

Module 1: Web Content Management Overview

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Summary:

This paper describes the core elements of Microsoft® Office SharePoint® Server 2007 Web Content Management (WCM), and how your information architecture affects the structure of your Web site. It also explains WCM implementation options and the role of WCM architecture.

See [Web Content Management Training Modules](http://go.microsoft.com/fwlink/?LinkId=141931) (http://go.microsoft.com/fwlink/?LinkId=141931) for a complete list of the available downloads.

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Module 1 Overview

Microsoft® Office SharePoint® Server 2007 Web Content Management (WCM) provides a platform for Internet and intranet publishing sites. In this module, you will review the core elements of Office SharePoint Server 2007 WCM and will examine how your information architecture affects the structure of your site.

Objectives

After completing this module, you will be able to:

* Describe the use of WCM and implementation options ([Lesson 1](#Lesson1))
* Describe the role of WCM architecture ([Lesson 2](#Lesson2))

Lesson 1: What Is Web Content Management?

In this lesson, you will learn about Office SharePoint Server 2007 tools that enable users to edit Web pages and you will learn to manage the content development process. You will also see the way in which Office SharePoint Server 2007 provides branding and navigation structures. To manage and secure content change, it is important to separate your development and publishing environments. This lesson also reviews how you can stage your content for publishing to a production environment.

Objectives

After completing this lesson, you will be able to:

* [Describe the issues and options for enabling users to edit Web content](#Enablinguserstoeditwebcontent)
* [Explain the importance of implementing an approval process](#TheImportanceofanApprovalProcess)
* [Explain the importance of controlling branding and navigation](#ControllingBrandingandNavigation)
* [Describe the use of authoring, staging, and production environments](#StagingandContentDeployment)

Enabling Users to Edit Web Content

Traditional Web content publishing requires users to complete an internal business approval and authorization process and then to hand off content to the IT or Web design department so that it can be published on the business Web site. This can be a laborious process, with potential for delay as content is redrafted and reformatted on different systems. The process does offer a guarantee of consistency of look and feel for the organization, which can be of particular importance for customer-facing Internet sites, but at a cost of delay and user frustration.

Your architectural design must address the requirements and current practices of Internet-facing Web content publishing. The function of a WCM implementation is to publish content created by content authors to production systems. Web sites create more unintentional publishers than traditional publishing scenarios, so you must identify who will contribute content and the framework within which the information is published. Stakeholders and users will almost certainly identify Internet publishing as a function of a site. Intranet publishing may not have such well-defined processes.

In additional to the obvious requirement for content creation tools, you will also have to manage other publishing elements, including the following:

* **Security:** How will you authenticate contributors and ensure data security?
* **Roles:** How many user roles, such as authors, editors, and administrators, should you define?
* **Audiences:** How many different kinds of site visitor should you differentiate?
* **Approval:** What process of review and approval should content undergo before publishing?
* **Content Deployment:** How should content move from author to reviewer to the production site?

**This section addresses the following topics:**

* [Challenges of client-side editors](#ChallengesofClientsideEditors)
* [Advantages of a server-based Web authoring system](#AdvantagesofServerbasedAuthoring)
* [Enabling users with little Web expertise to edit content](#EnablinguserswithlittleWebexpertise)

Challenges of Client-side Editors

End users often use various editing tools to create Web content, and these tools can differ from tools used by professional Web designers and developers. Provisioning of specialized Web authoring tools can also increase deployment costs, because you must:

* Provide user licenses for these tools
* Ensure that users understand the structure of the target Web site
* Manage security of content to ensure that users do not overwrite or delete existing content
* Train users to work with the Web authoring tools
* Ensure that users provide visually consistent content
* For tools that don’t include integrated workflow management — establish a framework for content approval

Often, these requirements have caused organizations to perpetuate multistage content development processes.

Advantages of a Server-based Web Authoring System

Office SharePoint Server 2007 provides users with a range of flexible authoring options for pages and content held in document libraries. It offers both Web browser-based authoring and Smart Client Authoring. Smart Client Authoring uses more familiar authoring tools, such as Microsoft® Office Word 2007, that enable users to convert documents to Web pages.

Server-based authoring also provides seamless integration with each user’s business activities. There is no requirement to send documents for authorization or to use unfamiliar tools specific to Web development. You can also use the option of Web browser authoring and smart client authoring with applications in the 2007 Microsoft Office system.

