

**Oracle[®] Retail Invoice Matching
Operations Guide Addendum
Release 11.0.6
November 2005**

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Preface

Oracle Retail Operations Guides are designed so that you can view and understand the application's 'behind-the-scenes' processing, including such information as the following:

- Key system administration configuration settings
- Technical architecture
- Functional integration dataflow across the enterprise

This Operations Guide Addendum should be used in conjunction with previously released Oracle Retail Invoice Matching 11.x documentation

Audience

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

- Business analysts looking for information about processes and interfaces to validate the support for business scenarios within ReIM and other systems across the enterprise (within a merchandising system such as RMS, for example).
- System analysts and system operations personnel:
 - Who are looking for information about ReIM's processes internally or in relation to the systems across the enterprise.
 - Who operate ReIM regularly.
- Integrators and implementation staff with overall responsibility for implementing ReIM

Related Documents

If you wish to find further information, see the following applicable Oracle Retail documents:

- ReIM front-end documentation (for example, the ReIM User Guide)
- ReIM Installation Guide
- Retek Merchandising System (RMS) product documentation
- Oracle Financials documentation

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- Product version and program/module name.
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- Detailed step-by-step instructions to recreate.
- Exact error message received.
- Screen shots of each step you take.

Introduction

The information in this document reflects modifications and updates to the latest ReIM Operations Guide. Each chapter title and section title in this document corresponds to a chapter title and a section title in the ReIM Operations Guide.

Please note that entire sections have been included from the original ReIM Operations Guide for your reference, and the changes that have been made to those sections are in bold.

