.EnvironmentCode	PRODUCTION	Routing.PayableInvoiceResponseEBS.CreatePayableInvoiceListResponse.CAVS.EndpointURI. If RouteToCAVS is set to false, Envcode is set to the value of Routing.PayableInvoiceResponseEBS.CreatePayableInvoiceListResponse.MessageProcessingInstruction.EnvironmentCode. If this value is NULL, it is set to PRODUCTION by default.
ABCSExtension.PreXformEBMtoABM	True/false. Default = false	This property is used as an extension point before EBM is transformed to ABM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.PostXformEBMtoABM		
ABCSExtension. ABCSExtension.PreInvokeABS	True/false. Default = false	This property is used as an extension point after transforming EBM to ABM and before invoking the target application. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension. ABCSExtension.PostInvokeABS	True/false. Default = false	This property is used as an extension point after transforming EBM to ABM and before invoking the target application. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/false. Default = false	This property should be set to true when customers want to customize the attribute mapping specified in xsl.

Settings for the CreateInvoiceListLogisticsReqABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	Based on the SenderHostName obtained from ABM, sender SystemID is derived but if it is not derived from the SenderHostName, AIA reads it from the config file using this property.
Routing.InvoiceEBS.CreateInvoiceList.RouteToCAVS	True/false. Default = false	EnvironmentCode in the Header population is derived based on this value. If this property value is set to true then the EnviromentCode value is set to CAVS. If this property value is set to false, read the Routing.InvoiceEBS.CreateInvoiceList.MessageProcessingInstruction.EnvironmentCode property from the config file and set that value for EnvironmentCode. If Routing.InvoiceEBS.CreateInvoiceList.MessageProcessingInstruction.EnvironmentCode property is not set, the default EnvironmentCode is set to PRODUCTION.
Routing.InvoiceEBS.CreateInvoiceList. MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property is used at the time of checking the RouteToCAVS property.
Routing.InvoiceEBS.CreateInvoiceList.CAVS.EndpointURI		This property is used for setting the DefinitionID at the time of EBMHeader population. This holds the URI of CAVS simulator.
ABCSExtension.PreXformABMtoEBM	True/false. Default = false	This property is used as an extension point before ABM is transformed to EBM. It determines invocation of service at the extension point is to be made or not based on the property value.
ABCSExtension.PreInvokeEBS	True/false. Default = false	This property is used as an extension point after transforming ABM to EBM and before Invoking the EBS. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/false. Default = false	Setting this property value to true allows you to override the existing mappings.

Settings for the CreateInvoiceListEbizProvABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	Target SystemIDis obtained from EBMHeader but if it is not obtained from the EBMHeader read it from the config file using this property.
Routing.CreateInvoiceListEbizAppsAdapter.RouteToCAVS	True/false. Default = false	TargetEndPointLocation is derived using Java code in the Provider based on this value. If this property is true then the message routes to CAVS, otherwise it is routed to target application through the Adapter.
Routing.CreateInvoiceListEbizAppsAdapter.CAVS.EndpointURI		This property is used to get the EndPointURI when Routing.CreateInvoiceListEbizAppsAdapter.RouteToCAVS is set to true.
Routing.CreateInvoiceListEbizAppsAdapter.EBIZ_01.EndpointURI		This property is used to get the EndPointURI when Routing.CreateInvoiceListEbizAppsAdapter.RouteToCAVS is set to false.
Routing.InvoiceResponseEBS.CreateInvoiceListResponse.RouteToCAVS	True/false. Default = false	EnvironmentCode in the Header population for InvoiceEBSResponse is obtained based on this value. If this property value is set to true, the EnviromentCode value is set to CAVS. If this property value is set to false, read the Routing.InvoiceResponseEBS.CreateInvoiceListResponse.MessageProcessingInstruction.EnvironmentCode property from the config file and set that value for EnvironmentCode.
Routing.InvoiceResponseEBS.CreateInvoiceListResponse. MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property is used at the time of checking the RouteToCAVS property.
ABCSExtension.PreXformEBMtoABM	True/false. Default = false	This property is used as an extension point before transforming EBM to ABM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.PreInvokeAps	True/false. Default = false	This property is used as an extension point after transforming EBM to ABM transformation and before Invoking the target. It determines invocation of service at the extension point is to be made or not depending on the property value.

