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> **Hummingbird Enterprise™ & Microsoft® SharePoint®:**  
A Strategy for ECM Success

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This document contains references to product functionality available in future releases.

*This edition published November 2005*

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## Executive Summary

How should organizations balance the goals of providing a highly intuitive, cost effective, and straightforward collaborative environment to their user population with those of ensuring content security, scalability, and compliance with regulatory mandates?

The answer is simple. Through the seamless integration of Microsoft® SharePoint® and Hummingbird Enterprise™, organizations get the best of both worlds.

Increasingly, organizations are looking to deploy products and technologies that facilitate an intuitive, collaborative electronic workplace. To that end, many have turned to Microsoft SharePoint to facilitate collaboration among internal teams as well as with partners and customers. Using the combined collaboration features of Microsoft Windows® SharePoint Services (WSS) and Microsoft Office SharePoint Portal Server (SPS) 2003, users and cross-departmental teams are empowered to easily create, manage, and build their own collaborative Websites and make them available throughout the organization.

Organizations deploying collaboration capabilities also have to consider the regulatory pressures that require implementation of certified records management practices as part of their overall enterprise content management (ECM) strategy.

The marriage of Hummingbird Enterprise and Microsoft Sharepoint product offerings provide organizations with a platform that delivers a highly intuitive collaboration platform, while alleviating concerns about document-level security, content replication, knowledge retention, and the ability to manage the ever increasing volume of content for the entire enterprise.

## Introduction

Microsoft SharePoint products and technologies are gradually becoming the standard for organizational enterprise portal, document sharing, project collaboration, and workgroup environments. Microsoft SharePoint is a highly attractive solution for organizations as it offers low cost of ownership, ease of deployment, an intuitive user experience, and a straightforward, self-service framework for establishing collaborative sites.

However, organizations must balance these benefits with mounting regulatory pressures, the need for a high degree of document and content security, and the need to support business goals, such as improved process efficiencies and cost reduction.

In short, organizations need to simultaneously extend Microsoft SharePoint to their user community to guarantee that content is accessible and fully leveraged for business advantage while ensuring that enterprise content is secure, centralized, and managed in compliance with regulatory mandates.

This balance of ease of use and robust functionality emerges by integrating Microsoft SharePoint Products and Technologies with Hummingbird Enterprise. By doing so, organizations can realize the true value of ECM — they will enable a highly secure and collaborative environment for capturing, managing, indexing, retrieving, and publishing business content. Through the integrated solution, organizations will not only make information accessible to users throughout the enterprise but will capitalize on significant and tangible benefits that mitigate risk, reduce costs, and generate business advantage.

## What's Driving ECM?

A number of business drivers have taken ECM from a strategic “project” to an essential — and even mandated — requirement for organizations in virtually every market. Compliance is the primary driver. Industry analyst research cites concern over increasing regulatory issues as the number one motivation behind organizational interest in ECM. The two other main thrusts behind ECM deployments are cost reduction and the belief that by better leveraging content, new opportunities and business advantages will be generated.

### Business & Legal Risk Mitigation

Governments everywhere are passing legislation to curb corporate financial impropriety, reduce the amount of paper used in business, mandate the level of transparency and accountability of executive officers, improve efficiencies of internal processes, enable citizen self-service (eGovernment), protect the privacy of employees and customers... the list goes on.

With this unparalleled focus on corporate governance, privacy, and overall sound records management practice, organizations can no longer consider ECM systems as an indulgence or an option. With the spotlight fixed on issues surrounding compliance, ECM systems are pretty much a mandate for organizations. The penalties for non-compliance are too severe — not only in terms of the heavy financial costs (or even jail sentences) but also in terms of damage to the organization's reputation.

With the media and industry analyst coverage of the mounting regulations on corporate and civil service behavior, the language of legislation has become commonplace. Basel II, Sarbanes-Oxley, Public Records Office, The National Archives, Anti Money Laundering Regulations, Gramm-Leach-Bliley Act, and Health Insurance Portability and Accountability Act, to name a few, have worked their way into daily conversations. More so have the acronyms — HIPAA, GLBA, AML, TNA, PRO, DoD 5015.2, and of course SOX.

If organizations do not have the foundation technologies to manage the content required to meet the mandates of this broad set of regulations, the future is bleak. The time, money, and resources required to satisfy regulatory compliance edicts without systems in place to streamline the processes that facilitate them are enormous.

That said, progressive organizations are now looking at regulatory compliance issues in a strategic manner. Taking a holistic view that combines people, processes, and technology, organizations are beginning to establish frameworks for “proactive compliance” — an architecture that empowers organizations to mitigate risk by providing a policy-driven compliance platform for management of physical and electronic knowledge assets.

