Perceptive Intelligent Capture for Invoices

Solution Guide

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Written by: Product Knowledge, R&D
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Lexmark™ Enterprise Software

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What is Perceptive Intelligent Capture for Invoices

Perceptive Intelligent Capture for Invoices automates data entry for invoices and credit notes.

PIC for Invoices also includes processes for tax determination and validation, automatic general ledger account coding, and solutions reporting.

PIC for Invoices can be integrated with almost any environment and includes the following components.

- Visibility for auditing and reporting purposes.
- Verifier for document quality-assurance purposes.
- Perceptive Content (optional, refer to the Appendix)

Accounts Payable solution overview

About the supported Accounts Payable documents

PIC for Invoices currently supports the following document types.

- Vendor invoices
- Vendor credit memos
- Third-party freight invoices

You need to configure any additional document types, such as statements or travel and expense forms, as new document classes within the solution.

About the supported languages

PIC for Invoices is a language-independent solution that can process documents using Western European, Cyrillic, Chinese, Japanese, and Greek character sets.

PIC for Invoices is specially optimized to increase extraction rates for invoices presented in Bulgarian, Chinese, Czech, English, Estonian, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovenian, Spanish, Swedish, Thai, and Turkish languages.

About project configuration

Project requirements are configured through the project INI file and the PIC for Invoices database.

These settings overwrite the property settings with the PIC for Invoices project itself. However, these settings are overwritten by the settings configured within the Perceptive Intelligent Capture Runtime Server for the defined project. The solution permits the configuration of the following components.

- Setting up clients and client-specific settings
- Business rules relating to predefined data fields and document scope
- Database connection settings for validations and reporting through the Visibility Reporting Database
- Connection settings to Oracle eBusiness Suite
- Connection settings to SAP R/3, version 4.6c and higher
- Data export settings for non-ERP connections, such as MS SQL or Oracle DB, or file export

- Document archiving and exporting image file formats
- Error messaging, color scheme, and presentation of field data you want to display within Thick Verifier
- Tax code validation and determination

About PIC for Invoices solution architecture

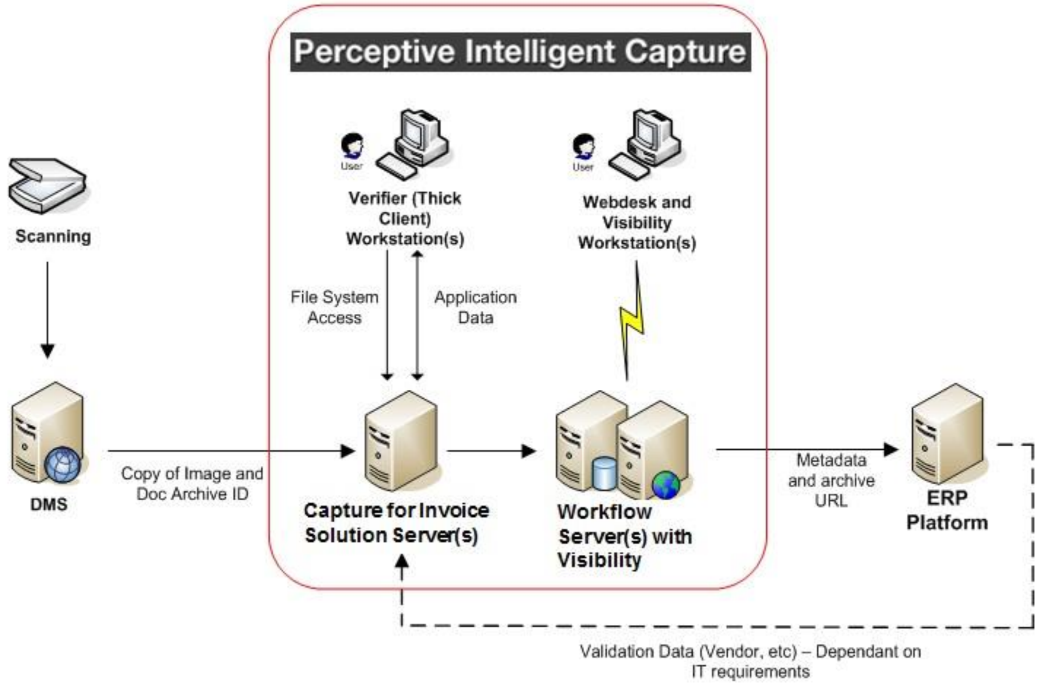
You can integrate the PIC for Invoices solution with almost any existing environment. This section provides several possible examples.

About early archive architecture

This section provides an overview of early archive architecture.

Invoice documents are scanned directly into the existing document management system (DMS) solution. A copy of the document (1 file per invoice) and URL are passed to the Perceptive Intelligent Capture Runtime Server. For documents requiring client processing, you must incorporate the ID of the client into the image file name. The document is processed by PIC for Invoices with the metadata then being exported to Intelligent Capture's Workflow module (optional), which also houses Visibility for auditing and reporting purposes. The Verifier workstations are used for document quality analysis (QA) if required.

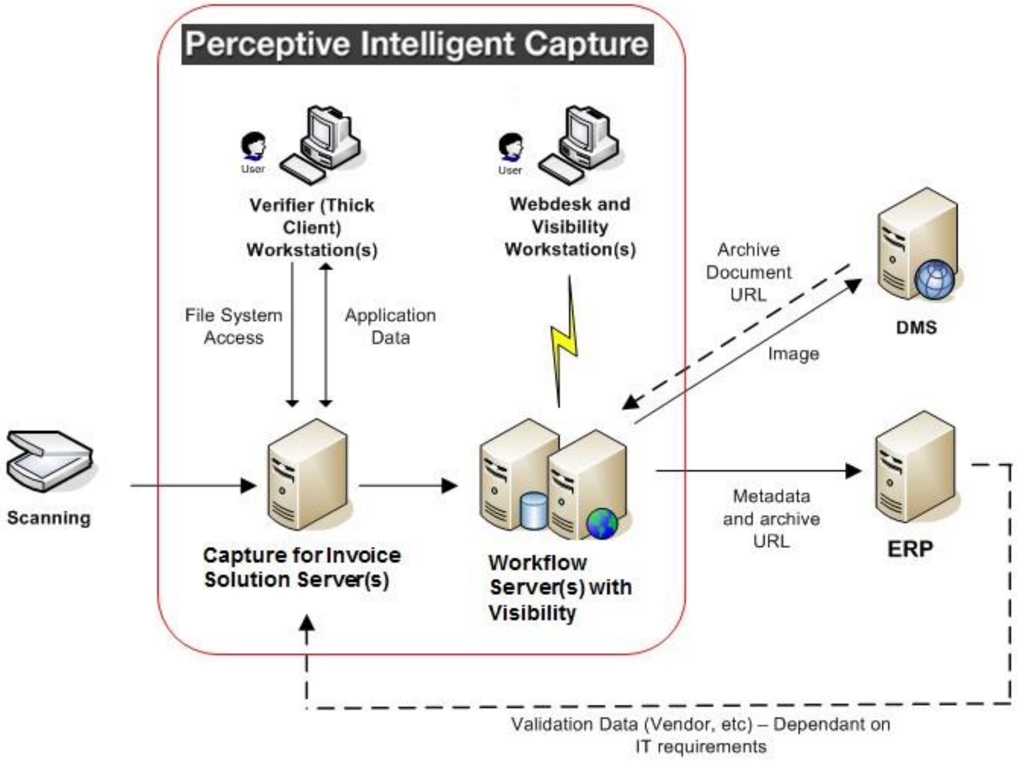
The Workflow module is used for escalating exceptions and other A/P functions prior to the invoice being booked into the ERP system. These workstations also access Visibility. Data validation is through a live connection to the enterprise resource planning (ERP) system or alternative data source. The following image provides an architectural example of the Perceptive Intelligent Capture solution.


Perceptive Intelligent Capture
User
Verifier (Thick Client) Workstation(s)
User
Webdesk and Visibility Workstation(s)
Scanning
File System Access
Application Data
DMS
Copy of Image and Doc Archive ID
Capture for Invoice Solution Server(s)
Workflow Server(s) with Visibility
Metadata and archive URL
ERP Platform
Validation Data (Vendor, etc) – Dependant on IT requirements

The optional Workflow module is used to escalate exceptions and other A/P functions prior to booking the invoice into the ERP system.

Invoice documents are scanned and passed to Perceptive Intelligent Capture Runtime Server. The document is processed by PIC for Invoices with the metadata being exported to Perceptive Intelligent Capture's Workflow module, which also houses Visibility for auditing and reporting purposes. The Verifier workstations are used for document QA, if required.

These workstations also access Visibility. Upon data export, the image passes to the DMS solution for archiving and the URL passes to the ERP system to allow the direct viewing of the image with the booked invoice data. Data validation is through a live connection to the ERP system or alternative data validation source. The following image provides an architectural example of the Perceptive Intelligent Capture solution.


