

**Oracle<sup>®</sup> Retail Invoice Matching  
Operations Guide Addendum  
Release 11.0.8  
June 2006**

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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 about this release, see the following applicable Oracle Retail documents:

- Oracle Retail Invoice Matching Installation Guide
- Oracle Retail Invoice Matching Release Notes
- Oracle Retail Invoice Matching Data Model
- Oracle Retail Merchandising System (RMS) product documentation

## Customer Support

- <https://metalink.oracle.com>

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.

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## 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 or in crossed-out text (signifying deletions).

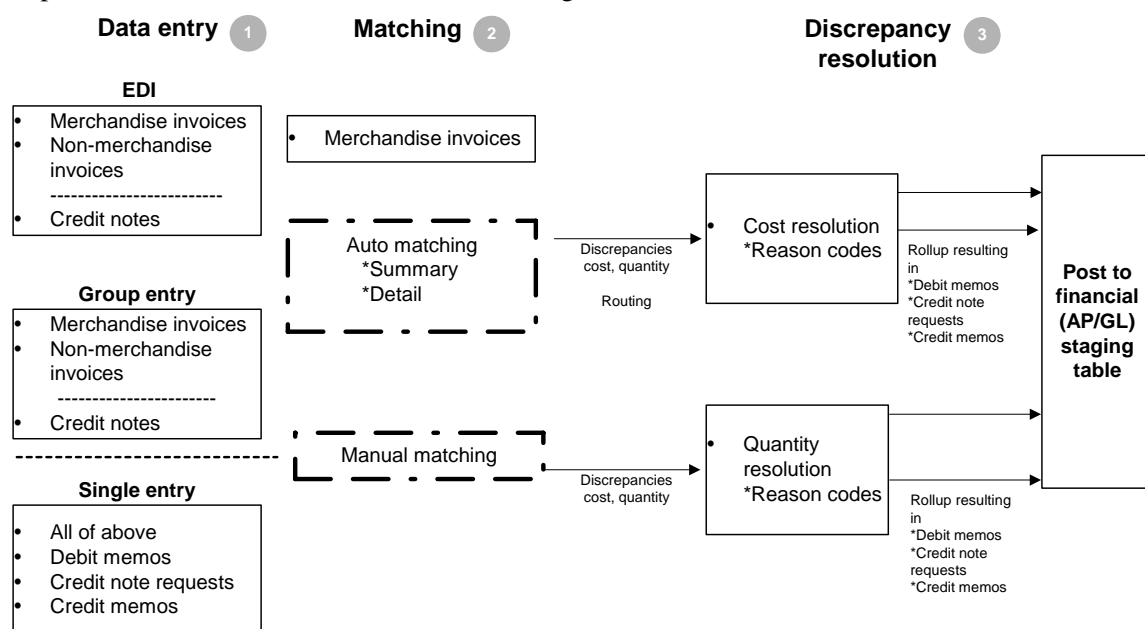
## Functional Design

### 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

Explanations of each numbered item on the diagram follow it.



#### High-level view of the invoice and credit note matching process

**Note:** Documents 'drop out' of the flow when they need no further processing. For example if an invoice is matched in step 2, 'Matching', the document would not continue to step 3, 'Discrepancy resolution'. The document would be posted directly to the financial (AP/GL) staging table after step 2.



## 1 Data entry

There are three ways in which invoices and other documents enter the ReIM system:

- EDI

EDI allows ReIM to upload all of the following:

- Merchandise invoices

The bill for goods or services received from a supplier or partner.

Merchandise invoices may have both of the following:

- Merchandise costs

Costs that are associated with items on documents. Any other costs on an invoice are non-merchandise costs. The sum of the merchandise costs and non-merchandise costs is the total document cost.

- Non-merchandise costs

Costs that are indirectly associated with invoice items, such as freight or handling charges.

- Non-merchandise invoices

Bills for non-merchandise costs only (a snow plowing service, for example).