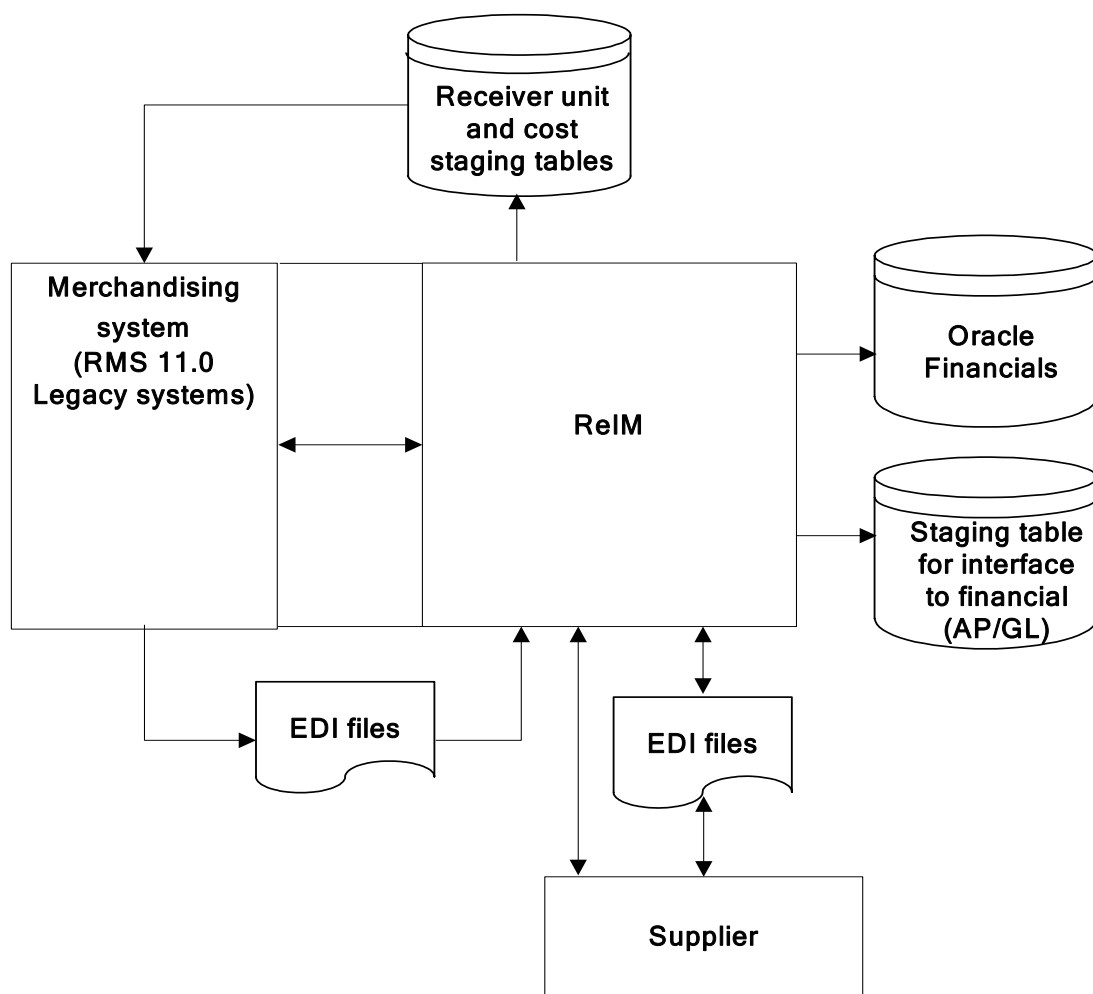
Functional Design

This chapter provides the following:

- An overview as to how ReIM is functionally integrated with other systems (including other Retek systems). The discussion primarily concerns the flow of ReIM-related business data across the enterprise.
- A diagram and description of the invoice matching process flow

Dataflow Overview

This section provides you with a diagram that shows the overall direction of the data among the applications and tables. The accompanying explanations are written from a system/staging table-to-system/staging table perspective, illustrating the movement of data.



ReIM dataflow across the enterprise

From ReIM to the financial/AP Staging Tables

ReIM exports data to financial staging tables. **If integrated with Oracle Financials 11.0 or higher, there is a standard interface of data to Accounts Payable and General Ledger. However, if the retailer is using any other financials system, the retailer must create its own interface to deliver this information to the applicable financial system.**

Integration With Oracle Financials

When integrated with Oracle EBS 11.0 Financials, ReIM exports data to AP staging tables or to financial staging tables, depending on the specific types of transactions. This is done if the financial system for AP and GL financial systems is Oracle Enterprise Financials and the Oracle Retail Merchandising System(RMS) System-Options table has the following settings:

- Financial-AP = O,
- Oracle-Financials-Vers = 1

Matched invoices and approved documents

Invoices can be matched through auto-matching or on-line matching. Credit notes can be matched with credit note requests in on-line matching processes. The unit cost and quantities of all items (at a summary level) on the invoice are compared to the unit cost and quantities on the receipt. If the cost and quantity on the invoice and receipt agree within defined tolerances, there is a match.

Pre-paid invoices

Invoices may be paid before matching is complete, in order to meet payment terms requirements. Users determine whether to 'pre-pay' an invoice. Pre-paid invoices are still eligible for matching against receipts, however, an indicator on the invoice record prevents it from being paid twice. When a pre-paid invoice is matched, the results are posted to the IM_FINANCIALS_STAGE table for interface to the General Ledger rather than the IM_AP_STAGE_HEAD and IM_AP_STAGE_DETAIL tables for interface to Accounts Payable.

Non-merchandise invoices

These invoices include bills for non-merchandise costs only. Non-merchandise invoices cannot contain items. Either suppliers or partners can create non-merchandise invoices. However, merchandise invoices can contain non-merchandise lines.

Posting Transaction Codes to AP Staging Table

IM_AP_STAGE_HEAD:

- Invoice Type Lookup Code: If document type = MRCHI or NMRCHI or **CRDMEC** or **CRDMEQ**, this value is set to 'STANDARD'. Otherwise this value is set to 'CREDIT'

IM_AP_STAGE_DETAIL:

The rules for Line Type Lookup Code are as follows:

- If the tran-code is 'UNR' or 'VWT' or 'REASON' or 'CRN', then this value is 'ITEM'.
- If this is a generated tax line, then this value is 'TAX'.
- If none of the above, then this value is 'MISCELLANEOUS'.