Perceptive Intelligent Capture
User
Verifier (Thick Client) Workstation(s)
User
Webdesk and Visibility Workstation(s)
File System Access
Application Data
Archive Document URL
Image
DMS
Scanning
Capture for Invoice Solution Server(s)
Workflow Server(s) with Visibility
Metadata and archive URL
ERP
Validation Data (Vendor, etc) – Dependant on IT requirements

About architecture with SAP

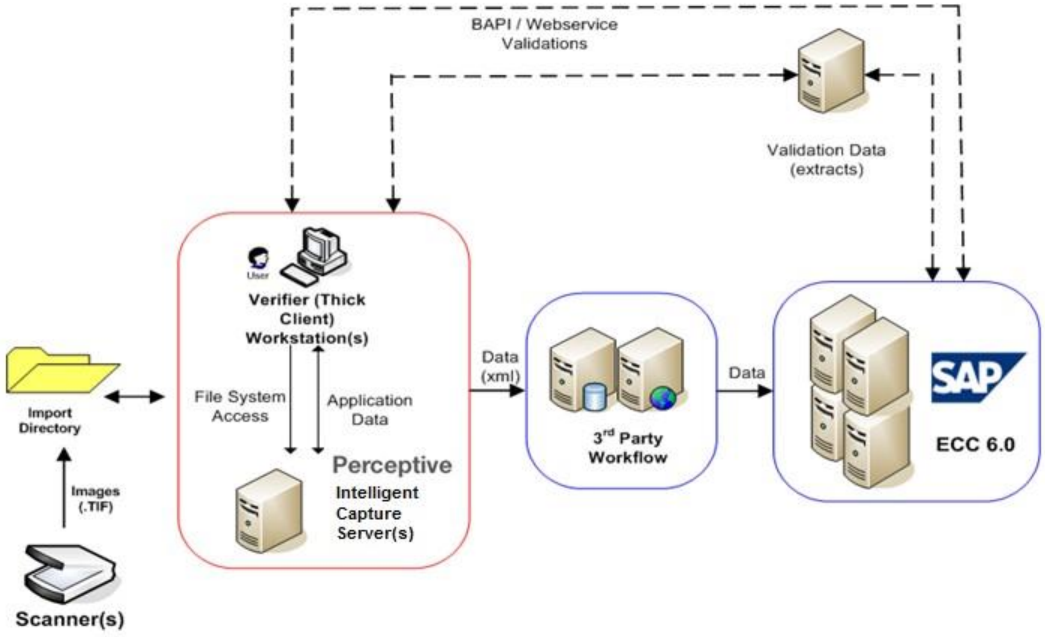
There are two broad architectural options available for passing invoices.

- Invoices pass directly to an SAP from PIC for Invoices.
- Invoices pass through a third-party workflow system before arriving in SAP.

About the SAP solution architecture with workflow

The following image illustrates the system architecture for a solution that utilizes a third-party workflow between the PIC for Invoices server and SAP.

In this configuration, the invoices are scanned and passed into an import directory located on the PIC for Invoices server. The images are subsequently imported into batches and passed through OCR. PIC for Invoices then performs the document classification and extraction. Once extracted, the data is validated "live" against the SAP system using Business Application Programming Interface (BAPI) calls. You can invoke the BAPI calls through web services or through the solution by logging into SAP directly.


BAPI / Webservice Validations
Validation Data (extracts)
User
Verifier (Thick Client) Workstation(s)
Import Directory
File System Access
Application Data
Data (xml)
Data
Perceptive Intelligent Capture Server(s)
3rd Party Workflow
SAP
ECC 6.0
Images (.TIF)
Scanner(s)

PIC for Invoices uses standard SAP guaranteed and released BAPI calls for the purposes of data validation. The exception is the vendor ID, which is determined and ascertained from a flat file generated from SAP.

If an invoice cannot be read correctly or any of the data validations fail, the invoice is sent to the Verifier application for a user to make the necessary corrections.

When the data is complete and correct, instead of being sent over to SAP directly, it is passed to a third-party workflow application, which sits between PIC for Invoices and SAP. Integration to the workflow application is possible from PIC for Invoices through the following methods.

- Databases
- XML
- CSV files

The most common method of integration is for PIC for Invoices to write out data extraction results to the workflow database tables, a process that subsequently triggers an instance of the third-party workflow.

In addition to managing the posting of invoices into SAP, the third-party workflow application typically performs the following functions.

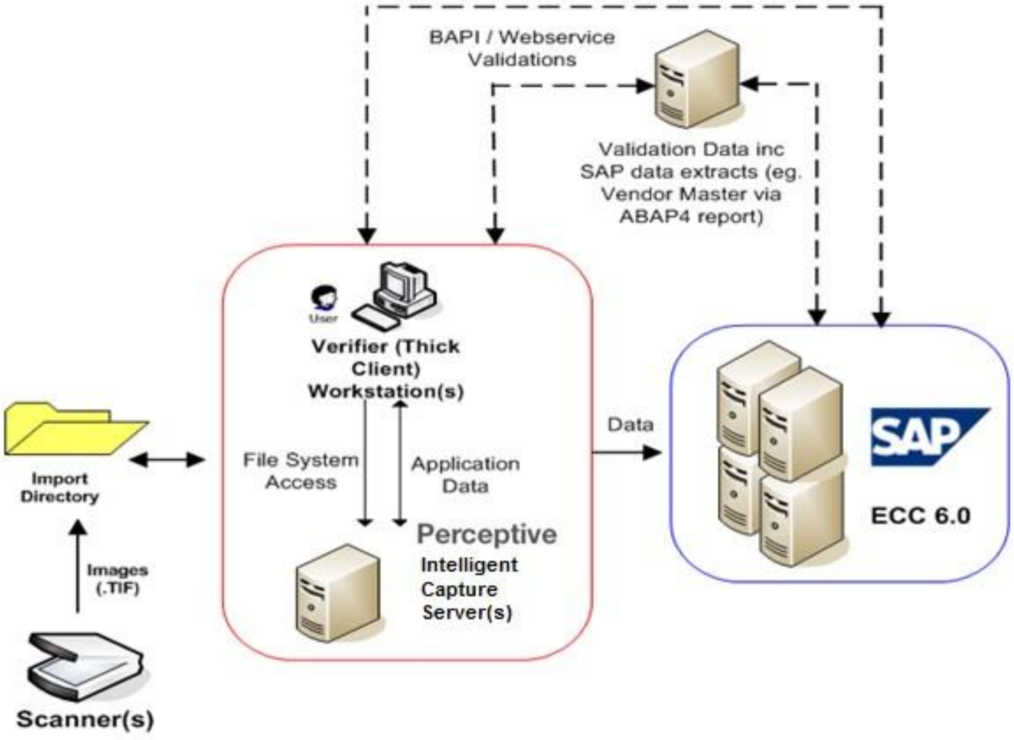
- Manages invoices with missing or invalid POs
- Provides an interface for the coding and approval of FI invoices
- Manages FI invoices from new vendors.
- Manages “non-compliant” invoices, such as those that do not balance or do not meet legal or fiscal requirements
- Provides an interface for completing MM-LIV invoices. For example, this may be necessary when the invoice line item data cannot be reconciled with the purchase order line item data or in instances where mandatory goods receipts are missing.
- Manages invoice blocks resulting from a failed three-way match in SAP
- Carries out any required archiving or image linking activities

The PIC for Invoices export fails if the integration steps to the third-party workflow are not completed. If this occurs, the document is returned to the Verifier user specifying the reason so that action can be taken.

About the SAP solution architecture without workflow

The following image illustrates the system architecture for a solution that does not use a third-party workflow between the PIC for Invoices server and SAP.

In this example, the invoices are scanned and passed into an import directory located on the PIC for Invoices server. The images are subsequently imported into batches and then run through an optical character recognition (OCR) system. PIC for Invoices then performs the document classification and extraction process. Once extracted, the data is validated “live” against the SAP system using Business Application Programming Interface (BAPI) calls. These BAPI calls are invoked either through web services or through the solution logging into SAP directly.


BAPI / Webservice Validations
Validation Data inc SAP data extracts (eg. Vendor Master via ABAP4 report)
User
Verifier (Thick Client) Workstation(s)
File System Access
Application Data
Data
Perceptive Intelligent Capture Server(s)
SAP
ECC 6.0
Import Directory
Images (.TIF)
Scanner(s)

PIC for Invoices uses standard SAP guaranteed and released BAPI calls for the purpose of data validation. The exception to this is the vendor ID, which is determined and ascertained from a flat file that is generated from SAP.

If an invoice cannot be read correctly, or any of the data validations fail, it is sent to the Verifier application for a user to make the necessary corrections.

Once the data is complete and correct, the system exports it to SAP.