Enabling Users with Little Web Expertise to Edit Content

Office SharePoint Server 2007 provides options for inexperienced Web authors to edit content. Users can use a rich Web page editor available in their browsers or the familiar suite of applications in the 2007 Office system:

* [Web Browser Authoring](#WebBrowserAuthoring)
* [Microsoft Office 2007 Client Application Authoring](#MicrosoftOffice2007ClientApplication)
* [Microsoft Office SharePoint Designer 2007](#MicrosoftOfficeSharePointDesigner2007)

Web Browser Authoring

The authoring interface of the Web browser provides a fully functional environment in which to develop content. Users can work with the page-creation options to define page layout, which can include text, images, links, table of contents, Web Part, and custom field types deployed in the environment. Users can then edit pages to include new text, images, links, Web Parts, and other content. For text fields, the built-in text editor provides a broad range of authoring toolbar options such as style, font, attribute, table, and image manipulation. Users can manage content by using the browser-based tools, such as using the image editor to specify image size and layout and the facility to create hyperlinks from the image.

Site content managers can define authoring approval workflows to ensure that new content is authorized before it is published, in order to ensure quality and consistency of work.

Microsoft Office 2007 Client Application Authoring

The term Smart Client Authoring describes the use of client applications in the 2007 Office system to author Web pages in Office SharePoint Server 2007. Many users prefer to create Web pages in familiar applications such as Office Word 2007. Office SharePoint Server 2007 enables users to save documents in a document library and then to convert the document to a Web page by using document converters.

On the Application Management page in Central Administration, farm administrators can enable document conversion for your farm’s Web applications. This displays the document types that you can convert and the formats into which you can convert them. For example, you can convert a Word document to Web page (.docx into .html) or XML to a Web page (.xml into .html). You can develop custom converters for file types not available in Office SharePoint Server 2007, to extend the conversion function.

Note: Document converters are covered in detail in Module 2.

Microsoft Office SharePoint Designer 2007

Office SharePoint Designer 2007 is integrated with Office SharePoint Server 2007 to enable information workers or IT professionals to create Web site designs, composite applications, and workflows. You can use Office SharePoint Designer 2007 to enable Web developers and nondeveloper IT professionals to develop sites that conform to standards that you have defined. Office SharePoint Designer 2007 is not a content development tool. The capabilities of Office SharePoint Designer 2007 are explored in later modules of this course.

The Importance of an Approval Process

Several factors contribute to the importance of an approval process for Web publishing, as described in the following sections:

* [Potential Problems with Enabling User Editing of Content](#PotentialProblemsEnablingUserEdit)
* [Using Workflows to Manage the Approval Process](#UsingWorkflowstoManageApprovalProcess)
* [Typical Stages in an Approval Process](#TypicalStagesinApprovalProcess)

Potential Problems with Enabling User Editing of Content

There are a number of potential problems when you enable users to edit Web content directly. Most of these problems arise when users do not follow established editorial and approval procedures, which may lead to inconsistent, incorrect, or misleading content. While this content might be acceptable in unmanaged content domains such as personal sites, collaboration sites, and blogs, it is not acceptable for the more controlled communications typical of a publishing-based business Web site. Subscribers or customers expect content published on intranet or Internet publishing sites to be factually correct and presented in an appropriate and consistent business format. The implementation of organizational master pages, page layouts, and styles provides visual design standards for users, but these constraints cannot ensure that content complies with your organizational standards before publishing.

Accidental Publishers

Unless you work in an authoring or publishing-related industry, it is unlikely that many of your users will possess professional authoring skills. The use of Web publishing has given rise to the term accidental publisher to describe organizations who publish large amount of content to Web sites without considering themselves to be publishers. Consequently, it is essential that your architecture and design address the management and review of content created by accidental publishers. Office SharePoint Server 2007 provides a number of built-in workflow types that you can use to enforce authoring and approval processes to ensure content and style guideline compliance.

Using Workflows to Manage the Approval Process

Workflow settings are configured at Application Management, site collection, content type, and list levels.

At the Application Management level you can enable users to assemble new workflows. If you do this, authors can create their own workflows by choosing and sequencing components and code deployed by administrators and developers. You can also configure alert notification for both internal users who do not have access to a site and external users, who can be sent a copy of the document that is affected by the workflow.

