

RPI Consultants White Paper

End-to-End Accounts Payable & Financial Process Automation

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Overview

Accounts Payable departments are constantly being asked to simultaneously reduce costs and improve services in an effort to save time and money. Many of the errors, exceptions, and delays occur in the Procure to Pay (P2P) process while processing invoices for payment and procuring resources and materials. This is largely due to manual data entry and processing that is often required for invoice coding, validation, and approval routing.

In an effort to reduce errors, processing time, and costs, many organizations are now choosing to invest in workflow automation products, such as **Enterprise Resource Planning (ERP)** platforms, **Enterprise Content Management (ECM)** software, and **Intelligent Data Capture** with Advanced OCR. These platforms can be used independently or integrated in various ways to reduce or eliminate manual data entry and processing across many departments, including Accounts Payable.

Each organization and implementation are unique, and custom data integrations or additional products may be required for complete automation. However, in this white paper we will share industry standards and best practices for implementing a basic automation solution in a typical accounts payable department.

For more information on how to automate your accounts payable department, please feel free to contact us at www.rpic.com.

Automation Technology

Enterprise Resource Planning (ERP)

ERP platforms integrate data and workflows that support important business processes, such as planning, purchasing, sales, inventory management, accounts payable, and human resources.

Enterprise Content Management (ECM)

ECM platforms capture, manage, and store content across an organization, including records, documents, images, or electronic messages.

Intelligent Data Capture

Intelligent Data Capture refers to software that intelligently reads scanned and electronic documents to extract key data and words using Advanced Optical Character Recognition (OCR).

Product Recommendations

There are many software providers and vendors for each type of product mentioned in this article, and RPI Consultants has experience with nearly all of them. Based on our extensive product and project experience we have selected only a few as active partners that we recommend to our clients.