Data export to SAP uses BAPI calls that post and park invoices, either through the “FB6” or “MIRO” SAP transaction. The export fails if a document is not created in SAP. If this occurs, the document is sent back to the Verifier user specifying the reason why the document was not created in SAP so that action can be taken.

Typically, MM-LIV invoices are posted if possible and parked if a posting cannot be made; FI invoices are always parked at header level. Downstream workflows or reports in SAP are expected to manage the resolution of a parked document, as well as posted documents should they block for payment.

About the solution features

What is line pairing?

The PIC for Invoices line pairing feature leverages the solution's unique search technologies to reconcile the invoice line items with the line items on a purchase order.

This is a critical operation for creating a complete purchase order related invoice in the downstream enterprise resource planning (ERP) system, as ERP systems require a purchase order line item number for each invoice line entered. Typically, a client's purchase order line item number does not appear on vendor invoices and, when they do, they are not always stated correctly. The PIC for Invoices line pairing feature is able to overcome this and derive the correct purchase order line item number automatically through comparing the extract invoice line item data with what is available on the purchase order.

The PIC for Invoices differentiator allows the system to employ the product's patented fuzzy search technologies to perform the down-to-the-line item description level, which delivers an industry-leading success rate.

Without this feature, even though the document may pass straight through the Verifier application without requiring data correction, the document needs to stop in the ERP system for manual completion. Often this manual completion of the line item data can prove extremely time-consuming, especially when dealing with large purchase order numbers and a large number of invoice lines.

For example, if the purchase order contains 300 line items and an invoice referencing this purchase order has 60 line items, the user would need to pick the right 60 lines from a list of 300 lines. This is why "straight-through" processing for purchase order related invoices becomes impossible unless you deploy some form of line pairing.

In addition to this, the line-pairing feature can also perform the following functions.

- Perform checks to ensure that the invoice quantity is being booked in the correct unit of measure and convert to the purchase order unit of measure if required.
- Reconcile the invoice data to blanket and service purchase orders within the ERP system.
- Handle the posting of invoice miscellaneous charges, such as freight and customs charges, in accordance with client business rules. Refer to the installation guide for more information.
- Handle the same material that appears on the purchase order more than once.
- Handle multiple purchase orders that appear on a single invoice.
- Process third-party freight invoices against a purchase order created for a different vendor.

To read the purchase order and goods receipt data required for line pairing, PIC for Invoices can be pointed to a purchase order database or a flat file extract of purchase order line item data. The flat file extract option is intended for demonstration purposes only, and should not be used in a live production system.

The line-pairing feature operates differently depending on whether the invoice purchase order is for materials or services.

Line pairing is not carried out if any of the following conditions exist.

- Line pairing is deactivated in the system configuration.
- Line-item extraction is deactivated in the system configuration.
- The invoice type is NO-PO.
- The document type is CREDIT and line item extraction is deactivated for credit memos.
- The PO type is SERVICE and line pairing is deactivated for service PO types.
- The vendor is a utility vendor and line-item extraction is switched off for utility vendors.
- The Verifier user has selected an invalid reason of VENDOR NOT FOUND, and line item extraction is deactivated for that invalid reason.
- The Verifier user has selected an invalid reason of MISSING/INVALID PO, MISSING/INVALID VENDOR & PO, or INVOICE AMOUNTS DO NOT ADD UP.
- The purchase order has not been released and line item extraction is deactivated for unreleased purchase orders.
- All lines on the purchase order are fully invoiced and the system is configured to ignore completed purchase order lines.
- A purchase order to be used against line pairing has a duplicate record in the purchase order header database and duplicates are not allowed.

About line pairing for third-party freight invoices

Within PIC for Invoices, a third-party freight invoice refers to a very specific business scenario whereby an invoice is received from a vendor billing for freight, yet that vendor legitimately quotes the purchase order number of another vendor (the material vendor), and it is against this material vendor’s purchase order that the freight charge needs to be booked.

PIC for Invoices handles freight invoices that do not fall into this category as regular invoices.

PIC for Invoices handles freight invoices that do not fall into this category as regular invoices.

- The identified vendor is not the material vendor for whom the purchase order was raised, but is the vendor set against a planned condition on any of the purchase order line items.
- A user selects the “Third-Party Freight” invalid reason within the Verifier application.

PIC for Invoices does not extract line items from third-party freight invoices. Instead, at the time of line pairing, the system books the net invoice amount according to the miscellaneous charge group settings assigned to third-party freight vendors in the BRWMSC table. The rules for posting third-party freight and other miscellaneous charges are described in detail in the installation guide.

About line pairing for material invoices

Perceptive Intelligent Capture for Invoices performs line pairing for all material purchase orders.

If the invoice relates to a material purchase order, the system undertakes three steps before pairing a line item.

1. Identify the corresponding purchase order line item.
2. Identify a goods receipt document if required.
3. Convert the invoice quantity to the order unit of measure specified on the purchase order line.

In step 1, the system looks at all the purchase order line items. Based on the quantity, unit price, total, material number, and description read from the invoice for each line item, the system performs a fuzzy search against the purchase order data to identify the line that best fits the invoice details.

If a single line item is found within the tolerances specified in the BRWLPR table with a sufficient distance from the next best possibility, then the system selects this is the purchase order line.

In step 2, the system checks to see if the purchase order line item identified in step 1 is configured in the enterprise resource planning (ERP) system to require a specific goods receipt. (The PO line is set for goods receipt based invoice verification.) If a specific goods receipt is required for invoice entry, then the system looks at all of the available goods receipts for that purchase order line, and selects a goods receipt (or combination of goods receipts) that reflect the amounts and delivery note details supplied on the invoice.

If an appropriate goods receipt cannot be determined, then line pairing fails. If the purchase order line does not require a specific goods receipt to be specified when creating an invoice, then the system skips this check.

The final step is to ensure that the quantity extracted on the invoice is expressed in the same unit of measure as the purchase order line and performs a conversion, if necessary. You can disable this check if required.

The mapping between an extracted unit of measure and the ERP ISO-code for the same unit of measure is configured in the BRWUOMType table.

If all three steps are successful, the invoice line item pairs successfully. The system subsequently repeats this operation for all line items on the invoice.

About line pairing for service invoices

The PIC for Invoices solution provides functionality for the handling of service invoices. Typically, for such invoices, line item detail is not extracted from the document since the line item breakdown provided by the vendor scarcely mirrors the manner in which a service purchase order is raised.

For example, a vendor providing consulting services may provide a complete breakdown of all time and costs spent on an engagement, each item of which constitutes an invoice line item. However, purchasing departments are inclined to raise a single line, blanket purchase order marked for “Consulting Services,” and the net invoice amount is then booked against this single purchase order line.

The line pairing for service invoices adopts this approach and only functions if the purchase order comprises a single line item.

It is common practice among many companies to reverse the quantity and unit price for a service line item on the purchase order for the following reasons.

- This removes the need to pro-rata the quantity based on the invoice net total as a proportion of the overall purchase order line total at the time of invoice entry.
- This prevents the purchase order line being fully invoiced with the difference being posted to profit and loss.

PIC for Invoices does not extract line items from third-party freight invoices. Instead, at the time of line pairing, the system books the net invoice amount according to the miscellaneous charge group settings assigned to third-party freight vendors in the BRWMSC table. The rules for posting third-party freight and other miscellaneous charges are described in detail in the installation guide.

What is the automatic tax determination and validation?

The PIC for Invoices solution incorporates an automatic tax determination and validation feature to ensure that the document is correctly coded for tax prior to submission to the downstream ERP system.

This feature is in place so that a fully complete document can be created downstream; therefore, manual rework in the ERP system is not required.

The system supports tax determination for countries with or without tax jurisdictions.

For information on configuring the system to operate for countries that do not use tax jurisdictions, refer to the installation guide.

For information on configuring the system to operate for countries that do use tax jurisdictions, refer to the installation guide.

The determination of tax codes only applies to invoices that relate to purchase orders and is only carried out when a line item is paired to its purchase order counterpart.

About data export options

PIC for Invoices provides several standard export options. These export options are listed below.

- Export to database tables
- Standard extraction results file
- CSV file output
- XML file output
- TIFF file output
- Fully text-searchable PDF file output
- Integration to archive systems (refer to the installation guide)
- Creation of posted and parked SAP documents
- Export to Dolphin workflow
- Export to Process Director for SAP
- Export to Process IT for Oracle EBS
- Export to Perceptive Integration framework

A user exit is provided for additional export requirements. Export options can be switched on and off with the parameters set through the BRWEXP table.

The export event fails if any of the following conditions occur.

