Oracle[®] Retail RMS-Oracle Financials Implementation Guide 11.0.6 November 2005



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Preface

This document discusses integration considerations related to the implementation of Oracle Retail Merchandising System (RMS) and Oracle Financials. It allows retailers to assess product requirements, configuration opportunities, and constraints, which will help in planning their financial solution footprint.

Audience

Anyone with an interest in developing a deeper understanding of the underlying processes and architecture supporting RMS/Oracle Financials integration functionality will find valuable information in this guide. There are three audiences in general for whom this guide is written:

- Integrators and implementation staff with overall responsibility for implementing RMS.
- Business analysts looking for information about processes and interfaces to validate the support for business scenarios within Oracle Financials, RMS, and other systems across the enterprise.
- System analysts and system operations personnel:

Related Documents

- **RMS** Installation Guide
- **RMS** Release Notes
- **RMS** Operations Guide
- Oracle Financials documentation

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When contacting Customer Support, please provide:

- Product version and program/module name.
- Functional and technical description of the problem (include business impact).
- Detailed step-by-step instructions to recreate.
- Exact error message received.
- Screen shots of each step you take.

Oracle Retail Financial Integration Implementation Guidelines

With the acquisition of Retek in the retail market space, Oracle Applications has targeted financial integration between the products as an initial project. Oracle Retail, formerly Retek, has a generic financial interface capability enabling any third party financial application support. This integration project positions the Oracle E-Business Suite 11.5.10 Financial Applications as the preferred integration option and offers a comprehensive retail solution to the market. Below is a list of all the Oracle Retail applications.

Merchandise Planning & Optimization	Merchandise Financial Planning Regular Price Optimization	Assortment Management Visual Space Planning	Allocation Promotion Planning	Space Optimization	Markdown Optimization Customer Segmentation
Merchandise Operations Management	Merchandise Data Management Purchase Order Management	Price & Promotions Management Inventory Mgmt & Stock Ledger	Sales Audit Global Sourcing & Import Management	Invoice Matching	Collaborative Product Development
Supply Chain Planning & Optimization	Demand Forecasting Co-Managed Inventory	Promotional Forecasting Manufacturing	Advanced Inventory Planning	CPFR®	Inventory Optimization
Supply Chain Execution	Warehouse Management	Labor Management			
Store & Multi- Channel Retailing	Point of Sale eCommerce	Store Inventory Management Business-to- Business Sales	Multi-Channel: Customer Service	Multi-Channel: Operations Associate HR Self Service	Multi-Channel: Inventory Associate Intelligence
CRM & Marketing	Campaign Management	Customer Hub	Customer Intelligence	Call Center	Service and Warranty
Corporate Administration	Finance Management	Vendor Funds Tracking	Corporate Operations	Indirect Procurement	Corporate Performance Mgmt
Real Estate Management	Store Construction Projects	Lease Management	Enterprise Asset Management		
Human Resources	Payroll	Benefits	Recruiting	Training	Incentive Compensation
Enterprise Infrastructure	Data Warehouse	Application Integration	Portal	Workflow & Alerts	10g: Application Server & Database

The integration supports the following flows:

- Financial reference data from Oracle E-Business Suite Financial Applications to Oracle Retail Merchandising System. These include chart of accounts, vendors, currency exchange rates, freight terms, and payment terms.
- Oracle Retail Invoice Matching (ReIM) matches invoices to purchase order receipts and reconciles discrepancies. Matched invoices are then forwarded to Oracle E-Business Suite Accounts Payable for payment. ReIM also forwards certain transactional data (write offs, prepayments) directly to the Oracle E-Business Suite General Ledger open interface.
- Oracle Retail Merchandising System (RMS) tracks all inventory movements within the system through its Stock Ledger. Daily and period-based financial information transfers can be scheduled to the Oracle E-Business Suite General Ledger.
- Oracle Retail Sales Audit (ReSA) allows summarized sales information to be forwarded to the Oracle E-Business Suite general ledger. High volume sales details can be aggregated by item, store and day, and transaction type.
- Oracle E-Business Suite Accounts Payable acts as the payment system for supplier invoices in the context of this integration.

Software Release Levels

Oracle Release Levels

- Oracle eBusiness Suite release 11.5.10 patched to CU2
- Oracle eBusiness Suite AP patch. See Metalink Release Notes for details
- Oracle Application Server 10g
- BPEL Process Manager 10.1.2 with applied patches. See Metalink Release Notes for

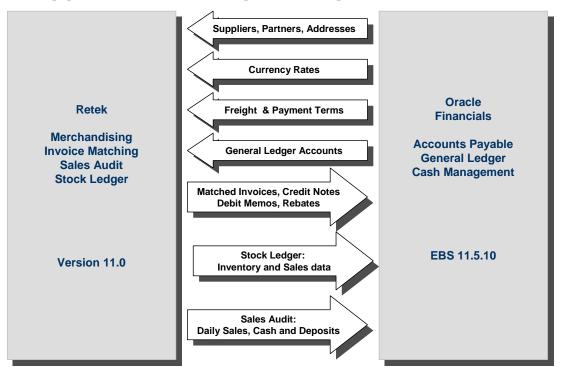
Oracle Retail Release Levels

- Oracle Retail Merchandising System (RMS) 11.0.5 plus patches. See Metalink Release Notes for details.
- Oracle Retail Sales Audit System (ReSA) 11.0.5 plus patches. See Metalink Release Notes for details.
- Oracle Invoice Match (ReIM) 11.0.5 plus patches. See Metalink Release notes for details.

Manual setup and synchronization are involved in the configuration once the patching processes are completed. This is discussed in further detail in "Chapter 4 – Architecture."

Solution Footprint

The financial integration solution is delivered through middleware in a publish and subscribe model. Financial reference data is published from Oracle E-Business Suite financial applications. Oracle Retail then subscribes to these processes through its own middleware architecture - Oracle Retail Integration Solution (RIS). On the outbound transactional flows, RIS populates financial staging tables, and they are then polled and used to populate the standard financial open interface capabilities in Oracle GL and AP.



With the differing enterprise models, the applications do not currently allow Oracle Retail partitioning of financial data beyond a single set of books (SOB)

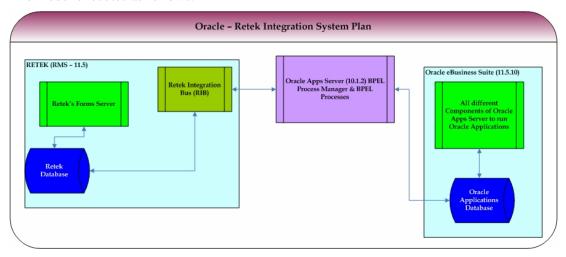
In this first phase of integration, a new SOB identifier has been defined – CHART OF ACCOUNTS ID. This allows Oracle Retail to identify the integration SOB for extraction and publication of the financial reference data from Oracle. The Oracle Retail GL Setup table (FIF_GL_SETUP) references this to facilitate integration.

Oracle Financial Applications Operating Unit is also defined in Oracle Retail. This is the document level layer in the enterprise model (for example, purchase orders). The operating unit is added to the Oracle Retail enterprise model comprised of supplier, store, warehouse, and so on to allow more granular financial recognition.

Architecture

As suggested, the integration solution is managed through middleware. The E-Business Suite uses Oracle Business Process Execution Language (BPEL) for the web services. Oracle Retail uses the Retail Integration Bus (RIB).

The model executes as follows:



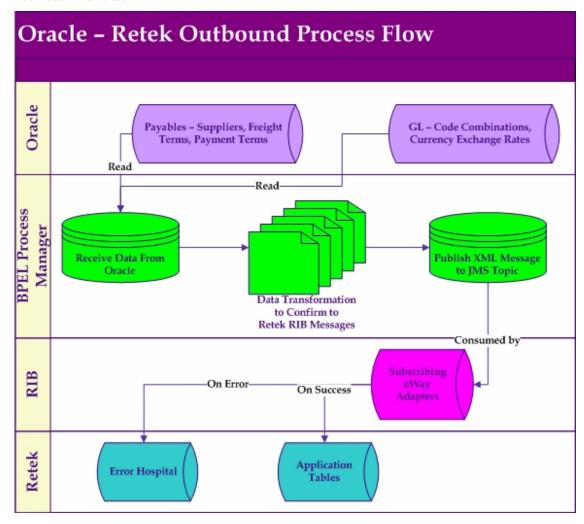
The three major components of the model are:

- Oracle E-Business Suite 11.5.10 CU2 running on 10g
- Oracle BPEL for the middleware integration to the E-Business Suite 10.1.2. This requires Oracle Application Server 10g.
- Oracle Retail 11.0.5

The BPEL and RIB middleware components are used to link and transact data. Outbound data from Oracle E-Business Suite Financials is sent on a NET change basis (any data change that is interpreted and actioned) to the RIB. This is then processed within Oracle Retail and the appropriate tables updated. Summarized financial transactions from Oracle Retail are then 'staged' to financial tables. These are then processed by BPEL to extract the data and populate the financial open interfaces in GL and AP. From that point, standard open interface processing is adopted.

Oracle Outbound Process Flows

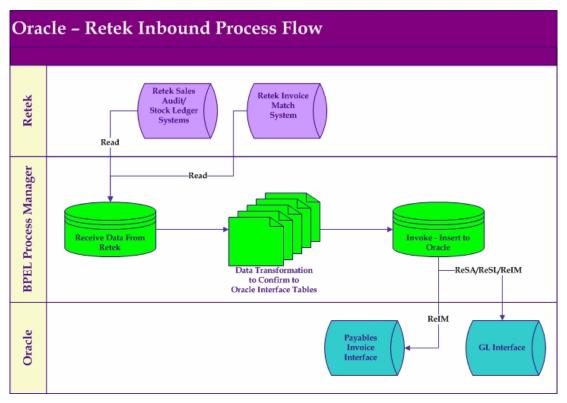
The following outbound reference data flows are supported through BPEL, for Oracle E-Business Financials:



- 1. Oracle E-Business Financial Applications GL account code combinations, suppliers, and freight and payment terms are retrieved on a NET change basis. All records added or changed are processed on a scheduled basis.
- 2. BPEL extracts these records and performs data transformation to XML record formats compatible with the RIB.
- 3. The XML messages are published to the RIB. On receipt validation, transformation and record updates are managed. The Error Hospital holds any error transactions.

Oracle Inbound Process Flows

The following inbound transactional data flows are supported through BPEL, for Oracle E-Business Financials:



- 1. The current Oracle Retail business processes populate the standard financial integration staging tables. These tables are:
 - Matched purchase order receipts
 - Inventory movements
 - Sales audit
- 2. BPEL reads the financial staging tables directly, extracting the details, and performs data transformation processes to populate the standard GL or AP open interfaces.
- 3. Once the standard open interface tables are populated, normal import and error management processes operate in Oracle E-business Financials.

Integration Performance

A major consideration for the integration is performance. Retail volumes are characteristically substantial and the solution needs to support high volumes.

On the outbound reference data from Oracle E-Business Suite Financials, the volumes are not considered a concern other than, for example, potential data load of GL account code combinations. The inbound transactional processes have been heavily tested for performance. Oracle Retail populates their standard financial staging tables through their normal business processes, and these have been optimized accordingly. Stress testing on BPEL has produced the following performance benchmark:

• Performance testing of the BPEL process that imports sales audit transactions yielded the following result: 3.5 million records can be imported per hour. The test was performed on a Linux 4 CPU server with 5 GB of memory on the 10.1.2 Patch 2 version of BPEL PM.

Middleware Configuration

See "Chapter 9-Middleware Configuration" for the installation and configuration options for BPEL and RIB

Deploying the Oracle / Oracle Retail BPEL Processes

The Oracle / Oracle Retail BPEL Processes are defined in patches on Metalink. These cannot be seeded within BPEL and require manual deployment through the BPEL console. The patches provide two directories for these:

AP_TOP/jar

Freight Terms

Payment Terms

Vendors

RESA/RESL Inbound

REIM Inbound to AP

REIM Inbound to GL

\$GL_TOP/jar

GL COA

GL Currency Rates

BPEL Console Login

Log in into the BPEL Process Manager Console and then navigate to the BPEL Processes. From here you can add additional processes.



