



by Burt Floraday of Onward Technologies

Microsoft SharePoint

Planning, Deployment and Management

Why Sharepoint? To improve firm efficiencies. SharePoint can be used for collaboration (client extranets, practice area-specific sites for targeting information, matter-specific sites to collaborate across practice areas or office locations), integration of firm applications and data repositories (launching pad for client matter management, firm directory, CRM, records management) and as a central data repository for firm information (news, forms). Once your firm has decided to move forward on a SharePoint implementation, the success of the project could hinge not only on your knowledge of the features and tools available but on some of the tips and techniques presented here as well.

The Relationship Between Windows SharePoint Services and SharePoint Portal Server

When initially considering a SharePoint implementation, there is often confusion about the differences between Windows Sharepoint Services, SharePoint Portal Server and what each provides.

Collaboration summarizes what Windows SharePoint Services (WSS) provides — an environment in which a group of people can work together on a specific project. That project might be the annual review of benefits including the revision of the benefits manual, or it could be creating new marketing collateral. There are certain activities and characteristics that all projects involving multiple people have in common: tasks are assigned, documents are created, reviewed and revised (multiple times), and issues are researched and resolved. Windows SharePoint Services provides an environment that allows this type of collaboration through a Web-based user interface that provisions each team with a set of lists that are used with tasks, documents, issues, etc. It also provides a set of libraries and virtual locations called workspaces which can be used for document collaboration, all residing in a Microsoft SQL Server database. Finally, it has the capability to provide “presence” information much like that provided by the many “messenger” tools used on the Internet today. Think of the *scope* of WSS as a small team or department within the firm. Think of the *duration* of the sites used in WSS as near the temporary end of a temporary-permanent scale.

Aggregation summarizes what SharePoint Portal Server (SPS) (as a complementary application to WSS) provides — a number of important features including navigation menus and pages, the ability to categorize hyperlinks in multiple ways, a flexible search facility that is adaptable to changing firm needs, and personal worksites that provide an individual with the same organization and management capabilities for their own work product as a department or team has with WSS. At some point, the work product found in WSS will become “more static” (e.g., used for reference or background). This is not to say that all SPS content remains fixed; SPS provides the same lists and libraries that WSS does. It is, however, firmwide in its scope and generally modified less frequently. Think of the *scope* of SPS as the entire firm. Think of the *duration* of the sites used in SPS as near the permanent end of a temporary-permanent scale.

Business-Related Planning

Keep the business drivers foremost. Whether you want outside e-mail attachments to be placed in a document library automatically, reduce e-mail because of new e-mail retention policies or any number of other reasons, keep the business drivers foremost as you proceed in your planning. SPS and WSS provide so many features and capabilities that it is easy to lose sight of the original business objective. The one factor that most unsuccessful projects have in common is loss of focus.

Understand what you have. Make sure you know what SharePoint is and more importantly, what it is not. It is not a document management application. Also, it does not provide user-implemented, flexible workflow out-of-the-box. What SharePoint does provide are the features we have just summarized (team or department collaboration, search) in an environment that allows departmental staff to create and manage their own sites and control access to those resources without requiring the services of the IT department.

Think in terms of constituent pairs. When determining what you need and how you will use SharePoint, think in terms of three sets of complementary pairs:

Public/Private — SharePoint provides users a shared or public view of site and portal content and also provides a Personal or Private view which augments the public view by allowing additional functionality.

Lists/Sites — Everything users see and use in SharePoint is either a list (documents, tasks, people) or a site (HR site or Benefits Admin within HR or the firmwide portal).

Files/Database — SharePoint provides its look and feel through templates and its functionality through Web Parts. Files installed with SharePoint provide these. Browser modifications and all content are stored in SQL Server databases.

Make a conscious decision about whether SharePoint will be used formally/required or informally/optional. Understand that informal/optional use makes measuring the results of implementation more difficult, not to mention measuring the actual achievement of business objectives. If the implementation is formal/required, will that include defined procedures? If so, each department or group will need to define its own processes and likely need specialized site and list templates and exported Web Parts.