- Late archiving is required but the document cannot be archived.
- The system is required to read the PIC for Invoices Tax Table for the purposes of tax determination but cannot read the tax table.
- The system is required to read the Miscellaneous Charges Account Assignment table to code a general ledger entry but cannot read the table.
- The system is required to export the TIFF image to a designated directory but cannot write the image.
- The system is required to export a PDF to a designated directory but cannot create the document.
- A standard PIC for Invoices results file needs to be created in a designated directory but the file cannot be created.
- A CSV output file needs to be created in a designated directory but the file cannot be created.
- Export needs to be written to a database but the database insert or update is unsuccessful.
- An XML file needs to be created in a designated directory but the file cannot be created.
- The system is required to create posted or parked SAP documents but these cannot be created, and no alternative option has been set up in UserExitSAPPostingFailure
- The system is required to do line pairing but connectivity issues arise when trying to read purchase order data or service entry sheet data.
- A custom export fails.
- Export to Process Director for SAP fails
- Export to Process IT for Oracle EBS fails
- Export to Perceptive Integration Framework fails
- An unexpected error occurs.

Under such circumstances, the document is set to state 750 (failed export), with an error message indicating the problem set against the invoice number field. Further detail is written into the standard PIC for Invoices log file for the RTS instance that performed the export.

The export does not fail under the following conditions.

- Line pairing was unsuccessful.
- A document could not be successfully coded or validated for tax.
- The update to the invoice number history database was unsuccessful.
- The export data could not be written to the reporting database.
- A database error occurred during the unit of measure conversion component of line pairing.

Unsuccessful SQL statements, such as those carried out for reporting, are written into the standard PIC for Invoices log file for an RTS instance that performed the export step. You can manually execute these at a future point in time.

If there are multiple export options activated, export terminates at the point at which the first export option fails. This sends the document to state 750 denoting an export failure. Upon retrying the export, only the export options that did not complete successfully upon the previous attempts are carried out. You can configure the system to repeat all export options, irrespective of whether they were completed beforehand, if required.

About document management system integration

PIC for Invoices supports integration to document management systems (DMS) in both the early and late archiving scenarios.

During early archiving, the image is archived prior to reaching PIC for Invoices. In this scenario, PIC for Invoices requires a copy of the archived image with the unique archive document ID embedded into the document file name. Configuration options in the IMP section define whether this unique archive document ID constitutes the entire file name or a component of that file name. At the time of document export, the archive document ID is passed downstream through the PIC for Invoices URN field.

During late archiving, the image is archived after processing in PIC for Invoices. The standard CSV file output can be configured to produce an import file compliant with Oracle ECM.

About ERP system integration

Integration to downstream ERP systems with PIC for Invoices is possible through the following interfaces.

- Flat file transfer.
- Export to database staging tables.

The various export options can be activated in the BRWEXP database table.

About solution reporting

PIC for Invoices contains out-of-the-box connectors to populate the Visibility reporting tables for solution reporting.

About automatic General Ledger Accounting coding

PIC for Invoices provides a feature by which non-purchase order related invoices are coded automatically for general ledger entry and the appropriate cost object assigned.

Both the general ledger coding and cost object determination are carried out using the unique search technologies of PIC for Invoices, which has the ability to reconcile free-text information on an invoice to structured data.

By virtue of the extracted line item description, the search technology is used to allot an appropriate general ledger code based on the code that has been used for that item in the past; the cost object information is derived through contact names, department names, and ship-to addresses that the vendor may have included on the invoice document.

These two items come together to provide a complete set of coding strings for the invoice so that they can be submitted to the downstream ERP system.

Currently, the implementation of the auto GL-coding feature requires customization, typically within UserExitPostLinePairing, but this will be converted into a more comprehensive set of configuration options in a future release of the PIC for Invoices product.

About project fields and features

The following section provides details on the standard fields delivered in the Perceptive Intelligent Capture for Invoices Solution and the additional features and integration options that are available.

Document Type

The document type field denotes whether the incoming document is an invoice or a credit memo.

The system automatically determines the field result, which can be changed within the Verifier application.

Using the system configuration options in the global BRWDTYFormats table, the system administrator may enter indicative words and phrases for a credit memo that can influence the document type selection. The system default value is INVOICE.

Invoice Type

The invoice type field denotes whether the invoice is purchase order (PO) or non-purchase order related (NO-PO).

The invoice type determines the following information.

- Whether line items are required from the invoice.
- How the invoice should be handled downstream.
- Whether a purchase order number is required.

Within the system configuration settings, you can configure a default value for this field.

For example, in an environment where the majority of invoices are purchase order related, you can set this default to PO.

Further configuration options are available to complete the following actions.

- Overwrite a NO-PO default and set it to PO based upon whether a purchase order number is detected or a valid purchase order number is detected.
- Overwrite the default based upon an attribute in the ERP vendor master data that would indicate whether NO-PO invoices from this vendor are permitted. For example, the vendor account group, the vendor industry sector, whether the vendor has a purchasing view, and so on.
- Overwrite the default based on a component of the image file name set by the scanning software where PO and NO-PO invoices are sorted upfront and scanned using different scan jobs.

For sample configurations for the invoice type, refer to the installation guide.

PO Type

The PO type field denotes whether the extracted purchase order relates to materials or services.

The system default is MATERIAL but it is possible to configure the system to switch this to SERVICE depending on the following purchase order characteristics.

- Purchase order document type.
- Line type/item category of the purchase order lines.
- The unit of measure on the purchase order lines.
- The prefix of the extracted purchase order number. For example, if service purchase orders all begin with 52 and 523456 is extracted as the purchase order number, then 52 should be entered as the service PO prefix.

The content of the PO type field controls whether line items are required, whether just the total of each line item and a description is required, and how the system handles the invoice during the line-pairing event at document export. The line pairing routine assumes that the purchase order does NOT contain a mixture of material and service line items.

The PO type is set from the purchase order in accordance with the configuration settings in the BRWPON table and cannot be changed by a user in the Verifier application.

Invoice Number

This is the document number for an invoice.

The invoice number determines the following information.

- If selected as a required field, the invoice number may be marked as invalid if a value is extracted under the following conditions.
- OCR errors are detected in one or more of the characters where the confidence level falls below the required minimum (default 50 percent).
- The system has found more than one candidate on the document whose respective confidences are closer than the distance setting against the field (default 10 percent).
- The format of the invoice number in terms of its length and sequence of alpha and numeric characters does not match previous invoice numbers submitted from the same vendor as stored in the invoice number validation table.

The validation for point 3 is optional and can be activated in the configuration of the BRWNUM table. It can also be specified how many previous invoice numbers the current invoice number should be compared against, and how many hits qualify as a successful validation. This check is not carried out in the Verifier application as user input is assumed to be correct.

At point of document export, it is possible to configure the system to update the invoice number history table automatically with the results for the current document. As vendors often use a different numbering sequence for invoices and credit notes, the system accounts for the document type when performing this check.

The BRWNUM table also provides options to skip invoice number validation in favor of an account number. Configuration options for the field entry in the BRWFLD table can be used to control how the invoice number is formatted, with the following options available.

- Remove all special characters from an extracted invoice number.
- Remove special characters if they appear at the start or end of the invoice number (Perceptive recommends that this setting is always switched on).
- Retain only a specified set of special characters.
- Remove spaces from within an invoice number.
- Remove any leading zeroes from the invoice number.

This feature is available to promote a common standard of invoice number entry to increase the efficacy of a duplicate invoice detection routine in the downstream process.

Invoice Date

The invoice date field is mandatory for all documents.

The system automatically converts the invoice date on the document, irrespective of how it is expressed, into the designated Verifier output format. The Verifier output format can be set to DD/MM/YYYY, MM/DD/YYYY, or YYYY-MM-DD through the configuration settings in the BRWDAT table.

This formatting relies on the vendor’s country of origin being mapped and populated in the vendor master extract file to handle ambiguous dates.

For example, 01/02/2009 is January 2, 2009 in the US, but reads as February 1, 2009 in Europe.

If the vendor country is mapped in the BRWSRC table, and this country exists in the list of countries where the national date preference is MM/DD/YYYY (for example, the US), then the system converts to 01/02/2009 if the Verifier output format is MM/DD/YYYY, and to 02/01/2009 if the Verifier output format is DD/MM/YYY.

If a date is entered manually in the Verifier application, then no conversion takes place unless the date entered is “impossible” for the Verifier output format.

For example, if the format is set to MM/DD/YYYY and the user enters 28/02/2009, the system automatically flips the date to 02/28/2009.

The system can be configured to invalidate the invoice date if any of the following conditions are true.

- It is more than x days in the future.
- It is not in the current month.
- It falls more than x days prior to the current date where x is configurable.

Machine and user local settings play no part in the system’s internal handling of dates.

User input into the date field is not subject to the checks above as long as the date entered is valid for the output format.

If the downstream export event involves writing the extracted date into a flat file, or into a database table, the output format of the date can be set to DDMMYYYY, MMDDYYYY, or YYYYMMDD with an optional separator.

The system is able to handle dates expressed in the Gregorian calendar and the Japanese Emperor’s calendar. The system also supports the Thai Buddhist calendar.

Company Code

The company code field represents the unique ID of the legal entity within the client's wider organization for which the invoice is intended.