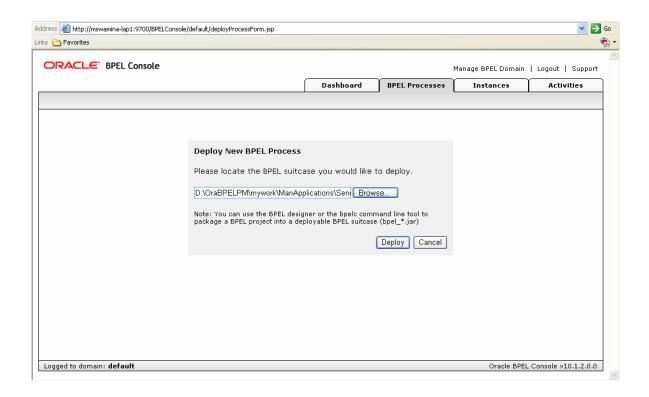
Note: The initial password is "bpel"

You can also manage the list of domains using BPEL Admin:

O Goto BPEL Admin

BPEL Deploy Process

As stated above, the Oracle / Oracle Retail BPEL Processes are defined in patches on Metalink. These cannot be seeded within BPEL and require manual deployment through the BPEL console shown below.



Process Details

Note: These processes need to be manually deployed into the BPEL Process Manager. Refer to the Integration Cookbook for the details of how to deploy these business processes.

Note: Rename these files from *_1_0.jar to *1.0.jar before deploying these files in the BPEL Process Manager. For example, rename bpel_SendVendorToRetek_1_0.jar to bpel_SendVendorToRetek_1.0.jar.

The following BPEL processes are delivered to enable integration:

<Payables Product Top>/jar directory

Import stock ledger and sales audit transactions to Oracle General Ledger

-- bpel_GetReSARMSJournalsToOracle_1_0.jar

Import Retek Invoice Match module's invoices to Oracle Payables Open Interface tables

- -- bpel_GetRetekInvoicesToOracle_1_0.jar
- -- bpel_GetRetekInvoicesToOracleBatchManager_1_0.jar

Import Retek Invoice Match module's Write offs, prepayments manual payments to Oracle General Ledger

- -- bpel_GetReIMJournalsToOracle_1_0.jar
- -- bpel_GetRetekJournalsToOracleBatchManager_1_0.jar

Send Freight Terms from Oracle Payables to Retek

-- bpel SendFreightTermsToRetek 1 0.jar

Send Payment Terms from Oracle Payables to Retek

-- bpel_SendPaymentTermsToRetek_1_0.jar

Send Suppliers from Oracle Payables to Retek

- -- bpel_SendVendorToRetek_1_0.jar
- <General Ledger Product Top>/jar directory

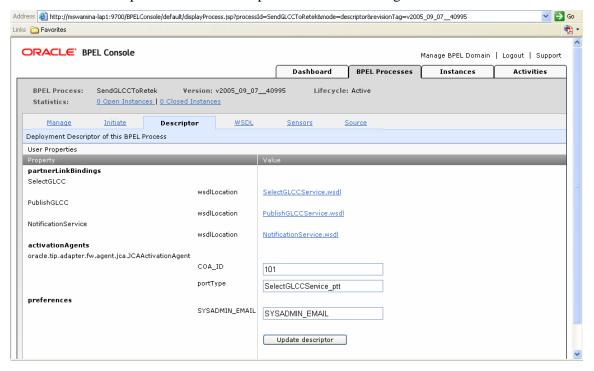
Send Currency Exchange Rates from Oracle General Ledger to Retek

-- bpel SendCurrRatesToRetek 1 0.jar

Send Code Combinations from Oracle General Ledger to Retek

-- bpel_SendGLCCToRetek_1_0.jar

After deploying each process, the COA ID, port type, and the system administrator email address need to be updated. This is accomplished on the following screen:



Oracle GL COA

Oracle Financials sends the GL Code Combinations reference data to Oracle Retail. This data is extracted by the BPEL Process Manager and published to the Oracle Retail Integration Bus (RIB) as XML messages on the JMS Topic on the RIB. RIB APIs pick these up for the insertion of these messages into the RMS system. The BPEL Process Manager has error handling routines to accommodate system error scenarios while the RIB APIs already have error handling routines built-in for errors on their end, which are written to the Error Hospital (error repository) of the RIB.

The design assumes that the following statements are true:

- One Oracle Retail instance is associated with one Set of Books in Oracle. Oracle Retail's Setup table FIF GL SETUP only has one financial reference record, and this always carries the reference to a single Oracle Applications Set of Books ID. The corresponding CHART_OF_ACCOUNTS_ID has to be provided by the implementation team at the time of deployment to allow this setup.
 - Set up Oracle GL COA.
 - Go to Setup Set of Books in Oracle Retail.
 - Enter Oracle CHART OF ACCOUNTS ID to synchronize the systems.
- Oracle Retail supports a 10 segments flex field structure and Oracle supports 30 segments structure. Therefore, the Oracle Financials COA can only support 10 segments.
- Oracle's COA segments are 25 chars in length. The Oracle Retail RIB subscription format only supports 20 chars for segments.

Oracle only interfaces valid, detailed code combinations to Oracle Retail. Valid and detailed codes include both the segment values and the Oracle CCID.

- The BPEL process requires the CHART OF ACCOUNTS ID as a parameter to the deployment descriptor property 'COA ID' at installation time. This parameter is used to bind to the SQL statement to select code combinations for a particular Chart of Accounts related to the Set of Books.
- For the JNDI entries in the 'oc4j-ra.xml' for the corresponding adapters, the implementation team needs to provide the required install specific connection information. The JNDI entries to be modified are:
- DB adapter oc4j-ra.xml: Oracle DB connection information.
 - JNDI name: eis/DB/OracleConnection
- JMS adapter oc4j-ra.xml: Oracle Retail RIB JMS topic connection information.
 - JNDI name: eis/Jms/Oracle RetailSeebeyondJMSTopic
- Provide the value for the 'SYSADMIN_EMAIL' descriptor property from the BPEL console.

Partner Links Partner Links receive ■ 🛄 🦪 🔞 🕄 🔁 🕷 NotificationService ns3:NotificationServiceFault NotificationService InvokeNotificationService AssignThreadValue (iii) PublishGLCC PublishGLCCToRetek

SendGLCCToOracle Retail BPEL Process

Oracle Exchange Rates

Oracle sends the foreign currency conversion rates information to Oracle Retail. This data is extracted by the BPEL PM and published to the Oracle Retail Integration Bus (RIB) as XML messages on the JMS topic on the RIB. RIB APIs pick these up for insertion into the RMS system. BPEL PM has error handling routines to accommodate system error scenarios while the RIB API's already have error handling routines built-in for errors on their end. These are written to the Error Hospital (error repository) of the RIB.

The design assumes that the following statements are true:

- Oracle Financials and Oracle Retail store currency conversion rates information in different ways. Oracle Financials maintains the rates with respect to a "from currency to currency" on a particular date, whereas Oracle Retail stores only the rates in the context of a "to" currency for a given date. The "from" currency is assumed to always be the RMS primary currency. Oracle Financials sends all conversion rates to Oracle Retail in the message and the Oracle Retail API populates its table with only those currencies where the "from" currency is equal to the RMS primary currency.
- There are different types of currencies used in Oracle Financials and Oracle Retail. Oracle Financials seeds only Spot, Corporate and User rate types as default exchange rate types. Oracle Retail allows for multiple rate types, but only uses one for the default processing Operational or Consolidation. This is determined based on a system option in RMS. As part of the configuration, a cross-reference has to be created in RMS that allows the data from Oracle Financials to be properly translated into RMS terminology. This cross-reference is held in the FIF_CURRENCY_XREF table in RMS.
- Currency codes (for example,. US Dollars) is the same in both Oracle Financials and Oracle Retail. The list of valid currencies is maintained separately via scripts in each application. However, because currency code size is smaller in Oracle Retail (3 chars), currency codes in Oracle Financials must be entered with 3 characters or less.
- For the JNDI entries, in the "oc4j-ra.xml" for the corresponding adapters, the implementation team has to provide the required install specific connection information. The JNDI entries to be modified are:
 - DB Adapter oc4j-ra.xml: Oracle DB connection information.
 - JNDI name: eis/DB/OracleConnection
 - JMS Adapter oc4j-ra.xml: Oracle Retail RIB JMS topic connection information.
 - JNDI name: eis/Jms/SendCurrencyRates
- Provide the value for the 'SYSADMIN_EMAIL' descriptor property from the BPEL console.
- The BPEL requires a starting conversion date as a parameter to the deployment descriptor property "VDate" at installation time. This parameter is used to bind to the SQL statement to select currency conversion rates with conversion dates greater than the Oracle Retail specified setup date Vdate.

Partner Links Partner Links SelectCurrRates receive II A A S & Worldoo NotificationService TransformRetekToRIB AssignThreadValue PublishCurrRates

SendCurrRatesToOracle Retail BPEL Process

Oracle Vendors

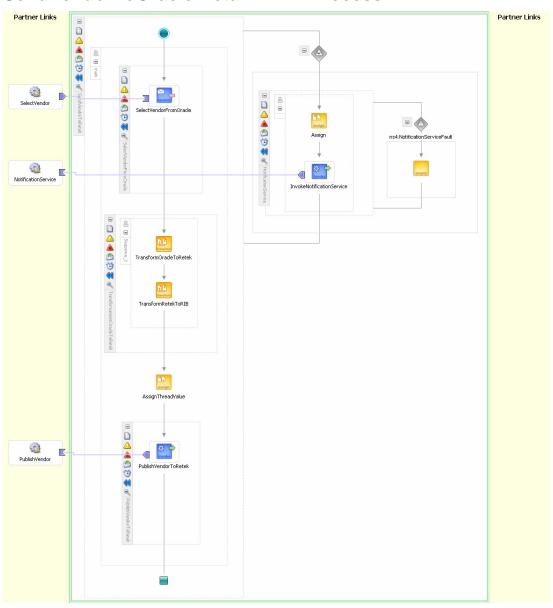
Oracle sends the vendor reference data to Oracle Retail. This data is extracted by the BPEL PM and published to the Oracle Retail Integration Bus (RIB) as XML messages on the JMS Topic on the RIB. RIB APIs then pick these up for insertion into the RMS system. BPEL PM has error handling routines to accommodate system error scenarios while the RIB APIs already have error handling routines built in for errors on their end. These are written to the Error Hospital (error repository) of the RIB.

This design assumes that the following statements are true:

- Oracle and Oracle Retail have different forms of vendor model. Oracle Retail has a vendor table that stores information about the suppliers and an address table that stores information about the vendor addresses. The addresses are striped by purpose. For example, if a supplier uses the same address for an order, mailing and remittance address, this information is entered as three address records with the same address with different purpose in Oracle Retail. Conversely, Oracle's supplier model is Operating Unit (OU) striped. This means that as a part of the integration effort, the Oracle Retail Supplier model has been modified to include the Oracle Operating Unit as an attribute of the supplier address. Addresses that are provided by Oracle include this data element. This is used as a cross-reference between the two systems.
- Only two address types are interfaced from Oracle to RMS that include Oracle Pay (or Remittance in Oracle Retail) and Oracle Purchase (or Ordering in Oracle Retail). These address types interfaced by Oracle Financials to Oracle Retail are maintained by Oracle through the interface and include the Oracle Operating Unit. Other address types are maintained in RMS and do not include the Oracle Operating Unit.
- Oracle Retail requires many different attributes at the supplier level that are Retail
 industry specific and currently not available as a part of Oracle's vendor model. Only
 the minimum supplier information is interfaced to Oracle Retail. The retail specific
 attributes are entered by Oracle Retail users in RMS
- Oracle interfaces all the Suppliers (not employees) information to Oracle Retail.
- Oracle Retail maintains profile information (supplier contact, contact phone number, and so on) at the supplier level, as well as at the address level, whereas Oracle Financials maintains all the profile information at the site level. Oracle Financials sends the profile information from the first purchasing site for the supplier to be used as the supplier level profile information in Oracle Retail. If no contact is found it defaults "UNKNOWN".
- Oracle has effective dates to maintain the state of the supplier/site records. Oracle
 Retail has enabled flag to maintain the same information. Oracle compares the
 effective dates to the system date when interfacing to Oracle Retail to populate the
 enabled flag.
- When operating in an environment with Value Added Tax (VAT), RMS requires VAT Regions to be associated with suppliers. Oracle does not have a concept similar to the RMS VAT region and as such, cannot provide this information to RMS. When RMS receives a vendor message from Oracle when VAT functionality is enabled, the suppliers in RMS are created without a VAT region in 'inactive' status, regardless of the status indicated in the message from Oracle. In order for the suppliers to be valid, usable entities in RMS, users need to manually modify the newly created supplier records in RMS, adding a VAT region and updating the status to 'active'.