Property Name	Value/Default Value	Description
Transformation.EnableExtensions	True/false. Default = false	Setting this property to true allows you to override the existing mappings.
RESPONSIBILITY		This property along with the UserName is used for setting the AppsContext in SetAppsContext.xsl. This xsl is used for setting the Oracle E-Business Suite User and Responsibility values before invoking PL/SQL API.
EBIZ_01.P_RUN_AUTOINVOICE_CP_Flag Property	T/F. Default = T	This property decides whether AutoInvoice Master Program should be called immediately after inserting Invoice in the Oracle E-Business Suite interface tables. If the value is set to true then the AutoInvoice Master Program is triggered immediately after inserting invoice in the Oracle E-Business Suite interface table, otherwise administrator need to manually trigger at a later point of time.
EBIZ_01.P_COMMIT_Flag	T/F. Default = F	This property is used internally within the PL/SQL API along with EBIZ_01.P_RUN_AUTOINVOICE_CP_Flag property for calling the AutoInvoice Master Program.

Settings for the CreateAccountingEntryListLogisticsReqABCSImpl

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the default SystemID from this config property.
Routing.AccountingEntryEBSV1.CreateAccountingEntryList.RouteToCAVS	True/false	This property populates the EBMHeaders EnvironmentCode and decides whether the AccountingEntryEBS should invoke CAVS or the Provider applications business connector service. If the value is set to true, EBMHeaders Env Code is set to CAVS and the EBS routes the request to CAVS. If the value is set to false, EBMHeaders Env Code is set to the EnvCode specified in AIAConfig property Routing.AccountingEntryEBSV1.CreateAccountingEntryList.MessageProcessingInstruction.EnvironmentCode.

Property Name	Value/Default Value	Description
		If this property is not set, the EnvCode is set to PRODUCTION as a default value.
Routing.AccountingEntryEBSV1.CreateAccountingEntryList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used at the time of checking the RouteToCAVS property.
Routing.AccountingEntryEBSV1.CreateAccountingEntryList.CAVS.EndpointURI		This property defines the Definition IDto be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator.
ABCSExtension.PreXformABMtoEBM	True/false	This property is used as an extension point before transforming ABM to EBM to EBM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.PreInvokeEBS	True/false	This property is used as an extension point after transforming ABM to EBM and before Invoking the EBS. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping specified in xsl.

Settings for the CreateAccountingEntryListEbizProvABCSImpl

Property Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	It is the responsibility of the customers to set the SystemID in EBMHeader to which the request should be sent in the EBS. If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.CreateAccountingEntryListEbizDBAdapterService.RouteToCAVS	True/false. Default=false	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service. The URI of partner link is dynamically decided through a java activity based on this property.
Routing.CreateAccountingEntryListEbizDBAdapterService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the java activity from this property.
Routing.CreateAccountingEntryListEbizDBAdapterService.EBIZ_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partner link is dynamically derived by the java activity from this property. This property should hold the endpoint URI of the provider application or the adapter service connected to the provider application.
Routing.AccountingEntryResponseEBSV1.CreateAccountingEntryListResponse.RouteToCAVS	True/false	RouteToCAVS property decides whether the Response message from the provider application should be sent to the requestor application or to CAVS based on the Environment Code value. If RouteToCAVS is set to true, EnvCode is set to CAVS and then the simulator URI is picked up from Routing.AccountingEntryResponseEBSV1.CreateAccountingEntryListResponse.CAVS.EndpointURI. If RouteToCAVS is set to false, Envcode is set to the value of AccountingEntryListResponse.MessageProcessingInstruction.EnvironmentCode and If this value is NULL, it is set to PRODUCTION by default.
Routing.AccountingEntryResponseEBSV1.CreateAccountingEntryListResponse.CAVS.EndpointURI		
Routing.AccountingEntryResponseEBSV1.AccountingEntryListResponse. MessageProcessingInstruction.EnvironmentCode	PRODUCTION	
ABCSExtension.PreXformEB	True/false	This property is used as an extension point

