



Abstract

CUSTOMER READY. This twenty-six slide technical presentation, published February 2004, describes how Microsoft's Knowledge Network Group updated the MSWeb intranet home page to use the centrally hosted portal infrastructure provided by Microsoft IT. This paper describes the business benefits that motivated the deployment, the planning and prioritization process, implementation, lessons learned, and best practices.

Introduction

This presentation documents the design, implementation and deployment of Microsoft Web 6.0, the sixth major release of Microsoft's internal intranet portal solution in the last 8 years. The presentation was prepared for enterprise, business and technical decision makers, IT architects and operations managers who are considering an upgrade of their intranet portal infrastructure or implementation of an intranet portal solution for the first time. It focuses on the needs of the intranet or enterprise portal owner who works in a large organization, employing thousands or hundreds of thousands of people.

The Microsoft Web team grouped these requirements into three objectives for focusing their subsequent design and implementation activities:

- Improve the ability to find and retrieve the "right" information
- Improve the ability to find people and what they know
- Organize the intranet and create a sense of "place"

Solution Overview

Situation

- Difficult to find and retrieve the "right" information
- Challenging to locate people and understand what they know
- Unable to organize the intranet and create a comfortable sense of "place"

Solution

- Redesign Microsoft's employee intranet portal, using Microsoft SharePoint Portal Server 2003

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Solution Overview

Situation

- Difficulty in finding and retrieving the "right" information
- Challenges in locating people and understanding what they know
- Inability to organize the intranet as a navigable space and create a comfortable sense of "place"

Solution

Microsoft redesigned Microsoft Web, the company's employee intranet portal, using Microsoft® SharePoint® Portal Server 2003.

Solution Overview

Benefits

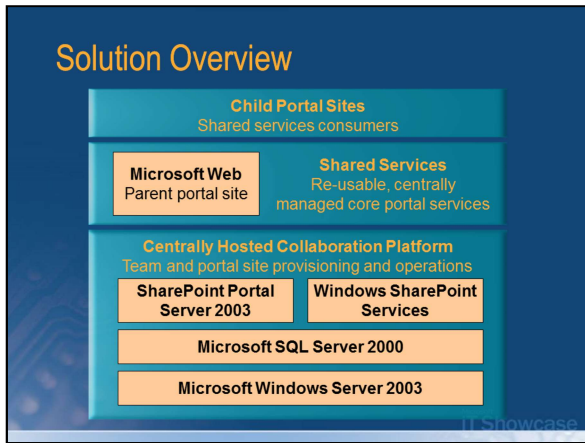
- Increased efficiency and productivity for finding more information in less time
- More informed decisions
 - More effective customer interaction
 - Fewer lost opportunities
 - Less rework
 - Greater customer, partner and employee satisfaction
- Reduced costs of developing, deploying and managing an enterprise intranet portal

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Solution Overview

Benefits

- Increased efficiency and productivity for employees needing to find more contextually relevant information in less time
- More informed decisions resulting in more effective customer interaction, fewer lost opportunities, less rework and greater customer, partner and employee satisfaction
- Reduced costs of developing, deploying and managing an enterprise intranet portal solution



Solution Overview

Microsoft Web is one part of Microsoft's world-wide intranet solution. Figure 2 illustrates the overall solution which includes the following additional components: Shared Services, centrally hosted collaboration platform and its sub components: Microsoft Windows® Server™ 2003, Microsoft SQL™ Server 2000, Windows SharePoint Services and SharePoint Portal Server 2003.

Products and Technology

- Microsoft Office SharePoint Portal Server 2003
- Microsoft Windows Server 2003
- Windows SharePoint Services
- Microsoft SQL Server 2000
- Microsoft Office System 2003
- Microsoft internal tools for taxonomy management and Best Bets and URL cataloging



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Products and Technology

- Microsoft Office SharePoint Portal Server 2003
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Achieving Information Excellence

- Finding the "Right" Information
- Finding People and What They Know
- Organizing the Intranet

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Situation

Microsoft Web is the name of the internal Microsoft enterprise intranet portal. It is designed to provide employees with intranet access to corporate information and services. These include news, an events calendar, task-specific tools, business division and regional portals, as well as group portals such as the Retail Sales and Microsoft Business Solutions Framework portals. Ninety percent of Microsoft employees use Microsoft Web at least once per month. Half of the employees have configured their Web browser so that Microsoft Web is their home page. Microsoft Web regularly indexes and provides full-text and keyword search services for more than three million documents. Total page views exceed 1.4 million per week.

Achieving Information Excellence

The Microsoft Knowledge Network Group multi-year goal is to help ensure Microsoft employees are able find the people and information required to do their jobs, trust the information they find is meaningful and relevant in the context of their work and it is retrievable in a consistent and useful form.