Six out-of-the-box workflows are available in all versions of Office SharePoint Server 2007, and one additional workflow is available in East Asian versions of Office SharePoint Server 2007. The default workflows available in site collections include:

* [Approval](#ApprovalWorkflow)
* [Collect Feedback](#CollectFeedbackWorkflow)
* [Translation Management](#TranslationManagementWorkflow)
* Collect Signatures
* Disposition Approval
* Three-state (available for activation as a site collection feature)
* Group Approval (East Asian versions only)

Approval Workflow

The approval workflow is the one most used in publishing. This workflow routes a document or item to one or more people for approval before it publishes the document or item on the production system. By default, the approval workflow is associated with the document content type, and thus it is automatically available in document libraries. A version of the approval workflow is also associated by default with the Pages library in a publishing site, and it can be used to manage the approval process for the publication of Web pages.

Collect Feedback Workflow

You may also implement the Collect Feedback workflow. This workflow routes a document or item to a group of people for feedback. Reviewers can provide feedback, which is then compiled and sent to the person who initiated the workflow. By default, the Collect Feedback workflow is associated with the Document content type, and thus it is automatically available in document libraries.

Translation Management Workflow

For publishing implementations that require translation services, you may use the translation management workflow. This workflow manages the manual document translation process by creating copies of the document to be translated and assigning translation tasks to translators. This workflow is available only for Translation Management libraries.

Regardless of the development toolset that is chosen, you can place authoring in a workflow that manages the creation, submission, approval, and publication of business content.

The use of authoring and approval workflows is based on user permissions. When you create a site, you can add users in the following standard groups to determine their capabilities in the workflows that are used in content development:

* Owners, who have full control over the site.
* Members, who can contribute content to the site.
* Approvers, who can approve content submitted by contributors and contribute content.

There are a number of other groups, such as Designer and Visitor, but these are not specifically designed for the authoring approval workflow.

Typical Stages in an Approval Process

Approval workflows can be as complex as the content development process used in your organization. The most common authoring and approval process defines a relatively simple workflow. You can also create custom groups or modify the permissions of these groups if your site’s needs demand it:

* [Creating Contributions](#CreatingContributions)
* [Approving Contributions](#ApprovingContributions)

Creating Contributions

In the default permissioning configuration for a site, users with Contribute permissions can create and edit pages. Office SharePoint Server 2007 provides a series of templates for new page creation (known as page layouts), such as the Article Page with Image on Left template or the Blank Web Part Page template.

Note: You can create your own page layouts. This is described in depth in Module 2.

When contributors create a new page or edit an existing one, the changes must be approved by an authorized user before the page can be published and made visible to site visitors. Office SharePoint Server 2007 publishing provides a content check-in control model together with version management. A contributor can check a document or a page into a draft share and re-edit the work as required. When the contributor is satisfied with the content, the page must be submitted for approval. The page is not published until it is approved by a member of the Approver group. A minor draft is indicated by a point number, so a new page is given a minor draft version of 0.1.

Approving Contributions

Approval by a member of either the Approver or Owner group (or another user who has the Approve Items permission on the Pages library) publishes the submitted page, updating the page version number to a major number, such as 1.0. There are a number of ways in which a user can check, approve, or reject a submission.

The approval process is based on workflow notifications. This may be to a user or to a user role. A user with the Approve Items permission can review the current approval tasks, which are found in the list of workflow tasks associated with this workflow. One of a group of approver-role users can claim a workflow task, in this case an approval, and then complete the approval process. In an organization with only one member of the Approver group, it is unnecessary to claim tasks.

An approver can review items with a Pending Approval status from the **View Reports** option on the **Site Settings** menu. This menu contains additional options to locate **Approval Pending** items. These options include **My Tasks**, **All Draft Documents**, items that will be published or expire in the coming seven days, items checked out by the approver, and items last modified by the approver.

An authorized user can approve multiple pages simultaneously by selecting check boxes on this page. In addition to maintaining content history with version numbers, contributors and approvers can add version comments.

To approve a submitted page, click **Approve**. This in-place approval also provides a view of the document history.

When a page is approved, it becomes available for publishing. This availability might not be immediate because the page might be under the control of a time or date restriction in a workflow. The publishing process, especially in a multitier environment, will almost certainly have scheduled content updates for deploying published content to a production environment.

