



Getting Started with SharePoint: The Basics

A White Paper for IT Administrators

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If your organization is considering—or has already committed to—implementing Microsoft® SharePoint® as its communication, collaboration and document management platform, then it's time for you as an IT administrator to start doing your homework. There is no shortage of information available on the subject. In fact there is so much available information that it's easy to get overwhelmed, especially if you are just starting out. The purpose of this white paper is to provide you with a starting point by describing some of the basic, most fundamental SharePoint concepts.

SharePoint Then and Now

In 2001 Microsoft introduced the first iteration of SharePoint, known as SharePoint Team Services (STS), as a free add-on to Server 2000. The primary purpose of STS was to enable Web-based collaboration and communication within an organization through team websites. Features included discussion boards, document libraries (which made it easy for team members to access shared documents), and interactive lists (which provided a means for team members to share items such as announcements, to-do items, and surveys). An optional companion product, SharePoint Portal Server (SPS) 2001, provided document management capabilities and enterprise search services. SPS could also be used to create portal sites.

The next version of STS, rebranded as Windows SharePoint Services 2.0, was released in 2003 and offered basically the same functionality, with some enhancements to the user experience as well as integration with Office 2003 applications. SharePoint Portal Server 2003 included several new features and enhancements to support more enterprise-wide collaboration and communication. The underlying architecture of both products was improved and enhanced for better scalability and reliability.

Due to rapid advances in Web technologies, along with the increased use of these technologies for information-gathering and sharing, SharePoint has evolved into a more extensive multi-purpose platform, as evidenced by Microsoft's most recent SharePoint offerings: Windows SharePoint Services (WSS) 3.0 and Microsoft Office SharePoint Server (MOSS) 2007.

WSS 3.0 and MOSS 2007

Windows SharePoint Services (WSS) 3.0 is included in the license for Microsoft Server 2003 and Server 2008. WSS provides the core functionality of SharePoint, which includes the following:

- **Collaboration and communication** is made possible through team sites, meeting workspaces, blogs, and wikis.
- **Document management** includes document check-out and versioning. You can also create simple workflows for shared documents and items such as tasks and surveys.
- **User information** (such as job title, department, and email address) is made available in SharePoint via a one-time synchronization from the Active Directory when a user or group is added to a site. This information is displayed on the site's People and Groups page.
- A **search** function lets you search for content within a single SharePoint site collection. (The concept of site collections will be discussed later.) Search results are "security-trimmed," which means that users can only see items to which they have access.
- Integration with **Microsoft Office Outlook 2007** allows, among other things, offline access to SharePoint content.

Microsoft Office SharePoint Server (MOSS) greatly expands the functionality and scalability of WSS 3.0. It is important to note that MOSS is not a completely separate architecture. Rather, WSS provides the foundation for MOSS. Therefore, you can have a fully-functional WSS environment and begin to experience the benefits of SharePoint, then add MOSS at a later time as you look to SharePoint to meet more and more enterprise-wide business needs. Cost components for MOSS include the MOSS server software as well as client access license (CAL) fees.

Key Enhancements of MOSS over WSS

Some of the key enhancements that MOSS provides over WSS are described below. (Note that MOSS is available in two editions: Standard and Enterprise. Features that are included in the Enterprise edition only are noted.)

DOCUMENT MANAGEMENT ENHANCEMENTS

Built-in workflow templates allow for the creation of more sophisticated workflows to automate movements of documents or items through specific sequences of actions related to a business process. The Enterprise edition also includes records management functionality that allows users store and manage enterprise data from inception to disposal in compliance with regulations such as Sarbanes-Oxley.

COLLABORATION ENHANCEMENTS

An integrated RSS viewer lets users easily add RSS feeds to Web pages. (WSS supports RSS feeds, but the viewer must be built by an IT professional or supplied by a third-party.) In the Enterprise edition, fully-functional Excel workbooks can be shared through a Web browser, eliminating the need for users to have client software installed. Excel data can also be used to populate dashboards and scorecards.

USER INFORMATION ENHANCEMENTS

In addition to information from the Active Directory, user information can be imported from other LDAP directory services, databases, and third-party applications. This allows additional user-related information, such as birthdays/anniversaries and skills to be captured. Administrators can also specify an import schedule to ensure that user information is updated regularly. Unlike user information in WSS, which is added site by site, the same User Profile information is used throughout the entire SharePoint environment.