Compliance is really about managing content better — from creation to in-process management to archival to ultimate disposal. Any organization that embraces the concept of proactive compliance, including establishing and enforcing the processes to support compliance and the ECM system to manage required content, will be in a solid compliance position and realize the many other benefits of sound content management.

## Cost Reduction

In the past, ECM was considered a tool for increasing revenue that may produce incidental cost-savings. However, with the increase in the amount of unstructured data — documents, e-mail, instant messages, forms, and other content not produced or accessible from database systems or back-end applications — this notion has changed.

Making information accessible from a variety of user interfaces is critical to capitalizing on the value of organizational knowledge assets. According to research, large organizations spend close to five percent of total revenue managing and delivering corporate content. For many, this translates into tens of millions of dollars. Beyond direct costs of managing and delivering content, organizations suffer from lost productivity. According to independent research firm IDC, users spend a great deal of time searching for information required to do their jobs; often to no avail. In fact, IDC research indicates that close to 40 percent of users cite the inability to find information as one of the leading impediments of productivity improvement.

Stories of redundant work across organizations also abound. Take for instance the story of the algae-based medicine capsule. A team of 11 worked for nearly three months to develop a capsule that would stably contain an algae-based medicine (the medicine kept leaking out of traditional capsules). Proud of their accomplishments, the team discovered that another team of 14 in the same organization was equally pleased. As it turns out, the 14-person team was unknowingly working in tandem to develop the same capsule. Conservatively, that equates to 5,200 hours of work and at a materials and salary cost of roughly \$200/hour for the 11-person development team about \$1 million dollars wasted.

Other issues on the horizon also validate the argument for systems to better manage enterprise content. For example, employee turnover and, in the case of some government agencies, an impending competency gap challenge due to an aging workforce pose serious challenges in terms of information capture and retention. The ability to capture and retain intellectual property and “know-how” is of critical importance and, if unsuccessful in doing so, organizations will certainly sustain lost opportunity and profits.

In short, the concept of ECM as a platform that delivers incidental or marginal returns is stale. Progressive organizations are implementing ECM in order to address the issues outlined above as well as to directly impact overall employee productivity, improve organizational velocity and agility, and achieve superior business insight. They are looking to ECM as a way of delivering on the promise of “contextual information” — information anywhere, anytime, and in formats conducive to users getting the job done. In doing so, organizations will realize not only “soft cost” gains but also significant and tangible cost savings from reduced work redundancy, protected intellectual capital, and streamlined processes.

## Business Advantage Generation

In a business climate of tough competitors, strict regulations, and increasing customer demands, organizations need every advantage they can gain. Speed, innovation, and agility are the keys to business success. While ECM systems have proven to generate hard returns in terms of cost savings and process efficiencies, many of the benefits of sound information management are more difficult to directly associate with a dollar value. Organizations are looking to ECM to help deliver on such intangible benefits.

By automating the content lifecycle management process (the process of managing content from its creation through its disposal), organizations free up staff to focus on matters of strategic importance that directly impact the bottom line. No longer will staff occupy their time manually filing paperwork or spending inordinate amounts of time searching for information. Rather, they will have more time and energy to focus on those three keys to business advantage mentioned above — speeding time to innovation, helping the business become more agile, and concentrating on quickly discovering revenue generating opportunities.

By making information more readily available and accessible from a variety of devices and interfaces and by automating many previously manual content-centric processes, ECM equips organizations with a platform for competitive success. Moreover, ECM represents a foundation for building tailored content-centric business solutions. Beyond managing unstructured information and automating the content lifecycle, ECM enables firms to streamline other business processes and generate business advantage. Contract management, correspondence tracking, deal room management, anti-money laundering monitoring, and virtual team collaboration are all solutions enabled by enterprise content management systems. Not only do solutions like this aid firms in achieving goals of revenue, agility, and opportunity generation, but they serve to reduce costs and streamline business operations.

## The Building Blocks of ECM

Enterprise content management has moved from a tactical technology solution for managing increasing volumes and centralizing access to business information into the realm of strategic imperative for delivering cost savings and generating business advantage. As the market evolves for ECM systems and the tangible resulting benefits grow, so do the options and number of “solutions” available to organizations. There are a good number of software vendors that classify themselves as “content management providers,” but which ones truly qualify? Is ECM really just a collection of individual content-centric products or a truly integrated suite? According to analyst firm Gartner, Inc.:

*“Enterprise content management (ECM) is an architecture that integrates functions to make content accessible enterprise-wide. This approach works best for supporting horizontal business processes, such as compliance, and reducing long-term costs. For these reasons, most companies should implement an ECM strategy even if they start with only one or two core components.”*

Further to this, Gartner recommends that organizations:

*“Think of enterprise content management as a strategy rather than a project or product. Plan for a consistent enterprise-wide content architecture. Identify the particular functions you need and ensure that the solution you’re considering integrates them adequately. An ECM suite will make sense for most companies, but vendors differ in the number of components they offer and in the level of integration.”*

