

SharePoint 2010 Enables the Enterprise

Can You Finally Migrate to A Single ECM Platform?

by Chris Caplinger, Chief Technology Officer, KnowledgeLake, Inc.

Introduction & Executive Summary

The Microsoft SharePoint content management system has grown so fast and become so ubiquitous that AIIM President John Mancini recently suggested it had become a common noun for content management, like Kleenex for tissue, and Xerox for copying. Research firm The Radicati Group says that SharePoint is growing 25 percent annually¹, several times the rate of the overall ECM market, which sunk to single digits in 2008. Overall SharePoint adoption rates have exceeded 65 percent across a variety of regions and industries, according to recent AIIM surveys.

On the other hand, Forrester Research says more than half of enterprises still maintain three or more ECM repositories². If SharePoint is so popular, why haven't more enterprises adopted it as their sole platform for managing, securing, accessing and working with enterprise content?

Good question. Microsoft says SharePoint 2010 is the answer. The company has been touting SharePoint 2010 as the "Information Operating System". Is it? A growing number of analysts and customers indicate that new features in SharePoint 2010 make it more "enterprise-ready" than ever. Is it enough to risk migrating existing mission-critical processes from legacy enterprise systems to SharePoint? Is migrating to a single process-enabled ECM platform even necessary or advisable?

This paper discusses the pros and cons of multiple versus single platforms, the evolution of SharePoint, new SharePoint 2010 features that target enterprise requirements, what content management features Microsoft believes SharePoint now handles adequately on its own and which require partner ecosystem solutions.

I will conclude with a brief look at the KnowledgeLake suite of products for SharePoint 2010 and three case studies that illustrate how SharePoint and KnowledgeLake have achieved customer goals in the three areas where KnowledgeLake focuses its solutions: Scanning and Capture, Transactional Content Management and Business Process Management.

¹ The Radicati Group: Microsoft SharePoint Market Analysis, 2009-2013

² Forrester Research 2009 Global Enterprise Content Management Online Survey

Enterprise Ready? The Bottom Line

Here is our bottom line: KnowledgeLake believes that for many enterprises, SharePoint 2010, together with solutions built on the improved SharePoint 2010 platform, can now replace multiple repositories with a single solution. Until now, you have co-existed with SharePoint. Now you can embrace it. I hope you will continue reading to learn how we arrived at that conclusion.

What Qualifies KnowledgeLake to Lead This Debate?

KnowledgeLake is a leader in the Microsoft SharePoint solution ecosystem. In fact, Microsoft awarded KnowledgeLake Partner of the year in two categories in 2009: Information Worker Solutions, ECM and Forms Development, and ISV/Software Solutions, and a finalist in the ECM category in 2010. We work very closely with Microsoft and when Microsoft launched SharePoint 2010 on May 12th, 2010, KnowledgeLake announced its updated SharePoint solution set the same day.

Our experience extends far beyond SharePoint – to the very roots of imaging, document management and content management more than 25 years ago. Before we developed our own imaging, workflow and ECM products, we developed customer solutions built on products from many of the best-known companies in the business. These companies remain key players in the ECM market today and compete directly with Microsoft. So we understand the strengths and weaknesses of other ECM platforms, and perhaps what motivates many organizations to maintain multiple ECM systems.

Seven years ago, we decided to narrow our focus to SharePoint solutions based on customer frustrations with the high cost, long, complex implementations, and inflexibility of the alternatives. SharePoint was in its infancy but the ubiquity and acceptance – by users and by IT staff – of the Microsoft Windows platform, Microsoft Office suite of productivity software and the potential for SharePoint to leverage these assets – not to mention its low cost – made it a compelling starting point. We thought it gave us a strong foundation to build upon – a foundation that has come of age in SharePoint 2010.

How SharePoint Has Evolved

To help understand the significance of SharePoint 2010, it helps to understand the focus and limitations of the major previous releases.