SEARCH ENHANCEMENTS

Administrators can use metadata to index almost any type of content (workflows, documents, lists, and so on). Multiple content types can even be assigned to a single content object. Users can search across all site collections and sites in the organization's SharePoint environment. People searches can also be performed to find individuals within the Active Directory, Outlook distribution lists, and SharePoint groups. Searchable metadata from User Profiles allow for searches on a wide-range criteria, including skills or common interests. In the Enterprise edition, searches can be performed across an entire enterprise and can include data from within any line-of-business application, such as relational databases, financial and Human Resource management systems.

Some additional MOSS-only features

My Sites are personal portal sites for storing documents and other items—such as calendars and task lists—and for social networking. Users can manage their own profiles, and privacy settings let them choose what information they want to share with others and what information they want to keep private.

Included with MOSS is the **Microsoft Single Sign On Service**, a pluggable authentication mechanism that allows users to authenticate with a variety of third-party applications through SharePoint, without having to supply additional login credentials.

The Enterprise edition also supports the creation of **Business intelligence** scorecards and dashboards , which can be configured to display data from a variety of sources, including Microsoft Office applications and other line-of-business applications.

SharePoint from the Top Down

SharePoint is a hierarchically-structured environment whose major components are described below.

Farm

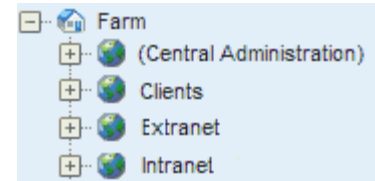
At the top of the hierarchy is the SharePoint farm. A farm is a group of SharePoint servers and services that share the same configuration database. The configuration database is where configuration settings, site mapping information, and metadata for these servers is stored. This information is shared by all of the components that make up the farm.

Because a SharePoint farm is highly scalable and extendable, even very large organizations may find that a single farm is sufficient to meet its needs. However it is possible, and in some cases beneficial, to have multiple SharePoint farms. For example:

- If an organization has multiple geographic locations separated by a WAN, bandwidth may be too limited to accommodate efficient access to a remote SharePoint farm. Instead, it may be necessary to configure a separate farm in each geographic location.
- An IT department may choose to set up separate farms for development, staging, and production.

Web Application

You may be familiar with the “generic” concept of a Web application as a thin client that is accessed from a Web browser. Outlook Web Access for Microsoft Exchange Server is a good example. In SharePoint, a Web application is an extended Internet Information Services (IIS) Web site that hosts site collections and utilizes shared services (both of these concepts will be covered later). The term Web application replaces what was known in previous versions as a “SharePoint virtual server.” A SharePoint farm can have multiple Web applications, and each Web application has its own IIS application pool (which provides its own security and execution environment) and optionally, a separate authentication method. Because of these characteristics, you may find it advantageous to create multiple Web applications to isolate different types of data with different security needs.



Web Applications within a farm

The example above illustrates the use of multiple Web applications to organize content in the SharePoint farm of a hypothetical corporation, ABC Company.

In this example:

The **Central Administration** Web application hosts the Central Administration site, which is an integral component of every SharePoint farm. (More information about Central Administration can be found in the “Administrative Tools” section of this white paper.)

The **Clients** Web application hosts the sites where ABC Company’s management, sales, and customer support staff can find the information they need to do business with their customers.

The **Extranet** Web application hosts the site used by ABC Company’s customers, each of whom can log in to their own area and collaborate on current projects.

The **Intranet** Web application includes ABC Company’s intranet portal, along with departmental sites and all employees’ My Sites.

A server that hosts one or more Web applications is known in the SharePoint World as a Web front-end (WFE)

Site Collections and Sites

A **site collection** consists of one or more Web sites within a Web application that share the same url space, administrator, administration settings, and group definitions. A **site** (known in previous versions as a SharePoint Web) consists of Web pages, lists, and documents within a site collection that share a common root url. If a site collection has only one site, the terms “site collection” and “site” are often used interchangeably. The top level site in the collection is known as the “root site.”



Site Collections within a Web Application

The example at the right shows two of the site collections within ABC Company’s Clients Web application.

Client List is a single-site site collection that contains a listing of ABC Company’s customers, along with contact information. Alpha Snack Foods is a client-specific site collection that, in addition to the root site, contains sites for current client projects.

Web Parts

Web Parts provide the building blocks of most SharePoint sites. You can think of them as the Microsoft equivalent of “Web widgets” or “portlets.” Web Parts can be dragged and dropped to create Web pages without the need for coding, which makes it possible for business users to easily create and modify their own Web pages.