Property Name	Value/Default Value	Description
MtoABM		before transforming EBM to ABM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension. ABCSExtension.PreInvokeABS	True/false	This property is used as an extension point after transforming EBM to ABM and before invoking the target application. It determines invocation of service at the extension point is to be made or not depending on the property value.
Transformation.EnableExtensions	True/false. Default=false	This property should be set to true when customers want to customize the attribute mapping specified in xsl.

Settings for SyncSupplierPartyListEbizReqABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the default SystemID from this config property.
ABCSExtension.PreXformABMtoEBMSupplierPartyListABM	True/False	This property is used as an extension point before ABM is transformed to EBM. It determines invocation of service at the extension point is to be made or not depending on whether it is true or false
Routing.SupplierPartyEBS.SyncSupplierPartyList.RouteToCAVS	True/False	EnvironmentCode in the Header population is derived based on this value. If this property value is set to true, the EnviromentCode value is set to CAVS If this property value is set to false, the EnviromentCode is set to the value of Routing.SupplierPartyEBS.SyncSupplierPartyList.MessageProcessingInstruction.EnvironmentCode property from the config file. If Routing.SupplierPartyEBS.SyncSupplierPartyList.MessageProcessingInstruction.EnvironmentCode property is not set, the EnvironmentCode is set to PRODUCTION by default.
Routing.SupplierPartyEBS.SyncSupplierPartyList.CAVS.EndpointURI		This property defines the Definition IDto be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS

Property Name	Value/Default Value	Description
		property is set to true. This holds the URI of CAVS simulator.
Routing.SupplierPartyEBS.SyncSupplierPartyList. MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used at the time of checking the RouteToCAVS property.
Transformation.EnableExtensions	True/False	This property should be set to true when customers want to customize the attribute mapping specified in xsl.
ABCSExtension.PreInvokeEBSSupplierPartyEBM		This property is used as an extension point after transforming ABM to EBM and before invoking the EBS. It determines invocation of service at the extension point is to be made or not depending on the property value.
RESPONSIBILITY	Responsibility as defined in E-business Suite	The responsibility is used to set the context when retrieving the supplier data from E-Business Suite. The user is obtained from a domain value map based on the language settings and the responsibility is obtained from the Configuration file.
BypassAddressIDXref	No/No	This property was introduced for one of the enhancement for Retek team. This property when set to Yes, will by-pass the xref SUPPLIERPARTY_ADDRESS_ID.
ABCSExtension.PostXformABMtoEBMSupplierPartyListABM	True/False	This property is used as an extension point before ABM is transformed to EBM. It determines invocation of service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeEBSSupplierPartyEBM	True/False	This property is used as an extension point after transforming ABM to EBM and before invoking the EBS. It determines invocation of service at the extension point is to be made or not depending on the property value.

Settings for SyncSupplierPartyListLogisticsProvABCSImpl service

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	It is the responsibility of the customers to set the SystemID in EBMHeader to which the request should be sent in the EBS. If the SystemID is not set, the ProviderABCS

Property Name	Value/Default Value	Description
		routes the message to this DefaultSystemID picked from the config file.
CallBackURL		This property is set to use by OTM to send back the Transmission Report.
ABCSExtension.PreProcessABM	True/False	This property is used as an extension point before EBM is transformed to ABM. It determines invocation of service at the extension point is to be made or not depending on the property value.
ABCSExtension.PreProcessEBM	True/False	This property is used as an extension point after transforming EBM to ABM and before invoking the target application. It determines invocation of service at the extension point is to be made or not depending on whether it is true or false.
Routing.LogisticsWebService.RouteToCAVS	True/False	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service. The URI of partner link is dynamically decided through a java activity based on this property.
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the java activity from this property.
Routing.LogisticsWebService.OTM_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partner link is dynamically derived by the java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to the provider application.
Routing.SupplierPartyResponseEBS.SyncSupplierPartyList.RouteToCAVS	True/False	RouteToCAVS property decides whether the Response message from the provider application should be sent to the requestor application or to CAVS based on which we set Environment Code while populating ResponseEBM Header.
Routing.SupplierPartyResponseEBS.SyncSupplierPartyList.CAVS.EndpointURI		