*Source: What Constitutes Enterprise Content Management — Gartner, 2004*

As defined by analyst firms, ECM is an integrated suite of content-focused modules that provide the following functionality:

**Document Management** — for library services such as check-in and checkout, version control, and user and document-level security for business documents

**Document Imaging** — for capturing (scanning), profiling, and archiving paper-based content, including forms, facsimiles, engineering drawings, and graphics

**Records Management** — for classifying documents and other content as business records in support of legal or regulatory compliance, archival, and automation of retention policies

**Web Content Management** — for collecting, assembling, and staging content (both graphic and textual) for the purpose of publishing to Websites or intranets; content delivery is automated to streamline the process, ensure traceability, and eliminate bottlenecks

**Document-Centric Team Collaboration** — for sharing, organizing, and controlling document-based collaborative processes; typically, this functionality supports both internal and external team members with a high level of user and document-level security

**Content Workflow** — for routing of content and support of business processes; capabilities typically include task assignment, automated tracking (audit trail generation), work state communication (in process, completed, bottleneck, etc.), and graphic representation of the workflow itself

## The Best of Both Worlds

An in-depth global survey of mid-size organizations, recently conducted by Forrester Research, Inc., found that almost a third of all seats in Europe and 15 percent of those in the United States have Microsoft SharePoint Products and Technologies deployed. Almost a quarter of respondent organizations indicated that they plan to expand SharePoint rollouts in the next year.

*Source: Trends: Firms Have Lofty Goals for SharePoint — 2005*

At the same time, adoption of Hummingbird Enterprise has grown at a double digit pace over the past two years. Organizations are deploying Hummingbird Enterprise to meet their content management needs, mitigate risk, generate business advantage, and build content-centric business solutions such as contract management, correspondence management, and deal room management.

The fact is that Microsoft SharePoint and ECM systems, including Hummingbird Enterprise, coexist in many organizations and will continue to do so. As organizations look to extend their investment in SharePoint Products and Technologies beyond a publishing portal or basic collaborative environment, the goal is to expose more robust, scalable, secure, and process-centric content management solutions to a broader constituency of internal and external users.

### The Microsoft SharePoint Experience

Microsoft SharePoint is used in organizations to facilitate team collaboration among staff, partners, and customers. To accomplish this, two elements of SharePoint Products and Technologies are used. Windows SharePoint Services is leveraged as a development platform for creating collaboration and information-sharing applications. The other component is SharePoint Portal Server, which is an enterprise portal server that extends the capabilities of Windows SharePoint Services. It is used to aggregate SharePoint sites, information, and applications across organizations to form a unified, easy-to-use portal.

Microsoft SharePoint Products and Technologies are used primarily for team collaboration. Windows SharePoint Services essentially replaces shared Windows NT® network drives and facilitates the straightforward publishing of Microsoft Office documents to team sites for collaboration. According to Gartner, it is most often used by small project teams or on a departmental basis.

*Source: How Well Does Microsoft Windows SharePoint Services Support ECM? – 2005*

When asked for the rationale behind deployment, research analysts discovered that organizations are attracted to Microsoft SharePoint for a variety of reasons. Leading reasons for Microsoft SharePoint deployment include:

- > Ease of use
- > Ease of deployment
- > Tight ties to Microsoft Office (the standard productivity suite in most organizations)
- > Low cost of ownership

*Source: Gartner and Forrester research — 2005*

Microsoft SharePoint is increasingly used as the organizational standard to facilitate straightforward team collaboration, document sharing, and information portals. What necessitates a coexistence strategy with ECM systems is the need for robust document management, document-level security, records management in support of regulatory mandates, and corporate goals of establishing content-centric business solutions to maximize the value of knowledge assets and generate competitive advantage.

## The Hummingbird Enterprise Experience

Hummingbird Enterprise is recognized by analyst firms and a global customer base for its industry-leading document, records, and content management capabilities.

Beyond the functional aspects, organizations are deploying Hummingbird Enterprise to address critical content lifecycle management issues. Hummingbird is well entrenched as an ECM market leader in a wide range of vertical industry segments as well as an overall “horizontal” ECM market leader.

Hummingbird supports legal clients globally and has relationships with the largest grossing law firms in the UK, Canada, Australia, and the US, as well as installations with major law firms across Continental Europe and Asia.

The Hummingbird strategy is to offer an integrated suite of practice management solutions that link key firm processes such as matter intake, conflicts, docketing, document management, e-mail management, knowledge management, records management, search, workflow, collaboration, Web publishing, intranet/extranet support, and reporting, all exposed through the primary information user interface, Microsoft Outlook.

Law firms tend to be exclusively Microsoft-centric. Lawyers live and work within Microsoft Outlook to create, manage, and preserve work product. Hummingbird Enterprise, as a business solution framework, leverages Microsoft Outlook as the standard rich client for integrated practice support solutions.