Included with WSS 3.0 are a number of ready-to-use Web Parts for displaying various types of content, formatting content, and adding controls to forms. MOSS includes several additional Web Parts that provide access to much of MOSS’s enhanced functionality. For example, the RSS Viewer is a MOSS Web Part. Web Parts are also available from third-party vendors, and developers can create their own custom Web Parts.

When a site collection contains multiple sites, permissions settings are, by default, inherited from the root site. However, unique permissions can be assigned to any site within a site collection, as well as to lists within a site and even to items within a list.

Shared Service Providers (SSPs) and Shared Services

The concept of Shared Service Providers (SSPs) was introduced in MOSS to provide greater flexibility for configuration and deployment. (SSPs do not exist in WSS.) As the name implies, a Shared Service Provider is the component that *provides* the *services* which are *shared* by Web applications in a SharePoint farm.

An SSP provides the following services:

- **Personalization services** - Provides services for managing user profiles, My Site settings, and policies that determine who can view specified information and how that information can be shared, which is commonly referred to as “audience targeting”.
- **Office SharePoint Server Search** - Provides the mechanism that crawls and indexes content against which users can perform queries.
- **Portal usage reporting** - Provides administrators with tools for monitoring both site and search usage.
- **Business Data Catalog (BDC) *** - Provides connectivity to line-of-business applications for enterprise search and business intelligence, including dashboards and scorecards.
- **Excel Services*** - Provides the server-side processing that enables fully-functional Excel workbooks to be rendered in a browser and shared among users.

* Included in the MOSS Enterprise edition only.

It is possible to have more than one SSP in a farm (for example, you may want to configure the Server Search service to crawl different content sources for different Web applications), and multiple farms can share the same SSP. However, a Web application can only receive services from a single SSP.

12 Hive

The SharePoint hive is the directory that contains all of the SharePoint system files. The prefix “12” refers to the fact that it is part of Office version 12, the alternate name for Office 2007. The 12 hive is normally located on C:\Program Files\Common Files\Microsoft Shared\Web server extensions\12\. A copy of the 12 hive exists on each server in a SharePoint farm.

“Feature” is another commonly-used term that has a slightly different and more specific meaning in SharePoint. A SharePoint Feature (frequently spelled with a capital “F”) is a set of functionality that can be installed and activated. In essence, Features are the means by which SharePoint functionality is delivered. Every Feature has a scope (farm, Web application, site collection, or site) and a set of attributes, such as ID, Title, Description, and Version. Several default features are included with SharePoint, including lists, document libraries, toolbar and menu links, and data connection libraries. Developers can also create their own custom Features.

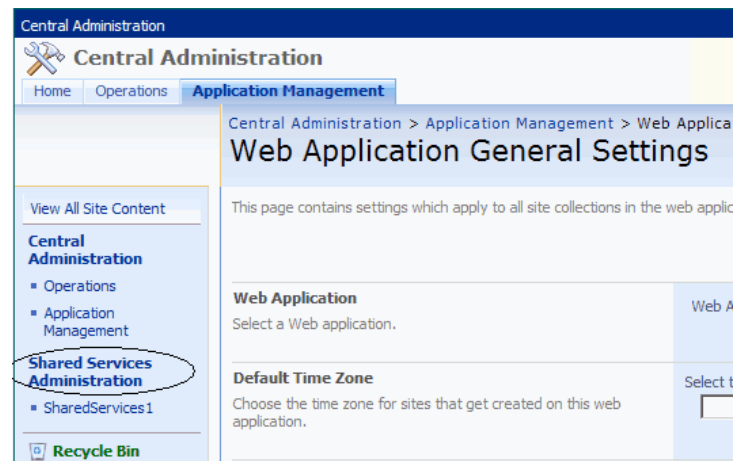
Administrative Tools

Central Administration

Central Administration is a SharePoint site that is used for farm configuration and management. Central Administration has its own dedicated Web application and its own application pool, for added stability and security.

Central Administration consists of two major sections:

- The **Operations** section contains functionality for managing servers in the farm, farm level configuration and settings, and backup and restore.
- The **Application Management** section is for managing the farm's Web applications and other SharePoint components installed on servers.