Alliance
Partner

perceptive
software
CERTIFIED PARTNER

KOFAX
Partner

Brainware
by Hyland

OnBase
by Hyland
Authorized Solution Provider

ERP

ECM

ECM, Intelligent
Data Capture

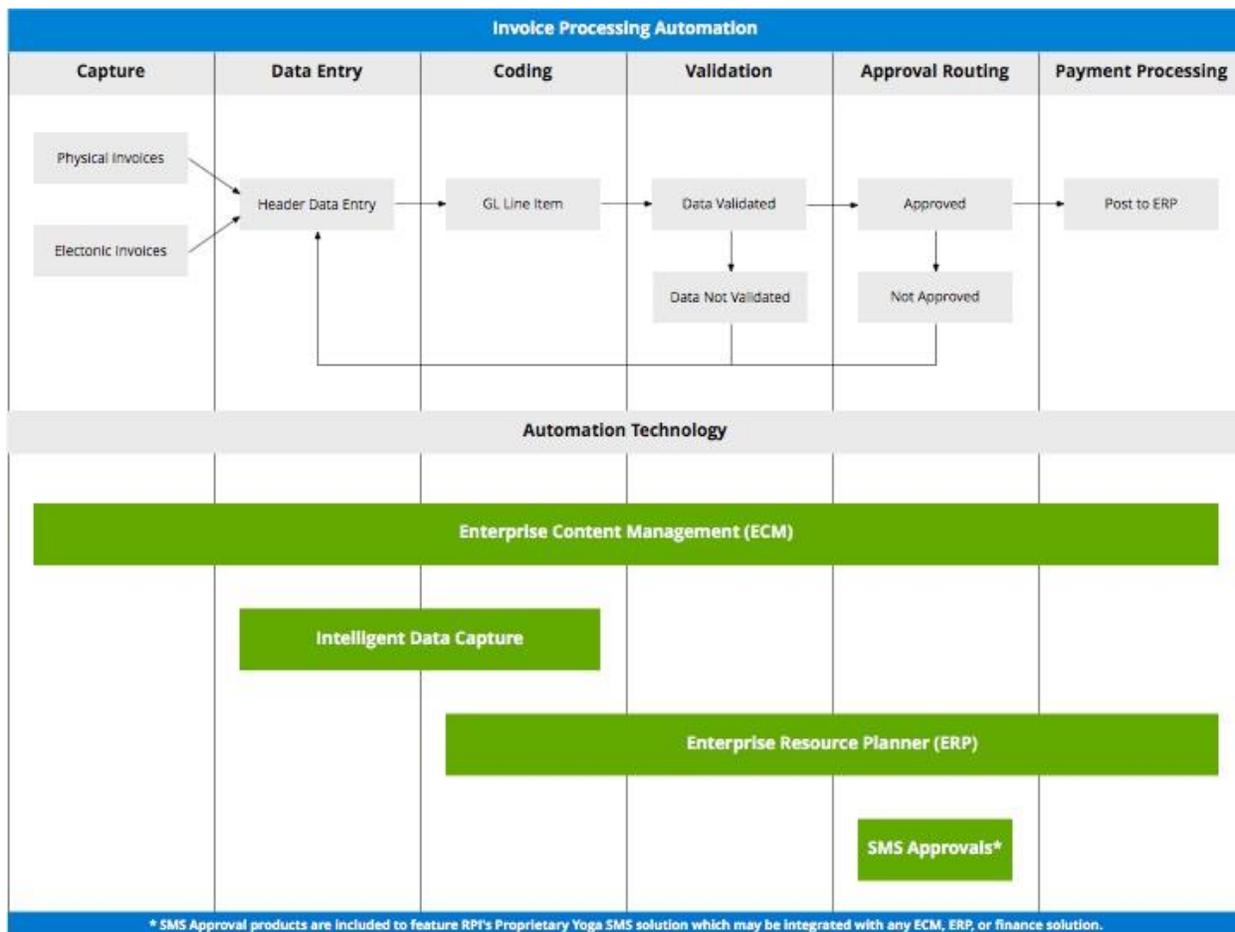
Intelligent Data
Capture

ECM

Accounts Payable Automation

There are a lot of active processes and workflows across the Accounts Payable department, but invoice processing typically requires the most attention, time, and resources. Getting invoices paid on time, or early, prevents penalties, creates opportunities for discounts, and ensures that products, materials, and resources are available to help the business operate.

At the center of this process is the invoice, which is why AP Automation focuses on invoice capture, coding, validation, and approval routing. The following graphic demonstrates how Intelligent Data Capture, ECM, and ERP applications can be used at different steps of AP Automation.



Invoice Processing Process and Automation Technology

Most AP Automation solutions include some combination of ECM, Intelligent Data Capture, and data integration with an ERP. Typically, the ECM platform will be designed to capture invoices from different sources and then pass them to an Intelligent Data Capture product. Header Data and/or GL Coding data will be automatically extracted and verified and then exported back into an ECM workflow with the invoice image. Any remaining coding, exception handling, or coding verification will be completed by workflow users.

At this point, invoices may be routed for approval using the ECM workflow, or invoices may be exported to the ERP for more robust approval routing. Additional products, such as RPI's proprietary Yoga SMS Approvals, may be used with your ECM or ERP workflow to facilitate approvals via SMS text. When all approvals have been captured, the invoice payment can be processed.

Invoice Capture

The invoice is the driving document in AP Automation, and so the first step of any AP Automation solution is to capture the invoice into your system. Invoices are often available in a variety of formats, including paper invoices delivered by mail or fax, invoice images received via email, and even electronic invoices sent via Electronic Data Interchange (EDI). This means that any software you use to capture invoices will need multiple capture methods.

Scanned Invoices

Scanning documents is the simplest method to capture physical invoices received through the mail or fax. Scanners and capture solutions can be set up with varying levels of image correction and manipulation options to ensure that scanned invoices are legible and ready to be processed. Once captured and checked for quality, invoices are then routed into your Intelligent Data Capture or ECM workflow for header data entry and GL coding.

Imported Invoices

File import is a convenient capture method that can be configured to import invoices directly from a server or a shared network directory. This is especially helpful in situations where invoices are being scanned in through Multi-Function Devices (MFDs) from multiple users across decentralized locations or departments. It can also be used when a third-party fax service is being used to capture and export physical faxes to a shared network directory.

Each ECM platform will have multiple import methods and configuration options, including everything from manual imports, scheduled import tasks, and real-time import monitoring services. Each import job can have unique import settings, which allow you to use the filename or an associated data text file to import images and apply keyword indexing. Imported files can be moved directly into your Intelligent Data Capture or ECM workflow for header data entry and GL coding.