For implementations involving Oracle e-Business Suite, this field represents the organization ID; for implementations involving PeopleSoft, this field represents the accounts payable business unit.

System configuration settings determine whether this field is mandatory through configuration for the field in the BRWFLD table.

The field can be determined by one of the following methods.

- Through a mapping from a component in the document file name set in the IMP section of the <*project*>.ini file, if it is set at the point of scan.
- Using the Associative Search engine pointing to a CSV or database extract of the master company code data as specified in the ASA section of the system configuration.
- Through a lookup to a database table or downstream ERP system based on the extracted purchase order number (PO invoices only). If a value is found and the system is configured to take the company code from the purchase order in all cases, this overwrites any company code determined through steps 1 and 2.

You can check the validity of user entry in this field against a database or a downstream ERP system as required. This is configured within BRWCCO table.

Vendor ID / Site ID / Internal Vendor ID

PIC for Invoices employs its unique associative search engine to ascertain the invoice vendor. Multiple instances of vendor master data (each referred to as a vendor partition) are also supported by the solution.

By pointing PIC for Invoices to an extract of the client's vendor master, whether it resides in a flat file or in a database table, the system analyzes the text of the invoice. The system then selects the closest matching vendor record in a fault-tolerant manner that accounts for spelling differences, OCR errors, abbreviations, and vendor details embedded within logos on the invoice.

If the system is not confident enough that the closest matching vendor from the extract is the correct vendor, the field is marked invalid and the document is sent to a Verifier. The Verifier user can choose either to accept this vendor or they can select an alternative using the vendor search facility within the Verifier application.

The vendor ID is a mandatory field for both PO and NO-PO invoices.

For PO invoices, the vendor is defaulted PIC for Invoices initially from the purchase order However, this setting can be disabled through a configuration option in the BRWVND table so that the vendor that PIC for Invoices has determined from the invoice takes precedence.

For ERP systems, such as Oracle Financials that use a vendor ID and a site ID, only the vendor ID component is used within the validation and the vendor pay-to site does not have to be the same as the order-from site on the purchase order. The automatic extraction of the vendor looks for a vendor at a specific site.

The site ID cannot be entered manually in the Verifier application, but is populated through the chosen result of the vendor search.

If the Verifier user wants to select a vendor that is not represented on the purchase order (for example, an alternate payee or a third-party freight vendor), then this is possible if the vendor exists in the vendor master extract and an appropriate invalid reason is set.

For NO-PO invoices, if the invoice vendor does not exist within the vendor master extract, then the invoice may only pass if an appropriate invalid reason is set.

PIC for Invoices also supports scenarios where the ERP uses an external vendor ID for display to the user, but another vendor ID internally. In this scenario, the Verifier application displays the external vendor ID but the system stores the internal vendor ID in the internal vendor ID field so that both values are available for export downstream.

Refer to the installation guide for more information and examples showing how the various options may be configured.

Purchase Order Number / PO Extension

If activated, the purchase order number field is mandatory for all invoices where the invoice type is PO, unless an appropriate invalid reason is selected.

The system only extracts a purchase order if it matches a valid format as specified in the BRWPONFormats table.

Further configuration options allow this field to be validated against a database table or against a downstream ERP system. If such a validation is set, the purchase order must exist in that system. These configuration options are available in the BRWPON table.

On the server side, an additional check is made to ensure that the pay-to vendor set against the extracted purchase order matches the vendor details on the invoice, but it is possible to configure the system to consider and validate the vendor ID and purchase order number independent of each other.

Within Thick Verifier, the user may change the purchase order or vendor and the system lets them pass as long as the chosen vendor is referenced on the purchase order. If an alternate vendor is required, an appropriate invalid reason must be selected from the field drop-down. For ERP systems that use a site ID as well as a vendor ID to identify a unique vendor address, only the vendor ID component needs to be common between the vendor ID field and the purchase order details.

If the user changes the purchase order and the new purchase order does not contain the vendor currently set in the vendor ID field, an information message displays, inviting the user to accept the new vendor or continue with the current vendor. A similar message displays for the currency field if the currency is set to default from the purchase order.

The vendor ID and the purchase order can be entirely decoupled from one another through a setting in the VND section of the system configuration.

If the new purchase order has not been released and the system does not require line items to be mandatory under this circumstance, a message displays informing the Verifier user.

If the new purchase order is a one-to-one match with the invoice in terms of its overall value or the value of goods received against the purchase order but not yet invoiced (MIRA scenario) and the system does not require line items to be mandatory under this circumstance, a message displays informing the Verifier user.

If the purchase order number is missing or invalid, the Verifier user should select an appropriate invalid reason from the field drop-down box to progress the invoice through the system.

A purchase order must be present and valid for the line-pairing feature to be activated during document export. Multiple purchase orders on a single invoice are supported if activated in the BRWLPR table but the system handles this at the time of line pairing. From the point of view of extraction and operation in Verifier, only a single purchase order number is required.

The PO extension field is populated in implementations involving JD Edwards or PeopleSoft. In J.D. Edwards implementations, this holds the purchase order type (for example, OP); in PeopleSoft implementations, this holds the purchasing business unit.

Bill-To Name

The bill-to name represents the name of the legal entity for which the invoice is intended.

This field can be used to check that the incoming document is intended for a valid company within the client's organization.

Within the BRWBTOFormats table, the system administrator can specify words and phrases that anchor a valid bill-to name. At runtime, the system extracts the full bill-to name.

If no anchors are specified or an appropriate anchor is missing, no value is extracted into the field, and all documents stop in the Verifier application.

Invoice Subtotal

This field is used to capture the subtotal of the invoice.

This subtotal is generally not mandatory but the system converts any extracted value to a valid amount using a period/full-stop as the decimal separator. The system uses this value in the validation calculation applied against all amount fields using the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

If line items are not mandatory and have not been captured, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The tolerance for the above calculations can be set in the BRWTOL table, and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

Invoice Freight Amount

This field is used to capture a freight charge specified by the vendor at header level, and to capture freight amounts at the line item level.

This field is generally not mandatory but the system converts any extracted value to a valid amount using a period/full-stop as the decimal separator. The system uses this value in the validation calculation applied against all amount fields, as shown in the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The tolerance for the above calculations can be set in the BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

If line pairing is activated to occur during document export, the system gathers all invoice freight amounts, both in this field and also at the line-item level, and processes them in accordance with the settings for such charges as specified in configuration of the BRWMSC Category table. Standard options for processing include booking the freight as a planned or unplanned delivery cost or creating a special general ledger entry against the invoice.

For more information on configuring the handling of freight, refer to the installation guide.

Invoice Miscellaneous Charge

This field is used to capture a non-freight miscellaneous charge specified by the vendor at header level.

For example, a fuel surcharge, administration charge, customs charge, pallet charge, and so on. The system is also able to capture miscellaneous charges at the line item level.

This field is generally not mandatory but the system converts any extracted value to a valid amount using a period/full-stop as the decimal separator. The system uses this value in the validation calculation applied against all amount fields, as shown in the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax
```

The tolerance for the above calculations can be set in the BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

If line pairing is activated to occur during document export, the system gathers all miscellaneous charges, both in this field and at the line-item level, and processes them in accordance with the settings for charges as specified in the BRWMSCCategory table. Standard options for processing include booking the miscellaneous charge as a planned or unplanned cost or creating a special general ledger entry against the invoice.

If the client requires each type of miscellaneous charge to be handled in a different manner, then it needs to be determined which specific charge the miscellaneous charge header field represents. The corresponding mapping between this field and charge type needs to be made in the system configuration settings.

The Verifier user should enter any other miscellaneous charges that appear as line items in the table. For more information on configuring the handling of miscellaneous charges, refer to the installation guide.

Invoice Tax Amount

This field is used to capture the total invoice tax amount, such as US sales and Use tax, and European VAT. It is also used to capture Canadian GST/HST tax amounts and Brazilian IPI tax amounts.

This field is generally not mandatory, but the system converts any extracted value to a valid amount and uses this value in the validation calculation applied against all amount fields using the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The total tax is set to the value of the tax amount field plus the amount captured in the PST field, if any. Brazilian ICMS tax is not included in this calculation. The tolerance for the above calculations can be set in BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

If line pairing is activated to occur during document export, the system attempts to determine the correct manner in which the tax should be booked in the downstream ERP system.

If the invoice is from a Canadian vendor and Provincial Sales Tax (PST/QST) is captured on the invoice in the PST field, the tax amount exported is the sum of the contents of the tax field and the PST field. If the invoice is a Brazilian Note Fiscal, and ICMS tax is read from the document in the ICMS tax field, then this ICMS tax amount is also added to the total invoice tax amount exported.

Invoice Withholding Tax Amount / ISR Retention (Mexico)

The withholding tax amount fields capture the portion of the invoice total amount that should be withheld by the client for legal reasons and not paid back to the vendor.

The ISR Retention field is used specifically to capture the ISR retention component of withholding tax, which can appear on Mexican invoices. The IVA retention component is captured in the regular withholding tax field.

These fields are not mandatory, but the system converts any extracted values to a valid amount and uses these values in the validation calculation applied against all amount fields, using the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR retention
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The tolerance for the above calculations can be set in the BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

The withholding tax base amount is set to the full invoice amount (invoice total + withholding tax) minus the total invoice tax amount.

At time of export, the system outputs withholding tax as a separate header level field with the ISR retention amount added to it. The ISR retention field is also available as a separate export parameter. The system outputs invoice total amount with the withholding tax and ISR retention amounts added back on.

Provincial Sales Tax

This field is used to capture the Provincial Sales Tax (PST/QST) component of Canadian tax.

The system attempts to extract the PST/QST amount from a document if the vendor country of origin is Canada. The regular invoice tax amount field is used to capture the GST component of Canadian tax.

During the mathematical validation of the invoice amounts, both the PST/QST and regular invoice tax amounts are added together in the background to form the total tax liability of the invoice. At the time of document export, the tax amount exported is the sum of the regular tax field and the PST field, although the PST component is available separately.

For example, if, on an invoice, the GST component is 40 CAD and PST/QST is 10 CAD, the total tax amount is exported as 50 CAD and the PST/QST amount is exported as 10 CAD.

Invoice Header Discount Amount

This field is used to capture a discount given by the vendor at the invoice header level.

This field is not mandatory but the system converts any extracted value to a valid amount and uses this value in the validation calculation applied against all amount fields using the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The tolerance for the above calculations can be set in the BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

Invoice Total

This field is used to capture the total amount of the invoice.

This field is mandatory as long as an invalid reason designating otherwise has not been set and its value cannot be zero.

The system converts any extracted value to a valid amount and uses this value in the validation calculation applied against all amount fields using the following formula.