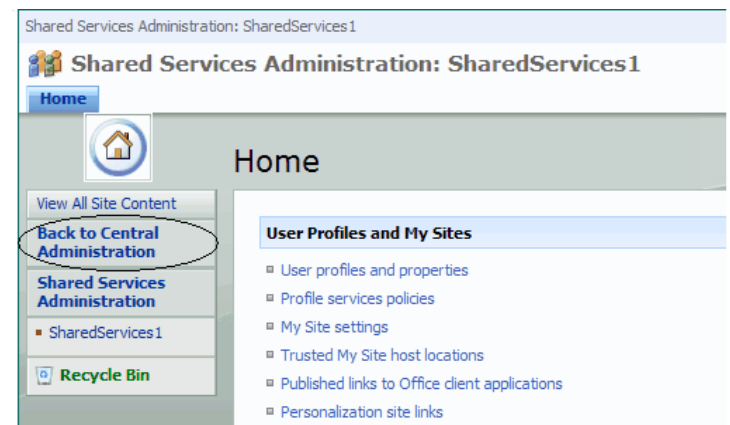


General Administration: Link to Shared Service Administration

Shared Service Administration

SSPs are managed from the Shared Service Administration site. From this site, administrators can create new SSPs, associate SSPs with Web applications, and rebuild or restore SSPs from backed-up components.

Like Central Administration, Shared Services Administration has its own Web application and application pool. However, the Central Administration and Shared Service Administration user interfaces are tightly integrated, making it easy to access one from one to the other.



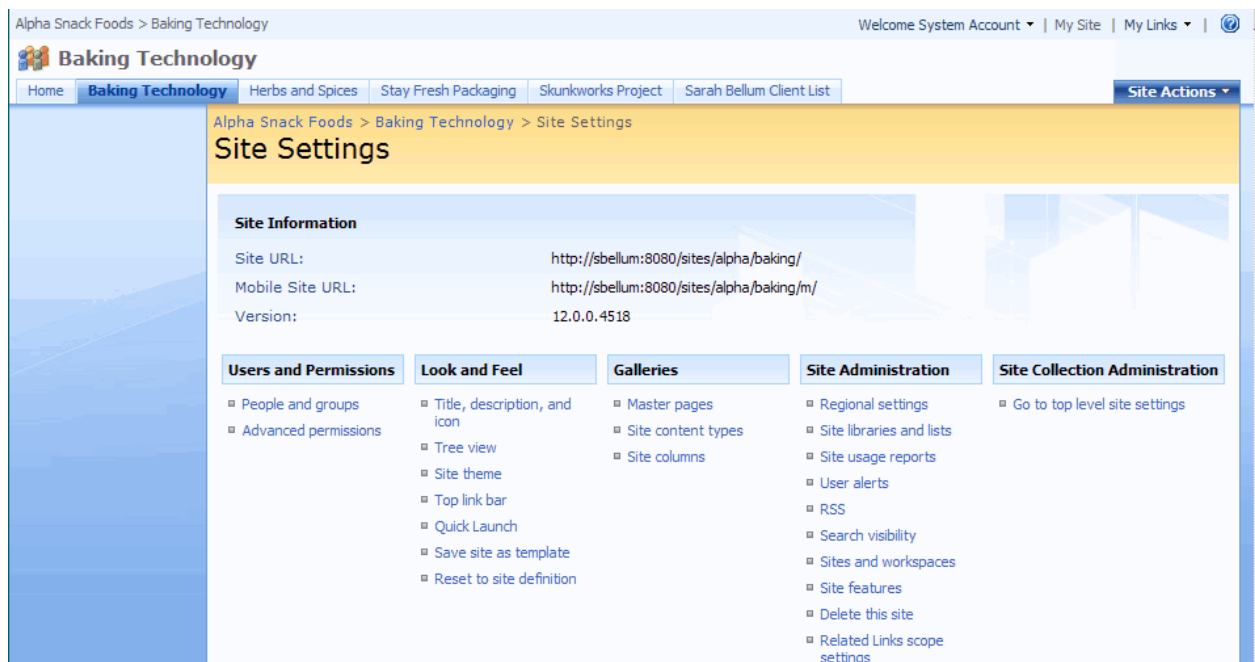
Shared Services Administration: Link to Central Administration

Site Settings

While the tools described above are used for farm- and Web application-wide configuration, each individual site collection and site is administered via its own Site Settings page, which is normally accessed from the Site Actions drop-down. Administrators can perform many functions, which include:

- Managing users and permissions
- Customizing the look and feel of the site
- Creating and deleting sites and subsites within site collections
- Managing site Features.

Following are examples of Site Settings pages.