KNG's goals were developed in response to feedback from employee satisfaction surveys that focused on employee's Microsoft Web and the overall intranet experience. The following themes were evident in what employees had to say:

- The amount of information available on the corporate intranet was very large and diverse. But, it was difficult to determine which information was relevant based on the employee's knowledge, expertise and the context in which they performed a task. Employees could not trust that the information they found was reliable and that the knowledge they gained was credible.
- When required, it was difficult to use the intranet to determine who had relevant information, the nature of their specialized knowledge and their availability to be contacted by telephone, instant messaging or e-mail.
- There were many places in the Microsoft intranet to search for information including portal sites, team sites, file servers, applications and other information stores. There was also no consistent process for looking in those many places for information in a way that provided results with the reliability expected by employees. They needed to find similar, related and relevant information, regardless of where they started their search and the process they used to locate the information they required.
- It was a challenge for employees to determine when relevant new information was available or when the information they had already located subsequently changed.

The Microsoft Web team grouped these requirements into three objectives for focusing their subsequent design and implementation activities:

- Improve the ability to find and retrieve the "right" information
- Improve the ability to find people and what they know
- Organize the intranet and create a sense of "place"

Finding the Right Information

- Amount of information on the intranet was very large and diverse
- Taking too long to find the "right" information
- Hard to locate relevant information
- Difficult to know when information is up-to-date, accurate and complete
- Difficulty choosing the best keywords for searches

Finding the "Right" Information

Employees who used previous versions of Microsoft Web found it difficult to find the right amount of current, relevant, and authoritative information in the diverse and fast changing environment of the Microsoft intranet. Four key problems related to finding the right information:

- It took too long to find the "right" information. This was often described in terms of taking too many mouse clicks to find useful information or not being able to find the right information after spending considerable effort searching and navigating the intranet.
- It was hard to locate information and knowledge that was relevant in the context of the immediate task for an employee to complete his or her work. For example, search results often included too much unrelated information to be useful.
- It was difficult for an employee to know when they could rely on information they found on the intranet. It was also difficult to ascertain whether that information was timely, accurate and complete.
- Employees found it difficult to know the best keyword choices to use for searching because of the large number of acronyms, technical terms, project code names and product names in regular use at Microsoft.

Employees felt that it was taking too long to find contextually relevant information for the task they were trying to complete. And in some cases, they were not able to find the information or knowledge they needed. This affected business in many ways: less effective customer presentations and proposals, lost opportunities, increased costs due rework or duplicated efforts. Finally, difficulties finding information on the Microsoft intranet affected customer, partner and employee satisfaction.

Employee satisfaction at Microsoft was driven to a great extent by employees' ability to find and use technical information about company products. While two-thirds of employees expected to use the Microsoft intranet to find technical product information, employees' satisfaction was low in this regard: only 9 percent of employees were "very satisfied" with 25 percent "dissatisfied" in their ability to find technical information.

The number of mouse clicks used to find information was often considered an indication of effort and a measure of time required to find information on the intranet. Employees were particularly sensitive to this factor when they sought information about everyday tasks, like locating a building on the Redmond, Washington corporate campus, or completing and submitting an expense report. Employees wanted and needed immediate access to these types of tools and information.

Queries and searches for information resulted in many different answers, but insufficient contextual data to determine the relevance or reliability of the information that was found.

Over the course of almost 30 years, Microsoft had used approximately 12,000 different product names, acronyms, technical terms and project code names. This made it difficult for employees, especially new employees, to understand the language used by their peers, to appreciate information published on the Microsoft intranet and to determine appropriate key words when searching for information.

When the usual sources and approaches for finding information had been exhausted, employees felt that it was important to locate specialists as sources for specific types of knowledge. This was difficult because, while some specialists were located on the same team, more often than not, specialists resided on other teams, in other divisions, subsidiaries or locations in the corporation.

Finding People and What They Know

- Employees quickly look to others for information and knowledge
- Majority of knowledge lives in employees minds and their hard drives
- Company directories did not highlight the knowledge an employee contributes to the organization

Finding People and What They Know

While the large size of a company magnifies the challenge of finding the people with the best information and answers for completing a task, employees in small organizations can also find it equally challenging to quickly locate the right person among hundreds of employees.

Research analysts have found this to be true in many organizations. The Gartner, Inc. research note "The Knowledge Worker Investment Paradox", Regina Casonato and Kathy Harris, July 17, 2002, states:

"In most enterprises, an employee will get 50 percent to 75 percent of his or her relevant information directly from other people."

"More than 80 percent of the enterprise's digitized resources are not accessible to the enterprise as a whole because they reside in individual hard drives and in personal files."

"The individual owns the key resource of the knowledge economy – tacit and explicit knowledge – and most of that knowledge is lost when he or she decides to leave the enterprise."

The Microsoft experience is similar. When employees have exhausted their usual sources of information, they want to be able to quickly locate other people with the specialized knowledge needed to complete their work. The search for information or knowledge typically begins with fellow team members and local teams. It then expands into less familiar parts of the organization. Regardless of the need, whether it is content for a partner presentation or detailed technical or licensing information for responding to a request-for-proposal, time is usually scarce. And people tend to get most of their information directly from other people.