Property Name	Value/Default Value	Description
Routing.SupplierPartyResponseEBS.SyncSupplierPartyList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	If RouteToCAVS is set to true, EnvCode is set to CAVS and then the simulator URI is picked up from Routing.SupplierPartyResponseEBS.SyncSupplierPartyList.CAVS.EndpointURI. If RouteToCAVS is set to false, Envcode is set to the value of Routing.CurrencyExchangeResponseEBS.SyncCurrencyExchangeList Response.MessageProcessingInstruction.EnvironmentCode If this value is NULL, EnvCode is set to PRODUCTION by default.
OTM_01.USERNAME	GUEST.ADMIN	This property should be set to the username of the OTM Instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
OTM_01.PASSWORD	CHANGEME	This property should be set to the password of the OTM Instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
LocationRef.Address.CountryCode	USA	This property is used to set the country code for supplier and site. Since this is mandatory for creating a Location in OTM and Supplier doesnt have any address associated, the country code is obtained from the Configuration File. For supplier sites, it is taken from the site address.
DOMAIN.NAME	GUEST	This property is used to get the Domain Name of the Suppliers, which is used as Domain Name in OTM.
SYNCPURCHASINGSITES	True/false	This property is checked to decide whether Supplier Sites should also be synchronized to OTM. If it is set to true, the Supplier Sites should be created as Service Providers / Locations in OTM.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point before EBM is transformed to ABM. It determines invocation of service.
OTM_01.ISPASSWORDENCRYPTED	True/False Default=false	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, DecryptionService is

Property Name	Value/Default Value	Description
		being called to decode the OTM password.

Handling Errors

There are no business errors captured for the Financial Management PIP.

EBO Implementation Maps (EIMs)

For more information about how services are mapped, see the My Oracle Support document: EBO Implementation Maps (EIMs) 795541.1.

Chapter 9: Understanding Interoperability of AIA Process Integration Packs

This chapter provides an overview of interoperability of Application Integration Architecture (AIA) process integration packs (PIP) and discusses:

- Process Integration for Customer Objects Synchronization - Overview
- Interoperability of Fleet Financial Management PIP and Fleet Order Management PIP
- Interoperability of Fleet Financial and Fleet Order PIP
- Routing Rules

Process Integration for Customer Objects Synchronization - Overview

Starting with AIA 2.4 release vehicle, multiple PIPs are bundled in a single AIA release. This gives customers an opportunity to deploy more than one PIP if so desired.

PIPs that are bundled with AIA 2.4 are:

- Fleet Financial Management PIP
- Fleet Order Management PIP

Each of these PIPs has been designed to support a specific set of source and target applications. Hence, as delivered, the routing rules for each of these PIPs point to specific target applications. However, when a customer deploys more than one PIP, these routing rules may need to be modified so that these PIPs can support interoperability meaningfully to produce the desired functional outcome.

In the following sections, scenarios for PIPs that can be potentially be deployed at the same site are described. Wherever applicable, recommendations are given for the best practices flow for these PIPs to work together. In addition, routing rule changes that customers need to make to suit the best practices flow are also given.

Customers may still have to make additional changes to these routing rules if they need to interface these PIPs with additional applications that are not supported by these PIPs as delivered.

Interoperability of Fleet Financial Management Fleet Order Management PIPs

In the Fleet Financial PIP, Customer information is synchronized between Oracle EBS and Oracle Transportation Management. It is a one way feed from Oracle EBS to Oracle Transportation Management. The Fleet Order Management PIP supports exchanging of product information between Siebel CRM and Oracle Transportation Management.

Description of Customer Sync Related Flows in Fleet Financial Management PIP

- Sync Customer from Oracle EBS to OTM: When an item (product) is created/updated/Inactivated/Merged in Oracle EBS, it is synched to OTM.
- This customer is used in the Accounts Receivables flow for billing purposes.