SharePoint 2001

SharePoint 2001 was a giant step forward from a shared network drive. It started as a document management and indexing application, but it was also targeted at the growing portal market. It had good basic features for a first release of the product, but scalability was a challenge from the start.

SharePoint 2003

SharePoint 2003 provided secured shared storage, integration with Microsoft Office for capturing and indexing documents to the SharePoint library, and tools for collaborating on documents. However, its search capabilities were limited in accuracy, scalability and breadth. For example, searches were limited

to a single SharePoint library. For many, SharePoint 2003 was their introduction to content management. They could see the possibilities but the reality fell short.

SharePoint 2007

SharePoint 2007 added depth to the various SharePoint modules. As SharePoint began to proliferate across organizational departments in the enterprise, SharePoint 2007 gave developers, administrators, and users a richer taxonomy to work with, introduced content types, and introduced search across multiple SharePoint libraries and sites. However, search results were difficult to organize in a meaningful way, and a single crawler limited the scalability.

Despite SharePoint's widening use, without third-party extensions it was still best used for departmental solutions that did not involve document imaging, business process automation, Web content management or compliant records management.

The Content Management Status Quo: Multiple Repositories

As the Forrester data confirmed, most large organizations are maintaining multiple ECM systems. On the face of it, that does not make sense. For each system, the organization has paid separate licensing and maintenance costs and hired separate teams of developers, administrators and support personnel to implement, operate and support them.

However, when you look at the limitations of previous SharePoint iterations or the incumbent ECM providers, it makes *perfect* sense. SharePoint did not offer the scalable enterprise platform or functionality needed for enterprise-wide applications. While other ECM vendors offered robust enterprise platforms, their application-specific features focused on particular vertical industry applications, e.g. pharmaceuticals, or specific horizontal business processes such as payables automation or human resources. They got the job done in specific situations but could not possibly be all things to all organizations.

However, getting the job done came at a price: Their cost per user was exceptionally high. Perhaps this was justified for the users focused on the vendor's specialty, but it broke down when applied to users who simply needed access to basic content management and collaboration features, or who needed a different type of specialized application.



Gartner's 2009 Magic Quadrant for Enterprise Content Management says that ECM is now considered IT infrastructure, and that client inquiries received by its analysts suggest that enterprise architects and IT planners are increasingly looking to standardize on one or more of these vendors' strategic platform offerings to support multiple content applications.³

Of course, SharePoint offers a very attractive cost per user (Microsoft Windows Server customers even receive the basic capabilities in Microsoft SharePoint Foundation for free), and it offers a familiar face to users weaned on Windows and Microsoft Office. If only it could be deployed as a true enterprise product. If only it scaled. If only it offered federated search across not only all SharePoint sites, but other enterprise systems – and displayed results that made sense. And how about a true enterprise metadata framework? If SharePoint fulfilled those foundational requirements, then specialized vertical and horizontal process solutions could be built upon it by Microsoft's large and capable SharePoint ecosystem. It would then offer the single, standardized platform that Gartner clients have been clamoring for.

SharePoint Comes of Age

As a leading member of the SharePoint ecosystem, KnowledgeLake has been waiting for the day SharePoint matured to this point. We believe that day has arrived. Enter Microsoft SharePoint 2010.

I have compiled a list below of the ten features in SharePoint 2010 that I believe enable SharePoint to provide the enterprise foundation called for above. With these features, SharePoint can replace the

³ Magic Quadrant for Enterprise Content Management, 15 October 2009, Toby Bell, Karen M. Shegda, Mark R. Gilbert, Kenneth Chin, Mick MacComascaigh

multiple ECM repositories that plague most organizations today – and their associated costs and limitations.

Before we examine this list, I want to clarify something: When I say “replace,” I mean replace basic content management functions, not specialized high-volume document capture, transactional content management or business process management. That will require the platform-extending solutions provided by KnowledgeLake, its partners and others. What SharePoint 2010 provides is a platform that permits third-party providers such as KnowledgeLake to apply these specialized solutions in a true enterprise context.