Emailed Invoices

Many ECM products include email capture services or modules that monitor email accounts to import messages and attachments. These features include Perceptive Content's (ImageNow) Email Agent and Hyland OnBase's Mailbox Importer. Imported documents can be indexed with data from the email and automatically routed to your Intelligent Data Capture or ECM workflow.

For some of RPI's clients, these products do not provide sufficient data auditing or indexing options. To solve this problem, RPI developed its own proprietary product called EC Service. Similar to other products, EC Service monitors inboxes, downloads attachments from emails, and automatically prepares attachments for indexing and import into your ECM platform. However, RPI's EC Service also stores all email and attachment data in a separate database for advanced auditing and reconciliation, which can also be used to create scheduled reports.

Electronic Data Interchange (EDI)

The core motivating factor behind AP Automation is to reduce time spent on manual data entry and processing. If a company receives a large number of invoices from a single vendor, it may make sense to work with that vendor to receive invoices through Electronic Data Interchange (EDI). This format allows vendors to send raw invoice data through an EDI clearing house rather than preparing and sending physical invoices through the mail. Invoice data is converted into an EDI file, typically referred to as an 810 document, and then delivered to the company via email or SFTP.

EDI files make it easier to prepare and process large amounts of invoices by eliminating the need to manually review and extract raw invoice data and GL line items. However, you will still need to ensure your ERP, ECM, or Intelligent Data Capture solution is configured to import, parse, and in the case of ECM, generate readable invoice images from the EDI file.

Header Data Entry and GL Line Coding

Header Data Entry and GL Line Coding is often the source of most invoice errors, exceptions, and delays in processing. This is especially true when AP Processors manually review and enter data from invoice images into an ERP or ECM platform.

When mistakes occur, hopefully they are found during a validation step but often they are found by the approver. In either case, mistakes force the invoices back to AP Processors for correction.

Automating data entry and GL coding saves time and money by reducing or completely eliminating the reliance on manual data entry or processing. At a minimum, automation solutions can extract header data and route invoice images in a digital workflow. This allows AP Processors to work faster and AP Managers to better track and audit invoice exceptions.

At best, solutions with Intelligent Data Capture products will identify, extract, and validate 100% of invoice data and completely automate the hand off for invoice approval routing. This includes both header and line item extraction with line pairing logic, which nearly eliminates all manual data entry.

Product No.		Description	Unit price kr	Qty	VAT %	Total kr	
1	10	Pepper - 1 kg	56,00	5 kg	25	280,00	
2	11	Salt - 1kg	39,00	10 kg	25	390,00	
3	12	TastingSpices - event	1 500,00	1 st	25	1 500,00	
						Total excluding VAT kr	2 170,00
						VAT total kr	642,50
						Total to pay kr	2 712,50

Due date	06.03.2017	Invoice number	161	Total	2 712,50 kr
Bank Account Number / IBAN	F121 1234 5600 0007 85	BIC / SWIFT	NDEAFH H Nordes	Bankpost	100002
Kryddor Ab Vasagatan 4 10122 Stockholm	Tel: 070-1234567 kalle.karlsson@kryddor.se www.kryddor.se	Organization number	143917 3855	VAT number	F155769955401

Sample Invoice with Header & Line Item Data

Intelligent Data Capture with Advanced OCR

Intelligent Data Capture is at the core of any AP automation solution and can be used to perform simple tasks, such as extracting and applying header data to captured invoices, or extremely complex tasks, such as validating data against outside data sources like an ERP or vendor database.

There are many Intelligent Data Capture products available, but most will share core features and follow a process similar to the following:

1. Intelligent Data Capture utilizes Advanced Optical Character Recognition (OCR) to read an image and recognize characters the same way as a human would.
2. Using the recognized characters, or based on pre-configured templates, the image is classified by type, such as PO or non-PO invoice.
3. Based on the image classification, header data and/or line item data is extracted and validated against an ERP, vendor database, or other data source.
4. Validated invoices are exported to be processed within an ECM or ERP workflow.

The screenshot displays the Kofax TotalAgility Workspace interface for invoice verification. The left pane, titled "Fields", contains a form for data entry and validation, including sections for "Bill To", "Supplier Information", "Invoice Header", and "Invoice Line Items". The right pane, titled "Page 1 of 5", displays a scanned invoice from OPREMA with the header "DELIVERING TOMORROW'S SECURITY TODAY". The invoice details include document number 4500646512, date 29/11/2017, and various supplier and customer information. Below the invoice, a table shows line items with columns for Item Code, Description, Quantity, Price, VAT %, and Total. The bottom of the screen shows a "Thumbnails" section with five document thumbnails and a status bar at the very bottom indicating "Ready", "Folder: 1 of 1", "Document: 1 of 2", "Page: 1 of 5", and "Invalid Documents: 1".

