

An Oracle White Paper  
July 2009

# Delivering a Cost Efficient and Integrated A/P Automation Solution with Oracle Content Management

## **Table of Contents**

Executive Overview .....	1
Introduction .....	2
Levels of A/P Automation .....	5
Oracle's Integrated Approach to Invoice Process Automation .....	7
Document Imaging for Oracle Enterprise Business Suite .....	11
Conclusion: The Evolution of the Image-Enabled Enterprise.....	13

## Executive Overview

Paper is still an important element of many business processes. Information derived from paper helps feed mission-critical business systems such as enterprise resource planning (ERP) systems. However, paper introduces inefficiencies that increase costs, including shipping paper documents from one office to another, physically processing those documents (routing, data entry, review), physically storing documents in file cabinets and warehouses, and finding filed documents. Moreover, paper increases the opportunities for costly processing errors and may lead to compliance issues with corporate retention policies. Unfortunately, truly automating paper-bound processes cannot be achieved as long as paper remains an essential part of the overall process. The keys to automating business processes, such as invoice processing, are to remove as much paper from the process as possible while increasing the efficiency of workers performing tasks within that process and providing an efficient means to store and retrieve processed documents.

According to the Association for Information and Image Management (AIIM) organization, companies spend \$20 in labor to file a document, \$120 in labor to find a misfiled document, and \$220 in labor to reproduce a lost document. [www.aiim.org](http://www.aiim.org)

For the purposes of this white paper, we will discuss how two Oracle Content Management products – Oracle Document Capture and Oracle Imaging and Process Management - provide an integrated solution to automate invoice processing within accounts payable (A/P). This combined Oracle solution provides robust document capture, imaging and workflow capabilities and seamlessly delivers critical business information to ERP systems such as Oracle Enterprise Business Suite (Oracle E-Business Suite). The result is an end-to-end (capture to archive) invoice processing system that can only be delivered by Oracle.

## Introduction

ERP systems help companies manage and maintain company-wide resources, information and specific line-of-business functions. Most organizations are using an ERP – in one form or another – to provide core business functions such as payroll and accounting. These systems are the hearts of organizations. Mission-critical business data flows through them making information easily and readily available so workers can perform specific tasks such as data entry and approval of invoices. ERP systems help automate these tasks by providing a centralized system for all this content, replacing paper-based information with electronic data.

Although ERP systems do a great job of automating some of the most time-consuming parts of business processes, the fact that paper is still a part of these processes means that inevitably the process will be slowed and full automation cannot be realized. Furthermore, the continued reliance on paper contributes to inefficiencies that increase costs, and can actually hinder some of the automation gains made by implementing an ERP. Reducing paper use in business processes tied to financial processes, such as the accounts payable process, is of particular importance for organizations because the benefits of automating the process can immediately and positively impact a company's bottom line.

The analyst firm Gartner believes that, in the United States, about 75% to 80% of invoices are still paper-based.

Source: Gartner, Accounts Payable Invoice Automation, Gartner RAS Core Research Note G00163833, December 2008

<b>THE COSTS OF PAPER-BASED INVOICE PROCESSING</b>	
<b>BUSINESS COST</b>	<b>DESCRIPTION</b>
<b>SHIPPING</b>	Organizations receive a large majority of their invoices in paper format, and a large majority of these are physically shipped from regional offices to a central location for processing, which increases overall shipping and mailing costs.
<b>CYCLE TIME</b>	For manually processed invoices, the average invoice receipt-to-payment time is much longer. These longer processing times can reduce discounts for early payments and complicate visibility into and control over the purchasing process. Additionally, when an error occurs, such as incorrectly entered data into the financials system, it can take a substantial amount of time to get documents back in-hand to correct mistakes.
<b>SEARCHING (LOCATING)</b>	During vendor or auditor requests, processed invoices need to be found and presented quickly. Locating invoices within physical filing systems is time and labor intensive and could lead to strained vendor relationships and auditor fees.
<b>STORAGE</b>	Storing (archiving) invoices within filing cabinets takes up valuable and expensive real estate that could be used for more productive purposes. Additionally, physical storage does not provide a method for disaster recovery.

