

Retek® Invoice Matching™ 11.0.4

Operations Guide Addendum

Corporate Headquarters:

Retek Inc.
Retek on the Mall
950 Nicollet Mall
Minneapolis, MN 55403
USA
888.61.RETEK (toll free US)
Switchboard:
+1 612 587 5000
Fax:
+1 612 587 5100

European Headquarters:

Retek
110 Wigmore Street
London
W1U 3RW
United Kingdom
Switchboard:
+44 (0)20 7563 4600
Sales Enquiries:
+44 (0)20 7563 46 46
Fax:
+44 (0)20 7563 46 10

The software described in this documentation is furnished under a license agreement, is the confidential information of Retek Inc., and may be used only in accordance with the terms of the agreement.

No part of this documentation may be reproduced or transmitted in any form or by any means without the express written permission of Retek Inc., Retek on the Mall, 950 Nicollet Mall, Minneapolis, MN 55403, and the copyright notice may not be removed without the consent of Retek Inc.

Information in this documentation is subject to change without notice.

Retek provides product documentation in a read-only-format to ensure content integrity. Retek Customer Support cannot support documentation that has been changed without Retek authorization.

The functionality described herein applies to this version, as reflected on the title page of this document, and to no other versions of software, including without limitation subsequent releases of the same software component. The functionality described herein will change from time to time with the release of new versions of software and Retek reserves the right to make such modifications at its absolute discretion.

Retek[®] Invoice Matching[™] is a trademark of Retek Inc.

Retek and the Retek logo are registered trademarks of Retek Inc.

This unpublished work is protected by confidentiality agreement, and by trade secret, copyright, and other laws. In the event of publication, the following notice shall apply:

©2005 Retek Inc. All rights reserved.

All other product names mentioned are trademarks or registered trademarks of their respective owners and should be treated as such.

Printed in the United States of America.

Customer Support

Customer Support hours

Customer Support is available 7x24x365 via email, phone, and Web access.

Depending on the Support option chosen by a particular client (Standard, Plus, or Premium), the times that certain services are delivered may be restricted. Severity 1 (Critical) issues are addressed on a 7x24 basis and receive continuous attention until resolved, for all clients on active maintenance. Retek customers on active maintenance agreements may contact a global Customer Support representative in accordance with contract terms in one of the following ways.

| Contact Method | Contact Information |
|----------------|---------------------|
|----------------|---------------------|

| | |
|--------|-------------------|
| E-mail | support@retек.com |
|--------|-------------------|

| | |
|-----------------|---|
| Internet (ROCS) | rocs.retek.com Retek's secure client Web site to update and view issues |
|-----------------|---|

| | |
|-------|-----------------|
| Phone | +1 612 587 5800 |
|-------|-----------------|

Toll free alternatives are also available in various regions of the world:

| | |
|----------------|--|
| Australia | +1 800 555 923 (AU-Telstra) or +1 800 000 562 (AU-Optus) |
| France | 0800 90 91 66 |
| Hong Kong | 800 96 4262 |
| Korea | 00 308 13 1342 |
| United Kingdom | 0800 917 2863 |
| United States | +1 800 61 RETEK or 800 617 3835 |

| | |
|------|---|
| Mail | Retek Customer Support Retek on the Mall 950 Nicollet Mall Minneapolis, MN 55403 |
|------|---|

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.

Contents

| | |
|---|----------|
| Chapter 1 – Introduction | 1 |
| Chapter 2 – Backend system administration and configuration.. | 3 |
| System assumptions | 3 |
| Chapter 3 – Batch processes | 5 |
| Batch processes that extract from merchandising system (RMS) staging tables | 5 |
| Batch names and Java packages | 5 |
| Functional descriptions and dependencies | 7 |
| Auto-match batch design | 12 |
| Overview | 12 |
| The four algorithms | 12 |
| Assumptions and scheduling notes..... | 13 |
| Post processing | 13 |
| High-level flow diagram | 14 |
| Primary tables involved..... | 14 |
| Complex deal upload batch design | 15 |
| Overview | 15 |
| Assumptions and scheduling notes..... | 15 |
| Primary tables involved..... | 15 |
| Fixed deal upload batch design..... | 16 |
| Overview | 16 |
| Assumptions and scheduling notes..... | 16 |
| Primary tables involved..... | 16 |

Chapter 1 – Introduction

This addendum contains updates and corrections to the Retek Invoice Matching (ReIM) Operations Guide.

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.