The Microsoft intranet had not been an effective place for employees to find and contact people with specific information and knowledge. The Exchange address book and internal "Org Chart" tool did not highlight the type of knowledge an employee contributed to the organization, the nature of the presentations or white papers that they created or the e-mail distribution lists and communities in which they participate. The result was that there was no consistent and reliable way for an employee to find the people that were knowledgeable about and able to help with the task-at-hand.

Organizing the Intranet

- Many places to store information
 - Too many places to look
 - Too many places to store
- Lack of a familiar sense of "place"
 - Few familiar reference points, common search tools and navigation features
- Needed a set of intranet features to reliably search, navigate and retrieve the desired results

Organizing the Intranet

The Microsoft intranet is a large, diverse and dynamic collection of portal and team collaboration sites, other Web sites, file servers and Exchange public folders. At Microsoft, control over content posted to the intranet is decentralized. Some groups have their own content creation and publishing standards while others do not. Ultimately, any and every Microsoft employee can be an author and publisher on the Microsoft intranet.

When a Microsoft employee used the previous version of Microsoft Web to retrieve information from a site, it was difficult to understand the purpose and context of the site and its information. Useful descriptive data was not readily available in terms of the identity of the organization that owned the site, site activity and currency of its information. It was difficult for an employee who was looking for information to determine the contents of a site, its primary audience, subject focus and coverage of products and technology. All of these requirements represented a problem for Microsoft employees trying to decide where to look for information.

For employees creating new documents, it was difficult to organize, relate and save information on the intranet. They faced a bewildering number and range of storage sites including personal workstations, laptops, PDAs, file servers, team sites, portal sites, archives of personal e-mail and e-mail distribution lists, as well as Exchange public folders.

Similarly for employees looking for information, they were required to access each potential storage location and document one-by-one or use the previous SharePoint Portal Server 2001 search service which indexed a relatively small number of Microsoft intranet sites.

The Microsoft intranet lacked an organized sense of "place" that enabled employees to "see the whole intranet" and navigate it with ease. Employees looking for information expected to find good quality results: similar, related and relevant information. They also expected to find familiar points of reference, search tools and navigation features, regardless of their point of entry for searching the intranet. Employees wanted a common set of permanent intranet features that made it easy to navigate the intranet, search for information and produce desired results on a consistent and reliable basis.

The challenge was to provide employees with an effective design for easy navigation and search capability on the Microsoft intranet.

Project Team Members

- Microsoft Knowledge Network Group
- Microsoft IT
- Key Internal Partners and Stakeholders
 - Business managers
 - Process owners
 - Information providers
 - Information workers
 - Microsoft product groups

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Project Team Members

Knowledge Network Group

The mission of the Knowledge Network Group is to help employees work more efficiently and effectively by providing them with the means for easy access, exchange and use of relevant information and knowledge. They are responsible for Microsoft's knowledge architecture and intranet architecture.

To this end, KNG uses a three-prong strategy for "Information Excellence" involving architecture, prescriptive guidance and leadership. Their work is focused on ensuring employees can find the right information, find people and what they know, and find their way around the intranet. Their goal is to enable a seamless experience for employees who are looking for information and knowledge.

KNG leads by example through documentation and training in best practices, taxonomy and search services, thought leadership in personal workspaces, portals, content integration and delivery, and information retrieval and discovery. KNG is responsible for maintaining a corporate taxonomy and manages it on a collaborative basis through sponsorship of the Microsoft Taxonomy Board.

Microsoft Information Technology Group

Microsoft IT is responsible for driving global operations and delivering information technology services to the entire Microsoft organization. This entails directing all activities related to running and maintaining Microsoft information systems world-wide: technology infrastructure, corporate and marketing information systems including production, distribution, and other key internal systems. Microsoft IT works to provide a world-class utility and excellence in business operations through leadership in the design and integration of the company's strategies, processes and architecture.

Microsoft IT provides a full range of services including server and end-user support, telecommunications management, network operations and information security. This role includes managing connectivity for more than 300,000 personal computers worldwide. Microsoft IT ensures that over 54,000 employees, 20,000 contractors and vendors in more than 400 Microsoft locations are able to access corporate network services and resources twenty four hours a day, seven days a week from around the world.

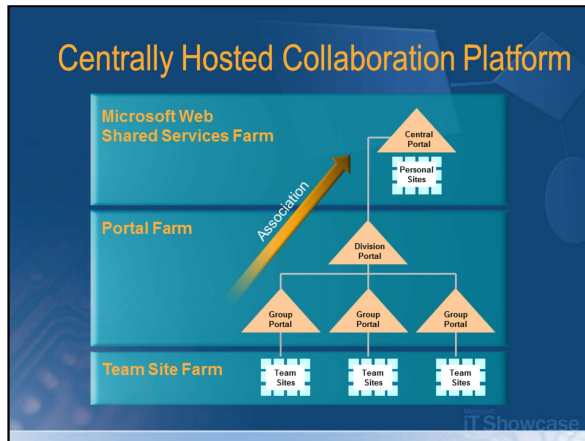
Because the primary business of Microsoft is software design, IT has a second mission that is unique among global providers. In addition to running the IT utility for Microsoft, Microsoft IT is an early adopter of the company's technologies responsible for testing and deploying Microsoft products such as SharePoint Products and Technologies, Windows Server 2003, and Exchange Server 2003, before release to customers. This process is known in Microsoft as "eating our own dog food."