Alpha Snack Foods > Baking Technology

Welcome System Account | My Site | My Links | Site Actions

Baking Technology

Home | Baking Technology | Herbs and Spices | Stay Fresh Packaging | Skunkworks Project | Sarah Bellum Client List

Alpha Snack Foods > Baking Technology > Site Settings

Site Settings

Site Information

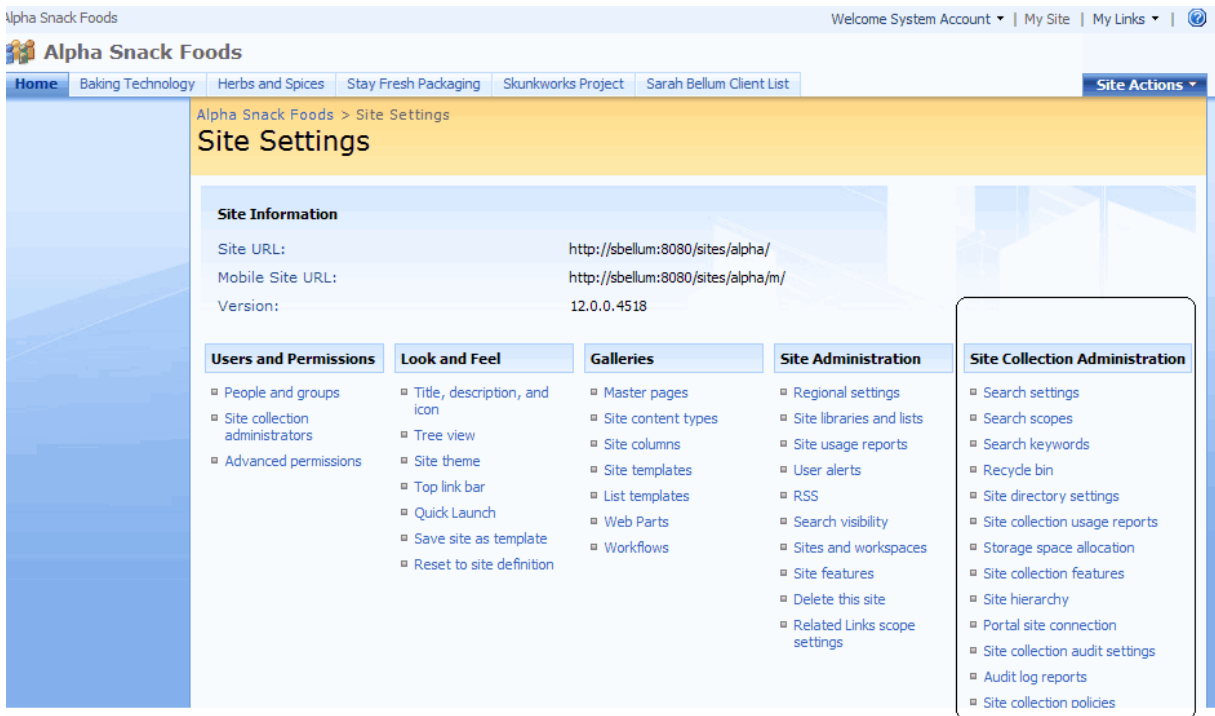
Site URL: <http://sbellum:8080/sites/alpha/baking/>
 Mobile Site URL: <http://sbellum:8080/sites/alpha/baking/m/>
 Version: 12.0.0.4518

Users and Permissions | **Look and Feel** | **Galleries** | **Site Administration** | **Site Collection Administration**

- People and groups
- Advanced permissions
- Title, description, and icon
- Tree view
- Site theme
- Top link bar
- Quick Launch
- Save site as template
- Reset to site definition
- Master pages
- Site content types
- Site columns
- Regional settings
- Site libraries and lists
- Site usage reports
- User alerts
- RSS
- Search visibility
- Sites and workspaces
- Site features
- Delete this site
- Related Links scope settings
- Go to top level site settings

Site Settings

Note that, from the Site Settings page of the root site, additional options are available for managing the site collection.



Site Settings for a Root Site

Any individual with administrative rights to a site can manage site settings . This means that SharePoint administrators can give business owners the authority to administer their own site collections and sites, when appropriate. For example, a Human Resources department may want to control access to areas of its site that contains sensitive information. And of course an individual user generally has administrative control over his or her own My Site.

