Understanding SharePoint

Microsoft is taking its embracement of intranets and collaboration to new heights with SharePoint, which allows workgroups to operate via public or private Web sites.

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SharePoint is Microsoft's response to the notion that intranets provide an inadequate medium for workgroup collaboration and team project management. Typically such people require a combination of email and voice mail, shared documents both for shared review-and-edit purposes and for archival reference, and probably references to Web sites too.

Microsoft argues that this sort of collaboration cannot provide the team with an overall view of a project. Intranets almost hit the mark, but they do demand new skills from team members and a lot of new IT competences and support. More to the point, intranets tend to be a one-way communications medium - the organisation processes information through a formal and centralised publishing process that becomes a real bottleneck for more dynamic, free-form information or the kind of collaborative, iterative work that most projects involve.

Definition

In practice SharePoint Team Services is a straight replacement for Office 2000 Server Extensions. But it's easier to use and it makes fewer demands on users, administrators, and configuration requirements.

Basically SharePoint installs a preconfigured Web site and related services, all designed to allow participants to manage group activities easily and work together effectively. The SharePoint site can be accessed on a local server or via the Internet. It requires either a server running Windows 2000 SP2 and IIS, or an ISP that supports SharePoint. Users will also require Office XP in order to make best use of SharePoint, as it integrates neatly with the 2002 versions of the Office apps.

SharePoint Team Services is built on FrontPage Server Extensions, and includes all of the features found there. It goes rather further, though, for the architecture also includes a database component (SQL Server or MSDE) to support new features such as Web document discussions and document libraries for sharing information and communicating within a team. By using the basic preconfigured template, a new team site can be created in minutes once SharePoint Team Services has been installed on a server. Incidentally, SharePoint sites can be viewed with Internet Explorer 4.0 or later, or NetScape Navigator 4 or later. But because of the way SharePoint handles authentication, only Internet Explorer can be used to log into it.

The Team Web Site

The basic site template provides a home page, shared document library, general discussion boards, and shared areas for contacts, events, and team tasks. Team members can contribute to any of these pages using only Internet Explorer (version 4.0 or later, though importing requires 5.5) by filling out forms that populate the built-in list templates with relevant information.

Lists

There's a Lists button on the home page for this. Clicking that will itemize all the existing lists and also included a New List option. It's easy enough to add new lists (which can be based on one of the existing built-in lists or created from scratch - most simply by importing an Excel 20002 spreadsheet table). All the lists can also be customised to some extent.

The preconfigured lists cover Events, Links, Announcements and Tasks. The first three of these also have a direct-access Add New button on the home page and a summary of the Events, Links and Announcements lists appears by default on the home page. Event information can be exported directly into Outlook 2002.

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When you create a SharePoint event list, the calendar view might well be the most useful option for providing an overview of what's going on. Unfortunately calendar view can't be specified as the default view from within the general settings of the event list in the browser. There is a workaround described in the Microsoft KnowledgeBase article Q288227 which involves opening the Web in FrontPage, selecting the event list in question, and selecting calendar.htm in the Default view page list.

Surveys

Surveys provide a way of polling team members on specific issues. There's no built-in survey, but it's easy enough to produce one - the survey's author simply presses the Create button, selects Survey, and then specifies the questions and defines the type of response. Results can be displayed graphically or exported to Excel 2002 for analysis.

Discussion Boards

Discussions are recognized as a sensible and structured alternative to widely distributed email threads. Clicking the Discussion Boards button on a SharePoint home page and selecting a particular discussion (or creating a new one) enables team members to post their own comments and reply to others. The site starts with one built-in discussion board called General Discussion.

Document Discussions

This feature enables team members to attach comments to a Web page (or indeed any document that can be opened with a browser). Comments appear with the document but are actually stored separately and do not alter the source file.

Document Libraries

The site comes with a built-in document library named Shared Documents, and it's simple to create new libraries. Team members can add documents to a particular library via the File Save dialog in Office XP applications. It's also possible to use the browser - click Documents in the top link bar, select or create a document library, click Upload Document and browse to an existing document on your hard disk or network. Documents are indexed automatically, and there's a Search button on the home page for text-based searching across document libraries.