Project Team Roles and Resources

The core members of the team that implemented and deployed Microsoft Web 6.0 included: one manager, for the whole team, who had budget responsibility, one lead program manager who reported to the manager and held responsibility for the program management and development teams and for their coordination, three program managers with individual responsibility for each of (i) search, (ii) people, audiences, user profiles, and taxonomy, and (iii) personal sites and custom Web Parts, and a small development team consisting of five full-time employees and outside talent with a budget of \$100,000 US for work outsourced over a 3 month period.

Additional Partners and Stakeholders

Other stakeholders in the design, development and operation of Microsoft Web included: managers responsible for strategic and fiscal results, process owners responsible for efficient and effective delivery of business results, information providers including employees who produce content that is in turn consumed by others, information workers who both consume information to complete their objectives and produce information as a byproduct of their work, and Microsoft product groups that design and develop enterprise communications and collaboration software products.



Centrally Hosted Collaboration Platform

To meet Microsoft requirements, Microsoft IT created a collaboration platform for portal and team sites based on Windows Server 2003, Windows SharePoint Services and SharePoint Portal Server 2003. The platform was made available to every network user authenticated with Active Directory® directory service to enable the rapid creation of team collaboration sites and with adequate business justifications, new portal sites.

KNG and Microsoft IT designed the platform with three types of server configurations: a team site server farm, a portal site server farm, and a third server farm configuration that hosted the Microsoft Web portal site and provided Shared Services to the other portal sites. The portal site farm provided front-end servers for SharePoint Portal Server 2003 portal sites. For data storage, the portal and team site farms each hosted their own a storage area network (SAN). One Shared Services farm was hosted in the Redmond, Washington corporate data center and provided a set of centrally managed, highly scalable, core portal services designed to be re-used across multiple portal sites and multiple-server server farms. Two additional Shared Services farms were deployed in remote data centers: one in each of the European and Asian-Pacific regions.

The slide shows a logical representation of the centrally hosted collaboration platform. The architecture was designed to support hundreds of division and group portals and tens of thousands of team sites organized in a hierarchy. Personal sites are hosted in the Redmond Shared Services farm. Team sites are hosted by an appropriate regional server farm.

The detailed design, implementation and deployment of the platform by Microsoft IT is described in the IT Showcase white paper "Deploying SharePoint Products and Technologies for Enterprise Collaboration" available at <http://www.microsoft.com/technet/itshowcase>.

Solution

- Updated knowledge architecture
- An integrated intranet portal architecture
- Shared Services – a set of re-usable, centrally managed core portal services
- A new version of Microsoft Web portal site

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Deployment

Rather than implementing a standalone, central portal for its employees, KNG used SharePoint Portal Server 2003 to create an intranet portal solution that integrated Microsoft's several hundred portal sites and tens of thousands of team sites into a single knowledge network. Creating the new release of Microsoft Web involved the design, development and integration of several key elements:

- Updated knowledge architecture
- An integrated intranet portal architecture
- Shared Services, a set of re-usable, centrally managed core portal services
- A new version of Microsoft Web portal site

The redesign and upgrade of the Microsoft Web began with the gathering of requirements and needs analysis using data from employee satisfaction surveys. Rather than move immediately from requirements analysis into design and implementation, KNG looked for opportunities to develop common standards and practices that could be shared and leveraged across other Microsoft portal sites. The result was an updated knowledge architecture and a new integrated intranet portal architecture.

The design, implementation and deployment of the Shared Services platform is detailed in a separate Microsoft IT Showcase white paper "Deploying SharePoint Portal Server 2003 Shared Services at Microsoft" available at <http://www.microsoft.com/technet/itshowcase>.

The Microsoft Web portal site was designed and implemented using SharePoint Portal Server 2003 and Shared Services and deployed on top of the Centrally Hosted Collaboration Platform.

