

The Next Best Thing to a Paperless Office

Leveraging SharePoint for Transactional Content Management

INTRODUCTION

In 1975, BusinessWeek published an article titled *THE OFFICE OF THE FUTURE*, which predicted the arrival of the *paperless office* by 1990. Three decades later, it appears that the reports of paper's death may have been greatly exaggerated. Many organizations continue to rely on paper intensive processes that are expensive and inefficient. The idealistic dream of the *paperless office* remains as elusive as ever.

Rather than pursuing a utopian ideal, we should seek practical solutions aimed at more achievable goals of improving operational efficiency and business agility. After all, *paperless* or, realistically, "less paper," is merely a means to an end, not an end in itself.

Forrester coined the term *Transactional Content* to describe static documents (e.g. scanned invoices) with information related to transactional data that drives formalized processes (e.g. accounts payable). Document Capture can facilitate Transactional Content Management by digitizing and transforming paper into electronic business assets easily consumable from a centralized repository.

In the past, ECM¹ vendors offered capture components built exclusively for their own proprietary content repositories, which carried high price tags and complexities that prevented broad adoption. Today, millions of organizations have deployed Microsoft® Office SharePoint® Server for document-centric team collaboration. With features such as content type, check-in/check-out, major/minor versioning, item level security and WinWF² based workflow; SharePoint has become a capable, credible and scalable repository for contents of all types. Similar to the way IIS (Internet Information Services) made web server a built-in component of the infrastructure, SharePoint has turned content repository into a standard commodity of the Microsoft platform. This paradigm shift presents new opportunities for organizations to maximize their existing infrastructure investments and calls for a new generation of document capture solutions that use SharePoint as the content repository. KnowledgeLake answered that call with Capture Products and Technologies that enables SharePoint to realize its full potential by connecting it to a simple, flexible and extensible paper on-ramp.

¹ Enterprise Content Management is the technologies used to capture, manage, store, preserve, and deliver content and documents related to organizational processes. -AIIM

² Windows Workflow Foundation is the programming model, engine and tools for quickly building workflow enabled applications on Windows. -Microsoft

Let's take a look at the problem of paper and the solutions provided by KnowledgeLake that empower information workers to leverage SharePoint for Transactional Content Management.

THE PROBLEM

Paper based processes are labor intensive, time consuming and error prone.

THE NUMBERS SPEAK FOR THEMSELVES

According to IDC, U.S. businesses spend \$25 to \$35 billion annually filing, storing and retrieving new, incoming paper documents. Between two-thirds and three-quarters of the documents destined for automated business systems originate on paper³.

Research conducted by PricewaterhouseCoopers reveals:

- There are over 4 trillion paper documents in the U.S. alone, growing at a rate of 22% per year
- Of all the pages that get handled each day in the average office, 90% are merely shuffled
- The average document gets copied 19 times
- 7.5 percent of all documents get lost, 3 percent of the remainder get misfiled
- 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

COMPARISON SHOPPING

	4-Drawer File Cabinet	300GB Hard Drive
Price	\$199	\$99
Capacity	About 40,000 pages	About 6,000,000,000 pages (Typical file size is 50KB for letter-sized pages scanned at 300dpi)
Requirement	Office space, inflation and location drive the costs up	Computer, innovation and Moore's Law drive the costs down
File Retrieval	By manual labor, take minutes to hours, slower if crawled by scary insects	By software, take milliseconds to seconds, faster if crawled by search engines
File Transfer	Travel at the speed of truck or cargo plane depends on type of service (ground or air) \$40 pays for one overnight shipment	Travel at the speed of light or electric current depends on type of network (fiber or copper) \$40 pays for a month of unlimited service
Consumable	Folders, Labels, etc.	None
Backup	Difficult: Photocopies and Boxes	Easy: Tape, CD or DVD

³ Financial Services Report, eBusiness

THERE ARE SOME THINGS MONEY CAN'T BUY

- Paper creates bottlenecks because a paper document can only be worked on by one person at a time, unless, it is copied which can lead to versioning issues
- The time consuming process of locating and retrieving paper documents can delay the response to customer inquiries and slow down decision making
- Productivity suffers when employees spend too much time searching for misfiled documents
- Lost documents heighten compliance and litigation risks and costs
- Disaster recovery is difficult, if not impossible, due to the potential absence of duplicates

THE SOLUTION

Successful ECM solutions depend on the ability to capture content and bring it into a managed environment. Integration with third party scanning and imaging technology allows paper content such as loan applications, claims, and other documents to be saved in electronic formats within the library along with the required metadata for proper processing.

SIMPLE, FLEXIBLE, AND EXTENSIBLE PAPER ON-RAMP FOR SHAREPOINT

KnowledgeLake Capture Products and Technologies provide a simple, flexible and extensible paper on-ramp.

Simplicity

- Intuitive UI consistent with Microsoft® Office 2007 makes Document Capture as easy as Word Processing
- SharePoint is used as the repository, which simplifies setup
- KnowledgeLake Index hides the complexity of taxonomy. Site, document library and content type are combined into document classes that are defined once and reused by all products.