Subscription

A team member can subscribe to email notification for any changes made to the content of the SharePoint site. On a page that displays a list, document library, discussion board or survey, there will be a Subscribe button. Clicking this brings up a menu of available content. There's also a Notify Me When... box, used to select the conditions under which the user wants to be notified of changes. The Web server sends notifications on a scheduled basis rather than simply whenever a change is made. The subscriber also selects the frequency of these notifications.

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Subscriptions can be set up or cancelled at any time. This can be used to get over one obvious omission in SharePoint Team Services - there is no simple way to alert a user when a new task has been assigned to them. The workaround is to create a new Task List for each individual user. Each user can then subscribe to their respective Task List. When a new task is assigned, and placed in that Task List, the user will be alerted via email.

Implementation Issues

There are some constraints that reduce the appeal of SharePoint. It is definitely not an enterprise-scale tool. Microsoft suggests a single Web server will be able to host no more than 1,000 virtual roots.

Migration will require some care too. Each virtual server for SharePoint uses its own SQL database, and subwebs on a virtual server share the database with the parent Web. There are some shared tables too. It is not possible to "promote" a subweb site to the root level; you have to move whole sites at a time from one Web server to another. Most important in practical terms, full functionality of SharePoint sites requires Office XP on the client. It is possible to use a SharePoint site with no apps other than the browser, but you need Outlook 2002 and Excel 2002 for importing and exporting of contacts and lists. FrontPage 2002 is required to edit SharePoint based sites, too.

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Office 2000 users will not be able to create new documents or edit existing documents via the SharePoint site (to amend a SharePoint document the user will have to download the thing, edit it locally and save it locally, and then upload it again - and that will probably throw out the revision details stored within SharePoint). Non-Office files can however be stored in the document libraries, and any of these could be downloaded, amended, and uploaded again assuming users have the appropriate software.

SQL Server

The standard SharePoint Team Services installation will attempt to connect to a local installation of SQL Server (version 7.0 or later). If it cannot find SQL Server it will automatically install the Microsoft Data Engine, a cut-down version of SQL Server. The MSDE route is a convenient out-of-the-box solution that requires no specialist SQL Server knowledge. This makes it appropriate for the smaller installation, especially as MSDE will reside on the same server as SharePoint Team Services and therefore speed up database accesses.

But using proper SQL Server has a number of significant advantages. MSDE has no built-in management tools so performance tuning is difficult at best - you will have to use the SQL management tools. With SQL Server, SharePoint data can be administered alongside data in other databases with no additional administration processes. SharePoint data will also be protected by the existing SQL Server backup strategy. There are performance gains too. Because MSDE is an embedded product, its performance is restricted. Using SQL Server on its own server allows the SharePoint Team Services server to devote all of its resources to the immediate tasks of serving up pages and files.

The two drawbacks of using SQL Server are that it has to be maintained separately from SharePoint Team Services and that it requires that all data travel over the network to and from the database.

Microsoft offers no specific formula for determining the size of a SharePoint database. Metadata content means, for instance, that 10 1 MB documents will probably need more space than one 10 MB document. It's difficult to forecast the volume and type of discussion content, too, and resource-consuming subscriptions will vary from one list to another. But as a rule of thumb, the disk space taken up by documents will be about four times the size of the database. So if a site has 100 MB of content in its document libraries, the database will be approximately 25 MB.

Installing SharePoint Team Services

SharePoint Team Services will be found on Office XP CDs containing FrontPage 2002 (and on the solo FrontPage 2002 CDs) - it will be in a directory named \SharePt. The installer is SETUPSE.EXE. Once SharePoint is installed, you must "extend" the virtual server - extending is simply the process by which SharePoint Team Services is applied to the virtual server - by using the SharePoint Administration page. It should be open after an install. You can always fire it up by clicking Start/Pro-

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	Team Services	Portal Server
Core Function	Ad hoc information sharing	Enterprise Search
Web Site	Team Web sites	Portal Web sites
	(5-75 users)	(75+ users)
Search Capabilities	Documents within team Web site and sub Webs	Across multiple servers and data types
Discussion and Notifications	• Discussions • Notifications • Surveys	• Discussions • Notifications
Customization	Browser-based, Microsoft FrontPage version 2002, and SDK	Web Parts and SDK
Document Management	• Publishing	• Check-in, check-out • Versioning • Routing • Publishing
Client Applications	Browser, Office XP, FrontPage 2002	Browser, Microsoft Windows Explorer, Office 2000 or Office XP
Roles-based Security	Customizable roles: Administrator, Advanced Author, Author, Contributor, and Browser	Administrator, Coordinator, Author, and Reader
Storage	Microsoft SQL Server™	Web Storage System
Licensing	One FrontPage 2002 server license, no separate client access license	Server license and client access licenses (CALs)