Look at the illustration below. On it, Microsoft identifies what SharePoint 2010 alone provides as “Foundational Content Management,” which comprises the top tier of boxes. It also classifies partners such as KnowledgeLake, Global360, Nintex and others, that build solutions specifically for the SharePoint platform. These solutions are what enable organizations to bring content into the system, locate and work with it, and automate core business operations. KnowledgeLake’s contribution – alone and with core partners – encompasses the three highlighted boxes. I will describe our offerings in a little more detail later but first let’s take a look at the ten enterprise-savvy features that I believe deliver on Microsoft’s “Information Operating System” claim.

Microsoft’s View of SharePoint 2010 Built-In vs. Partner Solutions

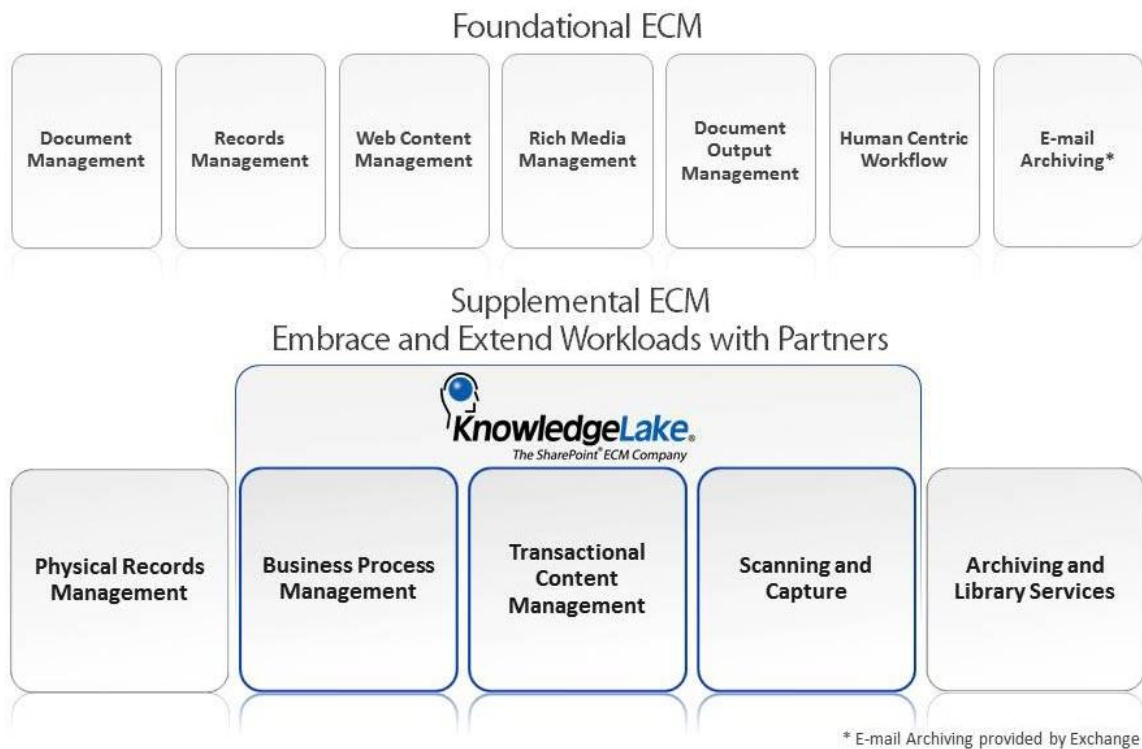


Figure 1: Microsoft says SharePoint 2010 alone adequately covers the ECM functional areas identified in the top row of boxes. A significant addition is compliant Records Management. Microsoft works closely with partners to deliver the extended solutions below. KnowledgeLake Solutions encompass the highlighted boxes.