Description of Customer Sync Related Flows in Fleet Order Management PIP

- Sync Customer from Oracle EBS to OTM: When an item (product) is created or updated in Siebel CRM, it is synched to OTM and Oracle EBS.
- This customer is used in the Order Sync for creating Orders in Siebel CRM.

Best Practice Flow(s) when Fleet Order and Fleet Financial PIPs Support Interoperability

The following are the best practices for Customer sync among the various participating applications when Fleet Financial and Fleet Order Management PIPs support interoperability:

- Customer Accounts are created only in Siebel CRM (Fleet Order PIP), which is the Customer master.
- The order is created in Siebel CRM and synched to Oracle Transportation Management for executing that Order.
- This customer is used in Fleet Financial PIPs Accounts Receivables flow for billing purposes.
- Customer Sync from EBS to OTM needs to be disabled. Disable the following ESB services in the ESB console:
    - SyncCustomerPartyListEbizEventCreateConsumer
    - SyncCustomerPartyListEbizEventUpdateConsumer
    - MergeAccountEbizEventConsumer
    - MergePartyEbizEventConsumer

Solution Assumptions and Constraints

- Customer should not be created/Updated in Oracle EBS.
- Siebel CRM is the Customer master.
- Orders should be created in Seibel CRM only.
- Billing happens through Accounts Receivables flow of Fleet Financial PIP.

Routing Rules

This section contains the routing rules to be used for the Interoperability.

For CustomerPartyEBSV2:

Operation	Filter Condition	Service Invoked	Description
SyncCustomerPartyList	{(/customerpartyebo:SyncCustomerPartyListEBM/corecom:EBMHeader/corecom:MessageProcessingInstruction/corecom:EnvironmentCode=' PRODUCTION' or not(/customerpartyebo:SyncCustomerPartyListEBM/corecom:EBMHeader/corecom:MessageProcessingInstruction/corecom:EnvironmentCode/text())) and (xp20:compare(/customerpartyebo:SyncCustomerPartyListEBM/corecom:EBMHeader/corecom:Sender/corecom:ID,'SEBL_01') = 0)};{ namespace xp20=http://www.oracle.com/XSL/Transform/java/oracle.tip.pc.services.functions.Xpath20 namespace corecom=http://xmlns.oracle.com/EnterpriseObjects/Core/Common/V2 namespace customerpartyebo=http://xmlns.oracle.com/EnterpriseObjects/Core/EBO/CustomerParty/V2 }	SyncCustomerPartyJMSProducerV1::Produce_Message	This is Fleet Order PIP routing rule for synchronizing Customer to OTM and Oracle EBS.
SyncCustomerPartyList	{count(/customerpartyebo:SyncCustomerPartyListEBM/corecom:EBMHeader/corecom:MessageProcessingInstruction/corecom:EnvironmentCode[text() = 'CAVS'])!=0};{ namespace corecom=http://xmlns.oracle.com/EnterpriseObjects/Core/Common/V2 namespace	AIASystem.ValidationSystem.AsyncRequestRecipient	CAVS

Operation	Filter Condition	Service Invoked	Description
	customerpartyebo=http://xmlns.oracle.com/EnterpriseObjects/Core/EBO/CustomerParty/V2 }		

Chapter 10: Understanding Interoperability of AIA Process Integration Pack with Point-to-point BPEL Integration

This chapter provides an overview of interoperability of Application Integration Architecture (AIA) process integration packs (PIP) and standard point-to-point (P2P) integration and discusses:

- Interoperability of Fleet Financial Management PIP and Oracle Shipping Execution / Oracle Transportation Management Integration.

Interoperability of AIA Process Integration Packs with Point-to-Point BPEL Integration Overview

Starting with AIA 2.5 release vehicle, Fleet Financial Management PIP has been enhanced to co-exist with the EBS-OTM standard point-to-point integration. This gives customers an opportunity to implement one or more integrations from the following:

- Fleet Financial Management PIP
- Oracle Shipping Execution / Oracle Transportation Management Integration

Each of these integrations has been designed to support a specific set of source and target applications. However, when a customer deploys more than one integration pack, customer needs to decide which integration to use when, so that co-existence works meaningfully to produce the desired functional outcome.