Shared Standards and Practices

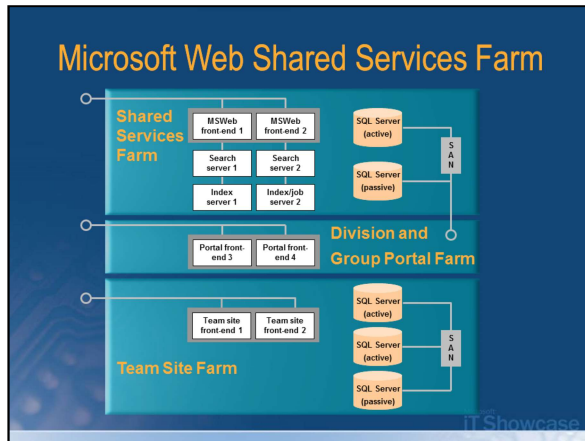
- Analyze requirements to develop common standards and practices
 - Do not move immediately into design and implementation
- Results
 - Integrated, enterprise-wide, intranet portal architecture
 - Shared knowledge architecture
 - Common set of tools and Shared Services

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Shared Standards and Practices

The need for shared standards and practices was driven by the realization that a truly effective intranet portal solution wasn't a standalone effort, but one that integrates the central portal with the vast amounts of information and knowledge already available on the Microsoft intranet. With this perspective, further requirements were identified:

- An intranet portal architecture was needed that would integrate and organize hundreds of business divisions, product groups, and regional portals, along with tens of thousands of team sites and several tens of thousands of personal sites. The architecture needed to create a cohesive information network that supported efficient navigation and efficient searching.
- A shared knowledge architecture was required that provided a controlled taxonomy of search terms that could be easily managed and re-used by other applications. Two of the best examples are the product names and geographic name taxonomies. They are widely used by many applications including Microsoft Web and Microsoft.com, the Microsoft public Web site.
- A common set of tools and Shared Services was needed for integrating functions like keyword searching, content change notifications, audience-based content targeting and user profiles into other Microsoft portal sites. Two examples of Microsoft portal sites that use Shared Services are the Retail Sales and Microsoft Business Solutions Framework portals.



Intranet Portal Architecture

The centrally hosted collaboration platform addressed the needs of teams that needed a place to work together on small team projects as well as large multi-team projects involving hundreds of employees.

The centrally hosted collaboration platform was developed to host tens of thousands of Windows SharePoint team sites as well as hundreds of internal SharePoint Portal Server 2003 portal sites. Additional portal sites addressed the needs of individual business divisions, regional subsidiaries and product groups who wanted to maintain their own identities or had additional information storage requirements.

The Microsoft Web portal site was hosted on two 1.4 GHz dual-processor front-end servers with 4 GB of memory each. The search and index servers were 2.4 GHz dual-processor servers with 2 GB of memory and 200 GB and 100 GB of hard disk storage, respectively.

The SQL Server back-end database servers that provided database support for Microsoft Web as well as the division and group portal farm used 1.5 GHz quad-processor servers with 3.8 GB of memory and 200 GB hard disk space. They were connected to a storage area network (SAN) with a capacity of 3.6 TB.

All servers that comprised the platform were based on standard Microsoft data center server configurations and received hardware support, software maintenance, patching, monitoring, and backup services.

SharePoint Portal Server 2003 includes a feature for associating portals in a parent-child configuration. There is no effective limit on the depth of the hierarchy that can be created in an intranet with a large number of portal sites. In addition, SharePoint Portal Server includes the capability to associate team sites with parent portal sites. In the Microsoft Web portal, the Site Directory was used to group together related division and group portals and team sites by subject area. These capabilities helped organize the Microsoft Web intranet portal, division and group portals as well as team sites. They provided a directory that categorized by business division, region, product, community, intended audience and subject area (search scope). The directory was easy to navigate and "organized the intranet".

Further, SharePoint Portal Server 2003 search functions supported the creation of multiple search scopes for each portal. This enabled an employee in a regional subsidiary to begin searching for information using Microsoft Web and then progressively narrow the scope of their search as needed.

Best Bets

Best Bets are hand selected results (URLs) identified as the best match for a particular keyword or group of keywords. If there is a match for the keyword being searched on in the Best Bets collection, the Best Bet is returned in search results ranked the highest score, and appears at the top of search results with a star icon next to it.

When effectively organized and managed, Best Bets greatly increased the accuracy and relevancy of search results and the Site Directory significantly eased navigation of the intranet. These two features were coupled together using a common taxonomy. This made it quicker and easier for employees to find, locate and retrieve information, saving them time while increasing their productivity.

SharePoint Portal Server Search functions provided users with a seamless, integrated navigation ability and search experience not available using Windows SharePoint Services by itself.

Shared Knowledge Architecture

- Shared corporate vocabulary
 - Collaborative company-wide approach
 - Task relevant categories, subject areas and topics
- Best bets keyword and URL management
- Search and index configuration management

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Shared Knowledge Architecture

Early versions of Microsoft Web provided the ability to search for Best Bets by keyword, but didn't combine it with its full-text search capability. Initially, there was no formal or standard approach to organizing and managing categories for classifying portal, team, personal or other Web sites. No one had created a common set of categories to classify content such as Web site links, contact information, product specifications, presentations, and other Office documents. So, a common set of categories for classifying documents, Web sites and contact information was created to help employees organize and find information.

Initial efforts to create shared corporate vocabularies began in 1998. This was followed by custom development of additional tools for cataloging and managing Web site links as Best Bets for selected keywords. The set of Best Bet keywords were managed as part of the Microsoft corporate vocabulary. KNG also began to offer search services to other internal Microsoft portal sites at the same time.