Stsadm

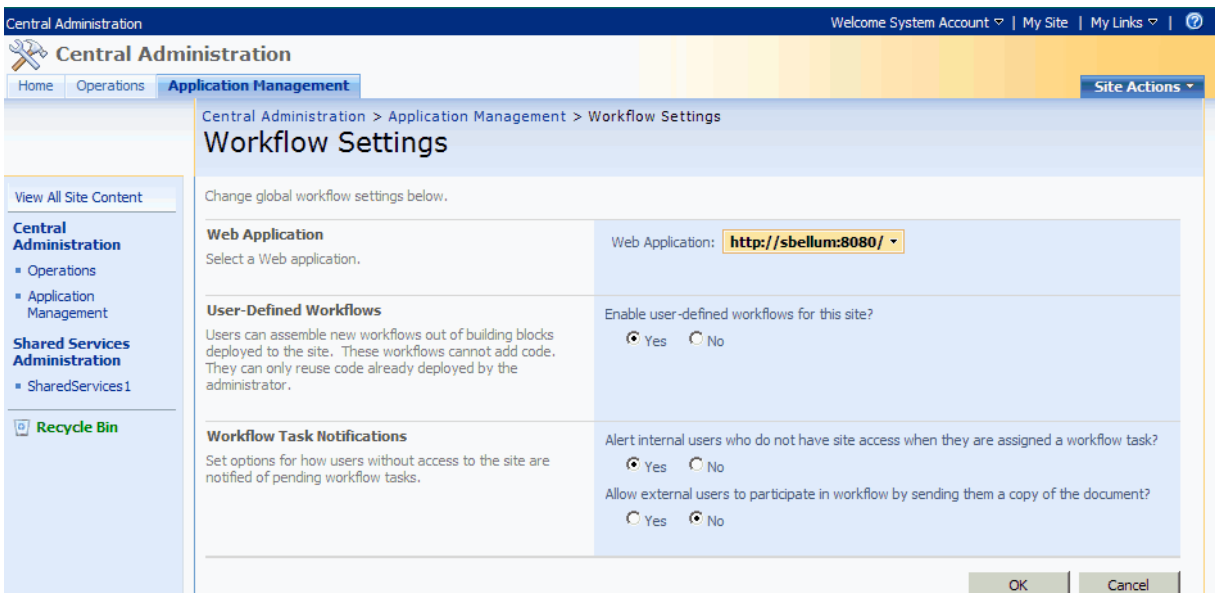
Stsadm (which is pronounced by its spelling, “s-t-s-a-d-m”) is a command-line tool provided by Microsoft for performing SharePoint administration. Stsadm enables IT professionals to perform hundreds of the same administrative tasks that can be performed using the above-mentioned SharePoint pages, without having to navigate the GUI. In addition, administrators can use Stsadm to perform tasks that *cannot* be performed in Central Admin, such as batch operations (Central Administration lets you work on only one Web application at a time, for example) and scheduled backups. The Stsadm executable (stsadm.exe) is located in BIN folder of the 12-Hive, and can be invoked from a command line or by using batch files or scripts.

An stsadm command consists of an operation (-o <operation name>) followed by a series of parameters.

The following simple example shows the syntax used for a stsadm operation and its Central Administration equivalent.

```
stsadm -o setworkflowconfig -url http://sbellum:8080 -emailto
nopermissionparticipant Enable -externalparticipants Disable
-userdefinedworkflows Enable
```

Stsadm Command: setworkflowconfig



Central Administration page: Manage Workflow Settings

Third Party Tools

The administration tools included with SharePoint have a number of limitations. As mentioned previously, Central Administration only lets you administer a single Web application at a time, and a Site Settings page can only be accessed from within a particular site, which in turn must be accessed via the site url. Just imagine trying to apply a global change to hundreds of sites one by one! As for Stsadm, apart from requiring a more technical approach, it involves administering your SharePoint environment from the *outside*.

Fortunately, a number of third-party tools exist that enhance and extend the administrative capabilities included in SharePoint. For example, many tools provide you with a global view of your entire SharePoint farm, let you access SharePoint sites directly (that is, without having to enter a url) and enable you to analyze and perform administrative actions on multiple Web applications and sites in a single operation. And while native SharePoint lets you search for content *within* sites, some third-party tools let you search for sites themselves, using criteria such as percent of quota, creation date, and permissions. Some even let you set user permissions across multiple sites, which can be a significant time-saver.

Next Steps

While the prospect of administering an environment as rich and complex as SharePoint may seem daunting, we hope that this introduction to some of the basics has helped you in the process of getting started. If you would like information on a topic not covered in this paper, or you would like to see a particular area covered in more depth, please let us know. Send your suggestions to <mailto:ideas@axceler.com>.