• Currency codes are not a required element for Oracle suppliers, but are required in RMS. If Oracle interfaces a supplier without a currency code, RMS creates the supplier with the primary currency code in 'inactive' status. The RMS user is able to manually update the currency code of the supplier and change the status to 'active'.

SendVendorToOracle Retail BPEL Process

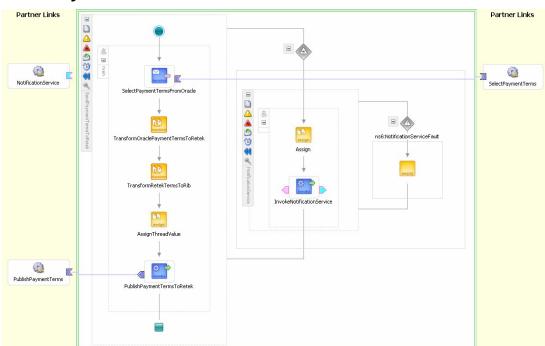


Oracle Payment Terms

Oracle sends the payment terms reference data to Oracle Retail. This data is extracted by the BPEL processing manager and published to the Oracle Retail Integration Bus (RIB) as XML messages on the JMS Topic on the RIB. RIB APIs then pick these up for insertion into the RMS system. BPEL PM has error handling routines to accommodate system error scenarios while the RIB APIs already have error handling routines built in for errors on their end. These are written to the Error Hospital (error repository) of the RIB.

This design assumes that the following statements are true:

- Oracle only interfaces payment terms in the base installed language to Oracle Retail.
 The other language translations are handled in Oracle Retail, using base translation
 functionality.
- Payment Terms Rank information is not mandatory in Oracle Financials. It is a required attribute in Oracle Retail. Oracle Financials default a value of '1' for the Rank for any payment terms that has no rank specified in Oracle Financials.
- Payment Terms name is used for Payment Terms Description when the Description field is not populated in Oracle.
- Payment Terms Enabled flag value is evaluated based on the start and end effective dates of the payment terms and the current system date.
- The Due Days, Due Amount, Discount Days, Discount Percent, Discount Months Forward are defaulted to '0' when it is not populated in Oracle Financials.
- The Due Day of the Month, Discount Day of the Month and Due Cut Off Day are defaulted to "1" when not populated in Oracle Financials.



SendPaymentTermsToOracle Retail BPEL Process

Oracle Freight Terms

Oracle sends the freight terms reference data to Oracle Retail. This data is extracted by the BPEL PM and published to the Oracle Retail Integration Bus (RIB) as XML messages on the JMS Topic on the RIB. RIB APIs then pick these up for insertion into the RMS system. BPEL PM has error handling routines to accommodate system error scenarios while the RIB APIs already have error handling routines built-in for errors. These are written to the Error Hospital (error repository) of the RIB.

This design assumes that the following statements are true:

 Oracle only interfaces terms in the base installed language to Oracle Retail. The other language translations are handled in Oracle Retail, using base translation functionality.

Partner Links Selectif regist Terms Toketek Transformic self-regist Terms Toketek Notification Service Transformic self-regist Terms Toketek Publish Freight Terms Toketek Publish Freight Terms Toketek

SendFreightTermsToOracle Retail BPEL Process

Stock Ledger, Invoices and Sales to GL

Oracle Retail populates the STG_FIF_GL_DATA staging table with GL transactional data related to Oracle Retail's Sales Audit system and stock ledger system. For information about how Oracle Retail engages in this processing, see the latest Oracle Retail Invoice Matching (ReIM) Operations Guide and/or Operations Guide Addendum.

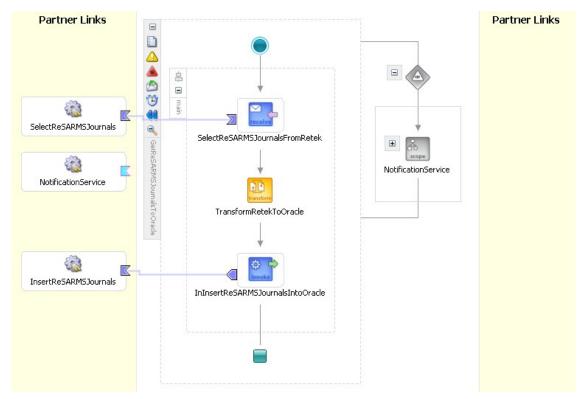
Oracle pulls this GL data from the Oracle Retail staging table, performs appropriate transformations and populates the GL_INTERFACE table in Oracle E-Business Suite. This process is orchestrated by BPEL PM using DB Adapters.

BPEL PM has error handling routines to accommodate system error scenarios. If an error is encountered, a notification is sent to a designated System Administrator role with pertinent information related to the BPEL process that has encountered the error. The System Administrator uses the built-in BPEL console to trouble-shoot and re-process the data.

This design assumes that the following statements are true:

- The Oracle Retail batch process that populates STG_FIF_GL_DATA populates the
 complete dataset for a given period (daily, monthly, and so on). Hence, there are no
 checks and balances to pre-validate if the journals are balanced, prior to processing
 the records.
- The GL inbound process designed by Oracle is responsible for archiving the data in STG_FIF_GL_DATA to a history table after successful processing has occurred.
- Invoking of the standard concurrent program 'Journal Import' is a manual process and the modality of invoking this is an implementation-time decision and does not form part of this design.
- This design has a dependency on an agreed upon data mapping between the Oracle Retail staging table, STG_FIF_GL_DATA, and the GL_INTERFACE table on the Oracle side. This data mapping includes any required transformation and application of business rules to ensure data integrity in Oracle General Ledger. Please refer to the Appendix for the detailed Data Mapping and transformations.
- The design assumes that Oracle Retail always populates the code_combinations_id, and does not send the accounting segment information. (The accounting segment information is still populated on the table. However, Oracle does not use this information).
- The following master data synchronization and setup/configuration must be completed before running this interface:
 - Chart of Accounts synchronization between Oracle (Master) and Oracle Retail (Slave).
 - Currency Codes and rates synchronization between Oracle (Master) and Oracle Retail (Slave).
 - Oracle Retail Journal Source and Category have been set up in Oracle General Ledger.
 - Currency Conversion Type. Only 'Corporate' and 'Spot' conversion types would be supported by this design out-of-box.
 - Period Names and Accounting Calendar synchronization between Oracle (Master) and Oracle Retail (Slave).
 - Only 'Actual' Journals are interfaced and the design does **not** handle Budget and Encumbrance Journals.

SendReSAToOracle BPEL Process



Oracle BPEL Product Development has provided a patch to enable Batch Delete and Batch Commit for DB Adapter polling service. Apply this on the BPEL server on which the GL Inbound BPEL process is deployed by executing the following code.

```
java -jar
D:\bpm_gal\integration\orabpel\system\appserver\oc4j\j2ee\home\admin.jar
ormi://localhost/ admin welcome -deployconnector -file DbAdapter.rar -name
DbAdapter
```

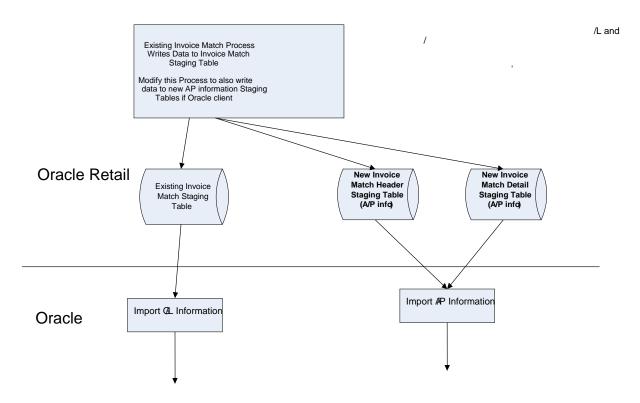
Run this command from the location where you have downloaded the .rar file. This needs to be done only if the Oracle BPEL PM version does not include this patch.

RelM Approved Payments to AP

Full Invoice Match processing is completed in ReIM with payment recommendations imported to Oracle Accounts Payable. ReIM matches merchandise receipts with merchandise invoices, performing automated and manual matching and discrepancy resolution processing. Matched invoices are posted to interface staging tables specifying the amount and date to pay, vendor, Oracle Site ID, GL COA information, and payment terms. Other payables documents, including Debit Memos, Credit Memos and Credit Notes are also interfaced to Oracle Payables via the ReIM staging tables (IM_AP_STAGE_HEAD and IM_AP_STAGE_DETAIL). For information about how Oracle Retail engages in this processing, see the latest Oracle Retail Invoice Matching (ReIM) Operations Guide and/or Operations Guide Addendum.

Certain transactions from ReIM are not interfaced to Oracle Payables, but instead are interfaced to Oracle General Ledger via the IM_FINANCIAL_STAGE table.

The Oracle Retail financial staging table IM_FINANCIALS_STAGE, which stores the GL transactions from Oracle Retail's Invoice Match System, is the primary starting point for the BPEL import process to Oracle. In order to support the transformation and population into Oracle Account Payables standard interface payables transactions are written to a new set of Oracle Retail header/detail staging tables for the Oracle BPEL process - IM_AP_STAGE_HEAD and IM_AP_STAGE_DETAIL.



The payables open interface import, which currently accepts only liability account's code_combination_id at the invoice header level, has been enhanced to also accept the concatenated segments as input and generates the code_combination_id accordingly and is stamped on the imported invoice header record in ap_invoices.

This design assumes that the following statements are true:

- The Oracle Retail staging tables (IM_FINANCIALS_STAGE,
 IM_AP_STAGE_HEAD and IM_AP_STAGE_DETAIL tables) are populated by an
 Oracle Retail batch process. This batch process populates the complete dataset for the
 period it is run, which is typically daily.
- Chart of Accounts synchronization between Oracle and Oracle Retail takes place via
 a separate asynchronous process. It is ensured that the synchronization is performed
 as an offline business process, and is not in the scope of this design. A designated GL
 administrator will handle any omissions or errors related to GL code combinations
 manually.
- GL Cross reference mapping is set up in ReIM by transaction type. This setup process allows for dynamic mapping to different GL COA values by RMS location and RMS merchandise hierarchy information. When ReIM is implemented with Oracle Financials, the Trade Accounts Payable transaction codes in ReIM are not dynamically mapped to GL COA values, but the Oracle Payables Flexfield functionality allows for similar functionality to the ReIM dynamic mapping process based on the dynamic mapping of details lines in the interface tables.
- In the case of importing invoices from ReIM to payables interface tables, Oracle Retail's staging tables populate the segment information for the accounting flex-fields for both header and detail staging tables. Note, however, that the payables interface tables accept the concatenated segments for these flex-fields. This BPEL process assumes that "-" (hyphen) is the delimiter for the chart of accounts implementation on the Oracle Applications.

- GetReIMJournalsToOracle BPEL process assumes that VAT codes in Oracle Retail
 invoice matching system and the Oracle applications are the same. These codes need
 to be manually synchronized.
- All the outbound interface processes that interface the setup data from Oracle Financials Applications to Oracle Retail are run before running the Inbound Transaction Interface processes.