Non-merchandise invoices cannot contain items. Either suppliers or partners can create non-merchandise invoices.

- Credit notes

A document received from the supplier, often issued in response to a credit note request from the retailer, which results in a reduction of the retailer's balance owing to a supplier. A credit note request, may be raised in lieu of a deduction from invoice (that is, a debit memo) resulting from invoice overcharges, RTV's, rebate bill backs, and so on. Note that, compared to invoices, credit notes represent a separate functional process flow, where credit notes are matched against credit note requests.

- Group entry

Group entry facilitates summarized, on-line entry of paper documents. The group entry process accommodates the same types of documents as supported through the EDI process.

- Single entry

Single entry is designed as an exception handling tool made for invoices and documents not entered (for whatever reason) within a group. Single entry accommodates the same types of documents supported in the EDI and group entry processes, and in addition (if not created automatically through other processes):

- Debit memos

A document created to support a deduction from the invoice being paid.

Deductions may result from a price or quantity discrepancy. A debit memo also refers supplier billing for rebates, RTV's, and so on. Debit memos can also be created as 'stand-alone' documents (that is, created on-line, but not supported by any processes in ReIM or the merchandising system).

- Credit note requests  
A document sent from the retailer to the supplier, requesting a credit note for an over-invoiced amount or in support of various billing activities (for example, rebates, RTV's). If a credit note request is not satisfied by the supplier in a timely manner, ReIM provides the ability to convert it into a debit memo. Credit note requests may also be created as 'stand-alone' documents.
- Credit memos  
A document created to refund a supplier for an under-invoiced or over-billed (for example, for rebates not meeting threshold performance levels) amount. Credit memos may also be created as 'stand-alone' documents.

## 2 Matching

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**Note:** Credit notes must be matched on-line against credit note requests. Credit note matching is not supported by the automatic matching process.

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- On-line matching  
The on-line matching dialog provides users with the ability match invoices with even greater flexibility than the auto-match process. Invoices are initially grouped by their PO/location, but the groups can be modified beyond the common PO/location relationship based on available (that is, 'unmatched') invoices and receipts, to support matches.

On-line matching either matches a document, which is posted to the financial staging table, or supports creation and resolution of a cost and/or quantity discrepancy.

## 3 Discrepancy resolution

Cost and quantity discrepancies are routed to on-line lists by user group (pre-established user groups and routing rules determine which discrepancies populate which user group list). For example, in many companies the merchant/buyer is responsible for verification of invoice cost against the PO. To support this functionality, a user group of buyers by department or class might be a logical association to assign to an on-line Cost Discrepancy Review List (each user group would only see discrepancies assigned to them). Each user group is empowered to resolve discrepancies according to their authorization. Similarly, it may be logical to assign users groups to Quantity Discrepancy Review Lists based on receiving location. ReIM does not require the resolution of discrepancies through the routing process; the application will support a more centralized business process for resolving discrepancies using only the on-line matching dialog.

Users assign pre-defined reason codes against cost and quantity discrepancies to support resolutions. The reason codes direct the system to take a specific action (for example, create a debit memo, receiver adjustment, and so on). Once all discrepancies are resolved for the document, it is posted to the financial staging table along with any corresponding debit memos, and so on, for posting to the retailer's accounts payable solution. Documents supporting discrepancy resolution (that is, debit memos, credit note requests and credit memos) are available for EDI download to the supplier (or the retailer may develop reporting from these values stored in the ReIM tables). These document records (except credit note requests) are also posted to the financial staging table.

## Negative Receipt Matching

A negative receipt is a child receipt with a negative quantity. Negative receipts are created to compensate for the quantity difference between the quantity claimed on a matched receipt and the actual quantity received. If the quantity claimed on the matched receipt is greater than the actual quantity received, then a receiver unit adjustment (RUA) in RMS (Inventory->Receiving->Receiver Unit Adjustment) on the receipt for the quantity difference creates a child receipt with a negative quantity. The original receipt becomes the parent of the created child receipt. The parent\_shipment field in SHIPMENT table for the child receipt is populated with the parent receipt ID.