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grams/Administrative Tools/Microsoft SharePoint Administrator. Click on Extend for the appropriate virtual server (if the server has a previous version of the FrontPage Server Extensions, the Office 2000 Server Extensions, or a beta installation of SharePoint, this link will be labelled Upgrade rather than Extend).

The simplest way to install STS is to use a server with only one virtual server on it, no existing Web content there, and no pre-existing copy of SQL Server or the Microsoft Data Engine. In that case the virtual server will be extended, MSDE will be installed and a SharePoint Web site will be created. That also applies if MSDE is already installed on the single virtual server. If SQL Server is there, the virtual server will not be extended by the SharePoint installation - you'll have to use the HTML Administration pages to extend the virtual server and create a SharePoint site.

If there is more than one virtual server on the Web server, you would install SharePoint Team Services and select which virtual server to extend when setup is complete. If SQL Server or the MSDE is already installed in this scenario, SharePoint will still create the required databases but you will need to supply connection information.

If Web content already exists, you will have to decide whether or not to replace the existing home page. Installation processes set from the Administration page also include Installation Default settings. You can configure the default settings for the database server settings, document discussions and lists, usage analysis, subscriptions, and other parameters. The principle is that changes to this default configuration will rarely be necessary.

Administration And Security

SharePoint's simple but robust administration controls will appeal to many users. Site administrators can easily modify site content, create subwebs, add more users, assign and change user permissions, analyse site usage, and generally perform Web administration tasks from a simple browser based-interface.

SharePoint relies on the security features of Windows 2000 to provide security for Web site content. There are two elements to this: User Authentication and User Authorisation.

The User Authentication process validates the user account that is attempting to gain access to a Web site or network resource. This is based on IIS authentication methods, from anonymous authentication up to SSL-level Certificate Authentication. The administrator will choose the required authentication method when setting up the Web server - it can only be changed using the IIS administration tool for that server computer (you can't do it with SharePoint Team Services administration tools). User Authorisation is based on different access levels - termed "roles" in SharePoint - which have been assigned to users by the SharePoint Team Services site administrator. The roles available are as follows.

Administrator

Can view, add and change all server content; manage server settings and accounts - including create local machine user accounts, manage source control, create subwebs, manage Web document discussions and subscriptions, manage server health, and manage usage analysis

Advanced Author

Can view, add, and change pages, documents, themes, and borders, link style sheets, and recalculate links.

Author

An Author can view, add, and edit pages, directories and lists.

Contributor

This person can view pages and documents, view and participate in discussions, and subscribe to documents and lists.

Browser

A browser can view pages, documents and lists, and do nothing else. This is the lowest level of user.

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Hierarchy

Permissions are hierarchical and are listed above in a top-down fashion. That is, if you give team members permission to modify content, you have also given them permission to read and edit all items. Permission to edit all items includes permission to read all items but not to modify them.

All of these roles apply to a single Web. To perform some administrative tasks that affect settings for all Webs and virtual servers on the server computer, you must be both a Web site administrator and a "machine" administrator for the server computer.

In larger organisations, there will be a need to balance the loading on the SharePoint server computers to ensure an even distribution of resources. The immediate way to achieve this is to control how many users have access to a Web; a SharePoint administrator can limit the number of users on a per-virtual-server basis.

SharePoint Team Services can also track user accounts as they are deleted and remove unused user accounts from the virtual server. That will free up quota allocations for other users - and user account limits are applied at the virtual-server level, not on a per-Web basis.

Note that there is no default setting for the number of user accounts. To implement a user account limit, you must specify it explicitly (via the command-line interface or the SharePoint Administration Pages). To track SharePoint user accounts you must be a member of the Administrators group of the server computer.