Include a proof of concept or pilot in the project plan. In order to determine how SharePoint will be used, where it can benefit the firm most and what issues need addressing during customization and deployment, you need to have information from users. Be sure to choose a representative group for the proof of concept or pilot.

Systems-Related Planning

One of the most important steps in planning for any new application or system is determining what will be necessary from the system perspective. All of the infrastructure items fall in this category, and getting it right the first time is essential. There are a number of items you need to consider when undertaking this aspect of the planning.

Fully know your data storage requirements. Storing documents in a document library is only part of what determines data storage requirements. Simply taking the sum of all space occupied by the documents to be moved to the portal and multiplying by some reasonable factor will likely result in an undersized storage system. Additionally, site indexes will contribute to storage/size requirements. You need to understand what will be indexed and how large the index catalogs will be.

Determine external access requirements. Find out if external persons or organizations will have access to some parts of the portal(s) structure (you will probably need multiple HTTPS virtual servers). What access from outside the firm's internal network is required for employees? What existing system security measures are in place that must be accommodated?

Decide if multiple portals will be required initially or shortly after deployment. Implementing multiple portals, either now or in the future, can have an effect on the physical configuration and the structure of portals, areas and sites. Shared services can be turned on easily when needed and do not need to be implemented initially. However, planning for the contingency is important so that restructuring is not necessary.

Determine what additional SharePoint Portal Services features are going to be enabled. The list below includes a few of the configurable

features of SharePoint Portal Server. Some of these are disabled by default because they have an impact on performance. You need to be certain that the server(s) you slate can handle the load.

Exchange Public Folder Forwarding

Event Handling

MySite

Audiences and Targeting

Single Sign-On

Understand Microsoft Office version limitations and plan accordingly.

Many firms have not yet upgraded to Office 2003. Both the Office 2000 and Office XP versions are limited in their integration with SharePoint, with Office 2000 having the most limitations. Note that versions earlier than Office 2000 do not integrate at all. Microsoft has a document titled *Good, Better, Best*, which describes the differences among these versions as they relate to SharePoint. It can be found at <http://www.microsoft.com/office/sharepoint/prodinfo/officeintegration.msp>. You need to consider these limitations when planning your deployment.

You must absolutely plan how you will handle your testing, training and recovery requirements as distinct environments from your production system. All three of these are important for planning, but of the three, the most important is recovery. Understand what must be recovered and, therefore, backed up. Make sure you understand the appropriate backup and recovery tools and procedures and the strengths and limitations of each. Create a data recovery plan while customization and branding is being done, then test and practice your plan. If you don't have your IT team test and practice the recovery procedures, how do you know if they will work and how long they will take?

One of the most important steps you can take with regard to the previous point is to investigate the use of a virtual machine to provide you with a test, training and recovery environment.

Deployment

Should you implement SharePoint Portal, SharePoint Services or both? The decision to implement one or both of the primary SharePoint products is an important one and establishes the basis for the remaining implementation activities. Windows SharePoint Services site collections can be associated with an SPS portal after the fact, so the ultimate implementation of SPS need not drive this decision. Perhaps the most frustrating aspect of a Services-only implementation is the search limitation since it is specific to the site or subsite from which it is executed and does not include any other sites in the hierarchy. If this is going to be an issue with the users, include Portal Server implementation from the beginning.

Use Active Directory (AD) as the security architecture; use cross-site groups only when really needed. SharePoint adds a level of application security through rights assignments using groups of role-related rights called site groups. Site groups are groups of *rights*, not groups of individuals. Cross-site groups represent groups of people. These latter groups can be given rights, and it is tempting to do so. But this creates a duplicate security architecture in many cases and can complicate security administration. Use AD groups to give rights to groups of people. Often the objection, "But I can't see individual user information, only

group information,” is heard. This can be addressed by changing the user information once any given user has visited the portal.