ReIM picks up the child receipts by the subsequent summary match queries and can be matched by grouping them with appropriate receipts waiting to be matched with corresponding invoices.



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## Interfaces and File Layouts

### The Financial System Interface

ReIM has two types of financial interfaces: foundation financial data and transactional information. Both are described in this section.

#### Foundation Financial Data

The following types of financial information are imported in ReIM:

- Terms ranking data
- Variable department/class account segments
- Variable company/location account segments

Terms ranking information is used in the best terms calculation to choose the best term for each document. This best terms information is posted to the financial system.

Variable department/class and company/location segments are used to determine the account segments to which a document is posted.

For ReIM systems that interface with RMS 10.1 and earlier, ReIM provides an API for terms rankings, which are held in `TermsRanking.properties`.

The retailer is responsible for populating variable department/class and company/location segments. No API is provided.

#### Terms Ranking for ReIM Systems that Interface with RMS 10.1 and Earlier

ReIM systems that interface with RMS 10.1 and earlier, ReIM requires a file of terms rankings (held in `TermsRanking.properties`). The retailer is responsible for creating this file in the prescribed format. An ReIM process writes the terms ranking data to the ReIM tables. The terms ranking table (`IM_TERMS_RANKING`) stores the rankings.

A flat file is used to populate the table with the terms ID and the terms ranking. Terms ranking files should be uploaded to ReIM on a periodic basis.

This terms ranking interface is slightly more sophisticated than the other foundation financial data interfaces because terms are related to other parts of the system. Validation is performed to ensure that all terms IDs are valid and that there is a ranking for each term.

#### Location Account Segments

ReIM uses location account segments in general ledger (GL) account mappings. ReIM does not provide an interface for this information because it does not directly relate to other information in ReIM. ReIM expects the retailer to directly populate the ReIM location account segments table and keep it in sync with the financial application.

#### Department/Class Account Segments

ReIM uses department account segments in GL account mappings. ReIM does not provide an interface for this information because it does not directly relate to other

information in ReIM. ReIM expects the retailer to directly populate the ReIM department account segment table.

### Financial Transactions

To be independent of any single financial product, such as Oracle Financials, Oracle Retail Invoice Matching has created a generic interface. That is, Oracle Retail writes records to a single generic table from which custom retailer code can read records and process data as necessary. The retailer is responsible creating a process that sends transactions to the financials system.

### Complex and Fixed Deal-Related Posting

For complex and fixed deals, batch processes copy most of the data from the RMS staging tables into ReIM detail tables (IM\_COMPLEX\_DEAL\_DETAIL, IM\_FIXED\_DEAL\_DETAIL). Some of the data on these tables is later referenced during the posting process for the created documents, including:

- Location
- Item

**Debit Memos created by RMS for deals income on fixed deals and complex deals for rebates or billbacks use the Complex Deal Income Receivable (DIRAR) and Fixed Deal Income Receivable (DIRAF) basic transactions when posting to AP. These transactions and associated GL cross reference mappings allow deal income to be mapped to specific General Ledger accounts. For VAT posting, a VAT basic transaction allows VAT to be mapped to General Ledger accounts separately from the associated transaction lines.**

**Three basic transaction actions on the GL Cross Reference screen support the above functionality: VAT, DIRAR and DIRAF. Segment values for these transactions are held in the IM\_GL\_CROSS\_REF table. These segments are used for posting the transaction types.**

**Fixed deals with income greater than zero and DEB\_CRED\_IND equal to 'C' are uploaded as Credit Note Requests (CNR). The CNRs are then converted to a debit memo by the posting batch program when the credit note is late for a supplier. The converted debit memos now include a DEAL\_TYPE and REF\_DOC. When retrieving the dynamic segments for posting of the debit memos, the REF\_DOC is used to access the details of the original credit note request.**

### Resolution Posting

To understand the process that posts data from ReIM to the financials staging table (IM\_FINANCIAL\_STAGE), see the section 'Resolution posting action rollup' in "Chapter 7 – Batch processes" in the ReIM Operations Guide.