Partner Links **Partner Links** = ☐ 🛕 📤 🐔 🤨 🥶 🞳 🧭 GetReteldInnickeTribrade main SelectRetekInvoices SelectInvoicesFromRetek ${\sf TransformRetekToOracle}$ K InsertRetekInvoices InsertInvoicesIntoOracle DeleteRetekInvoices DeleteInvoicesFromRetek

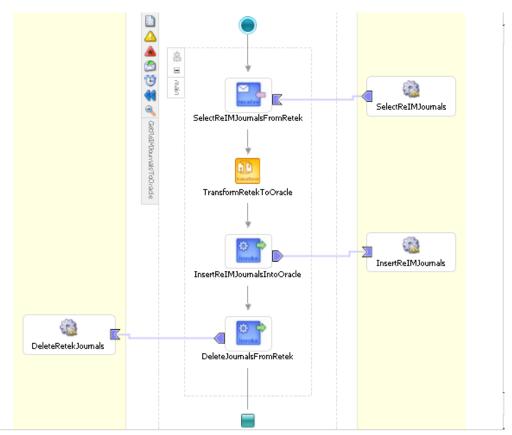
GetOracle RetailInvoicesToOracle (Inbound RelM Invoices)

ReIM to GL

The GL transaction postings from the Oracle Retail Invoice Matching Process are taken from the financial staging table IM_FINANCIALS_STAGE. Transactions are processed and populate the standard GL_INTERFACE, which is the table used to import journal entry batches into Oracle General Ledger through Journal Import.

Unmatched merchandise receipts that are 'written off', and pre-paid matched invoices are written to this staging table as these transactions have a General Ledger impact, but do not require creation of payments or netting against other payments.

GetReIMJournalsToOracle (Inbound ReIM Journals)

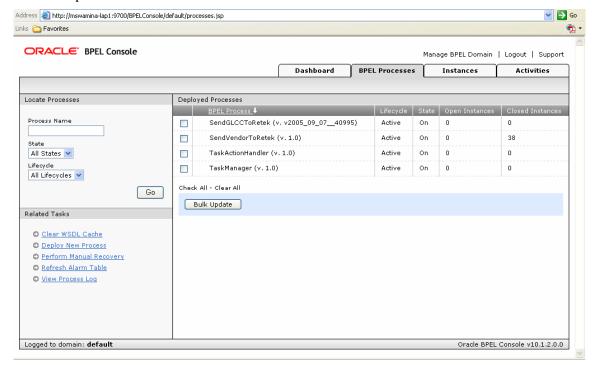


The financial staging tables in Oracle Retail are not purged automatically. It is assumed that Oracle Financials is responsible for the 'housekeeping' on these tables. The database adapter uses a 'Physical Delete' polling strategy. The 'Physical Delete' strategy polls the database table for records and deletes them after processing.

BPEL Error Handling

BPEL provides a high degree of error handling capability. Through the Notification Service setup, you can configure a system administrator email address where notifications of BPEL process errors are sent. Each BPEL process has an identifying process instance. This is forwarded to the system administrator for corrective action.

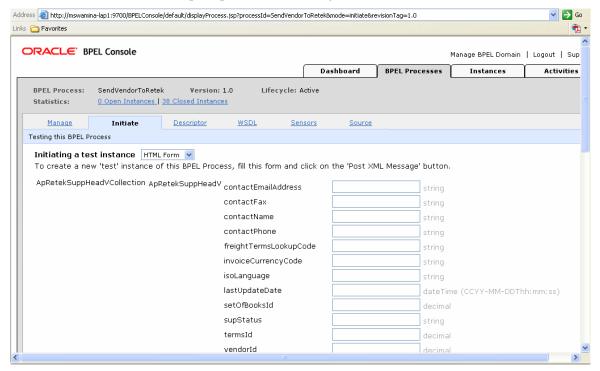
From the BPEL Processes tab on the Manager Console, the administrator can select Perform Manual Recovery for the identified process instance. The Instances tab shows a full list of processes.



This lists the undelivered messages. The query capabilities allow query by all message states. (delivered, not delivered life cycle,[date/time ranges], and so on). Selecting the message allows the user to correct in two modes – HTML or XML:

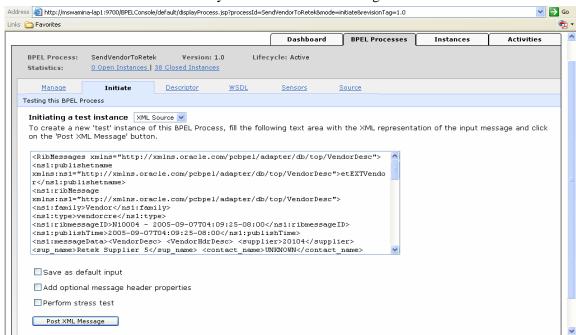
HTML

The HTML prompt for the message is displayed and the user can manually enter the correct data via the field level prompts in the following window:



XML

The error XML data can be manually corrected in the following window:



Following completion of either method, the administrator submits the message for reprocessing.

BPEL Processing and Scheduling

The BPEL Processes are scheduled to occur at defined intervals based on volume and business practice. The database adapter keeps polling the source Oracle database at predetermined time intervals for new or changed records for the outbound reference data processes.

Once the BPEL process is initiated it looks for create/update records in the appropriate tables/views in Oracle to select only the records with the last_update_date greater that that last processing run.

For example:

The adapter uses a Control (Sequencing) table AP_SEQUENCING_HELPER to refer to the LAST_UPDATE_DATE for each process.

The GL COA process looks at "GL_CODE_COMBINATIONS" for create/update. After the selection and raising of the records to the BPEL instances, the LAST_READ_DATE in AP_SEQUENCING_HELPER is updated to the latest value processed. Selected records are processed in the BPEL flow and published to the Oracle Retail JMS for subscription by the RIB. The RIB has been equally configured to subscribe at predetermined intervals.

Oracle Retail Integration Bus (RIB)

For detailed instructions on the installation and operation of the Oracle Retail Integration Bus, refer to the RIB 11.1 Installation Guide, RIB 11.1 Technical Architecture Guide, and RIB 11.1 Operations Guide.

Subscribing Adapter Overview

Subscribing adapters are responsible for ensuring that messages are processed in the correct sequence for a given business entity. For example, for a specific Purchase Order, its "Create Purchase Order" message must always be processed before an update or delete message. Furthermore, all updates must be processed in the correct order to ensure that two systems are correctly synchronized. But no such guarantee exists when comparing messages concerning different business entities. If no errors occur, messages are processed in a First-In, First-Out (FIFO) order. Alternatively, if an error occurs processing a message for one business object (PO #123), then other messages that apply to other business objects (PO's #124, #125...) should still be processed. Furthermore, all messages for the problem business object (PO #123) are held in the Error Hospital. If an error occurs during message processing a two-step process is followed:

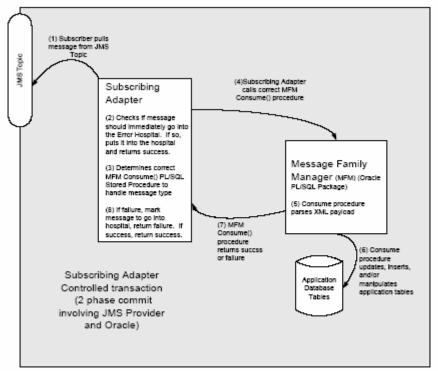
- 1. The subscribing adapter notes this internally (**not** in the database) and rolls back all database work associated with the message.
- 2. The JMS server re-sends the message to the adapter and since it has yet to be processed successfully, the adapter recognizes this message is problematic (sick) and checks it into an Error Hospital database.

A subscribing adapter always checks the hospital database to see if there are any messages in the hospital that act on the same business entity (such as a PO) that the current message does. If so, the adapter immediately places the current message in the hospital as well. This is to ensure that all messages for a given business entity are processed in the correct order. Without manual intervention, the RIB always processes the "sick" messages for a business object before any subsequent messages that act on the same business object.

After a message is checked into the Error Hospital, a hospital retry adapter/e*Way/Daemon is used to re-post the message to the JMS in order to retry its processing. The assumption is that the error is a transitory one – records locked or there is an external dependency that has not been met. The number of times a message is retried is configurable.

Subscribing PL/SQL Stored Procedure Message Family Manager Packages

The concept of a Message Family Manager (MFM) is also used with message subscriptions within the RIB. As in the publishing side of processing, the subscribing MFM is only concerned with the XML payload and not the entire RIB Message XML.



Subscription Process for PL/SQL Interfaces

All MFM packages that parse and process the payload within a RIB message have the same procedure name (CONSUME) and the same basic parameter list. An example is seen below:

```
PROCEDURE CONSUME(O_status_code IN OUT VARCHAR2, O_error_message OUT VARCHAR2, I_message IN OUT CLOB);
```

O_status_code is the success/failure status of the procedure call. The values of this parameter that are standard across all subscribing packages are found in the RIB_CODES package. Currently, these include:

- SUB_FATAL_ERROR A fatal error was encountered processing the payload.
- SUB_XML_PARSE_ERROR The payload could not be parsed due to a validation error.
- SUB_SUCCESS The payload was processed successfully.

O_status_code may also contain values that are application specific. These values must not conflict with those listed above. These values should be listed in the Retek 11.0 Integration Guide.

- O_error_message is text associated with any error condition.
- I message is the payload XML text used as input to the stored procedure.

For RIB Object subscribing applications, the I_message parameter is declared to be of the type RIB_OBJECT. Additional parameters may be present, and they depend on the following:

- The specific MFM/Message Type that is processed.
- Whether the CONSUME procedure also returns a RIB Object to be published.

MFMs using CLOB based APIs use multiple PL/SQL packages, one per Message Type, while RIB Object based APIs use a single PL/SQL package for all Message Types within an MFM.

Error Hospital Database Tables

The following tables are used to store messages in the Error Hospital:

- RIB_MESSAGE contains the message payload, all single-field envelope information, and a concatenated string made from <id> tags. It also contains a unique hospital ID identifying this record within the hospital.
- RIB_MESSAGE_FAILURE— contains all failure information for each time the message was processed.
- RIB_MESSAGE_ROUTING_INFO contains all of the routing element information found in the message envelope.
- RIB_MESSAGE_HOSPITAL_REF contains all of the hospital reference information found in the message envelope.

Additionally, a sequence, rib_message_seq RIB_MESSAGE_SEQ, is used to maintain a unique "Hospital ID" associated with each message placed into the Error Hospital.

Note: The hospital retry Adapter or e*Way is responsible for maintaining state information for hospital records, or information regarding what has happened to the record or message information. One element of this information is whether the message has been queued to the JMS topic for re-try processing. Thus, manually deleting messages from the hospital database using SQL directly may produce severe processing problems. Similarly, deleting messages directly from the JMS provider may result in a message that is never retried again, as the logic in the republisher assumes the message is queued within the JMS. The RIB is supplied with a command-line and GUI interface to the Error Hospital database for administrative message control. These facilities also allow you to manually change the payload data for the next retry attempt.

RMS Business Processes Configuration

RMS System Options

As part of the RMS System Options setup script, set:

- FINANCIAL AP = O indicates that the financial system being interfaced with is Oracle
- ORACLE-FINANCIAL-VERS = 1
- CONSOLIDATION-IND = Y

Org Units

Use the Organizational Unit window (RMS Start Menu> Control> Setup> Org Unit> Edit) to define Org Units in RMS to match those set up in Oracle. When entering Operating Unit in RMS, the valid operating units are those operating units associated with the Set Of Books that is being used for the GL interface.

Currency Exchange Rates

Determine the Exchange Type being sent by Oracle (for example, 'Corporate') that you want RMS to use. Use the Currency Exchange Type Mapping Window (RMS Start Menu> Action> Currency Exchange Types) to map that External Exchange Type being sent by Oracle to the RMS Exchange Type, either '?' or 'Consolidation'. If 'Consolidation' is selected, the RMS System Option for Consolidation needs to be set. Either the '?' or 'Consolidation' exchange type will be used in Oracle Retail applications for all transactions based on this system setting.

Supplier Address Types

When defining valid address types in RMS, set the EXTERNAL_ADDR_IND to 'Y' for the Order and Remittance address types. For all other address types, leave this value as the default N. Address Types that are designated as External cannot be maintained through the RMS supplier dialog.

Country Codes

When defining and seeding the Country Codes in RMS, only 2 character codes should be used, because Oracle uses 2 character country codes by default.

RMS GL Setup

The RMS table FIF GL SETUP holds the Oracle SOB ID that it links to. This requires manual setup once the Oracle SOB is determined. The FIF_GL_SETUP file holds a single SOB record

Suppliers

Suppliers are now created in the Oracle financials system and exported to RMS. They cannot be created using the RMS windows. However, once the Supplier exists in RMS, all data values for the Supplier (except Supplier Name and Status) will continue to be updated using the RMS windows.

Note: Functionality for Partners data is not affected by this project.