Hummingbird Enterprise is also the standard enterprise content management solution within all levels of government globally and is the leading records management vendor for government in the UK, Canada, Australia, and the US.

Hummingbird is recognized for its thought and market leadership as a provider of records management solutions within the government sector. Hummingbird significantly increases the value of Microsoft Outlook and Microsoft SharePoint as client platforms to access and manage vital records within the government sector. Microsoft stands to accelerate the adoption and acceptance of Microsoft SharePoint as a portal to build and deploy self-service citizen portals.

Customers indicate that they deploy Hummingbird Enterprise for a variety of functional (tactical) reasons as well as more strategic (business solution) motives.

Leading tactical motivators for adopting Hummingbird Enterprise include:

- > Core document management
- > Records management (integrated document and records management)
- > Knowledge management (search, retrieval, categorization of content)

Leading strategic motivators for adopting Hummingbird Enterprise include:

- > Legal practice support solutions (new business intake solutions, conflicts management, legal records management, critical dates management, matter-centric attorney desktops, etc.)
- > Contract management
- > Deal management
- > Correspondence tracking and management
- > Compliance solutions and other regulatory issues management (including Freedom of Information/Access to Information, SOX, DoD 5015.2, TNA2002, SEC, NASD, HIPAA, PIPEDA, and FDA regulations)

Organizations also point to the high degree of integration and interoperability with Microsoft technologies as a key rationale behind selecting Hummingbird Enterprise as the organizational ECM standard. Other leading reasons for selecting Hummingbird Enterprise include:

- > **Usability** — ease of use and integration with familiar business and productivity applications, including Microsoft Office and Outlook
- > **Performance** — speed of ECM tasks/functionality, scalability, and breadth of functionality
- > **Risk Mitigation** — reputation for integrated document and records management, certification, and a high degree of security built into the system
- > **Search and Knowledge Management** — powerful, native functionality to address information indexing, categorization, search, and retrieval

## Hummingbird Enterprise & Microsoft SharePoint — The Best of Both Worlds

Realizing the separate but equally important reasons for deploying Microsoft SharePoint and Hummingbird Enterprise and the market trend for coexistence of Microsoft SharePoint and robust ECM systems, Hummingbird has developed its technology to fully and seamlessly integrate with and extend the Microsoft platform.

Microsoft SharePoint will continue to expand its presence in organizations and for good reason. The low cost of ownership, ease of use, low maintenance, and superior collaborative environment make it extremely appealing to a wide range of organizations.

Understanding this, Hummingbird is leveraging its strong heritage of application integration with the Microsoft platform, enabling organizations to fully embrace and extend Microsoft SharePoint (and other Microsoft product investments) with Hummingbird Enterprise to deliver scalable, secure content lifecycle solutions without users ever having to leave the familiar Microsoft Office or Microsoft SharePoint environment.

Hummingbird has developed Hummingbird Enterprise to fully and seamlessly integrate with and extend the Microsoft platform in the following key areas:

**Usability** — Natively and seamlessly integrate the proven and scalable functionality of Hummingbird Enterprise™ DM and Hummingbird Enterprise™ RM with Microsoft SharePoint Products and Technologies.

**Performance** — Ensure the highest quality performance and scalability for solutions infrastructure built on the Microsoft SQL Server backbone architecture.

**Risk Mitigation** — Deliver a comprehensive compliance framework that supports traceability, auditing, and preservation of mission critical content that considerably extends the Microsoft security and document management infrastructure.

**Interoperability** — Manage a modular architecture where Hummingbird Enterprise Content Services are exposed to Microsoft applications.

## Usability

Workers prefer to live within Microsoft Desktop and Webtop applications. They want and expect to manage content lifecycle processes from within the familiar Outlook environment.

Building on its strong heritage of application integration with Microsoft technologies, Hummingbird Enterprise provides significant advancements to accessing and managing content within familiar and standard Microsoft environments such as Office and Outlook. By exposing Hummingbird Enterprise via Web parts within Microsoft SharePoint, users will be able to leverage proven and scalable document and records management functionality.

Specifically, organizations will couple Microsoft SharePoint with Hummingbird Enterprise in order to:

- > support highly scalable centralized and distributed content libraries.
- > gain advanced content profiling and document versioning.
- > ensure granular security with nine levels of security and permission per document version.
- > enable full support of advanced hierarchical security in accordance with the provisions of DoD 5015.2 specifications.
- > enforce business rules that enable users to automate content lifecycle processes.