### Major Tables

- IM\_TERMS\_RANKING (when ReIM systems interface with RMS 10.1 and earlier)
- IM\_DYNAMIC\_SEGMENT\_DEPT\_CLASS
- IM\_DYNAMIC\_SEGMENT\_LOC

## TermsRanking File Layout for ReIM Systems that Interface with RMS 10.1 and Earlier

Field name	Field type	Description	Required?
Terms	Varchar2(15)	Term code	Y
File separator	NA	There needs to be a '=' between the terms and the ranking	Y
Ranking	Number(4)	Rank of the term	Y

## Tracking Receipt Posts

### Overview

Receipt tracking functionality allows the retailer to track what receipts have posted. This processing helps the retailer check the integrity of its financial data.

Note that Oracle Retail does not provide packaged reporting in conjunction with this processing. Rather, the retailer builds its own processes and creates its own reporting mechanisms against the data resulting from the receipt tracking functionality.

### Tables Related to Tracking Receipt Posts

#### In-process tables

The tables illustrated below are for the retailer's understanding, but the data on these tables should not be used by the retailer as it builds its processes and reports.

Each area of the system that matches receipts to invoices updates the IM\_RECEIPT\_ITEM\_POSTING table. This table tracks how much of an individual receipt item has been matched and posted.

#### IM\_RECEIPT\_ITEM\_POSTING

Column Name	Type	Nullable
SEQ_NO	NUMBER(10)	N
RECEIPT_ID	NUMBER(10)	N
ITEM_ID	VARCHAR(25)	N
QTY_MATCHED	NUMBER(12,4)	Y
QTY_POSTED	NUMBER(12,4)	Y

#### IM\_RCPT\_ITEM\_POSTING\_INVOICE

Column Name	Type	Nullable
SEQ_NO (from IM_RECEIPT_ITEM_POSTING)	NUMBER(10)	N

Column Name	Type	Nullable
DOC_ID	NUMBER(10)	N
STATUS	VARCHAR2(1)	Y

### Staging Tables to be used for Reporting

Once posting is completed, the following staging tables contain all currently posted entries. Thus, to build processes and reporting that tracks receipt posts, the retailer should use only the data from these staging tables.

#### IM\_RECEIPT\_ITEM\_POSTING\_STAGE

Column Name	Type	Nullable
SEQ_NO	NUMBER(10)	N
RECEIPT_ID	NUMBER(10)	N
ITEM_ID	VARCHAR(25)	N
QTY_POSTED	NUMBER(12,4)	N
CREATE_DATE	DATE	N

#### IM\_RCPT\_ITEM\_POSTING\_INV\_STAGE

Column Name	Type	Nullable
SEQ_NO	NUMBER(10)	N
DOC_ID	NUMBER(10)	N

### Multiple Lines for an Individual Receipt Item

For a given line item on a receipt, a line item can be split between multiple invoices. For example, one invoice could match half of a line item; another invoice could match the other half of the line item. Two separate lines would thus appear. The retailer should note that these values (and those in equivalent business scenarios) would need to be added together to indicate how much of a given receipt item has been posted.

### Matching and Tracking Receipt Posts Processing

When a match is made, the system creates an IM\_RECEIPT\_ITEM\_POSTING record for each invoice item matched, setting the qty\_matched value to the amount matched. In addition, the system creates an IM\_RCPT\_ITEM\_POSTING\_INVOICE record for each invoice matched, setting the status to 'M'. Rather than adding IM\_RCPT\_ITEM\_POSTING\_INVOICE records each time a portion of the line is matched, the system creates new sets of records for each match to a receipt item.