Addresses

Supplier Address types of 'Order' and 'Remittance' are now created in the Oracle financials system and exported to RMS. They cannot be created using RMS windows. Once these addresses exist in RMS, the address fields (Street, City, State, and so on) are updated in Oracle and fed to RMS, but the contact information fields are maintained directly in RMS.

The RMS import process creates any other required Supplier Address types by copying the Order or Remittance addresses received from Oracle. Once these exist in RMS, they are updated only in RMS

Any *optional* **Supplier Address types** are created and updated only in RMS.

Any **non-Supplier Addresses** (that is, partner addresses, store addresses, and so on.) are created and updated only in RMS.

Freight Terms, Payment Terms, Currency Exchange Rates, and G/L Chart of Accounts

This data is created and updated in Oracle and exported to RMS. It cannot be created or updated in RMS. The only window in RMS that would normally allow for update of this data is the Currency Exchange Rates window, which is now available in View mode only.

Oracle Org Units and Site IDs

The new data concepts of Org Units and Site IDs were added in RMS to mirror data being kept in Oracle. RMS windows were added to manage and view Oracle Org Units and Site IDs, and the RMS windows for Store and Warehouse maintenance were changed so each Store and Warehouse is assigned to an Oracle Org Unit. These new windows are shown below.

New Organization Unit Window

This window is accessed as follows:

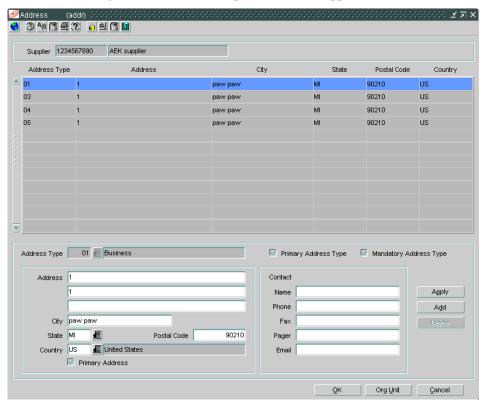
Control>Setup>Org>Edit

- 1. In the Org Unit ID field, enter the ID of the Oracle organizational unit. This must match the Org Unit entered in Oracle Financials
- 2. In the Org Unit Name field, enter the name of the Oracle organizational

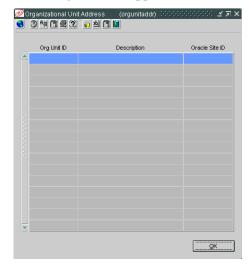


Supplier

A new button has been added to the Supplier Address window, Org Unit. This allows the user to see the organization relationship with Oracle suppliers.



From the button, a new window Org Unit shows the organization unit relationship to the Oracle Site ID. The financial staging table adds this to the transaction for invoices. This, in turn, allows Oracle to identify the operating unit in accounts payable when importing the data. This screen is for visibility only. No changes can be made in RMS to the Org Unit assigned to a supplier.

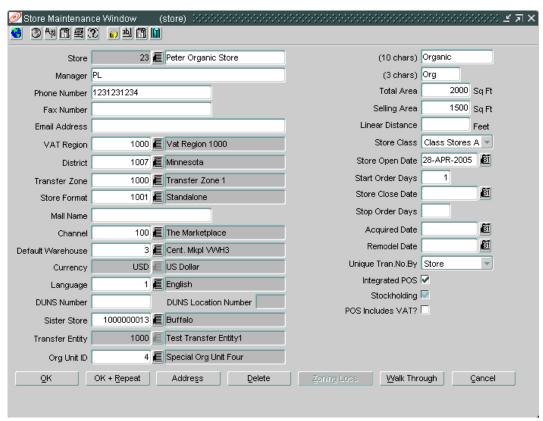


Store and Warehouse

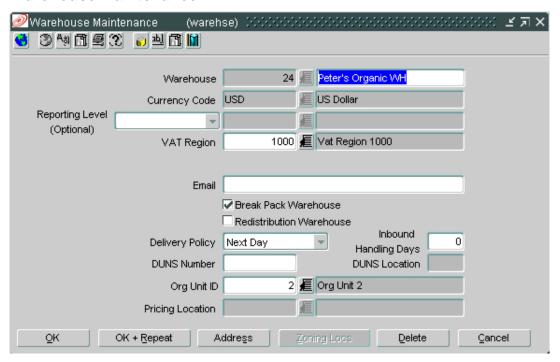
The organization unit has also been added to the Store Maintenance and Warehouse forms. This allows the Oracle Operating Unit to be associated with the store or warehouse. When RMS is set up for single channel operation, the organization unit is set at the physical warehouse level, and when RMS is set up for multi-channel operation, the organization unit is set up at the virtual warehouse level. Financial Sales Audit and Inventory information can then be identified by Oracle through the interface routines and post to the appropriate GL accounts.

An organization unit has to be designated for all store and warehouse locations in RMS.

Store Maintenance



Warehouse Maintenance



Other items that are affected when the Oracle Financials option is selected are as follows:

System Parameter Maintenance

Where SYSTEM_OPTIONS.FINANCIAL_AP is 'O', disable auto generate supplier / partner numbers and associated check boxes.

GL Cross Reference

Finance>GL Cross Reference>General Ledger Search – Window Associate GL Accounts with Department, Location.

Where SYSTEM_OPTION_FINANCIAL_AP is 'O', disable debit and credit account id's.

GL Account Maintenance

Action>Sales Audit>Control>Setup>GL Account Maintenance – Window General Ledger Search Form.

Where SYSTEM_OPTIONS.FINANCIAL_AP is 'O', the form requires valid CC_ID's to be entered. You can select segments and labels from the table FIF_GL_ACCT.

Turn off the debit and credit account CC_ID's.

RelM Invoice Matching/RMS Stock Ledger/ReSA Sales Information

RelM Invoice Matching

Oracle Retail Invoice Matching (ReIM) matches invoices to purchase orders and receipts and reconciles discrepancies. Matched invoices are then forwarded to Oracle E-Business Suite Accounts Payable for payment. ReIM also forwards certain transactional data (for example, write offs, prepayments) directly to the Oracle E-Business Suite General Ledger open interface.

RMS Stock Ledger

Oracle Retail Merchandising System (RMS) tracks all inventory movements within the system through its Stock Ledger. Daily and period-based financial information transfers can be scheduled to the Oracle E-Business Suite General Ledger.

RMS allows for three levels of interfacing stock ledger information to General Ledger:

- Monthly
- · Daily by subclass, class, or department
- Daily by transaction.

The daily summarized interface, as well as the monthly interface, do not provide any access to detailed reference information.

For each interface, (daily detail, daily summary and monthly summary) specific transaction types can be selected to be included in the interface, while others can be excluded. This is determined in the GL cross-reference mapping. As such, any one or a combination of interfaces can be run to interface Stock Ledger data to Oracle General Ledger. Care needs to be exercised in order to capture all of the necessary data without duplicating any data.

ReSA Sales Information

Oracle Retail Sales Audit (ReSA) allows summarized sales information to be forwarded to the Oracle E-Business Suite General Ledger. High volume sales details can be aggregated by item, store and day, and transaction type.

The process of interfacing data directly from ReSA to Oracle General Ledger is optional. Sales data from ReSA is also posted directly to the RMS stock ledger and can be interfaced to Oracle General Ledger via the Stock Ledger to General Ledger interface. The decision to interface directly from ReSA to GL is a business decision and appropriate setup needs to be completed to accurately interface this data to GL without duplicating data in the GL.

Business Intelligence

Oracle Daily Business Intelligence is a pre-built decision support system for Oracle Applications. The solution has been extended to include integrated data sourced directly from Oracle Retail with extension for customers to view Daily Business Intelligence for Accounts Payable, Sales, and Expenses. The Business Intelligence application requires the following configuration for Retail:

Business Intelligence Designer Responsibility

Payables Management Page

Navigate: Reporting Menu-Overview Pages

- 1. Select Financials in the Functional Area dropdown list.
- 2. Navigate to the Payables Management Page and click **Duplicate** icon.

Once you have navigated to this area, you are able to modify the duplicate Payables Management Page as described below:

Modify the KPI list:

- 1. Remove the original KPI list.
- 2. Click **New** in the KPI content area to add new region and move it to the left.
- 3. In the newly added KPI list region, click Select.
- 4. Select Customer Defined Functional Area and Type= KPI List.
- 5. Click **Create** to create the new KPI list.
- 6. Specify the fields as follows:
 - Title = "Payables Management KPIs"
 - Comparison Graph = None
 - Show Change Column = Yes
 - Value Column Heading = "YTD/QTD/MTD"
- 7. Add 5 new KPI Measures
 - Invoices Entered
 - Invoices Paid
 - Paid Late (measure = Percent Invoices Paid Late)
 - Invoice to Payment Days
 - Payments
- 8. Click Implementation Properties to select the corresponding measure (same names as KPI's), and click **Apply** to save changes.
- 9. For each KPI:
 - Remove Drilldown URL.

You can remove irrelevant content by clicking on the Trash icon. Among the content that is removed is:

- Electronic and Paid Late Invoices (graph in the KPI region group)
- Invoices Graph (in the Invoices region group)
- Discounts region group
- · Holds region group

Add New Content

- 1. Click **New** in the appropriate region group.
- 2. Use the arrows to move the new region to the appropriate position within the region group.
- 3. In the KPI region group, add the Paid Late Invoices Graph to the right of the KPIs list by:
 - Clicking **Select** within newly added region.
 - Selecting Financials in the Functional Area and Graph Type.
 - Navigating to the Paid Late Invoices graph and selecting it.
- 4. In the Invoices region group, add Invoices Graph by:
 - Clicking Select within newly added region.
 - Selecting *Financials* in the Functional Area and Graph Type.
 - Navigating to the Invoice Activity graph and selecting it.

Adding links to Microstrategy Reports:

The following links can be added to Microstrategy reports:

- Primary Supplier Performance Scorecard
- Supplier Compliance Comparison TY vs LY
- Returns to Supplier Detail
- Primary Supplier Sales and Profit Analysis
- Top Performers Delivery Accuracy
- Supplier Invoice Cost

The procedure for adding these links is as follows:

- 1. Click **Select** in the Links page region on the Payables Management page.
- 2. Under "Custom Defined" Functional area, Type=Links.
- 3. Click Create to create new links region.
- 4. Enter Name = "Links" and description for the region,
- 5. In a separate browser, navigate to the appropriate MicroStrategy report, copy the URL for each one, and add to the newly defined links region.

Note: Make sure to add all the necessary links at once because it is not possible save a partial list and return to it at a later time

6. Click **Apply** to save changes.

Payables Status Page

Navigate: Payables Status Page-Duplicate Icon

- 1. Click the **Duplicate** icon.
- 2. Modify the KPI list by defining a new one.
- 3. Remove the original KPI list.
- 4. Click **New** in the KPI content area to add new region and move it to the left.
- 5. In the newly added KPI list region click **Select.**
- 6. Select Customer Defined Functional Area and Type= KPI List.
- 7. Click **Create** to create the new KPI list and specify the fields as follows:
 - Title = Payables Status KPIs
 - Comparison Graph = None
 - Show Change Column = No
 - Value Column Heading = YTD/QTD/MTD
- 8. Add the following seven new KPI Measures:
 - Open Payables Amount
 - Invoices Due Amount
 - Number of Invoices Due
 - Weighted Average Days Due
 - Invoices Past Due Amount
 - Number of Invoices Past Due
 - Weighted Average Days Past Due
- 9. Click **Implementation Properties** to select the corresponding measure (same names as KPIs) and click **Apply** to save changes.
- 10. For each KPI:
 - Remove Drilldown URL.
 - Remove irrelevant content by clicking the trash icon (for example, Discounts Region Group, Holds Region Group).
- 11. Click **Apply** to save changes.

Switch to Business Intelligence Administrator Responsibilities

Navigate: Setup-Global-Overview

- 1. Select Customer Defined in the Functional Area dropdown.
- 2. Click **Enable** for the newly defined pages.

Switch System Administrator Responsibility

Navigate: Application-Function

- 1. Search for User Function Name = *Payables Management* and *Payables Status* and Function name starting with "*PMD*".
- 2. In the Description field, enter the following:
 - For the Payables Management page, enter "Page that displays Payables Management details such as invoiced entered and payments by organization."
 - For the Payables Status page, enter "Page that displays Payables Status details such as invoiced entered and payments by supplier."