Ten Microsoft SharePoint 2010 Features That Enable the Enterprise

Prior to SharePoint 2010, one of SharePoint's fundamental shortcomings was its rudimentary search and metadata structure: SharePoint functionality generally did not extend above the individual library/departmental level. SharePoint 2010 breaks this barrier with enterprise-wide data taxonomies that utilize metadata frameworks and enterprise content types, as well as enforcement of these frameworks down into individual libraries/departments.

However, while an enterprise framework is a given for true ECM, the system must also be flexible enough to accommodate the variations in how people actually work – and describe their work. For example, the accounting department may use a certain term for a field that appears in a form, but legal or human resources may refer to the same piece of data by a different name in their forms. SharePoint 2010 accommodates these variations while maintaining the top-level standards defining the unambiguous attributes of this term. Most of these features relate to an expanded and more flexible means of describing, organizing, and finding content.

Enterprise Managed Metadata

This service allows you to define taxonomies that apply to SharePoint sites across the enterprise. These taxonomies improve content classification, which is critical to robust, flexible search. There are two main features of this service:

- The ability to publish content types to other site collections and farms.
- The Taxonomy Term Store: Allows two new columns to be used in content types and lists. The first column allows for predefined terms to be used for data entry lookup and validation. The second column is for managed keywords. You can enter values in this column using existing keywords as suggestions.

Business Connectivity Services (BCS)

BCS provides access to external data sources such as databases, external business systems and Web Services. This is critical for the development of KnowledgeLake and other advanced partner solutions which require data that reside both inside and outside of SharePoint. Using BCS, External Content Types can be created that allow read/write access to the external data sources. External lists, which operate much like normal lists, can be created in SharePoint from these External Content Types, so you can access these external systems from SharePoint. There is also an offline caching mechanism, to enable offline access to External Content Types.

List Validations

A powerful way to validate not just documents but any content before it enters a list. This feature improves column property entry, which the document imaging community often calls indexing, and which the collaboration and social media communities call tagging. List Validations were very limited in SharePoint 2007. There are two important new settings for List Validations:

- No Duplicate Values: This setting will enable lists to act like databases, forcing items to be unique.

- Column Validations – Column validations will force column data to meet specified conditions before content may be added to SharePoint.

Large List Optimization

A major improvement to the scalability of SharePoint 2010 is optimizations made to lists and libraries. Database optimizations allow far more items to exist in a list, especially when combined with folder partitioning. Also, resource intensive-server operations can be limited or disallowed during production hours by using query thresholds and blocking operations.

Search

Search scalability has benefited from major improvements in the underlying architecture. SharePoint now supports multiple index servers and index partitions can represent a portion of the index and live on the query server. Partitions can be spread across multiple query servers but can also exist on multiple query servers for redundancy and load balancing. SharePoint 2010 can now scale to 100 million documents, and the optional FAST search takes us beyond 100 million!

Remote BLOB Storage (RBS)

Yes, it is an acronym that contains an acronym. That is confusing on the face of it and I will explain the origin in a moment, but the benefits are crystal clear: A fast, responsive, more manageable database. Everyone can understand how important that is to a single-platform ECM strategy. Now about that name: BLOB (the “B” in RBS) refers to Binary Large Objects. BLOBs are non-text files like pictures or videos, or more likely in our context, document images. In the case of SharePoint, it can really mean any type of document stored in a library. BLOBs consume a disproportionate amount of storage and network capacity and thus can bring a database to its knees. RBS superseded an earlier database optimization strategy, External BLOB Storage (EBS). RBS allows BLOBs to be stored in external systems but makes them appear to reside in SharePoint to the user, who can work with them like any other SharePoint content. For SharePoint solution developers, RBS is completely transparent to the SharePoint API, so existing custom and third-party code will continue to function as expected.

Audit Trails

Audit Trails were limited to workflow in SharePoint 2007. SharePoint 2010 extends audit trails to most events. For example, KnowledgeLake will be using audit trails to track all of our scanning events, so the documents will have a consistent history from the moment of capture until it they are archived.