Chapter 2 – Backend system administration and configuration

System assumptions

- ReIM expects all invoices to be in eaches or the standard unit of measure (SUOM) converted to eaches. No other units of measure can be invoiced using ReIM.
- ReIM uses non-merchandise codes defined on the RMS table NON_MERCH_CODE_HEAD. The form that allows users to enter non-merchandise codes in RMS is not available when the RMS invoice match ind is set to N. Instead, non-merchandise codes should be added to the NON_MERCH_CODE_HEAD table using the database.
- A record must be inserted into the IM_SYSTEM_OPTIONS table in order to allow successful login to the application.
- **Supplier options**
All suppliers must have options defined in order for their invoices to be processed by the system, and the terms defined for those suppliers have to be completely updated in RMS. In order to support the use of suppliers in ReIM, the Enabled_Flag (set to 'Y'), Start_Date_Active and End_Date_Active are the required entries in the TERMS table in RMS 10.1 and in the TERMS_DETAIL table in RMS 10.2 and RMS 11.0.
- **GL account maintenance**
All reason codes, non-merchandise codes, and basic transactions must be mapped through GL account maintenance to support posting to the retailer's financial solution. Transactions are posted to a staging table in ReIM, the extract to update the accounts payable/financial solution is the retailer's responsibility..
- **Multiview**
The Document Find, Group Entry List, and Group Entry pages allow the retailer to define how certain fields display in these screens. The Multiview functionality allows the user to move fields around on the pages and save those views for future use. In order for Multiview to work and for these screens to populate correctly, IM_GLOBAL_PREFERENCES must be populated.
- **VAT**
If VAT is turned on, the retailer must have VAT regions, VAT items, and VAT codes set up in the merchandising system (such as RMS) to support validation of invoiced VAT charges.

Chapter 3 – Batch processes

Batch processes that extract from merchandising system (RMS) staging tables




Note: These batch processes are applicable only for those retailers using RMS 11.0.

The fourth type of batch process within ReIM extracts data from merchandising system staging tables, create documents with the data, and write the data to ReIM tables. The batch processes that follow this processing pattern include the following:



- Complex deal upload
- Fixed deal upload

Batch names and Java packages

The following table describes ReIM's batch processes and their associated Java packages. The table's order reflects the dependencies that exist among the ReIM batch processes but does not include any dependencies that exist between ReIM and the merchandising system it interacts with.


| Batch name | Batch process | Package |
|--|---|---|
| Terms ranking  Note: This batch process is applicable <i>only</i> for those retailers using RMS 10.1 and earlier. | TermsRankingService | com.retek.reim.services |
| Batch purge | BatchPurge | com.retek.reim.purge |
| Discrepancy purge | DiscrepancyPurge | com.retek.reim.purge |
| EDI invoice upload | Ediupinv | com.retek.reim.batch.ediupinv.threading |
| Receiver adjustment | ReceiverAdjustmentService | com.retek.reim.services |
| Auto-match | AutoMatchService | com.retek.reim.services.matching |
| Receipt write-off | ReceiptWriteOff | com.retek.reim.services |
| Reason code action rollup | ReasonCodeActionRollupService | com.retek.reim.services |
| Disputed credit memo action rollup | DisputedCreditMemoResolutionRollupService | com.retek.reim.services |
| Resolution posting | ResolutionPostingService | com.retek.reim.services |

Retek Invoice Matching

| Batch name | Batch process | Package |
|---|-------------------|-----------------------------------|
| EDI invoice download | EdiDownload | com.retek.reim.batch.ediupin v |
| Complex deal upload  Note: This batch process is applicable only for those retailers using RMS 11.0. | ComplexDealUpload | com.retek.reim.batch.deal |
| Fixed deal upload  Note: This batch process is applicable only for those retailers using RMS 11.0. | FixedDealUpload | com.retek.reim.batch.deal |

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 |
|--|---|---|
| Receiver adjustment (ReceiverAdjustmentService) | 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. | The receiver adjustment needs to be run after a retailer-written check for Receiver Cost Adjustments (RCAs) and Receiver Unit Adjustments (RUAs). |
| 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) |

| Batch processes | Details | Batch dependencies |
|--|--|--|
| 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 |
| Reason code action rollup (ReasonCodeActionRollupService) | 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. Note that a separate, retailer-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. | Receiver adjustment must occur prior to this batch process. |

| 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 engages in the following high-level steps:</p> <ol style="list-style-type: none"> 1. Performs any resolution actions (for example, instigates the creation of payment documents). 2. Calls the posting process to write applicable financial accounting transactions to the financials staging table, IM_FINANCIALS_STAGE. | |

| 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 only 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 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 only 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. |

Auto-match batch design

Overview

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 three inputs into the auto-match process include the following:

1. Invoices
2. Receipts
3. Purchase orders

ReIM 'owns' invoices, while receipts and purchase orders are 'owned' by a merchandising system, such as RMS.