```
Invoice Total = Line item total + total tax + freight + miscellaneous charge –
discount – withholding tax
```

If line items are not mandatory, then the amount fields can also be validated with the following formula.

```
Invoice Total = Subtotal + total tax + freight + miscellaneous charge –
discount – withholding tax – ISR Retention
```

The tolerance for the above calculations can be set in the BRWTOL table and the system applies the tolerance based upon the tolerance group linked to the currency of the invoice.

Currency field

The Currency field contains the ISO-code of the invoice currency.

In the first instance, PIC for Invoices attempts to extract the currency from the invoice. If no currency is captured or no currency appears on the invoice (which is common for domestic transactions), the currency field can be set to default to the currency associated with the vendor’s country of origin, or the currency in which the purchase order was raised.

Configuration settings determine whether the currency is mandatory or not, and whether user input should be validated against a database or the downstream ERP system. If the client provides an Oracle or SQL Server database, PIC for Invoices can provide an SQL script to create a fully populated table of all world currencies and the countries with which they are associated.

Within the configuration, it is also possible to specify which currency symbols and terms are associated with each individual currency (for example, “pounds”, “sterling” and “£” are associated with GBP). At runtime, if the corresponding currency symbol is found and this symbol is unique to one particular currency, then this currency is selected. Terms take priority over currency symbols. Additionally, the higher the currency up the list in the system configuration, the greater weight the system attaches to this currency.

If the currency symbol is ambiguous, then the vendor’s country of origin is used to find the corresponding currency ISO-code.

For example, “$” is found on the document and the vendor is from Canada; so the system sets the currency to CAD.

Bank Account / Bank Account Code

The bank account number is used to capture the bank account into which the vendor has requested payment to be made.

The bank account code field represents the identification of that bank account for that vendor from the point of view of the downstream ERP system.

The bank account is determined based on whether the bank details attribute is mapped and populated from the vendor extract file. This is performed within the BRWSRC table.

For each account specified where the account currency matches the currency of the invoice, the system looks for the bank details on the document. If they are found, the first matching bank account number and the corresponding bank account code are copied into the fields.

If the user enters a new purchase order or vendor within the Verifier application, the bank account details are reassessed automatically by the system.

It is possible to limit the identification of bank accounts only to those vendors who require payment to be made through a bank transfer. If the payment methods field is mapped and populated for the vendor and the list of payment methods denoting a bank transfer is in place in the BRWPMT table, then the system only looks to extract a bank account if the list of vendor payment methods contains an entry that denotes a bank transfer as a possible payment method.

Payment Order Reference Number / Subscriber Number

The payment order reference (POR) number is a 27-character transaction ID applied to the invoice by the Swiss Postal Service.

PIC for Invoices extracts this value from the document (typically domestic invoices supplied by Swiss vendors) and places it in the POR number field.

The POR number is only passed downstream during data export if the vendor has a POR subscriber number mapped and available within the vendor master data extract or if a POR subscriber number has been extracted from the document. This subscriber number is mapped in the BRWSRC table. The POR subscriber number in the vendor master takes priority over a POR subscriber number extracted from the invoice.

Payment Reference

This field is used to capture the vendor’s payment reference as specified on the invoice. It is not mandatory.

The payment reference is used in the Nordic countries of Finland, Sweden, and Norway. In Norway, for example, it is referred to as the KID number.

As delivered, the extraction of this field is deactivated. This steps required to activate the field are defined in the installation guide.

Exchange Rate / Local VAT Amount

At the time of export, only the exchange rate is passed downstream. If a local VAT amount was entered, the system calculates the exchange rate from the invoice currency to the local currency automatically.

If the VAT compliance check is activated in the BRWTAX table then an exchange rate or VAT amount in local currency must be entered if VAT is being charged in a currency that is not the local currency of country where VAT is being levied.

The exchange rate should be the value by which the invoice tax amount is multiplied to get the same tax amount in the local currency.

Account Number

The account number field represents the unique identification number of the client from the point of view of the vendor.

This is a mandatory field to use instead of the invoice number for invoices from utility vendors, if the invoice number in the system configuration is set to skip invoice number extraction for utility vendors. A vendor is marked as being a utility vendor through the mapping in the BRWSRC table and the value in the vendor master extract column contains the positive value for a utility vendor as specified in the BRWNUM table.

In all other cases, the field is not mandatory.

Priority Flag

The priority flag field is set to YES or NO depending on the urgency of processing.

The value of this field defaults to NO but can be overwritten by one of the following options.

- The Verifier user
- A component in the document file name being mapped to the priority flag in the IMP section of the INI file and the value of that component matches the positive value for the priority flag.

At the point of document export, this value can be passed to the downstream workflow so that the item can be prioritized accordingly.

To increase the item priority in PIC for Invoices, documents should be sorted according to priority during the scanning process, then output to a different PIC for Invoices import directory that is swept by an RTS instance that sets the priority of all imported documents to 1.

Scan Date

This scan date field represents the date upon which the invoice was scanned.

This is not extracted from the document but is set through a mapping to the field from the document file name. You can configure the expected format of the date lifted from the document file name within the IMP section of the project IN file. The system subsequently converts the date into the Verifier output format.

If the downstream export event involves writing the scan date into a flat file or into a database table, the output format of the date can be set to DDMMYYYY, MMDDYYYY, or YYYYMMDD with an optional separator as configured in the BRWDAT table.

Batch Name

The batch name field represents the name of the batch into which the invoice was scanned.

This is not extracted from the document but is set through a mapping to the field from the document file name.

URN

The URN field is the unique reference number assigned to the document in the upfront scanning process.

This is tied to the PIC for Invoices field through a mapping from the document file name. If the field is not mapped to a specific file name component, then the value of the URN field is set by the system to be the entire document file name minus the path and file extension.

The URN can be used by PIC for Invoices to:

- Set a key for the document record within the database reporting.
- Set a key for the document record for the purposes of database export and a unique file name for the purposes of flat file export.
- Denote the unique archive document ID for the image as determined by an early archiving process.

Invalid Reason

The invalid reason field contains a list of possible exceptions that could prevent a Verifier user from being able to correct a document in its entirety.

The system default is NONE but a Verifier user may change this value when a particular exception is encountered so that the document may be progressed out of the Verifier application.

The following table contains a list of the system delivered invalid reasons, their corresponding rule, when they should be selected, and the effect of selecting them.

Invalid Reason	Usage	Effect
VENDOR NOT FOUND	The user should select this invalid reason if the invoice vendor cannot be found using the vendor search function. This applies to both PO and NO-PO invoices.	RULE: SETVENDORTOVALID The vendor ID field is set to valid. In the BRWTAB table, you can decide whether line items are still required or not. If you configure the PIC for Invoices export event to create documents directly in a downstream ERP system, document export fails for NO-PO invoices as the ERP system does not permit an invoice to be created without a vendor ID. Line pairing is not carried out at the time of document export. If activated, the VAT registration compliance check is not carried out. No vendor details are exported.

Invalid Reason	Usage	Effect
MISSING/INVALID PO	The user should select this invalid reason if the invoice is purchase order related but the vendor has failed to quote a purchase order number or the purchase order number they did quote was invalid for the invoice.	RULE: SETPOTOVALID The purchase order number field is set to valid. In the BRWTAB table, you can decide whether line items are still required or not. Line pairing is not carried out at the time of document export. If activated, the VAT registration compliance check is not carried out.