When KNG began providing "Search as a Service" to Microsoft Web and other internal portal sites, new questions emerged:

- How best to identify which content was appropriate for presentation on the central corporate portal?
- How would they improve the enterprise search and navigation process for users of the central portal as well as the business division and regional portals without large resource commitments?
- How could they help employees save time, improve their productivity and enhance the quality of their decision making?
- The project team then made the following key decisions:
 - Create a set of shared corporate vocabularies using a collaborative approach with representation from across the company.
 - Develop an approach for creating and managing a set of task-relevant categories, subject areas and topics useful in organizing knowledge and information needed for every day tasks.
 - Analyze queries and requests for information recorded in Web server logs, and library and help desk records to determine frequent questions and to formally catalog the document URLs for common answers as "Best Bets".
 - Locate and index a larger proportion of Microsoft intranet sites.

The Microsoft Knowledge Network Group learned the following based on their experience designing and implementing Microsoft Web:

- Executive sponsorship is necessary in efforts to create an enterprise-wide taxonomy.
- Taxonomies require support in the form of database and other software tools. For simple vocabularies and thesauri, a spreadsheet may be sufficient for tracking and managing changes. But for more sophisticated taxonomy requirements, a third-party or in-house developed application may be necessary.
- Enterprise-wide taxonomies are best managed by a "taxonomy board" involving representatives from across the company who create and manage content.

SharePoint Portal Server Shared Services

- Centrally managed, highly scalable, core portal services
 - Search, notifications, audiences, user profiles and single sign-on
- Re-usable across hundreds of portal sites
- Deployed in parallel with Microsoft Web
- For more details, read
 - *"Deploying SharePoint Portal Server 2003 Shared Services at Microsoft"*

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Common Set of Shared Services

Based on the SharePoint Portal Server 2003 Shared Services architecture, KNG designed and deployed Shared Services, a set of centrally managed, highly scalable, core portal services designed to be re-used across multiple portal sites and portal server farms. Referred to as Search, Notifications, Audiences and Profiles at Microsoft, Shared Services provides a company-wide capacity for content indexing, full-text and Best Bets keyword searching, automated user notifications based on new or changing content in the intranet, audience specific targeting of content on portal pages as well as searchable user profiles and My Site personal sites. Shared Services were made available for use by site administrators who wanted the benefits of using a Shared Services environment.

Shared Services were deployed in parallel with the implementation and deployment of Microsoft Web, the showcase portal site for Shared Services. Shared Services provided a common and consistent experience for employees to search for information, subscribe to alerts, receive notifications and look for people with specialized information and knowledge. Shared Services were adopted for use by administrators of more than 300 portal sites at Microsoft.

Shared Services provided an essential element in a platform upon which the Microsoft Web was built. Details of the design, implementation and deployment of the Shared Services platform are described in the IT Showcase companion white paper "Deploying SharePoint Portal Server 2003 Shared Services at Microsoft" available at <http://www.microsoft.com/technet/itshowcase>.



The New Version of Microsoft Web

Microsoft employees experience the Microsoft Web portal through what they see on the Microsoft Web home page and the information, tool and site links that appear on this page.

The Microsoft Web home page is the home page for a SharePoint Portal Server 2003 portal site. It is rendered as a SharePoint Web Part Page using ASP.NET technologies both for the page itself and for the individual elements of the page. Using ASP.NET enabled SharePoint portal and team sites to work with substantially increased performance, stability, and security made possible by using Windows Server 2003, SQL Server 2000 and the Microsoft .NET Framework.

Most of the Web Parts on the Microsoft Web home page are standard features included with SharePoint Portal Server 2003. In addition, a number of custom Web Parts were created using the Microsoft Visual Studio® .Net development system, ASP.NET and the SharePoint Products and Technologies Software Development Kit (SDK).

The slide lists selected components that were used to customize the Microsoft Web intranet portal site. The list includes both the name of the component and the enabling technologies and services used in its implementation. Additional information is then provided about each of the key Microsoft Web features, its implementation and the problems addressed by each of them.

Deploying Microsoft Web

- Beta deployed in parallel with previous release of Microsoft Web
 - Beta testing by Microsoft employees
- My Site personal sites launched and promoted separately
 - 23,000 employee personal sites
- Employee feedback survey 90 days after launch

Deploying and Releasing Microsoft Web

Deploying and releasing the new version of Microsoft Web to Microsoft employees followed a standard pattern. Internal testing by the Microsoft Web team was followed by beta testing by Microsoft employees. The URL for the previous version of Microsoft Web was <http://msw> and the URL for the new portal was <http://msweb>. The two portals continued to operate in parallel during the beta testing period. When beta testing of the new Microsoft Web was complete, the operation of Microsoft Web moved into a normal phase of production.

The project team observed that a significant number of employees mistyped the portal URL and used the new portal during its development and testing because the central portal is known by several different names including MSW, MSWeb and Microsoft Web. To minimize problems in this regard, a Web Part was added to the pre-release home page to explain the situation.