Integration with Non-Oracle Financials System

When integrated with a financials system other than Oracle, ReIM exports data to a financial staging table with data intended for both Accounts Payable and General Ledger. The retailer needs to develop their own interface from the financial staging table to their systems, based on the requirements of their financials systems.

Matched Invoices and Approved Documents

Invoices can be matched through auto-matching or on-line matching. Credit notes can be matched with credit note requests in on-line matching processes. The unit cost and quantities of all items (at a summary level) on the invoice are compared to the unit cost and quantities on the receipt. If the cost and quantity on the invoice and receipt agree within defined tolerances, there is a match.

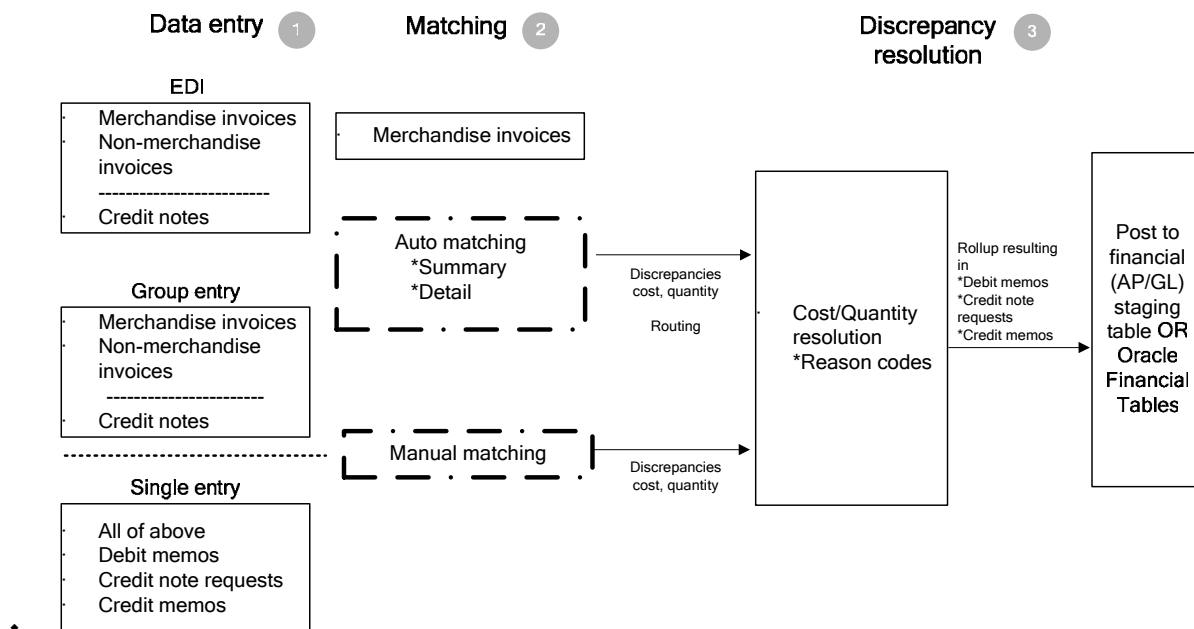
Non-Merchandise Invoices

These invoices include bills for non-merchandise costs only. Non-merchandise invoices cannot contain items. Either suppliers or partners can create non-merchandise invoices. However, merchandise invoices can contain non-merchandise lines.

Invoice and Credit Note Matching Process Flow

This section provides a high-level explanation of the process flow in ReIM for each of the following areas:

- Data entry
- Matching
- Discrepancy resolution



Batch Processes

Functional Descriptions and Dependencies

The following table summarizes ReIM's batch processes and includes both a description of each batch process's business functionality and its batch dependencies:

Batch processes	Details	Batch dependencies
Terms ranking (TermsRankingService) Note: This batch process is applicable <i>only</i> for those retailers using RMS 10.1 and earlier.	Retailers send terms ranking files to ReIM on a periodic (usually monthly) basis. ReIM has built an API to read this file and populate the terms ranking table.	
Batch purge (BatchPurge)	This process deletes data from database tables while maintaining database integrity. This process deletes records from the ReIM application that meet certain business criteria (for example, records that are marked for deletion by the application user, records that linger in the system beyond certain number of days, and so on).	
Discrepancy purge (DiscrepancyPurge)	The discrepancy purging program deletes data from database tables while maintaining database integrity. This program deletes records from ReIM that have discrepancies of zero.	
EDI invoice upload (ediupinv)	This batch process uploads merchandise, non-merchandise invoices, credit notes, debit memos, and credit note requests from the EDI into the invoice-matching tables.	