Document IDs

This is a new capability that assigns a unique identification number to each document. It enables a document to be retrieved regardless of where it is moved within a site collection. Previously, it was very difficult for third-party applications to create links to documents because SharePoint did not attach a permanent, unique identifier to content in SharePoint. Third-party applications had to create the identifier or use searching scenarios.

Document Sets

Documents Sets add another way to identify, cluster and work with documents as a single unit. A Document Set could group documents belonging to a workflow, project or other similar group together

into a single working set. Document Sets assign a single, consistent set of metadata to these documents.

Content Organization

Content organization comprises several features that allow content to be easily organized inside document libraries and lists:

- Drop Off Library: Routes content based on rules
- Folder Partitioning: Densely packs folders
- Metadata Foldering: Creates folders based on column values
- Prevention of Duplicate Submissions: Forces unique column values

In conclusion, these features are important because they take SharePoint to the next level and will bring it to the masses without the need for legacy ECM vendors. Microsoft states that the key pillars to SharePoint 2010 ECM are ease of use, flexible compliance, and cost effectiveness. These features support those pillars and enable Microsoft to provide the only ECM platform your organization needs, and it will be a more cost effective platform in the long-run.

KnowledgeLake Solutions for SharePoint 2010

We call ourselves “The SharePoint ECM Company” because we develop solutions exclusively for SharePoint. We focus on document image-enabling SharePoint, but that means much more than scanning and indexing to us. An effective imaging solution must also optimize the use of captured documents in workflow, business process automation and archiving. That is why our core product suite, KnowledgeLake Imaging for SharePoint, incorporates a powerful search center that builds on the native search capabilities in SharePoint 2010. We have also partnered with our core technology allies Nintex, Global360, and ReadSoft to deliver advanced workflow, transactional content management, and business process management to the SharePoint ECM platform.

What Sets Us Apart: We Know SharePoint from the Inside Out

Our slogan extends to our product development strategy as well. Architecturally, we have embedded our products in the SharePoint platform, rather than as loosely coupled external components – sometimes called Web Parts. This external approach is sometimes a thinly veiled method for integrating SharePoint with a separate ECM platform, when the goal should be building solutions on a single platform. It is also a less robust, less efficient, less standards-based approach that may allow the vendor to hedge their platform bets but may increase risk and expense, while reducing performance, for the customer.

Conversely, KnowledgeLake develops its solutions within the SharePoint platform, using only the latest development tools from Microsoft itself. For example, The KnowledgeLake Search Center for SharePoint 2010 is built using the latest Microsoft Silverlight technologies. That maximizes compatibility and integration and gives our developers the best options for extending and organizing search results. With this in mind, here is a brief overview of the KnowledgeLake product family.

Our Product Focus

KnowledgeLake products enable organizations of any size to standardize on SharePoint as a powerful content platform for building and deploying rich solutions that satisfy many diverse business workloads (document imaging, workflow, business process management, transactional content management, document management, records management, web content management, collaboration, portals, and more). Long-term content viability, open standards, information worker productivity, and compliance are the key drivers of product design.

KnowledgeLake has products that enable both the SharePoint client and the SharePoint server for capturing and managing content. On the client side, KnowledgeLake offers two products; KnowledgeLake Capture and KnowledgeLake Connect. Capture is focused on batch scanning and indexing paper documents using many different forms of automation such as barcodes, patch codes, and zonal OCR for easing the burden of applying document metadata. KnowledgeLake Connect is more document centric and can capture both scanned images and electronic content such as Microsoft Office documents. KnowledgeLake Connect allows the user to easily save content to SharePoint from most desktop applications.

KnowledgeLake Imaging for SharePoint is a set of server based components that extend the SharePoint platform by adding enterprise capable document imaging functionality. It enables SharePoint users to organize, store, access, and route millions of scanned documents and data across the enterprise. Here are the key features of each component:

VIEW

The Silverlight-based viewer enables users to view common document types from SharePoint such as PDF, TIFF, Office documents and most image formats such as JPEG and BMP.