Middleware Configuration

The following guides should be referenced for the standard configuration of the middleware components:

- Oracle BPEL Process Managers Development Guide 10g Release2 (10.1.2)
- RIB 11.1 Installation Guide
- RIB 11.1 Technical Architecture Guide
- RIB 11.1 Operations Guide

Following installation, the following integration configuration settings must be configured:

BPEL Configuration

```
Your BPEL PM Installed
Dir>\integration\orabpel\system\appserver\oc4j\j2ee\home\application-
deployments\default\DbAdapter
Edit oc4j-ra.xml
Add the following JNDI Lookups after providing the right values for your setup
    <connector-factory location="eis/DB/OracleConnection" connector-name="Database</pre>
Adapter">
        <config-property name="driverClassName"</pre>
value="oracle.jdbc.driver.OracleDriver"/>
       <config-property name="connectionString" value="jdbc:oracle:thin:@<your</pre>
Oracle APPS DB host>:<PORT Number>:<Database SID>"/>
       <config-property name="userName" value="<Apps User>"/>
       <config-property name="password" value="<Apps Password>"/>
        <config-property name="minConnections" value="5"/>
        <config-property name="maxConnections" value="5"/>
       <config-property name="minReadConnections" value="1"/>
       <config-property name="maxReadConnections" value="1"/>
       <config-property name="usesExternalConnectionPooling" value="false"/>
        <config-property name="dataSourceName" value=""/>
        <config-property name="usesExternalTransactionController" value="false"/>
        <config-property name="platformClassName"</pre>
value="oracle.toplink.internal.databaseaccess.Oracle9Platform"/>
        <config-property name="usesNativeSequencing" value="true"/>
        <config-property name="sequencePreallocationSize" value="50"/>
        <config-property name="tableQualifier" value=""/>
    </connector-factory>
    <connector-factory location="eis/DB/Oracle RetailConnection" connector-</pre>
name="Database Adapter">
       <config-property name="driverClassName"</pre>
value="oracle.jdbc.driver.OracleDriver"/>
       <config-property name="connectionString" value="jdbc:oracle:thin:@<your</pre>
Oracle Retail RMS host>:<PORT Number>:<Database SID>"/>
        <config-property name="userName" value="<RMS database User>"/>
        <config-property name="password" value="<RMS Database PWD>"/>
        <config-property name="minConnections" value="5"/>
```

The BPEL error handling in this integration supports email notification to the system administrator for any BPEL processing errors.

Each process has a Catchall block to trap any errors and sends an appropriate email to the predefined sysadmin. The email provides an appropriate error message together with process instance ID in error. The system administrator can use the Instance ID to query the process from the BPEL console and take requisite action.

The sysadmin email address is specified as a descriptor preference property "SYSADMIN_EMAIL". The value of this property, and hence the sysadmin email address, can be changed at run-time from the BPEL Console without redeploying or bringing down the BPEL Server.

The Setup for the email administration is fully documented in the Oracle BPEL Process Managers Developers Guide 10g Release 2 (10.1.2), Part Number B14448-01 – Section 17 Oracle BPEL Process Manager Notification Services.

RIB Configuration

Following installation of the BPEL application, and patches, (in conjunction with section 5.1 Oracle BPEL Connection), the following Oracle Retail configuration requires manual update. This completes the connection definition between the instances and SOB.

```
Your BPEL PM Installed
Dir>\integration\orabpel\system\appserver\oc4j\j2ee\home\config\application.xml
     library path="<where you have deployed the</pre>
egate_bindings.jar>\rib\sbynjndi\stcjms.jar"/>
     library path="<where you have deployed the</pre>
egate_bindings.jar>\rib\sbynjndi\providerutil.jar"/>
     library path="<where you have deployed the</pre>
egate_bindings.jar>\rib\sbynjndi\fscontext.jar"/>
<Your BPEL PM Install
Directory>\integration\orabpel\system\appserver\oc4j\j2ee\home\application-
deployments\default\JmsAdapter
Add the following JNDI Lookup after filling in the right information
    <connector-factory location="eis/Jms/SendFreightTerms" connector-name="Jms</pre>
Adapter">
        <config-property name="connectionFactoryLocation"</pre>
value="com.seebeyond.jms.client.STCTopicConnectionFactory"/>
        <config-property name="factoryProperties" value="Host=<your Seebeyond Host</pre>
Name>;Port=<Seebeyond Port Number>"/>
        <config-property name="acknowledgeMode" value="AUTO_ACKNOWLEDGE"/>
```

```
<config-property name="isTopic" value="true"/>
        <config-property name="isTransacted" value="true"/>
       <config-property name="username" value=""/>
       <config-property name="password" value=""/>
    </connector-factory>
    <connector-factory location="eis/Jms/SendPaymentTerms" connector-name="Jms</pre>
Adapter">
       <config-property name="connectionFactoryLocation"</pre>
value="com.seebeyond.jms.client.STCTopicConnectionFactory"/>
       <config-property name="factoryProperties" value="Host=<your Seebeyond Host</pre>
Name>;Port=<Seebeyond Port Number>"/>
       <config-property name="acknowledgeMode" value="AUTO_ACKNOWLEDGE"/>
        <config-property name="isTopic" value="true"/>
        <config-property name="isTransacted" value="true"/>
        <config-property name="username" value=""/>
        <config-property name="password" value=""/>
    </connector-factory>
    <connector-factory location="eis/Jms/SendVendors" connector-name="Jms</pre>
Adapter">
        <config-property name="connectionFactoryLocation"</pre>
value="com.seebeyond.jms.client.STCTopicConnectionFactory"/>
        <config-property name="factoryProperties" value="Host=<your Seebeyond Host</pre>
Name>;Port=<Seebeyond Port Number>"/>
        <config-property name="acknowledgeMode" value="AUTO_ACKNOWLEDGE"/>
        <config-property name="isTopic" value="true"/>
       <config-property name="isTransacted" value="true"/>
       <config-property name="username" value=""/>
        <config-property name="password" value=""/>
    </connector-factory>
    <connector-factory location="eis/Jms/SendCurrencyRates" connector-name="Jms</pre>
Adapter">
       <config-property name="connectionFactoryLocation"</pre>
value="com.seebeyond.jms.client.STCTopicConnectionFactory"/>
       <config-property name="factoryProperties" value="Host=<your Seebeyond Host</pre>
Name>;Port=<Seebeyond Port Number>"/>
        <config-property name="acknowledgeMode" value="AUTO_ACKNOWLEDGE"/>
        <config-property name="isTopic" value="true"/>
        <config-property name="isTransacted" value="true"/>
        <config-property name="username" value=""/>
        <config-property name="password" value=""/>
    </connector-factory>
    <connector-factory location="eis/Jms/SendCodeCombinations" connector-name="Jms</pre>
        <config-property name="connectionFactoryLocation"</pre>
value="com.seebeyond.jms.client.STCTopicConnectionFactory"/>
        <config-property name="factoryProperties" value="Host=<your Seebeyond Host</pre>
Name>;Port=<Seebeyond Port Number>"/>
        <config-property name="acknowledgeMode" value="AUTO ACKNOWLEDGE"/>
        <config-property name="isTopic" value="true"/>
        <config-property name="isTransacted" value="true"/>
        <config-property name="username" value=""/>
        <config-property name="password" value=""/>
    </connector-factory>
```

Appendix

GL COA Mapping

field passed from Oracle	>	Oracle Retail RIB - GLCOADesc	API Creat	API Updat e	>	Oracle Retail Database - FIF_GL_ACCT	windo w edit (none)	comments or special info
code-combination-id		PRIMARY_AC COUNT	(key)	(key)		PRIMARY_ACC OUNT	n/a	
segment1		ATTRIBUTE1	pass	pass		ATTRIBUTE1	n/a	
segment2		ATTRIBUTE2	pass	pass		ATTRIBUTE2	n/a	
segment3		ATTRIBUTE3	pass	pass		ATTRIBUTE3	n/a	
segment4		ATTRIBUTE4	pass	pass		ATTRIBUTE4	n/a	
segment5		ATTRIBUTE5	pass	pass		ATTRIBUTE5	n/a	
segment6		ATTRIBUTE6	pass	pass		ATTRIBUTE6	n/a	
segment7		ATTRIBUTE7	pass	pass		ATTRIBUTE7	n/a	
segment8		ATTRIBUTE8	pass	pass		ATTRIBUTE8	n/a	
segment9		ATTRIBUTE9	pass	pass		ATTRIBUTE9	n/a	
segment10		ATTRIBUTE10	pass	pass		ATTRIBUTE10	n/a	
		ATTRIBUTE11	default	ignore		ATTRIBUTE11	n/a	
		ATTRIBUTE12	default	ignore		ATTRIBUTE12	n/a	
		ATTRIBUTE13	default	ignore		ATTRIBUTE13	n/a	
		ATTRIBUTE14	default	ignore		ATTRIBUTE14	n/a	
		ATTRIBUTE15	default	ignore		ATTRIBUTE15	n/a	

field passed from Oracle	>	Oracle Retail RIB - GLCOADesc	API Creat e	API Updat e	^	Oracle Retail Database - FIF_GL_ACCT	windo w edit (none)	comments or special info
		DESCRIPTION1	default	ignore		DESCRIPTION1	n/a	
		DESCRIPTION2	default	ignore		DESCRIPTION2	n/a	
		DESCRIPTION3	default	ignore		DESCRIPTION3	n/a	
		DESCRIPTION4	default	ignore		DESCRIPTION4	n/a	
		DESCRIPTION5	default	ignore		DESCRIPTION5	n/a	
		DESCRIPTION6	default	ignore		DESCRIPTION6	n/a	
		DESCRIPTION7	default	ignore		DESCRIPTION7	n/a	
		DESCRIPTION8	default	ignore		DESCRIPTION8	n/a	
		DESCRIPTION9	default	ignore		DESCRIPTION9	n/a	
		DESCRIPTION10	default	ignore		DESCRIPTION10	n/a	
		DESCRIPTION11	default	ignore		DESCRIPTION11	n/a	
		DESCRIPTION12	default	ignore		DESCRIPTION12	n/a	
		DESCRIPTION13	default	ignore		DESCRIPTION13	n/a	
		DESCRIPTION14	default	ignore		DESCRIPTION14	n/a	
		DESCRIPTION15	default	ignore		DESCRIPTION15	n/a	

Supplier

field passed from Oracle	Α .	Oracle Retail RIB - VendorHdrDe sc	API Creat e	API Updat e	>	Oracle Retail Database - SUPS	windo w edit (supvw edt)	comments or special info
vendor id		SUPPLIER	(key)	(key)		SUPPLIER	(key)	
vendor name		SUP_NAME	pass	pass		SUP_NAME	disable	
(will send one occ)		CONTACT_NA ME	pass	ignore		CONTACT_NAM E	normal	Oracle keeps info at lower level. They will send info from one occurrence which will be used in Oracle Retail for create only. After that, any updates will be done by user via Oracle Retail window.
(will send one occ)		CONTACT_PH ONE	pass	ignore		CONTACT_PHO NE	normal	see note for contact_name above
(will send one occ)		CONTACT_FA	pass	ignore		CONTACT_FAX	normal	see note for contact_name above
		CONTACT_PA GER	default	ignore		CONTACT_PAG ER	normal	
(derived)		SUP_STATUS	see note	see note		SUP_STATUS	see note	For API: see info in Functional Spec. For window: Disable this field EXCEPT if the client uses VAT and current Status is inactive. In that case, if user tries to change status to active, invoke standard edit that VAT region must be valued in order to change status to active.
		QC_IND	default	ignore		QC_IND	normal	
		QC_PCT	default	ignore		QC_PCT	normal	