Batch processes	Details	Batch dependencies
Auto-match (AutoMatchService)	Auto-match is a system batch process that attempts to match invoices to receipts without manual intervention. Invoices that are in ready for match, unresolved, or multi-unresolved status are retrieved from the database to be run through the auto-match algorithm. The processing consists of two levels – summary and detail.	EDI upload (Invoice Matching) Receipt upload (Merchandising system, such as RMS)
Receipt write-off (ReceiptWriteOff)	In order for retailers to track received goods not invoiced, they must have the ability to ‘write-off’ these goods for financial tracking. ReIM has a system parameter (which can be overwritten at the supplier level) defining the maximum amount of time an open, non-fully matched receipt will be available for matching. Every time the Receipt write-off process is run, each non-fully matched open receipt received date is compared with the current date minus the system parameter. If the received date is before this difference, the receipt is ‘written-off’ and the invoice match status is closed.	Auto-match and any associated processing must run prior to this batch processing

Batch processes	Details	Batch dependencies
Reason code action rollup (ReasonCodeActionRollupService)	<p>This batch process sweeps the action staging table and creates debit and credit memos as needed. Only a single debit or credit memo is created per invoice, with line details from all related actions. This process deletes these records when completed; they are deleted after posting. The action staging table is used during posting to post the reason code actions to the financial staging table. A separate, retailer-created batch process sweeps the receiver adjustment table. The process compares the unit cost and/or quantity received for the item on the shipment with the expected unit cost and/or quantity on the IM_RECEIVER_COST_ADJUST and/or IM_RECEIVER_UNIT_ADJUST tables. If a match exists, the receiver cost and/or unit adjustment has occurred in RMS (or the equivalent merchandising system). As a result, the process sets the 'pending adjustment' flag on IM_INVOICE_DETAIL table to false for the invoice line. The reason code actions are only rolled up for an invoice if no invoice lines on the invoice have any pending adjustments.</p>	<p>The client created batch process is run for Receiver Cost Adjustments (RCAs) and Receiver Unit Adjustments (RUAs).</p> <p>Note: This is applicable only for those Retailers using RMS versions 10.1 and earlier.</p>

Batch processes	Details	Batch dependencies
Disputed credit memo action rollup (DisputedCreditMemoResolutionRollupService)	<p>The disputed credit memo action rollup process checks the records on the IM_REVERSAL_RESOLUTION_ACTION table and rolls up the credit memo detail lines by document/item/reason code. The rollup occurs only if all lines on a disputed credit memo have been completely resolved (that is, no cost or quantity discrepancy records remain for the credit memo).</p> <p>After the rollup, a new set of detail lines associated with the resolution reason codes replace the original set of detail lines associated with the debit reason codes on the IM_DOC_DETAIL_REASON_CODES table.</p>	The disputed credit memo action rollup must occur before resolution posting and after receiver adjustment.
Resolution posting (ResolutionPostingService)	<p>A recurring resolution posting process retrieves all matched invoices and approved documents.</p> <p>For each invoice, the batch process writes applicable financial accounting transactions to either of the following tables: IM_FINANCIALS_STAGE The AP staging tables, IM_AP_STAGE_HEADER and IM_AP_STAGE_DETAIL, if the RMS System-Options table: Financial-AP = O, Oracle-Financials-Vers = 1</p>	