The processing consists of two levels: summary and detail. Summary level matching attempts to match all invoices to receipts at a summary level. Detail level matching attempts to match all invoices (that do not match at a summary level) to receipts at a line item level.

The auto-match process attempts to match the invoices to receipts to the best of its abilities. The process assign different statuses according to the level of matching achieved.

If an invoice arrives prior to a receipt (for a particular PO), the auto-match process attempts only to match invoice unit cost to PO unit cost.

When a complete match cannot be made, manual intervention is required through online processes.

The four algorithms

The following four algorithms comprise the auto-match process:

1. Cost pre-matching
This process identifies any cost discrepancies prior to the arrival of receipts. If no receipts exist for the PO location, the invoices are sent to the cost pre-matching algorithm. Cost pre-matching is where unit costs on the invoice are compared with unit costs on the purchase order at a line level. If a match can be obtained, the invoice remains in ready-for-match status and is retrieved again for matching once the receipt comes in. If no match can be obtained, a cost discrepancy is created and routed immediately.
2. Summary matching
Invoices are grouped with receipts based upon purchase order location. A match is attempted for all invoices and receipts for the PO location. The invoices' total extended costs are summed and compared with the receipts' total extended costs. Based on a supplier option, the invoices' total quantity is summed and compared with the receipts' summed total quantity. If a match is achieved, all invoices and receipts are set to matched status. Otherwise, one-to-one matching is attempted for the PO location.

3. One-to-one invoice matching

This processing attempts to match a single invoice to a single receipt for the applicable PO location. If all invoices and receipts are set to matched status, the next PO location is processed.

If a multi-unresolved scenario exists (where more than one invoice can be matched with one or more receipts), all un-matched invoices are given the multi-unresolved status and no further processing occurs for this PO location.

4. Detail matching

During detail matching processing, an attempt is made to match each line on the invoice to an unmatched receipt line for the same item. Both the unit cost and quantity are always compared at the line level. If both the cost and quantity match, the invoice line and receipt line are placed into matched status. If the cost fails or the quantity fails, the cost or quantity discrepancies are generated and routed.

Assumptions and scheduling notes

- Although not recommended, auto-match can be run during the day when there are users online interacting with the system.
- Both the invoice unit cost and the PO's unit cost must be expressed in the same currency. In order to compare the invoice unit costs with the PO's unit costs, auto-match does not engage in currency conversion.

The system assumes that tolerance costs are always in the system's primary currency. If RMS is the applicable merchandising system, auto-match performs currency conversion if the currency on the order is different from the primary currency. RMS's existing currency conversion engine is used to perform this conversion. If RMS is not being utilized, another currency conversion engine must be provided to support this functionality.

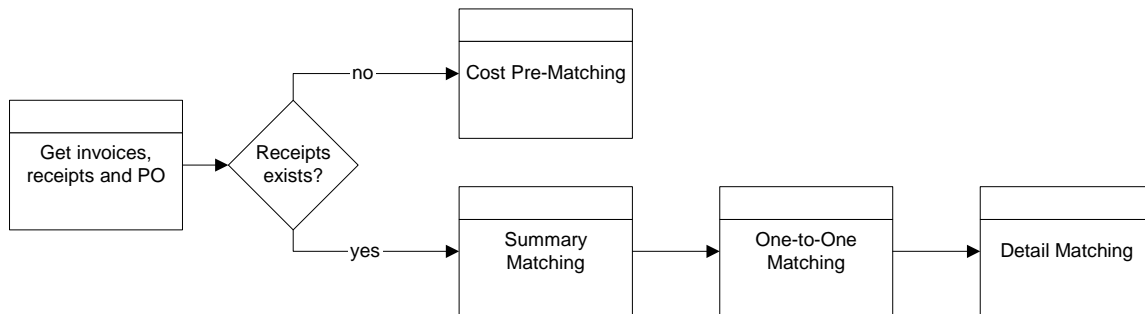
- The quantities on the invoice must be expressed in the same unit of measure as the quantities on the receipt. Auto-match performs no unit of measure conversion.
- The batch process runs after EDI upload (Invoice Matching) and Receipt upload (Merchandising system, such as RMS).
- **Supplier options**
All suppliers must have options defined in order for their invoices to be processed by the system, and the terms defined for those suppliers have to be completely updated in RMS. In order to support the use of suppliers in ReIM, the Enabled_Flag (set to 'Y'), Start_Date_Active and End_Date_Active are the required entries in the TERMS table in RMS 10.1 and in the TERMS_DETAIL table in RMS 10.2 and RMS 11.0.