Document capture and imaging systems can help organizations accelerate invoice processes and increase overall efficiencies. A document capture system digitizes paper invoices which can then be archived within a document imaging system allowing for quick and easy search and retrieval. Implementing such systems leads to immediate benefits as physical paper handling and storage space is reduced.

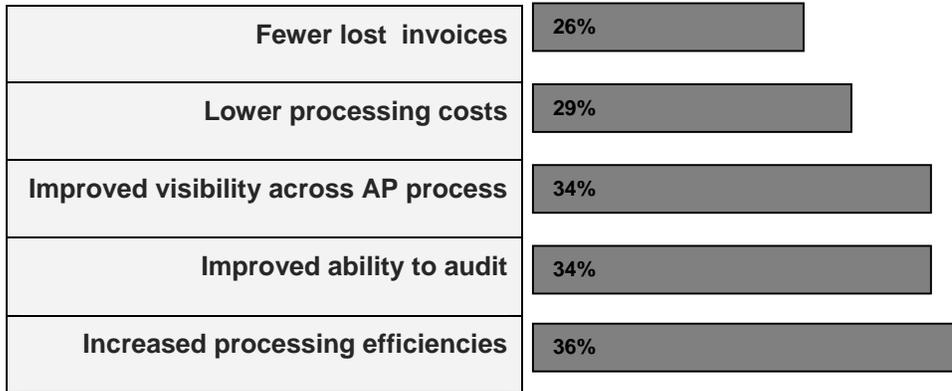


Figure 1: Of the 300 finance and accounting professionals that participated in the 2008 “Imaging and Workflow Automation Adoption Survey” conducted by [Paystream Advisors](#), 36% chose *Increased processing efficiencies* as the top benefit derived from front-end invoice imaging. **Note:** Respondents could select multiple benefits.

However, organizations and especially A/P departments are also motivated by improving overall process efficiencies. They are focused on ways to reduce their invoice receipt to payment times, which can lead to the realization of vendor discounts for invoices paid early and avoiding fees for invoices paid late. Gaining visibility into their invoice process flow is important for organizations as well. A/P departments, and specifically A/P managers, desire the ability to have real-time views into how long it takes to process invoices so bottlenecks can be identified and rectified.

According to industry stats provided by the Institute of Management Administration (IOMA), 25% of all invoices are paid late. [www.ioma.com](http://www.ioma.com)

As we have briefly discussed above, there are many reasons why organizations desire to automate their invoice processing procedures and increase overall efficiencies. Unfortunately, there is no “one size fits all approach” for A/P automation, but getting started is relatively easy by simply focusing on the areas where paper can be removed from your invoice processing steps and how that can be achieved.

## Levels of A/P Automation

The level of A/P automation that would best benefit a company depends chiefly on a few factors. First and foremost, the average volume of invoices a company has to process in a week is a good indicator, with higher volumes typically justifying higher levels of automation. However, companies with smaller volumes can make a case for a higher level of A/P automation if an evaluation of benefits like vendor discounts for invoices paid early, penalties for invoices paid late avoided, and reduced paper shipping and storage costs justify the effort required for higher levels of A/P automation.