- Zero client footprint, runs entirely within any industry standard browser
- View multiple documents at once and Document Sets
- Ability to “find related documents” with embedded searching (based on property values)
- View pages of documents immediately without waiting for the entire document to download
- Annotate TIFF and PDF documents using text, image stamps, highlights, lines and sticky notes
- Bookmark specific pages for faster access through the document lifecycle
- View or modify SharePoint column properties with access controlled by SharePoint security
- Encrypt selective pages and portions of PDF and TIFF files using our unique DocEncrypt technology
- Completely security trimmed to SharePoint so users can only work with documents within their permission levels.

INDEX

The KnowledgeLake Index module provides simplification of Content Types through behaviors that allow administrators to have better control over their taxonomy, including those linked to external content – all from a central location inside SharePoint.

- Connect with external systems and databases for column validations, auto population of values and drop down pick lists
- Enhances the built-in functionality of Content Types to provide column validation, lookups and advanced auto indexing features
- Supports hidden columns, and new SharePoint 2010 features such as “no duplicate values” and column validations
- Enhances the native SharePoint features such as managed meta-data columns, Content Types, and the BCS (Business Connectivity Services)

SEARCH

Perform exact relevance searches using any combination of SharePoint full-text or column properties.

- Pre-configure and store saved searches
- Silverlight interface with tabbed navigation
- Perform full-text and column property searches
- Search provides grouping, filtering and sorting of result sets
- Search across SharePoint Document Libraries and Sites

- Easily scale with SharePoint Search by searching crawled content
- Compatible with FAST, Microsoft Office SharePoint Server Search
- Build custom views to personalize the look and feel of search results

SCAN

The Scan module allows users to scan PDF, TIFF and XPS documents directly from SharePoint with a locally attached capture device.

- Web based scanning
- Scan and index documents without ever leaving the SharePoint interface
- View images and enter column properties inside your browser
- Compatible with KnowledgeLake Index for validations, auto populations and drop down pick lists before saving SharePoint properties
- Supports TWAIN and WIA scanners

CUSTOMIZE and INTEGRATE

Software Development Kit (SDK) enables integration and customization.

- Includes a Visual Studio sample application and a compiled HTML file describing each component's extensibility points and object model.

For the complete details, visit knowledgelake.com.

KnowledgeLake in Action

How have KnowledgeLake solutions solved real-world business problems? KnowledgeLake products and solutions are deployed globally in thousands of organizations in many different horizontal and vertical industry sectors including public sector, healthcare, financial services, transportation, education, government and more. Our solutions provide a low cost, low risk, easy to implement alternative to legacy ECM solutions, and enable a quick return on investment in as little as four months. Three case study summaries are presented below, and many others are available at knowledgelake.com.

Healthcare: DuPage Medical Group

DuPage Medical Group is one of the largest and most successful physician-owned multi-specialty groups in Illinois with over 250 physicians practicing in 35 medical and surgical specialties with 36 locations in DuPage, Will and Kane Counties, in the state of Illinois.

The organization sought to store all documents supporting a patient's record electronically so that any clinician in the network could have the most complete information on a patient. The challenge was building a solution that would scale to meet the estimated 5,000,000 pages of documentation created each year.

The Group achieved its goals using SharePoint and KnowledgeLake Imaging for SharePoint. "Physician access to our patient's record has improved dramatically and we have significantly reduced our document storage and transportation costs in the process," says Jeff Crowell, DuPage applications architect. "Previously, we had inflated records management costs by having large patient files in each of the treating offices. By centralizing all of the records management functions we have been able to reduce administrative costs while increasing access to patient information."

DuPage has realized lower operational costs by deploying a system based on widely adopted Microsoft products. DuPage staff has been able to respond to requested changes to the system by business users without engaging an outside vendor. This allows the DuPage IT leadership to be responsive to the businesses needs while avoiding the out of pocket expense that a proprietary system would require to modify.

For more information, read the [full story](#).