In the following sections, scenarios for integrations that can potentially be deployed at the same site are described. Wherever applicable, recommendations are given for the best practices flow for these integrations to work together.

Interoperability of Fleet Financial Management PIP and Oracle Shipping Execution / Oracle Transportation Management Integration

In the Fleet Financial PIP, Supplier information is synchronized between Oracle EBS and Oracle Transportation Management. It is a one-way feed from Oracle EBS to Oracle Transportation Management. In this integration, Supplier information is synchronized as Service Providers into Oracle Transportation Management. These Service Providers are then used in Accounts Payable flow to synchronize Invoices from Oracle Transportation Management to Oracle EBS.

In the Oracle Shipping Execution / Oracle Transportation Management Integration, Carrier information is synchronized between Oracle EBS and Oracle Transportation Management. It is a one-way feed from Oracle EBS to Oracle Transportation Management. In this integration, Carrier information is synchronized as Service Providers into Oracle Transportation Management. These Service Providers are used in Oracle Payables flow to synchronize Invoices from Oracle Transportation Management to Oracle EBS.

Description of Service Provider Sync Related Flows in Fleet Financial Management PIP

Sync Supplier from Oracle EBS to OTM: When a supplier is created/updated in Oracle EBS, it is synched to OTM as Service Provider.

This Service Provider is used in the Accounts Payables flow for Invoice Sync.

Description of Service Provider Sync Related Flows in Oracle Shipping Execution / Oracle Transportation Management Integration

Sync Carriers from Oracle EBS to OTM: When a Carrier is created/updated in Oracle EBS, it is synched to OTM as Service Provider.

This Service Provider is used in the Oracle Payables flow for Invoice Sync.

Best Practice Flow(s) when Fleet Financial PIP and Oracle Shipping Execution / Oracle Transportation Management Integration Support Interoperability

The following are the best practices for Service Provider sync among the various participating applications when Fleet Financial and Oracle Shipping Execution / Oracle Transportation Management Integration support interoperability:

- The Best approach would be to use Fleet Financial Management PIP for both Service Providers sync through Supplier Party flow and Accounts Payable Invoice Sync.
- If the above approach is not feasible for the Customer to implement right away, Fleet Financial Management PIP still supports the co-existence, provided Customer does some manual tasks like Xref population for the Supplier information.

  In this scenario, Customer can use Carrier synchronization of the point-to-point integration to send Carriers as Service Providers into Oracle Transportation Management. These Service Providers can be used to synchronize Invoices from Accounts Payable flow of the Fleet Financial Management PIP.

Configuration of Routing Rules for the Best Practice Product Flows

No changes in the configuration rules are required for Interoperability of Fleet Financial PIP and in Oracle Shipping Execution / Oracle Transportation Management Integration.

Solution Assumptions and Constraints

If the Customer uses Carrier Synchronization of the point-to-point integration, following activities need to be done manually so that Accounts Payable Sync happens correctly from Oracle Transportation Management to Oracle EBS.

- ORGANIZATION_ID xref table values need to be populated for EBIZ_01, COMMON and OTM_01 columns.
- XREF import is required for SUPPLIERPARTY_LOCATION_ID table for suppliers with proper EBIZ_01, COMMON and OTM_01 columns.

Importing the Cross Reference Tables (SUPPLIERPARTY_LOCATION_ID and ORGANIZATION_ID) for the already existing carrier records in their EBS using xrefimport:

The xrefimport utility enables customer to import a cross-reference table metadata from an XML file. The XML file that customer is importing should be based on the schema defined in "Schema Definition (XSD) File for Cross References".