Controlling Branding and Navigation

Most organizations understand the importance of branding. Branding gives company information or products a consistent look and feel recognizable to customers or other consumers.

Branding is essential for Internet-facing content, in the same way that it is essential for advertising or marketing materials. Even for intranet sites, it is important to maintain not only the organization brand but also to develop divisional and departmental brands in a site. These create a common identity and encourage consistency of content.

While a casual user may not consider navigation to be a feature of branding, you must design your navigation architecture to provide consistency of use. This is the case in particular with Office SharePoint Server 2007 because it is based on the ASP.NET 2.0 site navigation provider model, which closely associates data and navigation.

Web Content Management and Branding

Publishing sites typically have a far greater reliance on look and feel than on other functions such as record management, so the publishing templates available in Office SharePoint Server 2007 provide additional branding and navigation settings beyond those available in templates for other kinds of sites. For example, they support tree view and content by query controls to provide alternate navigation paths.

This section highlights key factors in branding and navigation:

* [Importance of a Consistent Look and Feel](#ImportanceofConsistentLookandFeel)
* [Tools for Creating a Consistent Look and Feel](#ToolsforCreatingConsistentLookandFeel)
* [Importance of an Optimized Navigation Structure](#ImportanceofOptimizedNavigationStruct)

Importance of a Consistent Look and Feel

Consistent look and feel in a site provides consumers with a repeatable experience. For the vast majority of users, this is not just a comfort factor but an attraction. This does not mean that your sites must be dull. Rather, it means that you can establish a format that appeals to your target audience and enables them to browse your sites with ease. The appearance and functionality of your site can be visually appealing and exciting, because your target audience expects such designs, but customers also expect to be able to find the information they need with ease.

Developing your branding and customization policy is an essential part of site design. If you fail to provide leadership and consistency in the areas of appearance and, especially, in navigation, your site visitors can become confused and have difficulty using the site. This usually leads to a poor first impression and can cause your users to go elsewhere for their information.

Tools for Creating a Consistent Look and Feel

The key elements provided by Office SharePoint Server 2007 for establishing a consistent appearance are master pages, page layouts, and cascading style sheets (CSS). You create your own master pages, page layouts, or CSS files with an editor such as Office SharePoint Designer 2007 or the Microsoft® Visual Studio® 2005 and Microsoft® Visual Studio® 2008 development systems.

Master pages and page layouts are held in the Master Page and Page Layouts Gallery document library (usually referred to as the master page gallery) in the top-level site of a publishing site collection. Following are more details and instructions about the key elements:

* [Master Pages](#MasterPages)
* [Page Layouts](#PageLayouts)
* [Content Types](#ContentTypes)
* [Style Sheets](#StyleSheets)

Master Pages

Master pages supply the common frame elements that are shared across pages, including the branding, navigation features, search fields, and help commands. To create your own master page, you can either modify one of the existing default master pages, or you can create your own master page. If you modify a built-in master page, back up the original, so that you can restore it if problems arise. If you just want to adjust a default master page to use your own corporate branding, you can edit a copy of the existing master page. If you want complete control over the look and feel of your sites, you can create a new master page. If you choose to create a new master page, it must contain certain controls and components that ensure that your site will function properly.

Master pages contain certain components called content placeholders that hold controls, content, and structural elements. When a user loads a page, it is rendered populating placeholders with the appropriate content.

If you create a master page specific to your organization, you must include some or all of the content placeholders so that your content pages will render and function properly. Master pages also contain components that are common to every content page. If you decide to create your own master pages, you must include these components because your content pages will not function properly without them. You can override these controls with custom ASP.NET controls.

Common components that you should maintain in master pages include:

* Registration of namespaces, tag prefixes, and controls
* Links to CSS and ECMAScript files on the server
* Logon controls
* The Site Action menu
* Structural elements, such as page areas
* Content placeholders to support all the default page layout.

Note: For more information about creating master pages for SharePoint technologies and products, see How to: Create a Minimal Master Page (<http://msdn2.microsoft.com/en-us/library/aa660698.aspx>) for a template for creating a Site Master page with all required placeholders.

Page Layouts

Page layouts specify how content is arranged in a page and which components are included in the main content area of a page, in the **PageContentMain** placeholder provided by the master page.