## Performance

A number of significant performance-related enhancements are inherent with Hummingbird Enterprise. Apart from fully leveraging Microsoft SQL Server as the underlying content repository platform for Hummingbird Enterprise, Hummingbird continues to apply innovative development approaches to ensure that organizations can make more efficient use of the Microsoft technology stack. One of the most significant innovations in Hummingbird Enterprise is Hummingbird Content Drive.™

Content Drive is ground-breaking technology designed to dramatically improve the way desktop applications “interact” with the Hummingbird Enterprise content repository. It leverages Hummingbird’s rich heritage in network connectivity to alter the way content gets from the application to the Hummingbird Enterprise content repository (saving/storing) and how it gets from the repository to the user (retrieval).

Content Drive introduces a revolutionary approach where all file operations to the content repository are handled natively at the Microsoft operating system kernel level, eliminating the need to write and maintain specific code to transfer documents. This inventive approach introduces significant performance improvements because file operations are executed at the operating system kernel level.

In a recent test performed on a customer-supplied document (a complex Microsoft Excel spreadsheet with more than 1,300 linked elements) retrieval (open) time for the document was reduced from several hours to mere seconds.

Content Drive overcomes the limitations associated with traditional content and document management architectures. It leverages not only Hummingbird's strength in ECM but also its expertise in network file systems — a unique breadth of technology strength among ECM vendors.

The result is a highly optimized architecture for managing complex documents. This innovation will set Microsoft and Hummingbird apart from other ECM vendors as it represents a unique blend of depth of expertise in connectivity software and content management.

## Risk Mitigation

Both public and private organizations face a range of regulatory measures that mandate compliance with privacy legislation, corporate transparency laws, access to government information, and appropriate disclosure of financial data.

Knowledge workers live in an electronic workplace, and the documents, data, and messages they create and receive may be subject to legal discovery or the scrutiny of auditing processes. Hummingbird Enterprise provides the technical framework on which organizations can build compliance best practices — a framework that enables them to proactively address compliance as opposed to reactively dealing with regulatory mandate.

Integration with Microsoft SharePoint Products and Technologies considerably extends the strategic value of Hummingbird Enterprise to empower users to

- > utilize a seamlessly integrated and shared content repository that manages both document and records management, related metadata, and lifecycle processes from within Microsoft SharePoint Portal.
- > access and manage the full suite of content management and retention capabilities of Hummingbird Enterprise in a centralized, intuitive, collaborative interface.
- > identify anomalies and use patterns of business information by leveraging the structure and transparency built into standard business workflows managed by a joint Microsoft/Hummingbird content management solution.
- > meet rigorous legislative and regulatory requirements, including Sarbanes-Oxley, DoD 5015.2, SEC, NASD, HIPAA, PIPEDA, and FDA.
- > secure records with extensive permissions features that defend against unauthorized access at folder, document, group, user, and file plan levels.

- > suspend records from lifecycle processing to meet discovery orders and assist in regulatory audits.
- > enable event notifications of record activities available from e-mail, instant messaging, and mobile devices.
- > leverage extensive built-in reporting tools of Hummingbird Enterprise to track content assets and administrative actions throughout the record lifecycle or business process.

## Interoperability

Hummingbird is committed to delivering a modular architecture by virtue of which Hummingbird Enterprise content-enabling components are exposed as consumable services and delivered to a wide range of channels, such as thick-client applications, Webtops, and mobile devices.

Hummingbird is committed to standards, including Microsoft .NET, and to leveraging those standards in order to form the basis for developing interoperable content lifecycle management solutions.

Hummingbird Enterprise will continue to provide a strong value proposition where security, content management, governance, and regulatory compliance are key requirements and core functional components.

## Highlights of a Microsoft SharePoint & Hummingbird Enterprise Coexistence ECM Solution

- > ***Time savings and increased productivity*** — both organizational process streamlining and user knowledge work productivity levels
- > ***Seamless access to information*** — centralized access, anywhere, anytime
- > ***Better, faster decision making*** — facilitated through highly intuitive, secure team collaboration workspaces coupled with enterprise strength document and records management
- > ***Powerful, intuitive user experience*** — straightforward, self-maintained SharePoint collaborative environments that are seamlessly integrated with Microsoft Office, Hummingbird Enterprise, and other business applications
- > ***Deep integration with Microsoft Office*** — transparent and intuitive storage, publishing, search, and retrieval between Microsoft Office, SharePoint workspaces, and Hummingbird Enterprise content management system
- > ***Highly secure and scalable*** — granular security and user and group permissions at all content levels
- > Full support for audit, accountability, and traceability for regulatory compliance initiatives

## Components & Architecture

The following provides a high-level overview of the overall architecture, concepts, and other relevant technical information of the integration points of Hummingbird Enterprise with Microsoft SharePoint Products and Technologies.