<b>A/P AUTOMATION LEVELS</b>			
<b>LEVEL</b>	<b>DESCRIPTION</b>	<b>BENEFITS</b>	<b>ORACLE PRODUCTS</b>
<b>LEVEL 1: LOW LEVEL OF AUTOMATION</b>	<ul style="list-style-type: none"> <li>Invoices processed manually</li> <li>Scanned and archived upon process completion</li> </ul>	<ul style="list-style-type: none"> <li>No change to current A/P processes</li> <li>Reduce amount of misplaced documents and physical storage space</li> <li>More immediate access to invoices and other documents</li> <li>Improved document security</li> </ul>	<ul style="list-style-type: none"> <li>Oracle Document Capture to scan invoices</li> <li>Oracle Imaging and Process Management to electronically archive invoices</li> </ul>
<b>LEVEL 2: MID LEVEL OF AUTOMATION</b>	<ul style="list-style-type: none"> <li>Invoices scanned upon receipt, routed for data entry, and archived</li> </ul>	<ul style="list-style-type: none"> <li>Removes paper from the process</li> <li>Speeds data entry into the ERP</li> <li>Expedited invoice review and approvals</li> <li>Ensures data integrity as data entered on the front-end can be validated against data existing in the ERP</li> </ul>	<ul style="list-style-type: none"> <li>Oracle Document Capture to scan and index invoices</li> <li>Oracle Imaging and Process Management to electronically archive invoices</li> </ul>
<b>LEVEL 3: HIGH LEVEL OF AUTOMATION</b>	<ul style="list-style-type: none"> <li>Invoices scanned upon receipt and archived</li> <li>Archiving process triggers workflows routing work for coding, review and approval</li> </ul>	<ul style="list-style-type: none"> <li>Workflows further expedite invoice review and approval process leading to vendor discounts for invoices paid early</li> <li>Reduced late payment fees</li> <li>Accelerated invoice exception processing</li> <li>Better visibility into invoice process flow at both the individual and aggregate level</li> </ul>	<ul style="list-style-type: none"> <li>Oracle Document Capture to scan invoices</li> <li>Oracle Imaging and Process Management to electronically archive invoices</li> <li>Oracle BPEL Process Manger to route work</li> <li>Oracle Business Activity Monitoring to monitor process flows</li> </ul>

## Further Automation Considerations

Invoice processing can be further automated by implementing additional capture technologies on the front-end. Here are some other considerations:

- **Oracle Distributed Document Capture:** Oracle Distributed Document Capture is a web-based capture system consisting of two components – a client and a server. Remote workers use the client to scan or scan and index invoices. The images and data are then sent back to the central location for indexing or immediate archiving. Extending capture capabilities to any location where invoices may enter the workplace can eliminate the shipping of invoices via mail to processing centers and expedites their arrival, helps secure invoice information as soon as it enters the workplace, and most importantly, reduces overall invoice cycle time.

**“To reduce paper usage and ensure compliance with financial record retention regulations, we needed a document-capture system that would make it easy for users to scan and index documents. Oracle Distributed Document Capture delivered a reliable, scalable solution.”** – Trevor Salt, EMEA and APAC i-VAULT!  
Product Manager, JPMorgan Chase

- **Electronic Document Capture:** Invoices do not only enter an organization in the form of paper delivered by mail or courier. Many are sent as attachments within an email or simply faxed. Companies receiving invoices via email may open the attachment, print the invoice, and then scan the paper. This leads to the creation of more paper and adds another step in the process. On the other hand, faxes are simply scanned upon receipt. However, faxed invoices suffer from image degradation meaning data entry operators may not be able to see pertinent data on the invoice.

Oracle Document Capture features the ability to import electronic documents to help streamline the process. For invoices sent as attachment in an email, Oracle Document Capture's Import Server module can be configured to monitor an email inbox, such as [Invoices@ABC.com](mailto:Invoices@ABC.com). When an email containing an attachment reaches the inbox, Import Server is able to import the attachment, convert it to image format (if necessary), and then route it for indexing. Similarly with a fax, Import Server can be configured to monitor a fax directory or network fax appliance. When a fax is received, the capture software is able to convert the fax from its native format to an image and route it for indexing.

## Oracle's Integrated Approach to Invoice Process Automation

Oracle is uniquely positioned as the only company that can truly offer a completely integrated invoice processing system. From capturing invoices whenever and wherever they enter your organization to retrieving images within the context of familiar ERP interfaces; Oracle delivers a set of integrated components that seamlessly work together to ensure data integrity, optimal processing efficiencies, and increased content security. Each component fully complements the other, providing the necessary features and functionality to keep invoices moving through your designated process flows.

### Document Capture

One of the first steps to automating your accounts payable process is to identify the locations where invoices enter your organization. Some may originate at any of your remote offices, and currently these are probably being shipped, emailed or faxed to your corporate office for processing. The key is to capture the invoice as soon as possible to expedite the invoice data being entered into your ERP. As briefly introduced above, Oracle Distributed Document Capture could be used to facilitate the capture of invoices at your remote offices, helping to eliminate paper invoices early in the process as invoices would no longer have to be shipped or mailed to processing centers.