Flexibility

- From low volume ad-hoc scanning with MFD (multifunction device) to high volume batch scanning with dedicated production scanner, no volume restrictions or pay-per-click
- Compatible with any scanner that supports TWAIN, WIA, ISIS, or KOFAX and any MFD that can export to a file system folder
- Output format can range from TIFF, PDF, to XPS⁴
- Centralized or distributed scanning
- Index locally or remotely, before or after capture

⁴ XML Paper Specification defines an XPS document as a paginated representation of electronic paper that is described by an XML-based language. Microsoft has published the XML Paper Specification and made it available royalty-free.

Extensibility

- KnowledgeLake Capture Products and Technologies can adapt to diverse customer needs with a configurable and customizable plug-in architecture,
- KnowledgeLake Capture Products and Technologies is built from the ground up with .NET technology stack and exposes standard integration points via web services and open interfaces
- SDKs with sample code and detailed documentation of APIs help developers create plug-ins to complement or replace out-of-the-box functionalities

MORE THAN THE SUM OF ITS PARTS

Capture

- Scan
 - Image Cleanup (Deskew, Despeckle, Blank Page Detection, etc.)
 - Document Separation (Manual, Barcode/Patchcode, Form ID)
- Index
 - Key from image
 - Auto Index (barcode identified via sequence or zone, database lookup)
 - Full-Text, Zonal OCR and Forms Recognition
 - Point & Shoot Indexing can “grab” index values directly from the image
 - Ensure data integrity via validation (data set comes from SharePoint or external databases), verify required or masked fields, data type, data range with usability enhancements such as drop-down list, auto-completion, and “sticky” field
- Export
 - Document and metadata uploading is fast and secure because it is performed via the same protocol that is used by Word and Excel to communicate with SharePoint.
 - Auto-folding can improve the scalability of Document Libraries
 - Export to Capture Server for advanced batch processing
 - Export to Branch Capture Server to upload batches from remote offices
 - Export to network folder so other users can open the batch for QA or indexing

Capture Server

- Scalable architecture, intuitive process designer, adaptive plug-in architecture
- Batch import schedule and batch process flow
- Image cleanup, barcode rules and index validation
- Advanced OCR and Forms Processing
- Renditions: (Image-Only or Full-Text PDF, XPS, single-page vs. multi-page TIFF)
- MFD support, document separation based on file name patterns and/or creation time
- Importing of large volumes of documents and metadata to facilitate conversion from legacy systems
- Bulk upload of batches to SharePoint
- Web Services for audit trail, batch creation and batch manipulation
- AJAX-powered web applications allow users to securely index documents, monitor services, and manage batches from anywhere via a web browser

Branch Capture Server

- Extend Capture Server to remote locations with limited bandwidth
- No database connections required, communicates via Web Services
- Schedule uploads at non-peak hours and regulate bandwidth usages
- If network connectivity is lost, upload will continue where it left off when connectivity recovers
- Health monitoring and remote controlling with web-based Capture Server Monitor
- Save shipping costs and prevent lost documents
- Scan at source and get documents into system faster
- Remote MFD Support
- Indexing can occur at the branch or after upload

ABCD: ADVANTAGES, BENEFITS AND COMPETITIVE DIFFERENTIATORS

- Capture: Digitized documents can be backed up easily to prepare for disaster recovery
- Store: Single repository for both collaborative content (Word, Excel, etc.) and transactional content (e.g. scanned invoices) eliminates the complexity of managing multiple repositories
- Share: Facilitate information sharing and collaboration
- Improve efficiency and raise productivity
- Mitigate compliance risks by protecting data integrity and security
- Leverage existing IT infrastructure and skill set to achieve lower TCO and faster ROI
- Quicker, easier access to accurate, relevant information leads to faster response time, higher customer satisfaction and better decision making

Scanner: \$799

Software: \$399

Streamlined Processes and Satisfied Customers: Priceless

CONCLUSION

The paperless office is a myth not because people fail to achieve their goals, but because they know too well that their goals cannot be achieved without paper.⁵ As the temporary media for transactional content, paper will continue to appear in *The Office of the Future*. KnowledgeLake Capture Products and Technologies provide a simple, flexible and extensible paper on-ramp that enables information workers to leverage SharePoint for Transactional Content Management. Some experts might be disappointed. This is not *the greatest innovation since sliced bread*. It is not what they have predicted for the future. It is a practical solution available today and ready for broad adoption to improve operational efficiency and customer service, it may very well be the next best thing to a paperless office.

⁵ Abigail J. Sellen, Richard H. R. Harper *THE MYTH OF THE PAPERLESS OFFICE*. The MIT Press.

ABOUT THE AUTHOR

Hao Zhai leads the development of Capture Products and Technologies at KnowledgeLake. He is a Microsoft Certified Application Developer for .NET and Certified Document Imaging Architect. As a member of the Microsoft Developer Advisory Council, he enjoys learning about and sharing his input on future Microsoft products.

ABOUT KNOWLEDGELAKE

KnowledgeLake is the market leader in document imaging and capture for Microsoft SharePoint-based Enterprise Content Management (ECM) solutions. Built on the Microsoft .NET platform, KnowledgeLake products extend the native capabilities of SharePoint to give users the power to capture large quantities of mission-critical documents and transform them into easily consumable business information.

To learn more about Knowledge Lake, please visit: www.knowledgelake.com



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