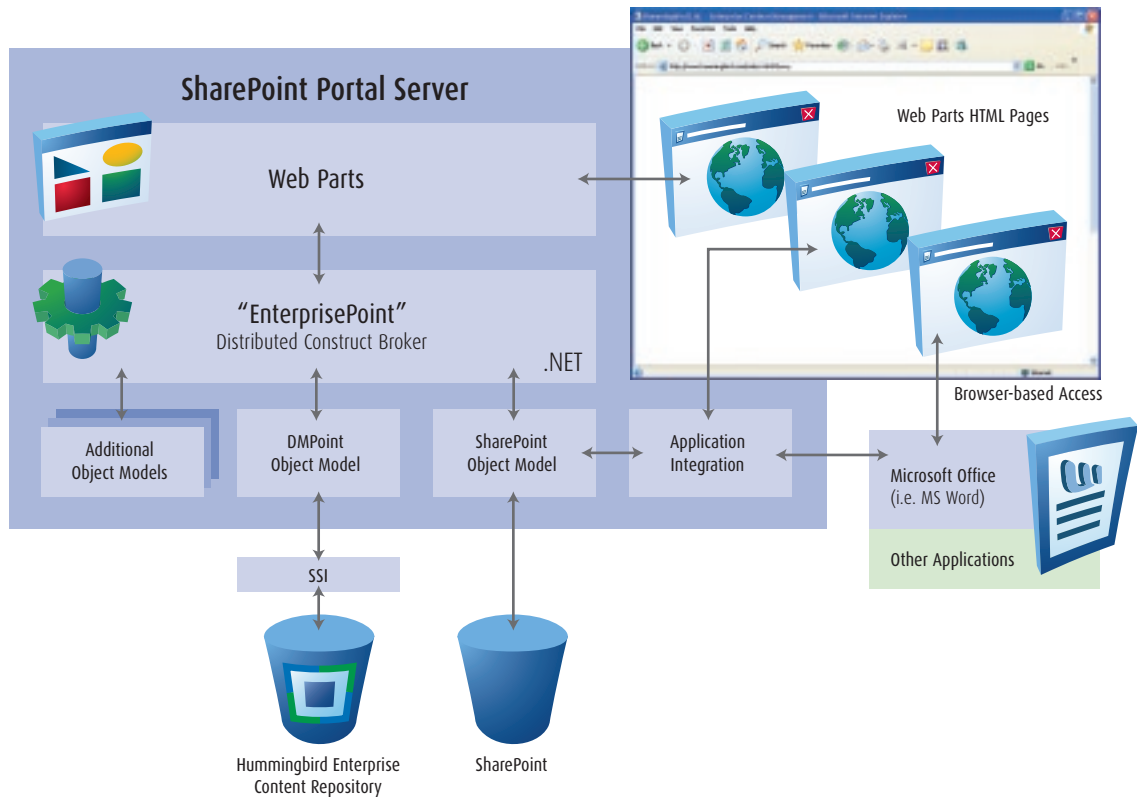
### Summary of Proposed Functionality

The following functionality of Hummingbird Enterprise will be supported within Microsoft SharePoint environments:

- > Document Management (Library Services) within Microsoft SharePoint Portal
  - Profile search (including lookups, full text search)
  - Result list (list of documents in Hummingbird Enterprise searched for and displayed in SharePoint sites)
  - Open Hummingbird Enterprise DM document
  - Import document from Hummingbird Enterprise
  - Document profile card display and modifications saved to Hummingbird Enterprise
  - Save document to Hummingbird Enterprise
  - Check-in/check-out Hummingbird Enterprise documents
  - Version control of Hummingbird Enterprise documents
- > Microsoft Office application integration
  - Open, save, and save as document to Hummingbird Enterprise directly from Microsoft Office menus
- > Enforce Hummingbird Enterprise DM document/folder level security model within Microsoft SharePoint
  - Including user authentication
  - Set basic security across documents and folders
- > Records Management capabilities accessible/executable from within Microsoft SharePoint Portal
  - Mark as read-only or declare as record
  - Display File Plan
  - Store to File Plan
- > Foldering
  - Show, navigate Hummingbird Enterprise folder structure from within Microsoft SharePoint Portal
- > Office Task Pane and enhanced office integration
  - Execute common ECM tasks from the familiar Office Task Pane in Microsoft Office applications

## Overall Architecture

The diagram below provides a high-level view of the proposed architecture.



## Content Repository Management

A sophisticated and distributed “construct broker,” identified as “EnterprisePoint” in the diagram above, creates an extensible environment for object models. Initially the Hummingbird Enterprise DM object model (“DMPPoint Object Model” in the diagram above), will be combined with Microsoft Windows SharePoint Services object model, and further extensions will allow for incorporation of other repositories and “content services.”