In the July 2007 AIIM Industry Watch, "Distributed Capture: Moving Capture Closer to Document Creation", when asked to name the top two benefits or potential benefits of distributed capture, 59% of the 456 respondents named **Improved Efficiency** (get access to information immediately; eliminate "mail float") as the top benefit of distributed capture while **Automate Processes** (improve processes by eliminating paper at point of origin) was the second most popular benefit at 45%.

Paper invoices arriving at your processing centers, either via fax or having been emailed or physically shipped, need to be converted to electronic images (ex. TIFF or PDF). Oracle Document Capture can be used with a document scanner to scan the paper invoices, or import the faxed or emailed invoices and convert them to images. Once scanned or imported, the Index module within Oracle Document Capture is used to apply metadata to the images.

In the 2008 "Imaging and Workflow Automation Adoption Survey" conducted by [Paystream Advisors](#), respondents were asked to rate the "pain" associated with certain invoice processing activities. On a scale of 1 to 5 where 5 is the highest, **Manual Data Entry** had the highest average pain score at 3.27 out of 5, followed by **Resolving errors and exceptions** at 3.17 and **Routing of invoices for approval** at 3.08.

To help reduce the amount of manual indexing (data entry), Oracle Document Capture includes key-from-image automation features including optical character recognition (OCR), pick lists, and database lookups.

<b>ORACLE DOCUMENT CAPTURE KEY-FROM-IMAGE AUTOMATION FEATURES</b>		
<b>FEATURE</b>	<b>DESCRIPTION</b>	<b>BENEFITS</b>
<b>OCR-ASSISTED INDEXING</b>	<ul style="list-style-type: none"> <li>OCR is a recognition technology that is able to electronically locate and extract machine printed data from document images</li> <li>Templates can be set up per vendor to locate such data as invoice number, purchase order number and amount</li> </ul>	<ul style="list-style-type: none"> <li>Helps reduce the amount of manual data entry needed to index invoices thereby reducing labor costs</li> </ul>
<b>PICK LISTS</b>	<ul style="list-style-type: none"> <li>Pick Lists are pre-populated values that appear in a drop-down list within index fields (ex. Vendor Name)</li> <li>Indexing operator simply clicks on any value in the list to populate the corresponding index field</li> </ul>	<ul style="list-style-type: none"> <li>Pick Lists help speed up the manual indexing process while reducing data entry errors leading to decreased invoice cycle times</li> </ul>
<b>DATABASE LOOKUPS (QUERIES)</b>	<ul style="list-style-type: none"> <li>Index fields can be configured for external database searching. For example, the Purchase Order (P.O) Number field can be linked to an accounting database to return the Vendor Name associated with that PO number</li> </ul>	<ul style="list-style-type: none"> <li>Ensures data integrity as values entered per field can be validated against data existing in external databases</li> <li>Like pick lists and OCR, Database Lookups help reduce document keystrokes and errors</li> </ul>

## Document Imaging

Once invoices have been scanned and indexed, they are ready for electronic archiving. Oracle Document Capture and Oracle Distributed Document Capture have direct integrations with Oracle Imaging and Process Management ensuring that invoices captured on the front end can be easily searched for and retrieved using keywords (index values) within the Oracle Imaging and Process Management repository. Effectively, Oracle Imaging and Process Management is the storage and content lifecycle management system for invoices. As invoices are archived within Oracle Imaging and Process Management they can be attached to workflows and be retrieved through Oracle E-Business Suite interfaces for processing, such as the Payables user interface (UI). Oracle Imaging and Process Management's integration with Oracle E-Business Suite, which will be discussed later in this white paper, ensures that accounts payable clerks

never have to leave their environment to perform such tasks as key from image (invoice data entry) or P.O. matching.