Batch processes	Details	Batch dependencies
EDI invoice download (EdiDownload)	<p>The EdiDownload module creates a flat file to match the EDI invoice download file format. The module retrieves all header, detail and non-merchandise information and formats the data as needed.</p> <p>In other words, the EDI invoice download process retrieves debit memos, credit note requests, and credit memos in 'approved' status from the resolution posting process and creates a flat file. The client converts the flat file into an EDI format by the client and sends it via the EDI invoice download transaction set.</p>	Auto-match must run prior to the EDI invoice download.
Complex deal upload (ComplexDealUpload) Note: This batch process is applicable <i>only</i> for those retailers using RMS 11.	This module reads data from RMS staging tables, creates credit memos, debit memos, and credit note requests out of the data, and stores the supporting deal data on an ReIM table for later use during posting.	The RMS staged data must be purged after the upload.
Fixed deal upload (FixedDealUpload) Note: This batch process is applicable <i>only</i> for those retailers using RMS 11.0.	This module reads data from RMS staging tables, creates credit memos, debit memos, and credit note requests out of those, and stores the supporting deal data on an ReIM table for later use during posting.	The RMS staged data must be purged after the upload.

Reason Code Action Rollup Batch Design

Overview

Reason code actions are resolutions assigned at the discrepancy line level. A number of fixed actions are available to resolve a line item discrepancy; the specific results depend on the action.

The resolution posting process sweeps the IM_RESOLUTION_ACTION table and creates debit and credit memos as needed. Only a single debit or credit memo is created per invoice, with line details from all related actions.

This process does not delete these records when completed. They are deleted after posting.

A separate, client-created batch process sweeps the receiver adjustment table. The action staging table is used during posting to post the reason code actions to the financial staging table.

To resolve a cost discrepancy, the user can select a 'Receiver Cost Adjustment' action from the cost resolution screen. Similarly, to resolve a quantity discrepancy, the user can select a 'Receiver Unit Adjustment' action from the quantity resolution screen. The actions are written to the IM_RESOLUTION_ACTION table in an unrolled status with the amount of adjustment. The IM_INVOICE_DETAIL table also receives a flag that signifies 'pending adjustment' for the invoice line.

At the same time, the actions are written to the IM_RECEIVER_COST_ADJUST and IM_RECEIVER_QTY_ADJUST tables to indicate the expected receiver adjustment amount on the RMS (or equivalent merchandising system) side. In sum, these two tables serve as the staging tables for the RMS (or equivalent merchandising system) process to actually perform the adjustment.

For a receiver cost adjustment, IM_RECEIVER_COST_ADJUST holds the order unit cost for the item after the adjustment. For a receiver unit adjustment, IM_RECEIVER_UNIT_ADJUST holds the received quantity for the item on the shipment after the adjustment.

The process compares the unit cost and/or quantity received for the item on the shipment with the expected unit cost and/or quantity on the IM_RECEIVER_COST_ADJUST and/or IM_RECEIVER_UNIT_ADJUST tables. If a match exists, the receiver cost and/or unit adjustment has occurred in RMS (or the equivalent merchandising system). As a result, the process sets the 'pending adjustment' flag on IM_INVOICE_DETAIL table to false for the invoice line. The reason code actions are only rolled up for an invoice if no invoice lines on the invoice have any pending adjustments.

Because ReIM cannot control when and how the receiver adjustments are happening on the RMS side (or the equivalent merchandising system), records written to the IM_RECEIVER_COST_ADJUST and IM_RECEIVER_UNIT_ADJUST tables are considered final.

As a result, when the user resolves a cost or quantity discrepancy, the receiver adjustment must fully resolve a discrepancy before the user leaves the screen, and there should be no re-route actions involved. On the RMS side, the amount of adjustment must be exactly the same as expected.

The IM_PARTIALLY_MATCHED_RECEIPTS table holds the amount of a receipt item that has been matched during invoice matching. The quantity received on the

SHIPSKU table subtracts the quantity matched on the IM_PARTIALLY_MATCHED_RECEIPT table, giving the available to match quantity for the receipt item. Auto-match, summary matching, detail matching and quantity discrepancy resolution processes all keep track of the matched quantity bucket to determine how much of the receipt item has already been matched and how much of the receipt item remains available to be matched. In the case of a Receiver Unit Adjustment, the IM_PARTIALLY_MATCHED_RECEIPTS table is updated to reserve the entire remaining unmatched bucket for the receipt item. This logic prevents the adjusted receipt quantity from being used for any other matching or quantity resolutions.