## Hummingbird Enterprise Web Parts for Microsoft SharePoint

The connectable Hummingbird Enterprise Web Parts are the building blocks of a joint Hummingbird Enterprise and Microsoft SharePoint ECM architecture. They are combined in Web Parts HTML Pages that create the browser-based, SharePoint sites that workers access. These Web Parts are user configurable to allow for custom views. For example, a Search Results Web Part can be used for “recently used content,” “QuickSearch” results, “frequently accessed documents,” or “new version/updated documents.”

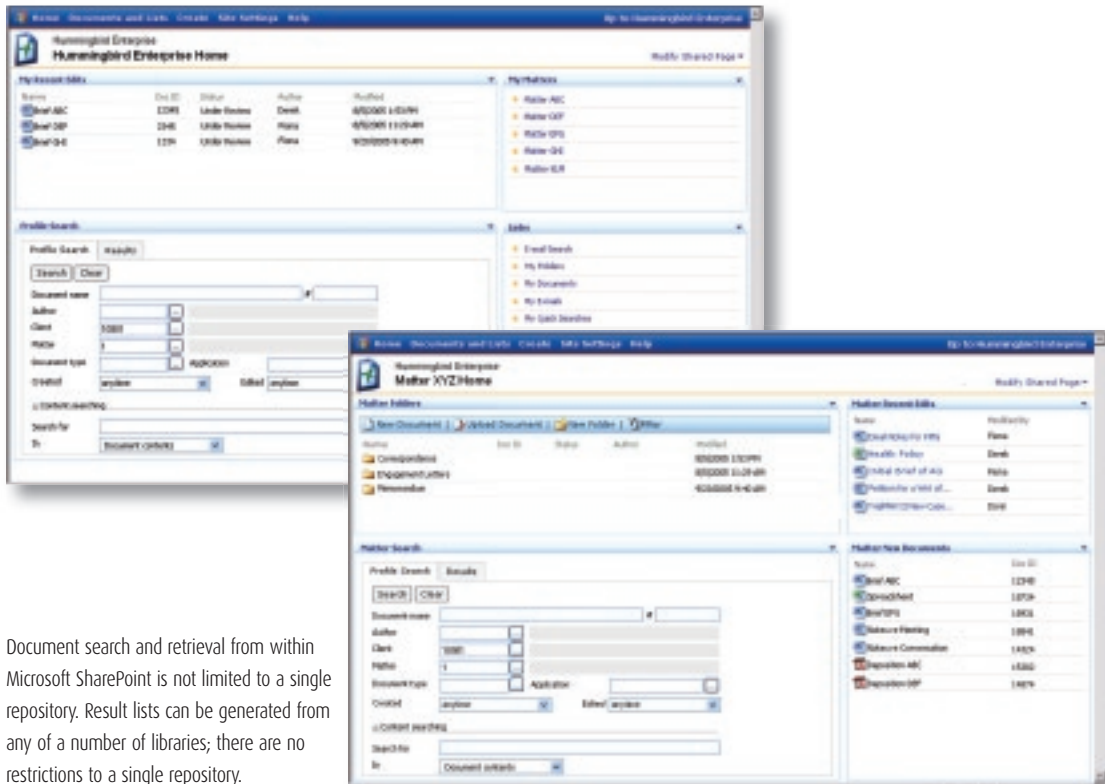
Overall, the proposed architecture provides a solid foundation for comprehensive and sophisticated integration between Microsoft SharePoint, Microsoft Office, and Hummingbird Enterprise DM and Hummingbird Enterprise RM with further integrations for other Hummingbird Enterprise modules or Microsoft applications.

## Functional Description

This section overviews some typical scenarios of an integrated Microsoft SharePoint and Hummingbird Enterprise solution. This is not meant to provide an exhaustive description of the functionality that will be provided but merely a sample use case. The tasks carried out in the following case are representative of the integration points (Web Parts, etc.) between Hummingbird Enterprise and Microsoft SharePoint.

## Sample Use Case Scenario

A user that is using SharePoint Portal Server as their primary user interface can initiate a search of documents from Hummingbird Enterprise DM to select the one that needs to be worked on in a Microsoft SharePoint workspace. The user has access to the full range of Hummingbird Enterprise DM profile capabilities and they can select and sort documents by author, based on full-text search, by matter/project or by any other metadata element that the profile form contains.