<b>ORACLE IMAGING AND PROCESS MANAGEMENT FEATURES</b>		
<b>FEATURE</b>	<b>DESCRIPTION</b>	<b>BENEFITS</b>
<b>ORACLE IMAGING AND PROCESS MANAGEMENT VIEWER</b>	<ul style="list-style-type: none"> <li>• Web-based application that exposes content stored in the Oracle Imaging and Process Management Repository</li> <li>• Enables users to view, print, highlight, fax, zoom in/out, make sticky notes, and add redactions to images</li> </ul>	<ul style="list-style-type: none"> <li>• Content can be viewed without having the native application installed</li> <li>• Provides Oracle E-Business Suite users with in-context access to invoices and other content</li> <li>• Can render over 400 file formats</li> </ul>
<b>ORACLE BPEL PROCESS MANAGER</b>	<ul style="list-style-type: none"> <li>• Used to create, deploy and manage cross-application business processes with automated and human workflows</li> </ul>	<ul style="list-style-type: none"> <li>• Provides advanced exception handling capabilities for routing and delegation</li> <li>• Complements the existing workflows available in Oracle E-Business Suite but does not replace or duplicate functionality</li> </ul>
<b>ORACLE BUSINESS ACTIVITY MORNING</b>	<ul style="list-style-type: none"> <li>• Customizable dashboard offering real-time visibility into financial processes</li> </ul>	<ul style="list-style-type: none"> <li>• Process bottlenecks identified more quickly</li> <li>• Provides report generation based on key process metrics</li> <li>• No programming required</li> </ul>

Note: Oracle Imaging and Process Management includes a restricted use license of Oracle's Business Process Management Suite, which includes BPEL Process Manager.

## ERP System Integrations

Oracle Imaging and Process Management provides productized integrations for ERP applications, including Oracle E-Business Suite 11.5 and R12. This integration provides the final link to invoice process automation as E-Business Suite users can easily reference invoice images that have been archived within Oracle Imaging and Process Management. The retrieval of invoice images is all performed within the context of familiar E-Business Suite interfaces as UI functions are leveraged such as the zoom key or paperclip attachment icons within the Payables Workbench. The integration is completely transparent to E-Business Suite users. They never have to leave their E-Business Suite sessions to locate invoice images archived in another system, which means that training for Oracle Imaging and Process Management is not required.

Leveraging the integration even further, additional menu items can be added to the Workbench UI such as "Search Vendor Documents". This exposes the Oracle Imaging

and Process Managements concept of Saved Searches, where all invoices with shared criteria can be accessed from one folder. For example, if you search on a vendor name, it will display not only the invoices per that vendor stored in Oracle Imaging and Process Management, but also such business content as contracts and purchase orders.

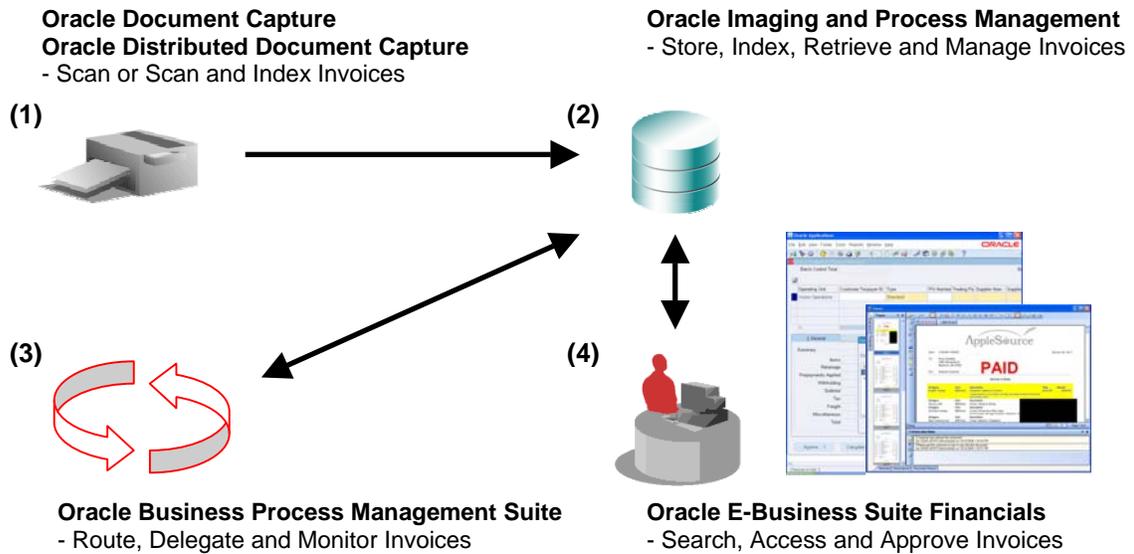


Figure 2: The components of Oracle's integrated invoice processing system. Process begins by scanning invoices (1) and committing them to Oracle Imaging and Process Management (2). Invoices are then routed for work and the process flow is monitored (3). Invoices can then be accessed directly from Oracle E-Business Suite and approved (4).