The new Microsoft Web central portal was launched and promoted separately from the My Site personal sites. Personal sites were originally launched as part of the centrally hosted collaboration platform. With very little promotion, the initial My Site launch resulted in approximately 15,000 employees visiting their new personal sites. The initial design of personal sites was refined based on initial feedback from users. A subsequent internal awareness campaign drove the number of personal sites to over 23,000.

Ninety days following the launch of the new Microsoft Web, employees were invited to participate in a world-wide survey that focused on their satisfaction with finding the right information; finding people and what they know; and how portal, team and personal sites help improve the organization of the Microsoft intranet. The data from this survey was then used to develop a new set of focus areas, an updated set of shared portal standards and practices, improvements in the deployment of Shared Services and revision of the Microsoft Web intranet portal.

Business Value

"The Microsoft Web portal and intranet strategy is based on the concept of the connected enterprise: seamlessly connecting organizational knowledge, ideas and expertise.

Microsoft Web provides employees with the ability to easily connect with other individuals, teams, groups and the enterprise in a virtual way – without having to physically gather the company's information and knowledge into one physical site."

Mary Lee Kennedy, Director
Knowledge Network Group
Microsoft Corporation

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Microsoft Web provides employees with the ability to easily connect with other individuals, teams, groups and the enterprise in a virtual way – without having to physically gather the company's information and knowledge into one physical site."

Mary Lee Kennedy, Director
Knowledge Network Group
Microsoft Corporation

The Microsoft Web team delivered a significantly improved intranet portal solution that increased the efficiency and productivity of Microsoft employees while reducing the cost of managing a large enterprise intranet portal solution. The team accomplished this by:

Making it easier to find information that is relevant to the task the user is working to complete.

When required, making it easier for employees to find people who are specialists in the type of knowledge being sought, making it easy for them to locate contact information and if necessary, make direct contact by telephone, instant messaging or e-mail.

Rather than simply creating a standalone enterprise employee portal, the Microsoft Knowledge Network Group team developed a set of shared portal standards, practices and services that could be leveraged across hundreds of internal portal sites on the Microsoft intranet. The integrated intranet portal architecture was based on SharePoint Products and Technologies. And it enabled users to easily access, search and navigate the many portal sites, tens of thousands of team sites and more than 23,000 My Site personal sites.

The use of a corporate taxonomy was viewed as a best practice for organizing several related elements of the Microsoft Web portal. Features included Best Bets, site creation and registration, intranet Site Directory, Glossary Lookup and customized user profile data. Significant benefits were derived from the ease in which the existing Microsoft taxonomy and tools were integrated with SharePoint Portal Server 2003 to create Microsoft Web 6.0.

Business Benefits

- Increased employee efficiency and improved productivity
 - Employees were able to find more contextually relevant information in less time
- Ability to make more informed decisions
 - Fewer lost opportunities, less rework and greater customer satisfaction
- Reduced costs of developing, deploying and managing an enterprise-wide intranet portal solution

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Business Benefits

Increased employee efficiency and improved productivity as employees were able to find more contextually relevant information in less time

- Search scopes and Advanced Search made it easy for employees to broaden or narrow the range of information they searched.
- Tasks and Tools topic areas allowed employees to save time finding work-related information, with an average of three mouse clicks.
- Additional descriptive information was collected during portal and team site creation so that users could find related sites in the Site Directory.
- People Finder provided a quick and easy means for employees to find people, locate their personal site and retrieve related organizational and contact information.
- Taxonomy-based approaches to URL catalog management and organizing the Site Directory for tens of thousands of sites provided employees with an efficient means and consistent experience when looking for sites related to a particular technology or topic.

Ability to make more informed decisions resulting in fewer lost opportunities, less rework and greater customer satisfaction

- Greatly improved ability for employees to find and use technical information about Microsoft products.
- New features in the intranet that helped employees discover and consume external news about Microsoft and its businesses.
- Greater trust by employees in the information and knowledge found through the new portal because information was delivered along with indication of its currency, author and local context.

Reduced costs of developing, deploying and managing an enterprise-wide portal solution

- Ninety percent of the functionality of Microsoft Web was delivered using existing features of SharePoint Portal Server 2003. Using existing features had secondary benefits of (i) simplifying the upgrade process for future releases of SharePoint Portal Server and (ii) allowing development resources to be targeted at the higher value and customized features specific to the needs of the Microsoft intranet user.
- For those cases when custom developed Web Parts were implemented, costs were reasonable. The custom Popular Searches Web Part cost approximately \$1,000 US to design and implement.
- Using the Shared Services approach to implement and deploy common core portal services allowed costs to be amortized across hundreds of portals sites in the Microsoft intranet.
- SharePoint Portal Server 2003 offered significant value as a platform with existing support for many functions including: the amalgamation of large numbers of portal and team collaboration sites into an integrated intranet portal solution; the provision of alternative ways to organize and classify information in addition to full-text search such as portal areas, topic areas, Site Directory and Best Bets; and the capacity to scale up and support tens or hundreds of thousands of intranet sites while supporting people as first class entities in the portal architecture including user profiles and personal sites with customized content.