There's also a useful access control mechanism in that a user can be a member of multiple webs on a single virtual server, but not of other Webs on other virtual servers on the same server computer. This is probably most relevant to ISPs offering SharePoint space, but it also applies to large-scale deployments within the organisation.

Self-Service Site Creation

Users themselves can create a SharePoint team Web site automatically as a subweb of the root without needing administrator rights to the root Web. To provide this facility, server administrators will need the Self-Service Site Creation add-in. Once it is installed, the user simply enters a name (and a user name and password, if required) for the new subweb, and the new Web site is created with the user as the administrator of that site.

These subwebs can be fully-functioning SharePoint team sites, and they can even have their own unique permissions (the user is not granted any administrator rights to the parent Web, of course). So SSC provides a quick way of setting up new SharePoint sites with the minimum of handholding - indeed, Microsoft claims it should take users "a matter of moments". This will obviously appeal to ISPs running SharePoint services as well as to larger organisations with departmental clients. SSC can also be handy for SharePoint demo systems, because it can be set up to allow anonymous users to create subwebs.

The SSC can be downloaded from the Web (search the Microsoft site for sptsssc.asp) and developers can use SSC as a template or example for other types of add-in automation that can be created for SharePoint Team Services - source files are included in the download. Administrators get a degree of control over how the Self-Service Site Creation tool is used. An SSC authorized user list can be set up to restrict access to the facility, perhaps limiting it to premium clients. Certainly there will need to be some restrictions if server space or other resources are limited.

Customising

A team member with the appropriate permissions can use the Site Settings button on the top link bar to customise the layout of the home page within their browser. This is done simply by dragging and dropping lists or libraries to the required location.

Lists can be modified to include new fields; it's also possible to create custom lists in which all fields and properties are defined from scratch. List owners can require that specific fields are mandatory when adding items. Lists can be sorted in ascend-

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SharePoint News

Microsoft runs a couple of unmoderated newsgroups for discussing SharePoint at **http://www.microsoft.com/technet/newsgroups/NodePages/sharepoint.asp**. These tend to feature specific queries rather than strategic issues.

ing or descending order by the usual Office method of clicking on the column heading. There's also a Filter option, and team members can create custom views for lists and document libraries based on filter criteria.

For more detailed customization, a SharePoint Web site can be edited directly in FrontPage 2002 - users can add themes and FrontPage components, for instance. And it is possible to customize the framework for all SharePoint sites in the organisation. SharePoint Team Services uses an XML-based tag language called CAML (Collaborative Application Markup Language) to define a site, and developers can also use CAML to customize SharePoint Team Services to:

● Define how the site looks and acts.
● Define Views.
● Define Forms.
● Perform functions in the .dll file, such as pulling a value from a particular field.

In particular, Microsoft suggests that CAML is used in preference to FrontPage for customizations that apply to all SharePoint-based Webs on a given server, such as adding a new logo to all pages, and when a new list type is provided to all SharePoint sites.

Constraints

It's worth noting the constraints. Only one set of customized CAML files can reside on a single Web server box; so any changes to this set of documents will affect all SharePoint sites subsequently implemented on that server. And CAML customization changes aren't retrospective: existing sites and lists are not updated. More information on CAML is provided in the SharePoint Team Services SDK at **www.microsoft.com/technet/sharepoint**.

Conclusion

SharePoint certainly looks impressive, and could be the ideal tool for collaborative working and discussions among groups employed on a particular project. One gets the impression that SharePoint may be based, possibly quite closely, on an in-house tool developed initially to allow Microsoft's own developers to work more easily together. There have certainly been cases in the past where products which were originally not intended for use outside the company were polished up and shipped externally. SharePoint is impressive and, although not for everyone, it's certainly worth a closer look.

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A detailed review of six of the best anti trojan software programs. Two products were impressive with a clear gap between these and other contenders in their ability to detect and remove dangerous modern trojans.

Inkjet Printer Cartridge Suppliers

Everyone gets inundated by hundreds of ads for inkjet printer cartridges, all claiming to be the cheapest or best. But which vendor do you believe? Our editors decided to put them to the test by anonymously buying printer cartridges and testing them in our office inkjet printers. Many suppliers disappointed but we came up with several web sites that offer good quality cheap inkjet cartridges with impressive customer service.

Windows Backup Software

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The 46 Best Freeware Programs

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