With regard to summary match processing, an IM\_RCPT\_ITEM\_POSTING\_INVOICE record exists for each invoice for each receipt line item. This record is not used to track



which invoice and receipt line are matched, but the record allows the system to detect when to set the qty\_posted amount in IM\_RECEIPT\_ITEM\_POSTING. Also, when the system matches at a summary level, all associated records are deleted before current ones are created.

The quantity matched amount is set to either the receipt amount or the resolution amount.

## Posting

**Posting either writes to the IM\_FINANCIALS\_STAGE or IM\_AP\_STAGE\_HEAD and IM\_AP\_STAGE\_DETAIL tables depending on whether Oracle Financials is turned on or not.**

With regard to the posting process, the system finds each record on the IM\_RCPT\_ITEM\_POSTING\_INVOICE table associated with the invoice being posted. When that line is posted, the system changes the status on that table to 'P'. The system then checks whether or not more records exist on that table for the same seq\_no. If there are more records, the system engages in no further processing steps. If there are no more records, the system sets the qty\_posted value to the amount in qty\_matched for that seq\_no in IM\_RECEIPT\_ITEM\_POSTING. Because posting can only happen when both the cost and quantity discrepancies are resolved for an invoice, the resolution of cost discrepancies is not tracked.

Once posting is completed, all posted records are moved to the corresponding staging table for each table (IM\_RECEIPT\_ITEM\_POSTING\_STAGE and IM\_RCPT\_ITEM\_POSTING\_INV\_STAGE). The processing involving the staging tables has been designed to enhance performance, so that matching and resolution functionality is not impacted adversely by the receipt tracking functionality.

## Reporting

Reporting must be run after the posting batch job has completed. Both ReIM and the merchandising system (such as RMS) must be disabled from user input, and all other batch jobs should be completed or disabled.

To determine the remaining amount available to be posted, all entries for a given receipt item's qty\_posted should be rolled up and subtracted from the related SHIPSKU entry. Any receipt write-offs should be added in order to determine the final number remaining against the receipt.

Again, the staging tables, IM\_RECEIPT\_ITEM\_POSTING\_STAGE and IM\_RCPT\_ITEM\_POSTING\_INV\_STAGE, are to be used in building processes and/or reports against this data. Once posting is completed, these staging tables contain all currently posted entries.



## Technical Design

### Locale Currency

The currency code that the user sees is data specific. The currency code of an invoice being displayed is based on the original order. It is the currency of the database and the system itself that is important.

Within ReIM, make sure that the locale (country/language) is assigned to at least one valid currency\_code on the IM\_CURRENCY\_LOCALE table.

### Java Currency Formatting

~~Localization, also known as L10N, is the process of adapting software that has been internationalized so that it can be released into a local market with its own language.~~ Currency must be properly formatted according to its applicable locale. For example, US currency uses a comma as a thousands separator whereas other currencies do not use a comma as a thousands separator. Java has built-in libraries for currency formatting that are based on locales.

ReIM uses built-in Java localization functionality mapped through the table IM\_CURRENCY\_LOCALE to RMS's existing currency structure. ReIM provides an installation script that populates this table. The script creates records for every currency that RMS supports. Note that ReIM cannot guarantee the accuracy of RMS's language data.

**Java automatically loads properties files based on their file name. Java then attempts to match the locale in force, unless the application or its configuration files point to specific files to be loaded. The program has some control over the locale, but typically, if it is not explicitly set, it will match the user's OS locale. Therefore, if a user is set to German-Germany (language\_region), Java looks for a \*\_de\_DE.properties file first. If it does not find one, it looks for one without the region-- \*\_de.properties. Failing that, it looks for one with no language code.**

**In the case of ReIM 11 only English and French versions have been released. Therefore, the only valid non-English property file name would be one with an ending of \_fr\_FR. If any other locale is specified, the application defaults to the English properties files.**

The properties file ISO 639 naming scheme (language\_region) does not affect currency. That is something that comes from the application server's locale and the database. For example, your database must have the NLS settings set appropriately for the locale.