Sample Invoice Data Verification Screen in Kofax KTA

Verification

During the data extraction and validation steps, each piece of capture data is weighed against a configured confidence percentage. If a certain value does not meet the OCR engine's confidence threshold, the image will be routed to a manual verification step. Most products will include a separate queue or view for these documents and highlight the failed fields. From here, users can manually verify the field to continue and complete document processing.

The screenshot shows the Kofax ReadSoft Online interface for verifying an invoice. The main area displays the invoice details, including the header 'Printers R US' and a table of items. The right-hand panel contains fields for 'BUYER AND SUPPLIER' and 'AMOUNT'.

Item	Details	Quantity	Unit Price	Amount
312	XXXXX Toner	3	\$200	\$600

BUYER AND SUPPLIER

- Customer: Demonstration Customer
- Buyer: Demonstration Customer
- Supplier Name: Printers R US
- Supplier Number: 0012

GENERAL

- Debit/Credit: Invoice
- Invoice Number: 1765
- Invoice Date: 12/21/2014
- Item Number: 456

AMOUNT

- Net Amount: 636.00
- Tax Amount: 0.00
- Delivery Cost: 0.00
- Total Amount: 636.00
- Currency: USD

Sample Verification Screen in Kofax ReadSoft Online

Exceptions

The verification step will also typically allow users to assign exceptions. Assigning an exception will allow the document to process out of the Intelligent Data Capture solution but will send the exported document and data with an invalid reason code. When the invoice moves back into the ECM or ERP workflow, the document will route to an exception queue where someone can review the invalid reason and resolve any issues with the invoice.

The screenshot shows the Kofax KTA exception processing interface. The 'Document' tab is active, displaying the supplier name 'ABC Stationary' and reference '313'. A red error message is displayed below the document details.