field passed from Oracle	>	Oracle Retail RIB - VendorHdrDe sc	API Creat e	API Updat e	>	Oracle Retail Database - SUPS	windo w edit (supvw edt)	comments or special info
		QC_FREQ	default	ignore		QC_FREQ	normal	
		VC_IND	default	ignore		VC_IND	normal	
		VC_PCT	default	ignore		VC_PCT	normal	
		VC_FREQ	default	ignore		VC_FREQ	normal	
(will send one occ)		CURRENCY_C ODE	pass	ignore		CURRENCY_CO DE	normal	see note for contact_name above
(will send one occ)		LANG	pass	ignore		LANG	normal	see note for contact_name above. Also Eric will work with Manoj to clarify format.
(will send one occ)		TERMS	pass	ignore		TERMS	normal	see note for contact_name above
(will send one occ)		FREIGHT_TERMS	pass	ignore		FREIGHT_TERMS	normal	see note for contact_name above
		RET_ALLOW_IND	default	ignore		RET_ALLOW_IND	normal	
		RET_AUTH_REQ	default	ignore		RET_AUTH_REQ	normal	
		RET_MIN_DOL_AM T	default	ignore		RET_MIN_DOL_AMT	normal	
		RET_COURIER	default	ignore		RET_COURIER	normal	
		HANDLING_PCT	default	ignore		HANDLING_PCT	normal	
		EDI_PO_IND	default	ignore		EDI_PO_IND	normal	
		EDI_PO_CHG	default	ignore		EDI_PO_CHG	normal	
		EDI_PO_CONFIRM	default	ignore		EDI_PO_CONFIRM	normal	
		EDI_ASN	default	ignore		EDI_ASN	normal	
		EDI_SALES_RPT_F REQ	default	ignore		EDI_SALES_RPT_FR EQ	normal	
		EDI_SUPP_AVAILA BLE_IND	default	ignore		EDI_SUPP_AVAILABL E_IND	normal	

field passed from Oracle	>	Oracle Retail RIB -	API Creat	API Updat	>	Oracle Retail Database -	windo w edit	comments or special info
		VendorHdrDe sc	е	е		SUPS	(supvw edt)	
		EDI_CONTRACT_IN D	default	ignore		EDI_CONTRACT_IND	normal	
		EDI_INVC_IND	default	ignore		EDI_INVC_IND	normal	
			default	n/a		EDI_CHANNEL_ID	normal	
		COST_CHG_PCT_V AR	default	ignore		COST_CHG_PCT_VA R	normal	
		COST_CHG_AMT_ VAR	default	ignore		COST_CHG_AMT_VAR	normal	
		REPLEN_APPROVA L_IND	default	ignore		REPLEN_APPROVAL_IND	normal	
		SHIP_METHOD	default	ignore		SHIP_METHOD	normal	
		PAYMENT_METHO D	default	ignore		PAYMENT_METHOD	normal	
		CONTACT_TELEX	default	ignore		CONTACT_TELEX	normal	
(will send one occ)		CONTACT_EMAIL	pass	ignore		CONTACT_EMAIL	normal	see note for contact_name above
		SETTLEMENT_COD E	default	ignore		SETTLEMENT_CODE	normal	
		PRE_MARK_IND	default	ignore		PRE_MARK_IND	normal	
		AUTO_APPR_INVC _IND	default	ignore		AUTO_APPR_INVC_I ND	normal	
		DBT_MEMO_CODE	default	ignore		DBT_MEMO_CODE	normal	
		FREIGHT_CHARGE _IND	default	ignore		FREIGHT_CHARGE_I ND	normal	
		AUTO_APPR_DBT_ MEMO_IND	default	ignore		AUTO_APPR_DBT_M EMO_IND	normal	
		PREPAY_INVC_IND	default	ignore		PREPAY_INVC_IND	normal	
		BACKORDER_IND	default	ignore		BACKORDER_IND	normal	

field passed from Oracle	>	Oracle Retail RIB - VendorHdrDe sc	API Creat e	API Updat e	>	Oracle Retail Database - SUPS	windo w edit (supvw edt)	comments or special info
see note		VAT_REGION	See note	ignore		VAT_REGION	normal	For API: see info in Functional Spec.
		INV_MGMT_LVL	default	ignore		INV_MGMT_LVL	normal	
		SERVICE_PERF_R EQ_IND	default	ignore		SERVICE_PERF_REQ _IND	normal	
		INVC_PAY_LOC	default	ignore		INVC_PAY_LOC	normal	
		INVC_RECEIVE_LO	default	ignore		INVC_RECEIVE_LOC	normal	
		ADDINVC_GROSS_ NET	default	ignore		ADDINVC_GROSS_N ET	normal	
		DELIVERY_POLICY	default	ignore		DELIVERY_POLICY	normal	
		COMMENT_DESC	default	ignore		COMMENT_DESC	normal	
		DEFAULT_ITEM_LE AD_TIME	default	ignore		DEFAULT_ITEM_LEA D_TIME	normal	
		DUNS_NUMBER	default	ignore		DUNS_NUMBER	normal	
		DUNS_LOC	default	ignore		DUNS_LOC	normal	
		BRACKET_COSTIN G_IND	default	ignore		BRACKET_COSTING_ IND	normal	
		VMI_ORDER_STAT US	default	ignore		VMI_ORDER_STATUS	normal	
		DSD_SUPPLIER_IN D	default	ignore		DSD_IND	normal	
		END_DATE_ACTIV E	ignore	ignore		n/a	n/a	

Addresses

field passed from Oracle	Α .	Oracle Retail RIB - VendorAddrDes c	API Create	API Updat e	>	Oracle Retail Database -	windo w edit (addr)	comments or special info
			(key)	(key)		ADDR_KE Y	n/a	
(literal)		MODULE	(key)	(key)		MODULE	n/a	should always be the literal 'SUPP'
vendor_id		KEY_VALUE_1	(key)	(key)		KEY_VAL UE_1	n/a	this is the supplier number
null		KEY_VALUE_2	default	ignore		KEY_VAL UE_2	n/a	
null		SEQ_NO	generat e	ignore		SEQ_NO	n/a	
?		ADDR_TYPE	see note	see note		ADDR_TY PE	n/a	For API - See info in Functional Spec Eric will work with Manoj to clarify format & handling.
null		PRIMARY_ADD R_IND	generat e	generat e		PRIMARY_ ADDR_IND	normal	logic in API will determine
address_line1		ADD_1	pass	pass		ADD_1	disable	
address_line2		ADD_2	pass	pass		ADD_2	disable	
address_line3		ADD_3	pass	pass		ADD_3	disable	
city		CITY	pass	pass		CITY	disable	
		STATE				STATE	disable	
		COUNTRY_ID				COUNTRY _ID	disable	

field passed from Oracle	^	Oracle Retail RIB - VendorAddrDes c	API Create	API Updat e	^	Oracle Retail Database - ADDR	windo w edit (addr)	comments or special info
zip		POST	pass	pass		POST	disable	
(will send one occ)		CONTACT_NA ME	pass	ignore		CONTACT _NAME	normal	Oracle keeps information at lower level. They will send information from one occurrence which will be used in Oracle Retail for create only. After that, any updates will be done by user via Oracle Retail window.
(will send one occ)		CONTACT_PH ONE	pass	ignore		CONTACT _PHONE	normal	see note for contact_name above
		CONTACT_TEL EX	default	ignore		CONTACT_ TELEX	normal	
(will send one occ)		CONTACT_FAX	pass	ignore		CONTACT _FAX	normal	see note for contact_name above
(will send one occ)		CONTACT_EM AIL	pass	ignore		CONTACT _EMAIL	normal	see note for contact_name above
null		ORACLE_VEND OR_SITE_ID	default	ignore		ORACLE_V ENDOR_SI TE_ID	n/a	
n/a		n/a	default	n/a		EDI_ADDR _CHG	n/a	
n/a		n/a	default	n/a		COUNTY	n/a	
n/a		n/a	default	n/a		PUBLISH_I ND	n/a	

field passed from Oracle	>	Oracle Retail RIB - VendorAddrDes c	API Create	API Updat e	>	Oracle Retail Database - ADDR	windo w edit (addr)	comments or special info
Mutliple occurrences of info at lower level:								
org_id		oracle_org_unit_i d	pass	pass		oracle_org_ unit_id	n/a	
vendor_site_id		oracle_vendor_sit e_id	pass	pass		oracle_vend or_site_id	n/a	

Exchange Rates

field passed from Oracle	۸	Oracle Retail RIB - CurrRateDesc	API Create	API Update	Λ	Oracle Retail Database - Currency Rates	window edit - Currency Exchange Rates	comments or special info
from-currency		FROM_CURRENC Y	(key)	(key)		CURRENCY_C ODE	allow view only	
conversion- date		CONVERSION_D ATE	(key)	(key)		EFFECTIVE_D ATE	allow view only	
conversion- type		USER_CONVERSI ON_TYPE	translate & use for key	translate & use for key		EXCHANGE_T YPE	allow view only	Read fif-currency-xref table to translate incoming value to rms-exchange- type.
conversion- rate		CONVERSION_R ATE	pass	pass		EXCHANGE_R ATE	allow view only	
to-currency		TO_CURRENCY	use for filter	use for filter		n/a	n/a	Check this value vs. currency-code field on system-options table. If they do not match, ignore this record.

Freight Terms

field passed from Oracle	۸	Oracle Retail RIB - FrtTermDesc	API Creat e	API Updat e	۸	Oracle Retail Database - FREIGHT_TER MS	windo w edit (none)	comments or special info
lookup-code		FREIGHT_TE RMS	(key)	(key)		FREIGHT_TERM S	n/a	
meaning		TERM_DESC	pass	pass		TERM_DESC	n/a	
start-date-active		START_DATE _ACTIVE	pass	pass		START_DATE_ ACTIVE	n/a	
end-date-active		END_DATE_A CTIVE	pass	pass		END_DATE_AC TIVE	n/a	
enabled-flag		ENABLED_FL AG	pass	pass		ENABLED_FLA G	n/a	

Payment Terms

field passed from Oracle	^	Oracle Retail RIB - PayTermDes c?	Oracle Retail RIB - PayTermDtl?	API Creat e	API Upda te	^	Oracle Retail Database TERMS_HEA DER	windo w edit (none)	comments or special info
							Oracle Retail Database TERMS_HEAD		
term-id		TERMS		(key)	(key)		TERMS	n/a	
name		TERMS_COD E		pass	pass		TERMS_CODE	n/a	
description		TERMS_DES C		pass	pass		TERMS_DESC	n/a	
rank		RANK		pass	pass		RANK	n/a	
		(any other fields on this DTD)		ignore	ignore		n/a	n/a	
							Oracle Retail Database TERMS_DETA IL		
term-id		TERMS		(key)	(key)		TERMS	n/a	
sequence-num			TERMS_SEQ	(key)	(key)		TERMS_SEQ	n/a	
due-days			DUE_DAYS	pass	pass		DUEDAYS	n/a	
due-amount			DUE_MAX_A MOUNT	pass	pass		DUE_MAX_A MOUNT	n/a	
due-day-of-month			DUE_DOM	pass	pass		DUE_DOM	n/a	

field passed from Oracle	>	Oracle Retail RIB - PayTermDes c?	Oracle Retail RIB - PayTermDtl?	API Creat e	API Upda te	>	Oracle Retail Database TERMS_HEA DER	windo w edit (none)	comments or special info
due-months- forward			DUE_MM_FW D	pass	pass		DUE_MM_FW D	n/a	
discount-days			DISCDAYS	pass	pass		DISCDAYS	n/a	
discount-percent			PERCENT	pass	pass		PERCENT	n/a	
discount-day-of- month			DISC_DOM	pass	pass		DISC_DOM	n/a	
discount-months- forward			DISC_MM_F WD	pass	pass		DISC_MM_FW D	n/a	
fixed-date			FIXED_DATE	pass	pass		FIXED_DATE	n/a	
enabled-flag**			ENABLED_FL AG	pass	pass		ENABLED_FL AG	n/a	**At header level in Oracle.
start-date-active**			START_DATE _ACTIVE	pass	pass		START_DATE _ACTIVE	n/a	**At header level in Oracle.
end-date-active**			END_DATE_ ACTIVE	pass	pass		END_DATE_A CTIVE	n/a	**At header level in Oracle.
due-cutoff-day**			CUTOFF_DA Y	pass	pass		CUTOFF_DAY	n/a	**At header level in Oracle.