Brand the portal and sites before deployment begins. Once significant usage is underway, a number of activities related to branding and appearance become more difficult, if not impossible, without unghosting pages (creating a new file version in the content database that overrides the ghosted file on disk). Widespread unghosting, which impacts performance and has a significant impact on maintainability, can be avoided by branding before deployment.

Consider differentiating Windows SharePoint Services sites from the portal and portal areas (even portal lists). WSS and SPS are different “applications,” yet Microsoft has done such a good job, in most cases, of visually and navigationally integrating them that it is difficult for most new users to determine whether they are in WSS or SPS. This is especially true for site collections accessed through a portal. In addition to branding, consider changing the look so that it is easy to know where you are. If you have run a pilot or proof of concept, you should have information to determine if this differentiation (a visual “cue” for their location) is important for your users.

Search and indexing specific considerations. Ensure search and indexing are supported in your intended configuration. There are some configurations in which search must be sited on a separate physical server and as a result, indexing as well (requiring two servers). Enable Advanced Search Administration Mode as you have so much more control and flexibility for indexing and the ability to exercise more control over search results. Don’t use the default indexing schedules only. There are only three indexing schedules, and they will probably not yield the kind of search results you want.

Create a customization matrix. Identify what types of department-executed customizations will be supported, what types of customization will be managed and performed by the technical staff and what type of customizations will need committee approval. Publish this information, and educate staff. Consider a plateaued approach to managing FrontPage-based customization by: controlling who has it (good); monitoring its use via tools like the Ghost-Hunter (better); and locking out FrontPage (best).

Adopt a “copy and modify” philosophy. Microsoft does not support certain modifications to the files used by SharePoint, (*e.g.*, site definition modifications), but creating new site definitions is supported. You can modify the default site groups as well as add new site groups; security policy files can be modified and new ones can be created; existing virtual directories can be used and new ones can be created. In almost every situation, it is better to leave all items provided by Microsoft unmodified and instead create new items. Consider establishing this as a basic philosophy and following it as a discipline. The benefit will be more control over the effects of upgrades, service packs and backup and restore operations. Additionally, differential application of customizations is possible.

Ongoing Maintenance and Use

Once your SharePoint deployment is complete and the firm’s employees are using it on a daily basis, you need to constantly monitor the system. One of SharePoint’s real strengths from an IT perspective is that the

control of what is fundamentally a centralized application is largely in the hands of the business departments. But this strength is the proverbial double-edged sword. There are many ways for well-intentioned, business-oriented users to slow performance and greatly increase disk space requirements unknowingly. The indigenous SharePoint roles of site administrator and Web designer, which in many deployments are fulfilled by business department staff, possess many application rights. These include the right to create new areas and sites, control access to the portal and all its content, control metadata associated with documents and the various lists provided by SharePoint, modify the contents and layout of the SharePoint pages including adding or removing approved Web Parts, to name a few. The beauty of this is that there is little burden placed on the IT department in terms of keeping SharePoint in step with the business needs of the firm. The danger is that unless the IT department proactively monitors the system, it is likely that performance and resource issues will eventually arise, making themselves known in a very visible manner. The burden in this case then shifts to the IT department.

Make sure users are using document metadata, but monitor that use. The metadata attached to documents and lists contained in the portal are useful in setting filters and searching. If you have carefully identified and created the metadata fields, your users should be using them. It is possible to make specific pieces of metadata required, although it is unlikely that all metadata should be required. Site administrators and Web designers can add new metadata, either required or optional. As a rough approximation, five new document properties would add about six percent additional overhead to the file size of a 100KB document. The properties are customizable on a library-by-library basis. Over-adoption of this capability could generate significant additional space requirements.

Ensure that versioning is enabled only for those libraries that need it. Every save operation essentially stores another copy of the entire document in the database if versioning is enabled. Again, it is easy to see how a well-intentioned site administrator could unknowingly drive up the size of the database significantly.

Make sure users of the system are getting the most out of SharePoint’s integration with Office 2003. There are a number of obvious features and just as many lesser-known. Did you know, for example, that SharePoint portals can be added to the list of search locations in the Research Pane? Could your users benefit from the Spreadsheet View of a list and more importantly, the Tool Pane available in that view?