Cross Reference XSD File

```
<?xml version="1.0" encoding="UTF-8" ?>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
        targetNamespace="http://xmlns.oracle.com/xref"
        xmlns:tns="http://xmlns.oracle.com/xref" elementFormDefault="qualified">
<element name="xref" type="tns:xrefType"/>
<complexType name="xrefType">
   <sequence>
      <element name="table">
         <complexType>
            <sequence>
               <element name="columns" type="tns:columnsType" minOccurs="0"
                maxOccurs="1"/>
              <element name="rows" type="tns:rowsType" maxOccurs="1"
               minOccurs="0"/>
```

```
            </sequence>
            <attribute name="name" use="required">
               <simpleType>
                        <restriction base="string">
                                 <minLength value="1"/>
                        </restriction>
                </simpleType>
            </attribute>
         </complexType>
      </element>
   </sequence>
</complexType>
<complexType name="columnsType">
      <sequence>
         <element name="column" minOccurs="1" maxOccurs="unbounded">
            <complexType>
               <attribute name="name" use="required">
                  <simpleType>
                     <restriction base="string">
                     <minLength value="1"/>
                     </restriction>
                  </simpleType>
               </attribute>
            </complexType>
         </element>
      </sequence>
</complexType>
</schema>
```

To import cross reference metadata, use the following command:

xrefimport -file FILENAME [-mode <ignore | overwrite>] [-generate <columnName>]

Best Practice when Fleet Financial PIP is to be used for Customer Billing Purposes

As part of the AIA 2.5, Fleet Financial PIP has been enhanced to include the Customer Synchronization from Oracle E Business Suite to Oracle Transportation Management. Oracle E Business Suite is the Customer Master. This Customer information can be used in the Order Releases created in Oracle Transportation Management. The Order Releases in Oracle Transportation Management can be created either by Delivery Sync flow of the Oracle Shipping Execution / Oracle Transportation Management Integration or by manual Creation. The Accounts Receivable flow of the Fleet Financial PIP takes care of the Customer Billing when Bills are synchronized from Oracle Transportation Management to EBS.

This allows the PIP users to exercise Fleet Financial PIP for complete Business flow of Customer Sync, Order Release and Customer billing.

Configuration of Routing Rules for the Best Practice Product Flows

No changes in the configuration rules are required for Interoperability of Fleet Financial PIP and in Oracle Shipping Execution / Oracle Transportation Management Integration.

Solution Assumptions and Constraints

Following steps should be followed in order if the Fleet Financial PIP is to be used for Customer Billing purposes.

Customer Sync from EBS to OTM should be defined with the following values:

- Under Customer/Account Information:
    - Account Type: External
    - Profile Class: Fed Class
- Account Profile -> Business Purposes
    - Purpose: Bill To / Ship To
    - Primary: ON
    - Payment Terms: IMMEDIATE (Both for Bill To and Ship To)

CREATE REMIT TO ADDRESS ON EBS

Using the Receivables Responsibility> Setup: Print> Remit- To addresses, create a Remit To address same as the Customer Address

ADD PRIMARY CONTACT FOR CUSTOMER ON OTM

Once the Customer is synched to OTM, edit the Customer details.

1. Navigate to Shipment Management -> Location Manager

2. Enter the Customer name in the location name and click Search.
3. Select the record> Edit.
4. Click the Communication and Remarks tab.
5. Enter the primary contact here, select Communication Method, and enter the email address.
6. Click Finished.

After the Bill is created as per the Accounts Receivables flow on OTM, follow the following steps:

1. Add the OP_UNIT value manually: Edit Bill, click Involved Parties. Under the Reference Number Qualifier, select OP_UNIT and enter the value in the Reference Number and click Save.
2. Under the Involved Parties> Enter the following values:
    - Involved Party Location -> Enter the Customer Location ID (Earlier Synched from EBS to OTM through the Customer Sync flow)
3. Enter the Communication Method as EMAIL, and add the Involved Party Qualifier as BILL-TO.
4. Click Save.
5. Involved Party Location -> Enter the Customer (Earlier Synched from EBS to OTM through the Customer Sync flow).
6. Enter the Communication Method, and add the Involved Party Qualifier as CUSTOMER.
7. Click Save.
8. Click Finished.

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