Document | **Process**

Supplier Name: ABC Stationary

Reference: 313

Current Error

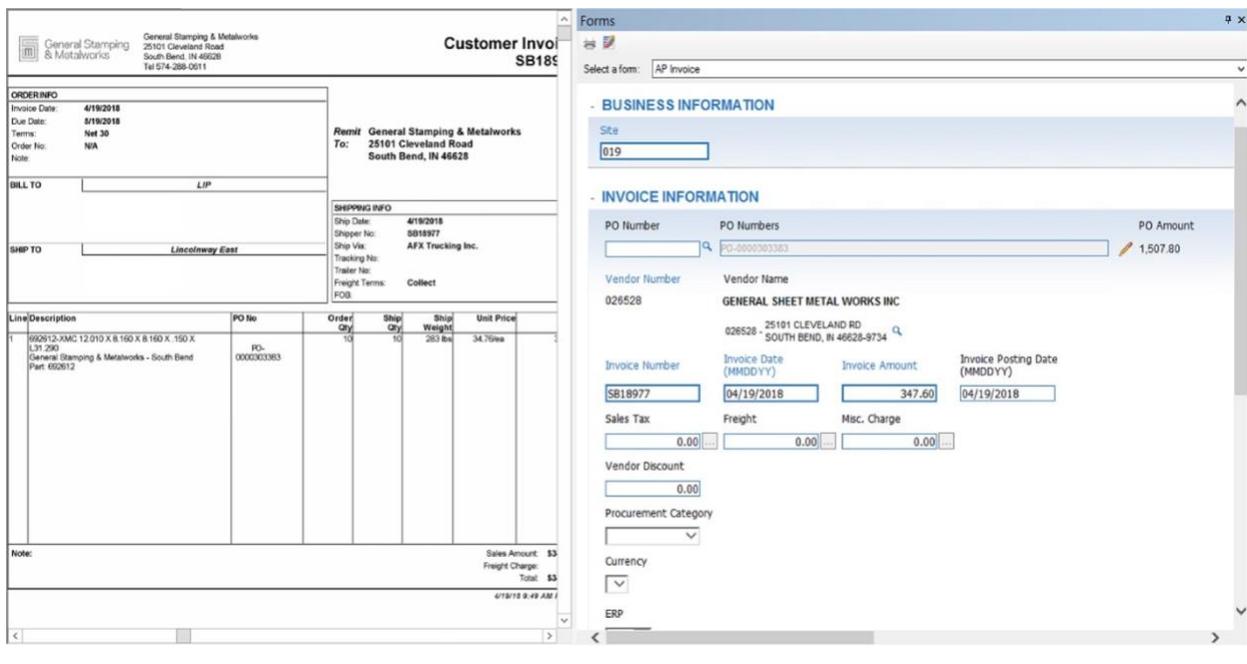
This supplier does not exist

Sample Exception Processing in Kofax KTA

Invoice Coding with eForms

When performing header data and GL coding in an ECM workflow, Electronic Forms (eForms) are crucial to automating time intensive tasks like data validation, integration, and payment posting. eForms are visual representations of invoice, vendor, PO, and GL Coding data that are attached to the invoice record or document. eForms drive automated data validation, either through client-side or server-side validation against outside data sources (see [Header and GL Coding Validation](#)).

AP eForms are typically created and attached to an invoice after it has been captured or imported into your ECM workflow. If the invoice has passed through an Intelligent Data Capture solution, any and all extracted data from the invoice will automatically be populated into the eForm. AP Processors will be able to edit or manually fill AP eForms following capture or as a way to manage rejected invoices for incorrect coding.



Sample Invoice with Perceptive Content AP eForm

Approval Routing

Approval Routing is another time intensive step in invoice processing that requires complex logic and consistent follow up. Based on your individual environment and system architecture, Approval Routing can be completed in either your ERP or ECM system.

For example, validated invoices and eForm data can be passed to an ERP immediately following validation, and the ERP could manage all approval routing, notifications, and follow up. Alternatively, your approval routing logic and matrix could be created in your ECM system.

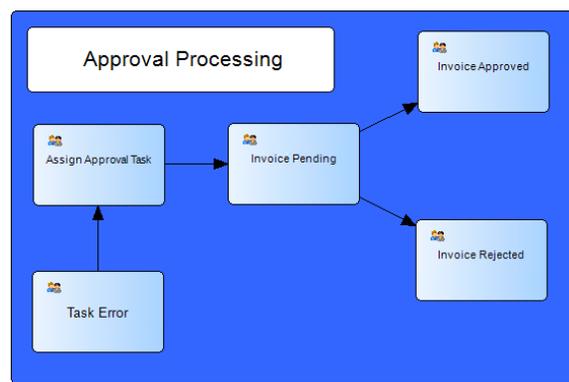
Consider your product capabilities, notifications, and licensing to make the best decision for your organization.

Approval Matrix

The approval process starts with the Approval Matrix. An Approval Matrix is a complex set of conditions that match approvers, invoice types, dollar thresholds, approval levels, and departments within an organization.

For most ECM implementations, the Approval Matrix is stored as a flat file and regularly updated. However, the Approval Matrix may also be stored in a separate database or within the ERP platform itself. When Approval Matrixes are stored outside of an ECM solution, database connections or direct integration is required for automated Approval Routing.

The Approval Matrix is leveraged by the ECM or ERP solution to evaluate each invoice and route to one or more approvers. Based on the GL Account Code, Invoice Amount, and Department, the invoice will be routed to the first appropriate approver. Following the first and every subsequent approval, the invoice will again be evaluated against the Approval Matrix to determine if there are any further approvals required. Once the invoice has received all of its approvals, the invoice completes the approval process and moves forward for payment processing.



Sample Invoice Approval Workflow in Perceptive Content

Name	Description	Options
Auto Approval Paths		
Company 250		
Approval Paths		
Non - PO Invoice	Path for Non-PO Invoices	
<Always use this level>		Anyone can approve
Non-PO Invoices > \$500	Path for all Non-PO Invoices > \$500	Anyone can approve
INGRID THOMAS		
FRANK MOORE		
Non-PO Invoices > \$1500	Path for all Non-PO Invoices > \$1500	All must approve
TOM DAVIS		
Company 250		
<Always use this level>		All must approve