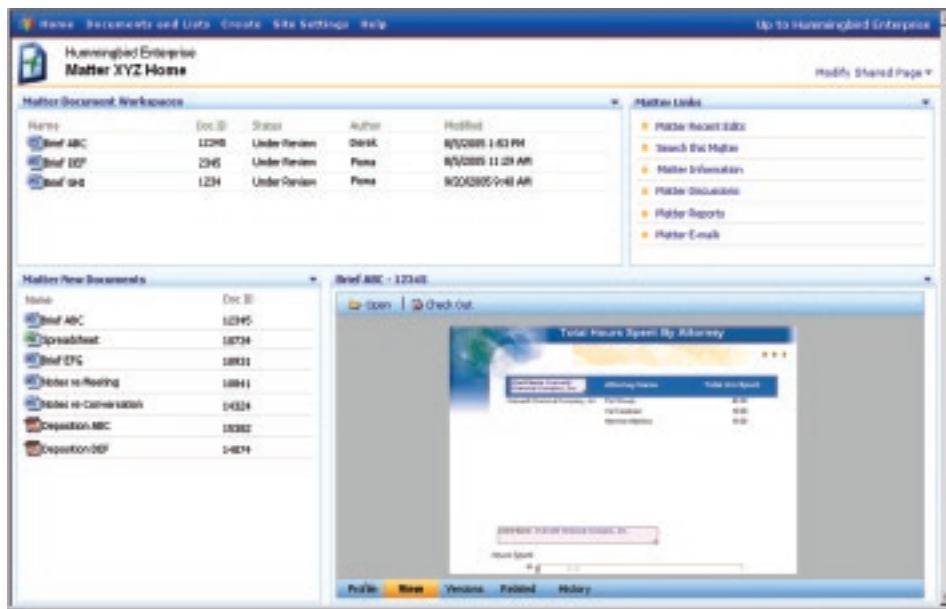
Document search and retrieval from within Microsoft SharePoint is not limited to a single repository. Result lists can be generated from any of a number of libraries; there are no restrictions to a single repository.

It should be noted that the Hummingbird Enterprise DM security is fully adhered to and, therefore, the user will only see documents and metadata that they have been granted rights to view, edit, copy, or perform another action.

The qualifying documents are displayed, and the user can select the document and open it for viewing. The user decides that the document requires editing and opens the document in its native Microsoft Office application, in this case Microsoft Word. The user “checks out” the document to ensure no one else can start working on this commonly modified document. The user makes the changes to the document required and saves the document back to Hummingbird Enterprise by simply clicking “check-in” from the Microsoft Word “File” menu. The user decides to check in the updated document as a new version. Again, this is subject to the Hummingbird Enterprise DM security model and user access permission rules. The user never has to exit familiar Microsoft interfaces.

After a review of the document by the user’s supervisor, the document is declared a business record and stored to the appropriate file plan. This ensures that a permanent record now exists and the company’s compliance policies are adhered to, as are any regulatory mandates.

The user now moves on to another task — navigating to the folder level and selecting another project. The user creates a new presentation in PowerPoint and uses the Office Task Pane in PowerPoint to save this document to Hummingbird Enterprise DM. They indicate that the presentation is to be published to the Microsoft SharePoint site for the project for which it was designed. Again, the user never leaves the familiar Microsoft Office environment to carry out the combined SharePoint/Hummingbird Enterprise task.



Finally, the user navigates to another legal matter-centric project to retrieve an attorney billing report for the case. This report is generated in Hummingbird Enterprise and therefore published and kept current in the Microsoft SharePoint project site.

From an organizational standpoint, the main point is that the need for security of content, high system performance, and compliance with regulatory and corporate policy mandates are supported. From an end user standpoint, they enjoy seamless access to information, a powerful, easy-to-use collaborative environment, improved productivity, and faster decision-making capabilities. All of this is achieved without incurring training costs or burdening users to learn different software environments — all content-centric work is conducted in familiar, intuitive Microsoft applications.

### Technical Implementation

Hummingbird Enterprise integration points for Microsoft SharePoint Products and Technologies:

- > Delivered as a set of Connectable Web Parts and .NET based
- > Developed using ASP.NET v2.0
- > Include an extensible API to accommodate future .NET-based Hummingbird Enterprise components
- > Support for Microsoft Office 2003, Internet Explorer, and other core Microsoft products leveraged by Microsoft SharePoint

## Conclusion

In summary, organizations are continuing to increase investments in Microsoft SharePoint Products and Technologies in order to provide users with a straightforward, easy-to-use, collaborative environment for document sharing and information access. At the same time, the demand for ECM software, including Hummingbird Enterprise, is on the rise due to organizational goals of mitigating risk, achieving regulatory compliance, reducing and controlling costs across all departments, establishing content-centric business solutions, and generating business advantage through better management of business content.

In order to support and balance these dual trends, Hummingbird and Microsoft teamed up to develop a series of connectable components that enable a joint Microsoft SharePoint and Hummingbird Enterprise solution. Leveraging its rich heritage of integration with the Microsoft platform, Hummingbird enables organizations to enjoy the benefits of Microsoft SharePoint while ensuring the secure, scalable, and superior document, records, and knowledge management capabilities of Hummingbird Enterprise — the industry-leading ECM software.

With a coexistence approach that includes Hummingbird Enterprise and Microsoft SharePoint Products and Technologies, organizations can truly capitalize on a best-of-both-worlds strategy for long-term, sustainable ECM success.

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WP-09-00-EN-0061.11/05

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