MISSING/INVALID VENDOR & PO	The user should select this invalid reason if both the vendor and the purchase order are invalid or do not exist	Rule: SETVENDORANDPOTOVALID The vendor ID, the PO number, and the like items are all set to valid. Line pairing is not carried out at the time of document export. If the PIC for Invoices export event has been configured to create documents in a downstream, ERP system, document export fails. No vendor details are exported. If activated, the VAT registration compliance check is not carried out.
PO VENDOR <> INVOICE VENDOR	The user should select this invalid reason if the user wishes to pass a different vendor ID to what is set against the purchase order.	Rule ALLOWNONPOVENDOR The purchase order and vendor ID fields are set to valid providing the vendor exists in the vendor master data extract and the purchase order number passes validation.
INVOICE AMOUNTS DO NOT ADD UP	The user should select this invalid reason if the invoice is not mathematically correct and the figures do not add up within the specified tolerance.	Rule: SETAMOUNTSTOVALID All amount fields and all the line items are set to valid. Line pairing is not carried out. If activated, the VAT registration compliance check is not carried out.

Invalid Reason	Usage	Effect
THIRD PARTY FREIGHT	The user should select this invalid reason if the invoice is from a 3rd party freight vendor quoting the material purchase order form another vendor where they have not been set up as the vendor responsible for freight.	Rule: THIRDPARTYFREIGHT The vendor ID field is set to valid as long as the vendor exists and line items are not required in Verifier. During line pairing, the net amount of the invoice is posted either to unplanned delivery costs, to condition records, or to a general ledger account, depending on the rules for the miscellaneous charge category assigned to third-party freight vendors as specified in the MSC section of the system configuration.
NON VAT COMPLIANT	The user should select this invalid reason if the vendor has not complied with EU regulations that state that, if value added tax is to be charged, then both sets of VAT registration numbers (that of the vendor and that of the bill-to-party) must be stated on the invoice. The country prefixes of the VAT registration numbers must also be identical.	Rule: NONVATCOMPLIANT The vendor VAT registration number, bill-to VAT registration number, local VAT amount, and exchange rate fields are set to valid. Document export runs as normal with the invalid reason and its associated code being passed to the downstream system.
STOCK INVOICE	The user should select this invalid reason for PO invoices where the vendor legitimately does not quote a purchase order number on the document. For example, invoices that use retrospective purchase orders.	Rule: STOCKINVOICE The PO number field is allowed to pass blank but all other fields require completing as normal. Instead, the purchase order number is decided programmatically at time of document export through user exit UserExitSetPO ForLinePairing if line pairing is required.
ZERO VALUE INVOICE	The user should select this invalid reason if the invoice has a legitimate zero amount for the total.	Rule: ZEROVALUEINVOICE This permits a zero value invoice total to pass as long as the overall invoice is in balance.

Invalid Reason	Usage	Effect
VENDOR ADDRESS INVALID	The user should select this invalid reason if the vendor can be found in the vendor search but the vendor address does not match what is on the invoice.	Rule: SETVENDORTOVALIE The vendor ID field is set to valid. In the BRWTAB table, you can decide whether line items are still required or not. If the PIC for Invoices export event is configured to create documents directly in a downstream ERP system, document export fails for NO-PO invoices as the ERP system does not permit an invoice to be created without a vendor ID. Line pairing is not carried out at the time of document export. If activated, the VAT registration compliance check is not carried out. No vendor details are exported.

Note With the exception of PO VENDOR <> INVOICE VENDOR, NON VAT COMPLIANT, THIRD PARTY FREIGHT, and STOCKINVOICE, line pairing is not carried out during document export if an invalid reason is selected.

Settings in the BRWIVR Type table allow an administrator to change the text, rule, and export code associated with an invalid reason. The administrator can also add new invalid reasons based on an existing invalid reason rule. The table above provides the invalid reason rules available.

Invalid Reason Code

The invalid reason code is the value that the system assigns to a selected invalid reason for the purposes of document export so that a downstream workflow of ERP system can act upon that code and behave accordingly.

The code against each invalid reason can be set in the BRWIVRType table.

Employee ID

The employee ID field represents the identification number or user name of an employee found on the document.

The can be used in a downstream workflow to route the document to the relevant person within your organization. For example, for invoice coding and approval.

The field can also be used to detect an employee, a department, or even a ship-to address on the document to help determine the cost object against which a NO-PO invoice should be posted. In conjunction with the automatic general ledger account coding feature, this enables the complete coding of NO-PO invoices.

The field is determined using the PIC for Invoices Associative Search engine pointing to a CSV or database extract of the master employee data as specified in the ASA section of the system configuration.

Employee Name

The employee name is set by the results of the PIC for Invoices Associative employee search.

Line Item Detail

PIC for Invoices attempts to capture information at the line item level.

The following line item fields are optional.

Line Item Field	Description
PO	Purchase order number to which the invoice line item belongs. This is populated automatically by the line pairing routine should the invoice line be successfully paired to a line on the purchase order.
Line	Purchase order line item number to which the invoice line item relates. This is populated automatically by the invoice line being paired to a line on the purchase order.
Material Number	Material number associated with the invoice line item. If the material number captured is the material number from the point of view of the client, then this is used to facilitate the line pairing function. For line item detail captured at the generic level, valid formats for the material number can be specified in the MAT section of the system configuration to assist the system in selecting the correct material number if possible.
GL Account	General Ledger Code to which the line item should be booked. This can be entered manually or it can be determined automatically through the automatic general ledger account coding feature.
Description	Description of the invoice line item.
UOM	Unit of measure expressed in the invoice quantity.
Price Unit	The number of units for which the unit price is quoted. For example, for a line item where 5000 units are invoiced at 100 dollars per 1000 units, the line item total is 500 dollars. In this case, the price unit is 1000. This value defaults to 1.
Discount	Discount given by the vendor against the quoted unit price. This field can represent either a discount expressed as a percentage or a hard amount to be subtracted from the quoted unit price. This field needs to be populated if the unit price captured is not the net unit price of any discounts.
Category	Miscellaneous charge category applied to the invoice line item based on the extracted line item description. This is set by the system automatically based on the setting specified in the BRWMSCCategory table section of the system configuration. It cannot be changed by the Verifier user.

Line Item Field	Description
VAT Rate	Tax percentage rate applied to the invoice line item. If a valid value is captured, this is used by the system in the tax determination routine for countries that do not use tax jurisdictions . During document export, tax rates at line item level are cleaned up (for example, if the total invoice tax amount is zero, then a rate of zero is set for every line item; if the value captured is not between 0 and 100, it is blanked out). Additionally, if automatic tax determination is activated and tax codes are to be determined through a database lookup, the system removes any tax rates that do not correspond to valid percentages listed in the table for the country in which tax applies. To increase extraction of tax rates, valid rates must be specified against the primary and secondary rate parameters in the BRWTAXCONFIG table. The system does not currently have the ability to extract custom vendor tax rate codes at line-item level, then subsequently perform a conversion to an actual percentage rate based on a legend the vendor specifies elsewhere on the invoice.
VAT Amount	VAT amount applied to the invoice line item. This column is also available for a user to enter line level ICMS tax amounts, which are mandatory for multi-line Brazilian Note Fiscal invoices where ICMS tax is being charged and no corresponding line level tax rates have been captured.

The system configuration options in the BRWTAB table control the following requirements.

- Line items are required for any document.
- Line items are required for NO-PO documents.
- Line items are required for credit memos.
- Line items are required for invoices relating to a service purchase order.
- Only the line item total is required for invoices relating to a service purchase order.
- Line items are required if the purchase order has not been released.
- Line items are required for the MIRA scenario, which is when there is a one-to-one relationship between invoice and purchase order (that is, the total value of the invoice matches either the total value of the purchase order or the total value of all goods receipts against the purchase order that has not yet been invoiced).
- Line items are required if either the VENDOR NOT FOUND or MISSING/INVALID PO invalid reasons have been selected by the user in Verifier.
- Line items are required if the vendor is a utility vendor.

If line items are not required or if an appropriate invalid reason is set, the line item table is set to valid irrespective of content.

Each line item within the table is subject to the following validation formula.