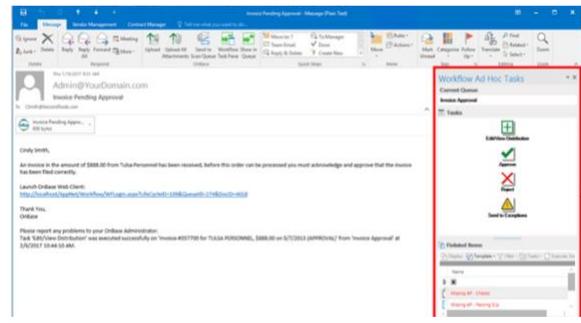
Approval Matrix in Hyland's OnBase Approval Manager

Approval Notifications

To encourage timely approvals, your Approval Routing solution should include Approval Notifications. Notifications are important, especially for approvers who do not approve invoices regularly and are not in the habit of checking an approval queue or list.

Depending on your ECM or ERP system, notifications can be sent via email, SMS, or integrated into other business applications. For example, Hyland's OnBase offers integration for Microsoft Outlook which allows users to approve or reject invoices within Outlook.

For Email and SMS notifications, your organization's ECM or ERP features may allow for adding weblinks to the appropriate invoice, queue, or list.

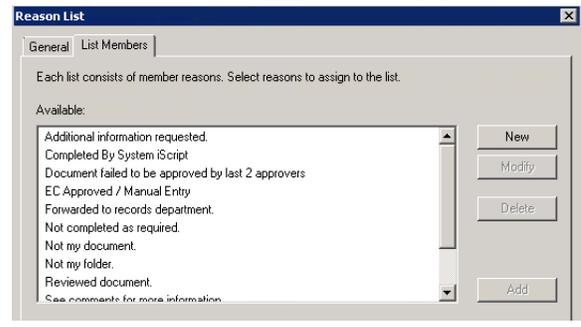


OnBase Integration for Microsoft Outlook
(See our [Webinar](#))

Rejection Reasons

Occasionally, an invoice needs to be rejected when there are cost discrepancies, issues with the vendor account, or other problems that require resolution prior to payment processing. The Approval Routing solution should be configured or provide the approver with Rejection Reasons and the option to add additional comments.

Rejection Reasons provide information for the users processing rejected invoices and reduces the time spent tracking down or resolving the issue.



Rejection Reasons in Perceptive Content

Approval Escalation & Backup Approvers

One of the least dependable aspects of Approval Routing are often the Approvers themselves. Across an organization, any number of people responsible for approving invoices may be traveling for business, vacation, or just unavailable for days at a time. This creates a bottleneck for Approval Routing and Payment Processing which could cost an organization early pay discounts or even late payment penalties.

To ensure invoices are always approved and paid on time, ECM and ERP solutions offer the ability to set up Escalations and Backup Approvers. The Escalation threshold is set in the Approval Matrix and defines the number of days or business days an invoice can go without receiving an approval or rejection from the assigned approver. If that threshold is met, the invoice is escalated to the next level approver.

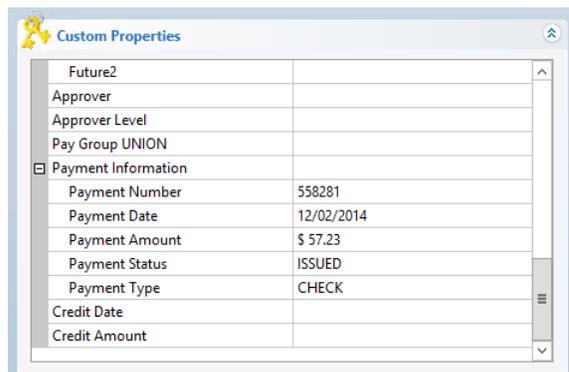
To address approvers on paid time off, most ECM and ERP solutions will also provide the ability to configure Backup Approvers. Assigning a backup will allow a different user to perform invoice approvals for that department while the approver is out of the office.

Payment Processing

When invoice images and data have been handed off or integrated to an ERP from an ECM solution, invoices are typically held in a pending queue for Payment Processing. The handoff could occur prior to or immediately following Approval Routing, depending on which system is being used (for Approval Routing). Either way, the ECM solution will hold invoice images until they can be matched and linked to the payment record or check number.

The ECM solution will run a scheduled task to connect directly to the ERP or check a secure directory for check images and payment information. When those records are found, check images may be imported and indexed, and invoices are updated with check number and payment information. This entire process can be customized to import and index as much or as little information needed, based on business requirements and ERP capabilities. When payment information is applied to an invoice, it can be routed out of workflow and archived.