Assumptions and Scheduling Notes

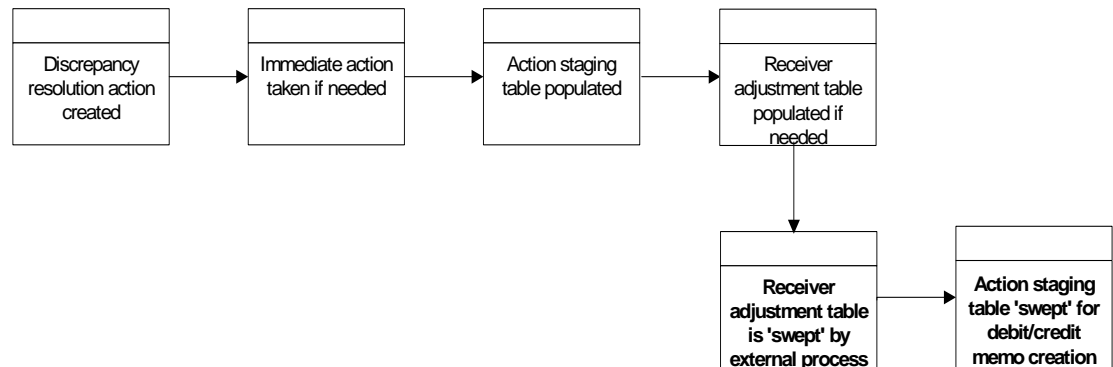
- The client created batch process is run for Receiver Cost Adjustments (RCAs) and Receiver Unit Adjustments (RUAs) . If the receiver adjustment table sweep does not occur before the auto-match process, there will be a delay of one day before the detail matching work can be performed for the applicable invoice.

Note: This is applicable only for those Retailers using RMS versions 10.1 and earlier.

- The memo staging table sweep must occur before the posting batch process, or a delay of one day results before posting can occur.

High-Level Flow Diagram

The following diagram offers a high-level view of the processing logic utilized within the reason code action rollup batch process.



RelM's reason code action rollup flow

Resolution Posting Batch Design

Overview

For each invoice, the batch process writes applicable financial accounting transactions to either of the following tables:

- The Financials staging table, **IM_FINANCIALS_STAGE**
- The AP staging tables, **IM_AP_STAGE_HEADER** and **IM_AP_STAGE_DETAIL**, or the **IM_FINANCIALS_STAGE**, depending on the transaction type (if the RMS System-Options table: **Financial-AP = O**, **Oracle-Financials-Vers = 1**)

The processing occurs after discrepancies for documents have been resolved by resolution documents. Once all of the resolution documents for a matched invoice are built, and all of the RCA/RUA external processing has been confirmed, the process inserts financial accounting transactions to the financials/AP staging tables to represent the resolution and consequent posting of the invoice. The process also inserts financial accounting transactions for the approved documents that are being handled.

Once all of the transactions have been written, the process switches the status of the current invoices/documents to 'Posted', and then moves on to the next invoice/document.

If a segment look-up fails, the failed record is written to a financials error table.

Assumptions and Scheduling Notes

Before posting can occur, the following information must be set up:

- Set up segment definitions in the system.properties.
- Define GL account segments on the GL Options screen.
- Specify all the accounts using the GL Cross Reference screen.

The dynamic segments for a GL account can be any or all of the following designated segments:

- Country
- Location
- Dept
- Class

If dynamic segments are defined, the values for the segments must be defined in the applicable tables, **IM_DYNAMIC_SEGMENT_DEPT_CLASS** or **IM_DYNAMIC_SEGMENT_LOC**.

Primary Tables Involved

- **IM_DOC_HEAD**
Holds the matched and approved documents.
- **IM_DOC_NON_MERCH**
Holds the non-merchandise costs for invoices.