Financial Services: Bank of Choice

Bank of Choice, based in Colorado, serves communities throughout the state with an emphasis on local customer relationships and quality service.

The bank found that paper-based loan approval processes were standing in the way of providing the fastest and most effective customer service. Bank of Choice adopted a complete document management system based on software from KnowledgeLake. The result cuts loan processing time from days to hours, boosts customer service while cutting costs, and increases competitiveness.

"The problems of locating documents, moving documents through the approval process, and having documents available to customers regardless of which branch they enter—those problems are gone,

thanks to KnowledgeLake and SharePoint Server,” says Dan Barbattini, senior vice president and CIO, Bank of Choice. “In an intensely competitive industry such as ours, this is an important competitive advantage because it means we can cut the cost of processing a loan application while increasing the customer’s satisfaction by cutting the time to loan approval. As a local, community bank, that’s part of our core mission, and these technologies help us to fulfill them.”

For more information, read the [full story](#).

Government: Large Federal Agency

Managing huge volumes of paper documents is always a challenge for government organizations. In Washington, D.C., one major federal agency has a department that helps constituents manage their business risks through market-based, tested risk-management solutions.

The agency, determined to gain more control over vital enterprise documents, turned to a solution that uses KnowledgeLake products and Microsoft SharePoint. The agency addressed a number of key business issues with its streamlined document management system. The new system is helping control costs while allowing employees to find information more easily. There is better, faster access to information. By digitizing its paper files, the agency has reduced its need for physical storage space. The agency has also improved its document retention management capabilities with a more structured, streamlined workflow that covers the complete document life cycle.

“With the KnowledgeLake solution, documents can be found and accessed quickly on our SharePoint system, then forwarded electronically instead of being copied or faxed. It delivers a major improvement in productivity,” says the records manager using the system.

For more information, read the [full story](#).

Conclusions

During the past 25 years, organizations have cobbled together a patchwork of content management systems to meet their wide-ranging requirements for capturing, sharing, securing, and working with corporate information. They have taken this piecemeal approach despite the redundant licensing, maintenance, support, development, and operating costs of multiple systems. It has been inefficient, but until a single platform could fulfill at least most of an organization's needs, it was the best alternative to paper-based processes.

Microsoft SharePoint has become ubiquitous thanks to its low price, integration with the Microsoft Windows OS and Office productivity suite, and its familiar look and feel. It introduced organizations to content management, but until now, it had not been sufficiently developed to replace the current ECM patchwork. We hypothesize that SharePoint 2010 and its partner ecosystem have progressed sufficiently to replace the patchwork, and our discussion of the "Ten Microsoft SharePoint 2010 Features That Enable the Enterprise" support our contention.

This paper provided a review of KnowledgeLake solutions that extend the SharePoint platform into enterprise document imaging, transactional content management, and business process management. We asserted that coupling SharePoint 2010 with KnowledgeLake or other third-party solutions finally offers a viable alternative to buying and maintaining multiple ECM platforms.

The risk of NOT implementing SharePoint 2010 for ECM

With what we know today about the benefits of SharePoint ECM, I will take our single ECM platform hypothesis even one step further. I contend that companies who select ECM products and solutions that are not built on the SharePoint platform are taking a poorly calculated risk. SharePoint is a product made by the largest and unarguably the most successful software company in the world's history. Microsoft is financially healthy, it is not going to be acquired, and it is not in any form of jeopardy. This is supported by the single fact that over 98% of the world's computers operate on the Windows operating system. Wouldn't you agree that the single most important factor in selecting an ECM software vendor is determining whether they have the staying power to manage your mission critical information for the long haul? Keep in mind, the most expensive component of any ECM implementation is commonly the conversion from a previous vendor's defunct technology. I contend that this is one of the most important risk factors for companies to consider when implementing an ECM solution.

We hope you will join the discussion at [twitter](#), [facebook](#), and [LinkedIn](#).

For more information about SharePoint and KnowledgeLake, visit www.knowledgelake.com or call 888.898.0555.

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