In a situation where a payment is never processed for an invoice, the invoice needs to be routed or marked as an exception. Within your AP Automation solution, an unprocessed payment threshold can be set according to business requirements, however a typical timeframe is 45 days. If the threshold is met, the invoice will automatically route to an exception queue or view. This will let administrators know that payment still has not been submitted for the invoice and allow users to troubleshoot the issue.



The screenshot shows a 'Custom Properties' window with a table of payment details. The table has two columns: a property name and its corresponding value. The properties listed are Future2, Approver, Approver Level, Pay Group UNION, Payment Information (expanded), Payment Number, Payment Date, Payment Amount, Payment Status, Payment Type, Credit Date, and Credit Amount.

Property	Value
Future2	
Approver	
Approver Level	
Pay Group UNION	
Payment Information	
Payment Number	558281
Payment Date	12/02/2014
Payment Amount	\$ 57.23
Payment Status	ISSUED
Payment Type	CHECK
Credit Date	
Credit Amount	

Payment Details Indexed to Invoice in Perceptive Content

Reporting & Analytics

One of the biggest benefits to AP Automation is the immediate and easy access to all invoices and invoice data at every point in the invoice processing workflow. This data availability creates the opportunity for powerful Reporting & Analytics, available to help AP leaders identify bottlenecks in the process, measure user performance and proficiency, and drive down invoice aging for vendor discounts and benefits. Reports can be created for almost any type or request, but the most common reports for AP Departments are Accrual Reports, Users Statistics, and Workflow Statistics.

Queue name	Documents in Queue	Oldest Document (Created Date)	0 to 5 Days	6 to 10 Days	10+ Days	Oldest Invoice Date
AP Exception	6	03 Oct 2017	2	0	4	09 Feb 2018
AP Send to Purchasing	3	03 Oct 2017	1	0	2	09 Feb 2018
AP Header Entry	1	27 Mar 2018	1	0	0	23 Mar 2018
AP Upload to ERP	1	21 Mar 2018	1	0	0	30 Jun 2018
AP Detail Entry	6	27 Mar 2018	0	0	6	10 Feb 2018
AP Invoice Rejected	5	25 Aug 2017	0	0	5	13 Mar 2018
AP Awaiting Payment	4	07 Apr 2017	0	0	4	08 Feb 2018
AP Invoice Expedite	2	18 Oct 2016	0	0	2	02 Mar 2018
APA Task Pending	2	07 Apr 2017	0	0	2	20 Feb 2018
jnarmeey (AP Approvers)	1	21 Mar 2018	0	0	1	27 Feb 2018

RPI's Yoga Dashboard for AP Workflow Snapshot
(See our [Webinar](#))

Accrual Reporting

Accrual Reporting demonstrates which invoices and invoice totals are currently being processed or awaiting final approvals. These are invoices that have not yet posted to your ERP for payment processing. This report can be scheduled to run and deliver to a group of users and can retrieve any index value or eForm value associated with the invoice.

Total Numeric Custom Property						
Drawer Name	Vendor ID	Invoice Number	Invoice Date	Vendor Name	Unique ID	Invoice Amount
Accounts Payable	BOCA123	BC335	07/04/2005	Boise Cascade		2,376.89
	BOCA123	BC335	07/04/05		301YT4G_0000JS11Y000	2,376.89
	BOCA123	BC336	07/04/05	Boise Cascade		98.08
	BOCA123	BC337	06/06/05	Boise Cascade		64.97
	COEX456	CE129	07/08/09	Corporate Express		23.89
	COEX456	CE130	07/17/2003	Corporate Express		897.98
	COEX456	CE167	03/03/2004	Corporate Express		897.98
	COEX456	CE176	03/02/2005	Corporate Express		1,897.98
	COEX456	CE176	09/30/03		301YT4G_0000K111Y000	1,897.98
	COEX456	INV101A	09/30/03	General Supplies		86.9
Total for Accounts Payable drawer						10,619.54
Total item count for Accounts Payable drawer						10
Total for report						10,619.54
Total item count for report						10