## Document Imaging for Oracle Enterprise Business Suite

Integrating document imaging systems with ERP systems, such as Oracle E-Business Suite, is not a new concept as integrations have existed for around ten years. However, most document imaging system vendors hard code their integrations directly into E-Business Suite, and these integrations “break” when customers decide to upgrade to a new version of E-Business Suite, leading to expensive re-integration time and consulting fees. Now more than ever, companies are looking to reduce costs and streamline operations as much as possible. This includes the cost and complexity of maintaining and supporting multiple application integrations from multiple vendors, which is of the utmost importance during E-Business Suite system upgrades. Furthermore, as companies look to extend document imaging capabilities to other departments and across their organization, imaging “point solutions” for specific business applications, such as A/P, get phased out as they do not easily scale.

“Although organizations have typically deployed capture and image management solutions at the departmental level...we believe enterprises are recognizing the value of deploying a consistent set of technologies across all of the LOBs that require capture and imaging, and they will look to standardize on a limited list of suppliers.”

Source: IDC, Worldwide Capture and Image Management Software 2008-2012 Forecast and Analysis, Doc # 215520, December 2008

Oracle Imaging and Process Management not only inexpensively and easily scales across applications, but it’s integration with Oracle E-Business Suite also ensures business continuity during E-Business Suite upgrades. This loosely-coupled, standards-based integration remains completely separate of an organization’s E-Business Suite environment, providing all the benefits of an image-enabled process without impacting one of the most important systems in use by your company. By using Oracle Imaging and Process Management and Oracle Document Capture for your E-Business Suite applications, your current processes will be optimized and benefits will be realized across all levels of your organization.

<b>DOCUMENT IMAGING EXTENDS ORACLE E-BUSINESS SUITE FUNCTIONALITY</b>		
<b>BUSINESSES ARM</b>	<b>FUNCTIONALITY PROVIDED</b>	<b>BENEFITS</b>
<b>ORACLE E-BUSINESS SUITE USERS</b>	<ul style="list-style-type: none"> <li>• Document capture</li> <li>• Electronic search and retrieval from within E-Business Suite</li> <li>• Routing</li> </ul>	<ul style="list-style-type: none"> <li>• Getting rid of paper</li> <li>• Easy access to document images online</li> <li>• Speeds reviews and approvals</li> </ul>
<b>ORACLE E-BUSINESS SUITE MANAGERS</b>	<ul style="list-style-type: none"> <li>• Key from image automation</li> <li>• Portable workflows with advance queuing and delegation</li> <li>• Monitoring capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced labor costs</li> <li>• Better work distribution</li> <li>• Increased efficiencies across processes</li> <li>• Insight into processes and ability to generate reports based on key performance indicators</li> </ul>
<b>IT</b>	<ul style="list-style-type: none"> <li>• Extensible imaging platform</li> <li>• Loosely-coupled integration</li> <li>• High-volume content archive</li> </ul>	<ul style="list-style-type: none"> <li>• Integration eases upgrades and ensures continuity</li> <li>• Imaging functionality can be extended to any E-Business Suite application and typically maintained with one instance</li> </ul>

The integration between Oracle E-Business Suite and Oracle Imaging and Process Management is made possible by the Oracle E-Business Suite Adapter, which is a componentized solution allowing organizations to deploy only the pieces that fit their use case and environment. Features of the solution include:

- **User Interface Integration:** Configurable user interface integrations that enable organizations to provide users with single-click access to invoiced images and workflow tasks within the context of Oracle E-Business Suite.
- **Best Practices Templates –** A portfolio of proven workflows, process rules, data forms, reports, and BAM dashboards. These templates provide a starting point for organizations as they build out workflows for invoice processing. The templates can be tailored to match the exact needs of an organization.
- **Flexible and Robust Workflow System:** A BPEL-driven workflow engine simplifies creation, deployment and management of business processes and workflows.