Lookup tables that must be populated

- **IM_GL_OPTIONS**
Order of segments and dynamic segments defined.
- **IM_GL_CROSS_REF**
Account values defined for account types and account codes.
- **IM_DYNAMIC_SEGMENT_DEPT_CLASS**
Accounts defined for each department/class combination.
- **IM_DYNAMIC_SEGMENT_LOC**
Accounts defined for each location/company combination.

Table to which the process posts data

IM_FINANCIALS_STAGE

- Transaction code
- Debit/credit indicator
- Invoice ID
- Invoice date
- Supplier
- Purchase order (if available)
- Shipment/receipt (only if an unmatched receipt record is being written)
- Currency
- Amount
- Best terms ID
- Terms date
- Pre-paid indicator
- Comments
- Create user ID
- Create date-time
- Segments that determine the mapping account in the external financial system (as defined in the IM_GL_CROSS_REF table).

OR

IM_AP_STAGE_HEAD

- **Sequence Number:** Automatically generated line numbers 1, 2, 3 and so on; incremented for each detail record per DOC ID; for identification purpose.
- **Doc_id:** Same as in current im staging table.
- **Invoice Type Lookup Code:** If document type = MRCHI or NMRCHI, this value is set to 'STANDARD'. Otherwise this value is set to 'CREDIT'.

- **invoice_number:** The concatenated data is as follows:
 - chars 1-34: the first 34 characters from the EXT DOC ID
 - char 35: a hyphen
 - chars 36-50: the DOC ID
- **Vendor:** Same as for current im staging table.
- **Oracle_site_id:**
 - The loc from this transaction to read new RMS Location / Org Unit data to find the Org Unit.
 - The Org Unit to read new RMS Supplier Addr/Org Unit/Site ID data to find Oracle Site ID.
- **Currency Code:** Valued if this is a foreign currency invoice, otherwise null.
- **Exchange Rate:** If exchange rate is valued, this should be the literal 'USER'; otherwise blank.
- **Exchange Rate Type:**
- **Document Date:** Same as in current im staging table.
- **Amount:** The TOTAL amount including tax.
- **Best Terms Date:** Same as in current im staging table.
- **Segment1:** Same as in current IM financials staging table.
- **Segment2:** Same as in current IM financials staging table.
- **Segment3:** Same as in current IM financials staging table.
- **Segment4:** Same as in current IM financials staging table.
- **Segment5:** Same as in current IM financials staging table.
- **Segment6:** Same as in current IM financials staging table.
- **Segment7:** Same as in current IM financials staging table.
- **Segment8:** Same as in current IM financials staging table.
- **Segment9:** Same as in current IM financials staging table.
- **Segment10:** Same as in current IM financials staging table.
- **Create Date:** Same as in current IM financials staging table.
- **Best Terms ID:** Same as in current IM financials staging table.

IM_AP_STAGE_DETAIL

- **Doc_id**
- **Sequence number:** Automatically generated line numbers 1, 2, 3 etc; incremented for each detail record per DOC ID; for identification purpose.
- **Transaction Code**
- **Line Type Lookup Code:** This value varies. The rules are:
 - If the tran-code is 'UNR' or 'VWT' or 'REASON' or 'CRN' then this value is 'ITEM.'
 - If this is a generated tax line, then this value will be 'TAX'.
 - If none of the above, then this value will be 'MISCELLANEOUS'.
- **Amount**

- **Vat Code:** Same as in current im staging table. **EXCEPT** - for generated tax lines, the amount for this line should be the amount from the taxable line times the tax rate
- **Segment1:** For regular lines: same as in current staging table.
- **For generated tax line:** use values from source line.
- **Segment2:** (see rules for segment 1)
- **Segment3:** (see rules for segment 1)
- **Segment4:** (see rules for segment 1)
- **Segment5:** (see rules for segment 1)
- **Segment6:** (see rules for segment 1)
- **Segment7:** (see rules for segment 1)
- **Segment8:** (see rules for segment 1)
- **Segment9:** (see rules for segment 1)
- **Segment10:** (see rules for segment 1)
- **Create Date:** Same as in current IM staging table.