Sample Accrual Report from Perceptive Content Business Insights

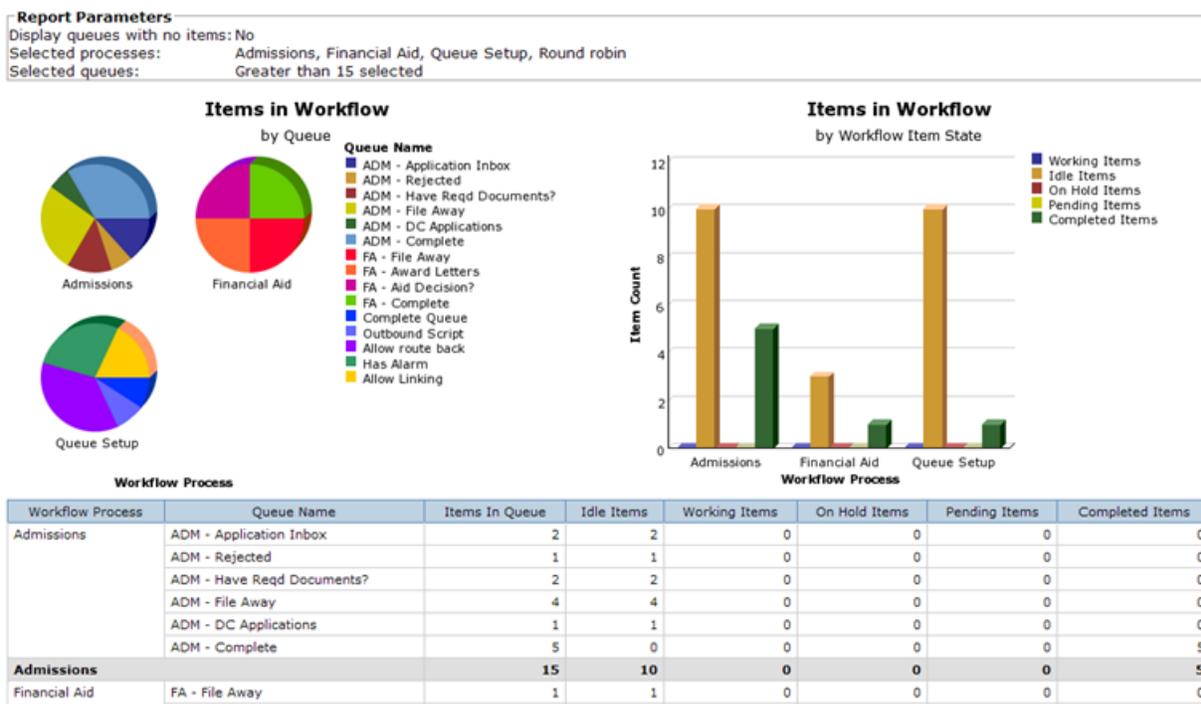
User Statistics

User Statistics reporting visualizes statistics for specific user accounts in your ECM. This report can show how many documents a particular user or group of users have processed and will help identify areas that may need assistance with load balancing. For example, if users in one department are processing significantly more invoices than another department, it could be an indication that the users in the second department need additional training or support.

Workflow / Process Statistics

Workflow and Process Statistics reports help identify how quickly invoices are moving through the entire invoice coding and approval process. This report uses status changes or workflow queue aging data to give a high-level view of how long it actually takes for invoices to be coded, approved, and paid. With this information, you can set benchmarks to forecast payments and identify and get ahead of bottlenecks. This report can also help identify where you may need process or workflow redesign to improve efficiency.

Workflow Queue Snapshot



Workflow / Process Statistics Report Sample (Perceptive Content)

About RPI Consultants

[RPI Consultants](#) is a leading ERP and ECM professional services organization with extensive experience designing, implementing, and supporting [Infor Lawson](#), [Perceptive Content \(ImageNow\)](#), [Kofax](#), [OnBase by Hyland](#), and [Brainware by Hyland](#) (formerly Perceptive Intelligent Capture). RPI employs approximately 100 full time consultants, developers, and solution and technical architects with specific experience and expertise across many industries and solutions. RPI is based out of Baltimore, Maryland, with additional permanent offices in Tampa, Florida, and Kansas City, Missouri.

RPI provides professional and technical services for new installations and upgrades, solution and technical health checks, new solution designs and implementations, custom development and system integrations, custom training, and environment and product migrations. RPI is also an authorized license reseller. For more information about RPI Consultants, including professional services, license requests, and general inquiries, visit www.rpic.com.