Included in an AP invoice automation solution is workflow management for invoice receipts, discrepancy resolution, approval, segregation of duties and auditing. Workflow applications target improving AP efficiency, effectiveness and cost structures by reducing cycle times (by 20% to 30%), transaction costs, lost documents, lost discounts, errors, document transportation. In addition, these solutions can improve control and visibility to quickly understand the workflow status of a document through online access to system audit trails and documents.

Source: Gartner, Accounts Payable Invoice Automation, Gartner RAS Core Research Note G00163833, December 2008

## Conclusion: The Evolution of the Image-Enabled Enterprise

Document imaging has been around for over twenty years. Initial systems were used primarily to eliminate as much paper as possible, and companies found that document imaging presented a more secure and efficient way to archive paper-based information, while eliminating boxes of paper documents was seen as the overall goal. However, by imaging this paper, which almost always was in some way tied to a specific business process, companies did not see much if any connection between their imaging process and any of their business processes, such as accounts payable. Imaging systems and business processes were kept separate, and document imaging was viewed as means to establish an electronic archive.

As companies grew and expanded during the mid-nineties and into the twenty-first century, they became inundated with more and more paper. Focus shifted to optimizing high-volume business processes such as accounts payable because of the hard-dollar benefits of doing so – as we discussed earlier. Document capture and data entry moved to the front-end of the process, and document imaging systems started to feature workflow capabilities to route images for review, rework and approval. Integrations between imaging systems and ERP systems were developed to link images captured on the front end to processes within the ERP, providing users with electronic images to key from during data entry and to quickly reference during vendor or auditor requests.

Integrating document capture and imaging systems with ERP systems was beneficial, but the integrations themselves were highly specialized and were developed for specific lines of business. Moreover, the benefits of image enabling accounts payable were not clearly

visible to other line of business users and could not only be easily extended to other applications. Extending such integrations to other business processes, such as human resources (HR) for example, was problematic and expensive. Additionally, doing so meant that an organization's overall IT infrastructure would be impacted as multiple application integrations had to be supported with each having their own set of integration points, code, and workflows.

Today, organizations are looking to implement document imaging as a platform to help manage multiple business processes and realize the benefits of imaging across their enterprises. By deploying one imaging system to image-enable multiple lines of business, including not only accounts payable but also claims processing, patient records and student admissions; organizations can effectively create a complete transactional content management platform. Doing so gives them the ability to utilize workflows across applications and standardize on a common set of technologies to expedite the application integration process, reduce implementation and ongoing support costs, and increase user adoption helping to justify such capital expenditures.

With Oracle Imaging and Process Management, customers can extend the benefits of document imaging for accounts payable to any type of transactional content and support multiple applications without incurring additional software costs. Oracle Imaging and Process Management leverages productized, out-of-the-box integrations with applications utilizing services-oriented architecture, which enables customers to have more control over the integrations in-house leading to less reliance on outside consultants and thereby reducing overall maintenance costs. This integration approach, along with the many features Oracle Imaging and Process Management possesses, helps Oracle deliver a complete process automation system that starts with business applications, such as Oracle Enterprise Business Suite, and extends through capture, imaging and workflow and on to self-service, all on one integrated platform. Customers will realize strategic value of this integrated system because it helps protect their investment in Oracle Applications as they realize automated business processes across their organization delivered by one vendor – Oracle.

“Enterprises require a greater degree of integration with their other enterprise systems and applications...capture and image management vendors need to provide a service-oriented architecture (SOA) and support Web services. Strong BPM (business process management) facilities or integration with platform BPM offerings are also key.”

Source: IDC, Worldwide Capture and Image Management Software 2008-2012 Forecast and Analysis, Doc # 215520, December 2008



Delivering a Cost Efficient and Integrated A/P  
Automation Solution with Oracle Content  
Management  
July 2009  
Author: Jason Lamon

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200  
oracle.com



| Oracle is committed to developing practices and products that help protect the environment

Copyright © 2009, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.