Lessons Learned

- View goals in terms of organizational opportunities and an integrated intranet solution
- Develop internal partnerships early
- Gather input, feedback and validation from users and other stakeholders
- Remain aware of general industry and technology
- Availability of a corporate taxonomy

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Best Practices

- View goals in terms of organizational opportunities and an integrated intranet solution. Don't just look at an isolated requirement for a standalone portal when needs can be observed in terms of multiple and diverse portals throughout the enterprise. Follow requirements gathering and analysis phases of work with efforts to develop a set of standards and practices appropriate for use throughout the organization.
- Develop internal partnerships early. Recognize the different types of partners who are necessary to ensure success at each stage of the project. Involve traditional information providers such as personnel from the corporate library or records management departments. Also consider additional stakeholders and participants, exercising balance in control when making decisions.
- Gather input, feedback and validation from users and other stakeholders as a regular part of the development cycle. Web-based survey tools such as those provided with Windows SharePoint Services are indispensable for employee feedback.
- Remain aware of general industry and technology trends as well as the relative position of your organization as an early adopter, mainstream or late-entry user of technology. Only implement technology that can be adequately supported by your organization and its partners.
- Lastly, a key "best practice" for this project was the availability and management of a corporate taxonomy that helped to organize several related elements of the Microsoft intranet experience and make them consistent: keyword Best Bets, site creation and site registration, Site Directory organization, customized user profiles and personal sites.

Summary

- SharePoint Portal Server 2003 was used to significantly improve Microsoft Web
- Key improvements
 - Easier for employees to find information that is contextually relevant to the task they were working to complete
 - Easier for employees to find people who are specialists in the type of knowledge being sought
 - Able to reduce the overall costs of managing and operating its enterprise intranet portal
- Rather than creating a standalone enterprise portal, Microsoft succeeded in delivering an intranet portal solution that significantly increased the productivity of its employees

Summary

Microsoft used pre-release versions of Microsoft Office SharePoint Portal Server 2003 to significantly improve its employee-facing enterprise intranet portal.

The process was driven by a commitment to fully deploy new versions of its products inside the company before making them generally available to its customers.

The Microsoft Knowledge Network Group (KNG) worked in conjunction with the Microsoft information technology group (Microsoft IT) and SharePoint Portal Server product group to redesign Microsoft Web, the company's enterprise intranet portal, based on well-researched employee needs, business goals and the latest release of Microsoft SharePoint Products and Technologies.

The key areas of improvement in the Microsoft Web enterprise intranet portal included:

- Finding the "right" information
- Finding people and what they know
- Organizing the intranet

Rather than simply creating a standalone enterprise portal, the Microsoft Web team succeeded in delivering an intranet portal solution that significantly increased the productivity of Microsoft employees. The new version of Microsoft Web made it easier for employees to find information that is contextually relevant to the task they were working to complete. The enterprise intranet portal solution also made it easy for employees to find people who are specialists in the type of knowledge being sought as well determine their availability for contact by telephone, instant messaging or email. Last, Microsoft was able to reduce the overall costs of managing and operating its enterprise intranet portal.

Summary

Achieving Information Excellence

"Employees are able to find the information, knowledge and people they need and don't have to worry about where they are located. SharePoint Portal Server 2003 provides these capabilities and enables us to go further."

Mary Lee Kennedy, Director
Knowledge Network Group
Microsoft Corporation

Summary

Achieving Information Excellence

"Employees are able to find the information, knowledge and people they need and don't have to worry about where they are located. SharePoint Portal Server 2003 provides these capabilities and enables us to go further."

In the next release of Microsoft Web, we will be able to embed the virtually connected organization we have today into each person's personal and team workspaces. We will enable employees to connect to the information and knowledge they need from any place they choose do their work."

Mary Lee Kennedy, Director
Knowledge Network Group
Microsoft Corporation

For More Information

- Additional content on Microsoft IT deployments and best practices can be found on <http://www.microsoft.com>
 - Microsoft TechNet
<http://www.microsoft.com/technet/itshowcase>
 - Microsoft Case Study Resources
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About Microsoft IT Showcase

Microsoft IT Showcase is a collection of key business applications, deployment strategies, early adopter experiences, best practices and leading-edge initiatives direct from the Microsoft IT organization.

IT Showcase features case studies, white papers, presentations and multimedia presentations that illustrate internal business applications, product deployment experiences and other key IT initiatives being implemented within Microsoft.

Microsoft IT's Experience

Early adopter: Microsoft IT is often the first to implement new Microsoft® products in a production environment - and to develop line-of-business applications based on Microsoft technologies. Knowing what challenges we've faced and how we dealt with them can help you as you plan and execute similar projects.

Large-scale deployments: Microsoft IT oversees worldwide deployments, both of Microsoft's products and those of other vendors. The issues we have to deal with and the lessons we learn along the way can help you as you gear up for your own large rollouts.



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