```
Line Total = ( Quantity * ( ( Unit Price – Discount ) / Price Unit )
```

The discount can either be a hard value that is subtracted from the unit price or as a percentage discount from the unit price.

The tolerance for the above calculations can be set in the BRWTOL table.

If the invoice relates to a service purchase order, then the above check is skipped if only the line total column is required.

Vendor VAT Registration Number / Bill-To VAT Registration Number

The Vendor VAT Registration Number and Bill-to VAT Registration Number are available to satisfy a European legal/fiscal compliance ruling, which states that if value added tax is to be charged, it is incumbent on the vendor to state their VAT registration number and the VAT registration number of the bill-to party on the invoice.

PIC for Invoices is able to carry out this compliance check automatically if VAT compliance checking is activated in the BRWTAXCONFIG table.

If activated, the system looks for the appropriate VAT registration numbers on the document, and any values found are extracted into their corresponding fields. A valid vendor and company code must be present for this to occur.

If one or both VAT registration numbers cannot be found, tax is being charged, and both the vendor and company code are in EU member states, the document is presented to a user in the Verifier application for them to key in the missing data. For the data to be accepted, both sets of VAT registration numbers must have the same ISO-code country prefix.

To enable automatic extraction, the VAT registration number of the vendor must be mapped in the BRWSRC table; additionally, the bill-to company VAT registration number must be available through the company code validation in the BRWCCO table.

The VAT registration number compliance check can be switched on or off on a company code by company code basis. It is also possible to configure the system to require the vendor VAT registration number only. VAT registration number checking is also supported for cross-border EU transactions where the VAT is zero-rated.

For more information, refer to the installation guide.

ICMS Tax Amount

ICMS tax is a form of sales tax applied to material items in Brazil.

It appears on a Brazilian Nota Fiscal invoice as a standalone tax value that cannot be validated in the same way as regular sales tax because the line item amounts on the invoice are already INCLUSIVE of this tax.

PIC for Invoices captures the total ICMS tax amount in the ICMS field. The regular AmountTax field is used to capture the IPI tax amount.

A document stops in Verifier if the system believes it to be a Brazilian Nota Fiscal invoice referencing ICMS tax, yet no ICMS tax amount has been read. The user must then double-check whether ICMS tax was present on the invoice.

A captured ICMS tax value, or one entered by the user manually, is validated mathematically by the application under the following circumstances.

- More than one line item is captured from the invoice.
- The ICMS tax value is greater than zero.

If both of these conditions hold true, then the ICMS tax value must equal to the sum of the values captured in the VAT Amount column in the table of line items. If no VAT amount at line item level has been extracted, then the system tries to use a captured VAT rate to determine what the VAT amount would have been. If this cannot be done, then the document stops in Verifier for a user either to correct the ICMS tax amount or to enter the line level ICMS tax amounts in the VAT amount column.

At time of export, the ICMS tax amount is added on to the total invoice tax value but is still available separately in its own export field. If line items are relevant for export, the line level unit prices and totals are outputted EXCLUSIVE of ICMS tax. During line pairing, the system assumes that pricing at the purchase order line item level is expressed exclusive of ICMS tax.

Usage of the ICMS tax amount must be activated in the BRWTAXCONFIG table.

Delivery Note

Use this field to capture the vendor delivery note number if states on the invoice.

As delivered, the extraction of this field is deactivated. The steps required to activate the field are described in the installation guide.

Any extracted delivery note numbers are formatted in accordance with the formatting settings for the field in the BRWFLD table.

Due Date

This field captures the due date for payment.

In the delivered project, the field is deactivated but can be switched on by following the steps described in in the installation guide. Any extracted value is formatted according to the settings in the BRWDAT table.

Delivery Date

Use this field to capture the delivery date for the goods/services stated on the invoice.

In the delivered project, the field is deactivated but can be switched on by following the steps described in in the installation guide. Any extracted value is formatted according to the settings in the BRWDAT table.

VAT Table

You can use the VAT table in lieu of the single AmountTax field to capture a greater level of tax detail from European VAT invoices.

As well as the VAT amount itself, the table also contains columns to capture the corresponding VAT rate and the corresponding invoice amount that is subject to VAT. The multi-line nature of the table also permits the capture of the details corresponding to multiple rates of VAT on a single invoice.

To activate the VAT table, the ExtractTaxIntoVATTable setting must be set to True in the BRWTAXCONFIG table. This has the effect of deactivating the regular AmountTax field, as well as the ICMS, PST, HST, and AmountSubtotal fields.

The columns in the table are as follows, and all are mandatory for each table row.

Line item field	Description
Taxable Amount	Amount to which VAT has been applied
Tax Rate	Tax rate expressed as a percentage
Tax Amount	VAT tax amount

Each row in the table is subject to a mathematical calculation, as shown in the following example.

```
Tax Amount = Taxable Amount * ( Tax Rate / 100 )
```

The mathematical and completion checks can be deactivated in Verifier by setting column DeactivateCrossValidation to True in the BRWAMT table.

In terms of the mathematical check applied to all amounts captured from the invoice, the subtotal is now calculated from the sum of the Taxable Amount column, and the overall invoice tax is now calculated from the sum of the Tax Amount column.

The tolerance applied to all mathematical checks is based on the tolerance group assigned to the invoice currency, which is configured in the BRWTOL table.

Delivery Notes

This field is a line item type field where multiple delivery notes are captured and entered.

Use this field in lieu of the single delivery note field in appreciation that invoices can often represent more than a single delivery.

To activate the delivery note table in lieu of the single field, the setting ExtractDeliveryNotesIntoTable in the BRWNUM table must be set to True. This also has the effect of deactivating the regular delivery note field.

Line item field	Mandatory	Description
DeliveryNote	Set in BRWFLD	Delivery note number

Although in the BRWFLD table, the field type is TABLE, the formatting of any extracted value is based upon the configuration against the standard DeliveryNote field.

At time of data export, the delivery notes collected in the table are exported as a single value through the standard delivery note header export parameter. The separator used is configurable through column DeliveryNoteSeparator in the BRWEXP table.

IBAN

The IBAN number represents the international bank account number for invoice payment. It is extracted by the system in conjunction with the BIC or SWIFT code.

If an IBAN number is extracted and the field is activated within the project, the system performs a checksum validation to ensure that the account number was captured correctly. If the number does not pass this validation, the field is marked as invalid and the document is sent to Verifier.

BIC

The BIC or SWIFT code is an internationally assigned code to identify a unique banking institution.

Use this code in conjunction with IBAN numbers to indicate payment details through a bank transfer.

The solution attempts to find a BIC code on the document in conjunction with an IBAN number.

Your Ref

Use this field to capture a reference number specified on the invoice that relates to the party being billed. It can often consist of a contact name, a reference number, or a combination of both.

Alternate Payee

The alternate payee field is a supplementary field to the Vendor ID and represents the party to whom actual invoice payments should be made.

For more information concerning usage of this field, refer to the installation guide.

Harmonized Sales Tax

Harmonized Sales Tax (HST) is a type of sales tax adopted by many Canadian states that combines the traditional Goods & Service Tax (GST) and Provincial Sales Tax (PST) into one single tax amount.

The HST can be stated on an invoice on top of GST and PST as a tax in its own right, which means that the system needs to be able to capture all three tax components for the invoice to pass.

Prior to PIC for Invoices version 2.2, the AmountTax field was used to capture HST and the system will continue to behave in this way unless parameter BreakOutHSTForCanada is set to True in the BRWTAXCONFIG table. If it is set to True, the AmountTax field is only used to read GST and HST is captured in the new HST field. If set to False, HST continues to be captured in the AmountTax field (which leads to a document stopping in Verifier if both GST and HST are present on the document), and the content of the HST field is always 0 (zero).

During the mathematical validation of the invoice amounts, the values of the HST, PST, and regular tax field are added together in the background to form the total tax liability of the invoice. At time of document export, the tax amount exported is the sum of the regular tax field, the HST and the PST fields, although the HST component is available separately.

Invoice Code CN

The invoice code field is used for domestic VAT invoices in mainland China and refers to the ten digit numeric code that habitually appears in the top left hand corner of the document.

Extraction of this field is optional depending on whether the client wishes to use the system to capture data relevant to the Golden Tax invoices validation process.

Invoice Password CN

The invoice password field is used for domestic VAT invoices in mainland China and refers to the encrypted 4 line coding block that appears in the top right hand quadrant of the invoice document. Configuration options are available in table BRWTAXCONFIG to specify permitted lengths and also the special characters that may appear within the coding block.

Extraction of this field is optional depending on whether the client wishes to use the system to capture data relevant to the Golden Tax invoices validation process.

Mexican UUID number

The Mexican UUID is an electronic invoice number provided by the Mexican SAT authorities and appears as standard on electronic documents. It is 36 characters long and must be captured for government reporting purposes.

Extraction of this field is optional and a standard user exit ‘UserExitMexicanUUIDValidate’ is available to support custom field formatting and validation requirements.

Appendix: Perceptive Content integration

This version of Perceptive Intelligent Capture for Invoices uses standard functionality to enable the automatic update of the Perceptive Content messaging tables. This functionality is activated within the PCO section of the system configuration file.

With Perceptive Content integration, Information in fields such as invoice number, purchase order, dates, vendors, and so on are automatically captured and stored in Perceptive Content as an invoice document. The document is then available to use with your business's information system and can be shared among different departments and archIndex