Oracle Retail Staging Table FIF_STG_GL_DATA

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
STATUS	VARCHAR 2(50)		STATUS	VARCHAR 2(50)	Yes	Straight Mapping.
SET_OF_BOOKS_ID	NUMBER(1 5)		SET_OF_BOOKS _ID	NUMBER(1 5)	Yes	Straight Mapping. Oracle Retail will send valid value.
ACCOUNTING_DAT E	DATE		ACCOUNTING_D ATE	DATE	Yes	Straight Mapping.
CURRENCY_CODE	VARCHAR 2(15)		CURRENCY_CO DE	VARCHAR 2(15)	Yes	Straight Mapping. Oracle Retail will synchronize reference data with Oracle.
DATE_CREATED	DATE		DATE_CREATED	DATE	Yes	Straight Mapping.
CREATED_BY	NUMBER(1 5)		CREATED_BY	NUMBER(1 5)	Yes	
ACTUAL_FLAG	VARCHAR 2(1)		ACTUAL_FLAG	VARCHAR 2(1)	Yes	Straight Mapping.
USER_JE_CATEGOR Y_NAME	VARCHAR 2(25)		USER_JE_CATEG ORY_NAME	VARCHAR 2(25)	Yes	Straight Mapping. Oracle Retail will send valid value.
USER_JE_SOURCE_ NAME	VARCHAR 2(25)		USER_JE_SOURC E_NAME	VARCHAR 2(25)	Yes	Straight Mapping. Oracle Retail will send valid value.
CURRENCY_CONVE RSION_DATE	DATE		CURRENCY_CO NVERSION_DAT E	DATE		Straight Mapping.

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
CURRENCY_CONVE RSION_TYPE	VARCHAR 2(30)		USER_CURRENC Y_CONVERSION _TYPE	VARCHAR 2(30)		Only Valid Values are 'Corporate' and 'Spot'.
			CURRENCY_CO NVERSION_RAT E	NUMBER		Will not be sent by Oracle Retail. Conversion Rate will be derived from GL_DAILY_RATES table based on conversion date, conversion type, currency_code and functional currency.
ACCT_SEGMENT1	VARCHAR 2(25)		SEGMENT1	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT2	VARCHAR 2(25)		SEGMENT2	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT3	VARCHAR 2(25)		SEGMENT3	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT4	VARCHAR 2(25)		SEGMENT4	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
ACCT_SEGMENT5	VARCHAR 2(25)		SEGMENT5	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT6	VARCHAR 2(25)		SEGMENT6	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT7	VARCHAR 2(25)		SEGMENT7	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT8	VARCHAR 2(25)		SEGMENT8	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT9	VARCHAR 2(25)		SEGMENT9	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ACCT_SEGMENT10	VARCHAR 2(25)		SEGMENT10	VARCHAR 2(25)		Will not be sent by Oracle Retail as the Code_Combination_id would be sent.
ENTERED_DR_AMO UNT	NUMBER(2 0,4)		ENTERED_DR	NUMBER		Straight Mapping and truncation per Oracle Retail column sizing constraints.

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
ENTERED_CR_AMO UNT	NUMBER(2 0,4)		ENTERED_CR	NUMBER		Straight Mapping and truncation per Oracle Retail column sizing constraints.
			ACCOUNTED_D R	NUMBER		Will not be sent. This will be derived during GL Import rom the GL Daily rates table.
			ACCOUNTED_C R	NUMBER		Will not be sent. This will be derived during GL Import rom the GL Daily rates table.
TRANSACTION_DA TE	DATE		TRANSACTION_DATE	DATE		Straight Mapping.
REFERENCE1	VARCHAR 2(20)		REFERENCE21	VARCHAR 2(100)		Straight Mapping.
REFERENCE2	VARCHAR 2(20)		REFERENCE22	VARCHAR 2(240)		Straight Mapping.
REFERENCE3	VARCHAR 2(20)		REFERENCE23	VARCHAR 2(100)		Straight Mapping.
REFERENCE4	VARCHAR 2(20)		REFERENCE24	VARCHAR 2(100)		Straight Mapping.
REFERENCE5	VARCHAR 2(20)		REFERENCE25	VARCHAR 2(240)		Straight Mapping.
			JE_BATCH_ID	NUMBER(1 5)		Do Not Map

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
PERIOD_NAME	VARCHAR 2(15		PERIOD_NAME	VARCHAR 2(15)		Straight Mapping. The Period Names will be manually synchronized. This will be documented in the Integration Cook Book.
			JE_HEADER_ID	NUMBER(1 5)		Leave this Null. For Internal Use only
			JE_LINE_NUM	NUMBER(1 5)		Do Not Map
			CHART_OF_ACC OUNTS_ID	NUMBER(1 5)		Do Not Map
			FUNCTIONAL_C URRENCY_COD E	VARCHAR 2(15)		Do Not Map
CODE_COMBINATI ON_ID	NUMBER(1 5)		CODE_COMBIN ATION_ID	NUMBER(1 5)		Straight Mappig.
ATTRIBUTE1	VARCHAR 2(20)		ATTRIBUTE1	VARCHAR 2(150)		Donot pull these columns
ATTRIBUTE2	VARCHAR 2(20)		ATTRIBUTE2	VARCHAR 2(150)		Donot pull these columns
			GL_SL_LINK_ID	NUMBER		Leave these null
			GL_SL_LINK_TA BLE	VARCHAR 2(30)		Leave these null
ATTRIBUTE3	VARCHAR 2(20)		ATTRIBUTE3	VARCHAR 2(150)		Donot pull these columns

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
ATTRIBUTE4	VARCHAR 2(20)		ATTRIBUTE4	VARCHAR 2(150)		Donot pull these columns
ATTRIBUTE5	VARCHAR 2(20)		ATTRIBUTE5	VARCHAR 2(150)		Donot pull these columns
ATTRIBUTE6	VARCHAR 2(20)		ATTRIBUTE6	VARCHAR 2(150)		Donot pull these columns
			CONTEXT	VARCHAR 2(150)		Donot pull these columns
			CONTEXT2	VARCHAR 2(150)		Donot pull these columns
			INVOICE_DATE	DATE		Do Not Map.
			TAX_CODE	VARCHAR 2(15)		Do Not Map.
			INVOICE_IDENT IFIER	VARCHAR 2(20)		Do Not Map.
			INVOICE_AMOU NT	NUMBER		Do Not Map.
			CONTEXT3	VARCHAR 2(150)		Do Not Map.
			USSGL_TRANSA CTION_CODE	VARCHAR 2(30)		Do Not Map.
			DESCR_FLEX_E RROR_MESSAGE	VARCHAR 2(240)		Do Not Map.
			JGZZ_RECON_R EF	VARCHAR 2(240)		Do Not Map.

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
			REFERENCE_DA TE	DATE		Do Not Map.
PGM_NAME	VARCHAR 2(100)	No				Do Not Map.
			ENCUMBRANCE _TYPE_ID	NUMBER		Do Not Map
			BUDGET_VERSI ON_ID	NUMBER		Do Not Map
			AVERAGE_JOUR NAL_FLAG	VARCHAR 2(1)		Do Not Map
			ORIGINATING_B AL_SEG_VALUE			Do Not Map
			SEGMENT11-30	VARCHAR 2(25)		Do Not Map
			REFERENCE1,3,4 ,6-9	VARCHAR 2(100)		Do Not Map
			REFERENCE10,2, 5	VARCHAR 2(240)		Do Not Map
			REFERENCE11- 20	VARCHAR 2(100)		Do Not Map
			REFERENCE26- 30	VARCHAR 2(240)		Do Not Map
			DATE_CREATED _IN_GL	DATE		Do Not Map
			WARNING_COD E	VARCHAR 2(4)		Do Not Map

Column Name`	Data Type	Mandator y?	Column Name	Data Type	Mandato ry	Remarks
			STATUS_DESCRI PTION	VARCHAR 2(240)		Do Not Map
			STAT_AMOUNT	NUMBER		Do Not Map
			GROUP_ID	NUMBER(1 5)		Do Not Map
			REQUEST_ID	NUMBER(1 5)		Do Not Map
			SUBLEDGER_DO C_SEQUENCE_I D	NUMBER		Do Not Map
			SUBLEDGER_DO C_SEQUENCE_V ALUE	NUMBER		Do Not Map

Oracle Retail Invoice Match System to Payables Open Interface Tables

IM_AP_STAGE_HEAD	AP_INVOICES_INTERFACE	COMMENTS
DOC_ID	INVOICE_ID	
SEQ_NO	NONE	
INVOICE_TYPE_LOOKUP_CODE	INVOICE_TYPE_LOOKUP_CODE	
INVOICE_NUMBER	INVOICE_NUM	
VENDOR	VENDOR_ID	
ORACLE_SITE_ID	VENDOR_SITE_ID	
CURRENCY_CODE	INVOICE_CURRENCY_CODE	
EXCHANGE_RATE	EXCHANGE_RATE	
EXCHANGE_RATE_TYPE	EXCHANGE_RATE_TYPE	Expecting the value of 'USER' in this column
DOC_DATE	INVOICE_DATE	
AMOUNT	INVOICE_AMOUNT	
BEST_TERMS_DATE	TERMS_DATE	
SEGMENT1	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT2	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT3	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED

IM_AP_STAGE_HEAD	AP_INVOICES_INTERFACE	COMMENTS
SEGMENT4	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT5	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT6	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT7	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT8	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT9	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
SEGMENT10	ACCTS_PAY_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to ACCTS_PAY_CODE_CONCATENATED
CREATE_DATE_TIME	CREATION_DATE	

IM_AP_STAGE_DETAIL	AP_INVOICE_LINES_INTERFACE	COMMENTS
DOC_ID	INVOICE_ID	
SEQ_NO	LINE_NUM	
TRAN_CODE	NONE	
LINE_TYPE_LOOKUP_CODE	LINE_TYPE_LOOKUP_CODE	
AMOUNT	AMOUNT	
VAT_CODE	TAX_CODE	
SEGMENT1	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT2	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT3	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT4	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT5	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT6	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT7	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED

IM_AP_STAGE_DETAIL	AP_INVOICE_LINES_INTERFACE	COMMENTS
SEGMENT8	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT9	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
SEGMENT10	DIST_CODE_CONCATENATED	All segments (1-10) concatenated with '-' will be mapped to DIST_CODE_CONCATENATED
CREATE_DATE_TIME	CREATION_DATE	

IM_FINANCIALS_STAGE_V	GL_INTERFACE	COMMENTS
STATUS	STATUS	'NEW' hardcoded value of NEW in the view defiinition.
ACTUAL_FLAG	ACTUAL_FLAG	'A', hardcoded value of 'A' in the view definition
TRAN_CODE	REFERENCE23	
DEBIT_CREDIT_IND		
DOC_ID	REFERENCE22	
PARENT_ID		
DOC_DATE	ACCOUNTING_DATE	
RECEIPT_ID	REFERENCE25	
RECEIPT_DATE		
VENDOR_TYPE		
VENDOR	REFERENCE20	

IM_FINANCIALS_STAGE_V	GL_INTERFACE	COMMENTS
ORDER_NO	REFERENCE24	
CURRENCY_CODE	CURRENCY_CODE	
AMOUNT		
BEST_TERMS		
BEST_TERMS_DATE		
MANUALLY_PAID_IND		
PRE_PAID_IND		
CREATE_ID	CREATED_BY	
CREATE_DATETIME	DATE_CREATED	
SEGMENT1	SEGMENT1	
SEGMENT2	SEGMENT2	
SEGMENT3	SEGMENT3	
SEGMENT4	SEGMENT4	
SEGMENT5	SEGMENT5	
SEGMENT6	SEGMENT6	
SEGMENT7	SEGMENT7	
SEGMENT8	SEGMENT8	
SEGMENT9	SEGMENT9	
SEGMENT10	SEGMENT10	
VAT_CODE	TAX_CODE	
VAT_RATE		
DEAL_ID		
LOCAL_CURRENCY		

IM_FINANCIALS_STAGE_V	GL_INTERFACE	COMMENTS
INCOME_LOCAL_CURRENCY		
TOTAL_COST_INC_VAT		
EXT_DOC_ID	REFERENCE21	
SET_OF_BOOKS_ID	SET_OF_BOOKS_ID	
USER_JE_SOURCE_NAME	USER_JE_SOURCE_NAME	Will have a constant value "Retail Invoices"
USER_JE_CATEGORY_NAME	USER_JE_CATEGORY_NAME	Will have one of the following values ("Writeoffs", "Prepayments", "Manual Payments")
ENTERED_DR	ENTERED_DR	
ENTERED_CR	ENTERED_CR	