Page layouts are designed to be used with the Web publishing features of Office SharePoint Server 2007. When you create a page layout, you determine:

* How content will be arranged on the page
* Common elements that the page will contain
* Page fields and content fields available to the page
* Whether Web Parts and Web Part zones are included in the page and their positions

Your site administrators and content owners can choose a page layout and create new pages directly through the browser.

Content Types

Page layouts rely on content types to provide the fields that make up the page content. These fields can include rich HTML controls and image controls that enable your users to create rich web content. When you create a page layout, you specify the associated content type. Then you can associate fields from the content type with controls on the page layout in Office SharePoint Designer 2007.

Before you create a page layout, you must first create a content type that contains the fields that you want to add to your page layout. For example, if you plan to include multiple page regions where users can add content, you must create new site content columns for each.

Style Sheets

Like most professional Web platforms, Office SharePoint Server 2007 uses CSS extensively to define the look and feel of Web pages. This enables you to apply your corporate style guidelines to your master pages and page layouts. This is typically the job of a Web designer or a Web developer.

**CSS in Master Pages and Page Layouts**

In Office SharePoint Server 2007, master pages and page layouts both use references to CSS to define the appearance of each element. By default, CSS classes are defined in the core.css file, which is found in the /\_layouts/{locale id}/styles/ directory of your Web site. The core.css file contains the definitions for the **ms-pagetitle** class for elements, such as color, font, font size, font weight, and margin.

If you want to change the style of your pages you can create a new CSS file, define your own CSS classes, link the new CSS file to your master page, and modify the class attributes in your master page to use the new styles. You can change your master page by using an editor such as Office SharePoint Designer 2007 or Visual Studio 2005, and reference your new style sheet .css file.

At the site collection level, you can use the Style Library (a system library created by the Publishing Resources feature) to store CSS style sheets. In this location, you can use SharePoint facilities to stage and approve changes before they are published.

Importance of an Optimized Navigation Structure

Site navigation must provide users with a consistent and structured method for traversing the sites, subsites, and pages in your site. The Office SharePoint Server 2007 navigation model enables your developers to implement navigation providers that conform to the ASP.NET 2.0 standards. Whether you choose to base your navigation on the default model or to implement a new navigation system, you must ensure that your site navigation is consistent across all elements of your site.

By default, Office SharePoint Server 2007 uses a hierarchical structure in the site collection, which enables users to move between sites and pages from your top-level site. You can change the default options for maintaining parent site navigation when you create new sites in a site collection. You can also create links to other locations or even to external URLs.

Navigation menus in Office SharePoint Server 2007 use security trimming. Users will not see the link if they do not have appropriate permissions or are not members of a targeted audience for a site or page that appears by default on the site navigation. Security trimming is not performed for manually added links to content outside the site collection, or for manually added links to content in the site collection that do not conform to very precise formatting standards.

Staging and Content Deployment

The use of a multilevel content deployment strategy is common in most large Internet Web site development scenarios. This strategy may include a three-tier structure of a development, staging, and production hierarchy. Smaller implementations may use a two-tier authoring and production setup. The goal of both of these options is to provide an internal authoring environment and a published environment, where edited and approved content is provisioned.

You do not need to have discrete systems to deploy these environments. You can move content between different site collections within a single system, with security managed by Office SharePoint Server 2007 — provided that the site collections are in different content databases. For a large site, and particularly for Internet sites, it is common to provide firewall security between environments to provide additional defense-in-depth levels of security.

There are a number of possible topologies for publishing farms. For example, you can use a single authoring farm to provide content to multiple production farms, or multiple authoring environments to service a single production environment. Decisions such as these are commonly based on communications or location requirements.

Key aspects of the authoring and publishing environments include:

* [Role of the authoring environment](#RoleAuthoringEnvironment)
* [Role of the staging environment](#RoleStagingEnvironment)
* [Role of the production environment](#RoleProductionEnvironment)
* [Moving content between environments](#MovingContentBetweenEnvironments)

Role of the Authoring Environment

The authoring environment contains the site collection that is used by the content-creation team to write the content. This will provision availability of authoring tools and appropriate security permissions, so that users can create and edit page content. The tools will include master pages, layouts, and style sheets so that the content adheres to organizational style guidelines. Usually, approval takes place in the authoring environment, because it minimizes the need to move or deploy content to another location where it may be rejected by a review. Only when the entire authoring process (including writing, review, and copy edit) is complete will you transfer the content to the staging environment. All transferred content must already comply with the organizational style guidelines.