Post processing

- Auto-match automatically invokes the 'best terms calculation' for invoices that it matches.
- Auto-match automatically posts invoices that it matches.

High-level flow diagram

The following diagram offers a high-level view of the processing logic utilized within the auto-match batch process.



ReIM's auto-match flow

Primary tables involved

- IM_DOC_HEAD
- IM_INVOICE_DETAIL
- SHIPMENT (RMS)
- SHIPSKU (RMS)
- IM_PARTIALLY_MATCHED_RECEIPTS
- ORDHEAD (RMS)
- ORDSKU (RMS)
- ORDLOC (RMS)
- IM_TOLERANCE_DEPT
- IM_TOLERANCE_SUPP
- IM_TOLERANCE_SYSTEM
- IM_COST_DISCREPANCY
- IM_QTY_DISCREPANCY
- IM_QTY_DISCREPANCY_RECEIPT
- IM_QTY_DISCREPANCY_ROLE
- IM_SUPPLIER_OPTIONS
- IM_SYSTEM_OPTIONS

Complex deal upload batch design



Note: This batch process is applicable only for those retailers using RMS 11.0.

Overview

The Complex Deal Upload batch process reads data from header and detail complex deals staging tables in RMS.

For each combination of deal ID and deal detail ID on the RMS staging tables, the batch process creates a credit memo, a debit memo or a credit note request, depending upon an indicator on the staging tables.

The batch process also copies most of the data from the RMS staging tables into one ReIM detail table (IM_COMPLEX_DEAL_DETAIL). This data is later referenced during the posting process for the created documents.

Assumptions and scheduling notes

The RMS staging header and detail must be purged nightly after the upload has run.

Primary tables involved



Note: For descriptions of RMS tables, see the latest RMS data model.

- STAGE_COMPLEX_DEAL_HEAD (RMS table)
- STAGE_COMPLEX_DEAL_DETAIL (RMS table)
- IM_DOC_HEAD
This table holds general information for documents of all types. Documents include merchandise invoices, non-merchandise invoices, consignment invoices, credit notes, credit note requests, credit memos, and debit memos. Documents remain on this table for SYSTEM_OPTIONS.DOC_HISTORY_MONTHS after they are posted to the ledger.
- IM_DOC_DETAIL_REASON_CODES
This table contains quantity/unit cost adjustments for a given document/item/reason code.
- IM_DOC_VAT
This table associates the document with its value added tax (VAT) information.
- IM_COMPLEX_DEAL_DETAIL
This table holds the details of the complex deal stored in ReIM. It is used during complex deal detail posting.

Fixed deal upload batch design



Note: This batch process is applicable only for those retailers using RMS 11.0.

Overview

The Fixed Deal Upload batch process reads data from header and detail fixed deals staging tables in RMS.

For each deal ID on the RMS staging tables, the batch process creates a credit memo, a debit memo or a credit note request, depending upon an indicator on the staging tables.

The batch process also copies most of the data from the RMS staging tables into one ReIM detail table (IM_FIXED_DEAL_DETAIL). This data is later referenced during the posting process for the created documents.

Assumptions and scheduling notes

The RMS staging header and detail must be purged nightly after the upload has run.

Primary tables involved



Note: For descriptions of RMS tables, see the latest RMS data model.

- STAGE_FIXED_DEAL_HEAD (RMS table)
- STAGE_FIXED_DEAL_DETAIL (RMS table)
- IM_DOC_HEAD
This table holds general information for documents of all types. Documents include merchandise invoices, non-merchandise invoices, consignment invoices, credit notes, credit note requests, credit memos, and debit memos. Documents remain on this table for SYSTEM_OPTIONS.DOC_HISTORY_MONTHS after they are posted to the ledger.
- IM_DOC_NON_MERCH
This table holds various user-defined non-merchandise costs associated with an invoice. Non merchandise costs can be associated with merchandise invoice if the IM_SUPPLIER_OPTIONS.MIX_MERCH_NON_MERCH_IND for the vendor is 'Y'. If the MIX_MERCH_NON_MERCH_IND for the vendor is 'N', non merchandise expenses can only be on non merchandise invoice documents.
- IM_DOC_VAT
This table associates the document with its value added tax (VAT) information.
- IM_FIXED_DEAL_DETAIL
This table holds the details of the fixed deals in the ReIM system. It will be used during fixed deal detail posting.