Establish an “Intensive Process” procedure in conjunction with site administrators and Web designers. Consider publishing this procedure on the portal for all users. There are certain SharePoint operations that can be very intensive, such as renaming areas or folders or uploading a large number of documents. A procedure that outlines the potential impact of these operations and how to coordinate their execution with IT can go a long way toward eliminating potential problems such as insufficient transaction log capacity.

Monitor the number of user alerts, especially alerts on searches. Each search alert consumes about four times the memory of nonsearch alerts, roughly 2KB per search alert. Additionally, the persistent query

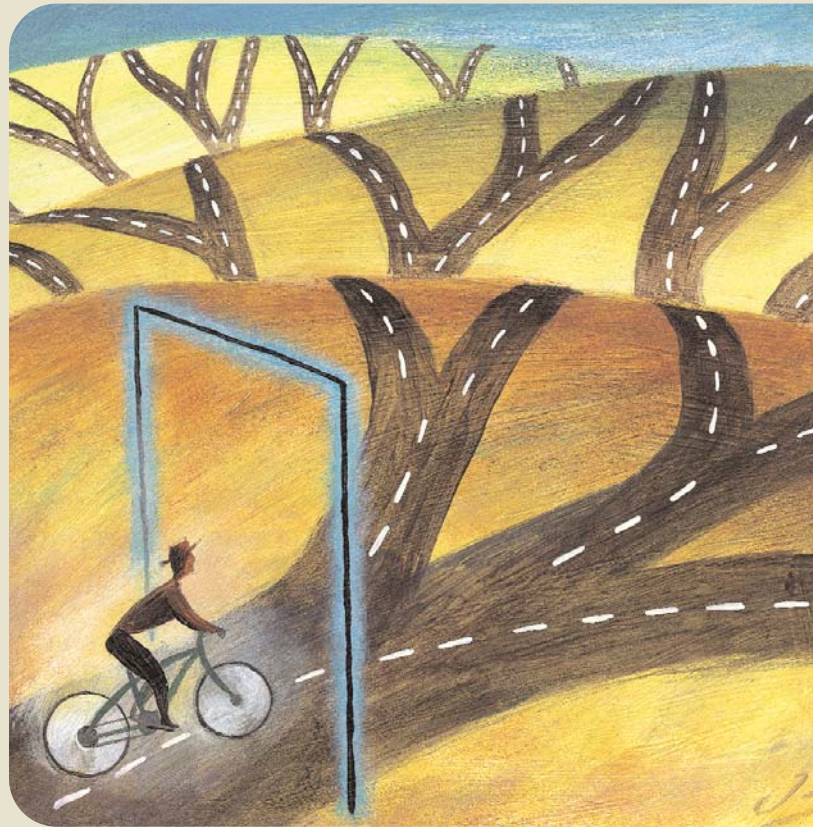
engine has to process these with every update to the index, thereby affecting the indexing operation.

Use the SharePoint Configuration Analyzer. The SharePoint Resource Kit contains a number of tools and utilities. The Configuration Analyzer, while unsupported by Microsoft, is a very useful tool which provides valuable information about the portal (*e.g.*, which pages contain a given Web Part, the web.config file contents, SharePoint and IIS log files) in one convenient, easily-used tree view window.

Improve search results by configuring the search and index services. There are many ways to improve search results without enhancing SharePoint Search with code, even though at some point you might decide to do so. Search Scopes, Content Sources, best-bet keywords, and the noise word and thesaurus files are some examples. If you have not modified the last two, you can improve your users' search experience by reading up on these files and how they are used.

Leverage stsadm.exe. This command line tool can perform all the Web-based Windows SharePoint Services administrative functions and more, and is scriptable. Invest the time to create scripts for the administrative tasks your IT department performs frequently. The whole firm will benefit.

By considering these features, tools, tips and techniques, you will better position your SharePoint implementation for success.



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