Role of the Staging Environment

The staging environment contains the site collection that is a copy of the production site collection so that the content can be reviewed and tested before it is published. Review and testing do not deal with content adherence to style guidelines, but rather with adherence to the functionality of the content within a browser. While smaller, internal sites might not require you to deploy a staging environment, always stage content that is destined for Internet access. Also, always stage custom code or functionality. This functionality testing ensures that customers have the best user experience with minimal deployment errors.

Deployment of a staging level provides additional security by abstracting your internal services from external users. The staging environment means that there is no requirement for you to provide any direct link between internal authoring and external production sites.

The staging environment can also be used for capacity and performance analysis, before you promote content to a live or production environment. It is usually the case that staging servers should replicate the topology, if not the scale of the production platforms. This might not always be feasible, for financial or other reasons, but you can still assess and flag any functional or nonfunctional anomalies at this stage.

Role of the Production Environment

The production environment contains the site collection that presents the content to its intended audience, and it usually has security designed to address noncontributor staff or users. In an Internet site, this may include the provisioning of anonymous access to content. For an Internet site, this will mean that servers exist outside any demilitarized zone (DMZ) implemented for organizational security. The production environment can be sized to provide the required level of performance for users.

Moving Content Between Environments

Office SharePoint Server 2007 provides content deployment features that allow you to push content from one site collection to another on the same or a different server farm. The configuration of the content deployment functionality is set at the server farm level, and includes settings to enable:

* Acceptance of content deployment job
* An import server name
* An export server name
* Use of encryption
* A temporary file location
* The number of content deployment reports to maintain

At a farm level you must specify content deployment paths and jobs. A content deployment path defines a relationship between a source and destination site collection for content deployment. Once a path is created, jobs can be created and associated with the path to begin deploying content. A job is associated with a path, and defines the specific content to be deployed from the source to the destination, and the schedule on which the deployment should occur.

Note: Content deployment is covered in greater detail in Module 3.

Following are some further aspects to keep in mind when content is to be moved between environments:

* [On-demand deployment](#OnDemandDeployment)
* [Permissions](#Permissions)
* [Important considerations](#ImportantConsiderations)

On-demand Deployment

These jobs are scheduled, but you can also perform on-demand deployment as necessary, such as for an important press release or a correction to content. This uses a job called Quick Deploy, which is automatically created for each path. By default, the Quick Deploy link appears on the Page Editing toolbar for site owners. This facility can be extended beyond the owners by adding users to the Quick Deploy User group.

Permissions

Permissions to content on the destination server farm will usually be different from permissions to content on the source farm. In many publishing solutions, the destination farm authenticates users by using a different Microsoft® Active Directory® directory service domain than the one used in an authoring or staging environment, and there may not be a trust relationship between the two domains.

Important Considerations

Besides understanding the capabilities of content deployment, it is critical that you understand how content deployment should not be used. You must not view content deployment as an alternative to backup. By using content deployment, you can transfer data, but not all the components of a site.

The content deployment facility copies content only, such as Web pages and resources used by the copied pages. This includes items in the content database that the page depends on, such as images, style sheets, or layout pages. Content deployment does not deploy either programs or assemblies. To manage source code such as this, you must use a development management platform such as Microsoft® Visual SourceSafe® 2005 or Microsoft® Visual Studio® Team System and deploy them to target systems as SharePoint features and solutions.

Lesson 2: First Steps in Your Web Content Management Architecture

A Web Content Management (WCM) site focuses on the presentation of content, so it is important to develop a structure for your site that is intuitive and easy to use. In this lesson, you will see how you can categorize your content to create an information architecture. This will help you define the structure and the site navigation. Finally, you will see how blogs and wikis can be used in WCM deployments.

Objectives

After completing this lesson, you will be able to:

* [Describe how to create an information architecture](#CreateInfoArchitecture)
* [Describe how to determine the number and layout of sites and subsites in your WCM environment](#DetermineSitesandSubsites)
* [Explain how to plan site navigation](#PlanningSiteNavigation)
* [Describe the roles of blogs and wikis in a WCM environment.](#RoleofBlogsandWikis)

Creating an Information Architecture

To categorize your content, you need to consider the following aspects of the process:

* [What is an information architecture?](#WhatIsInformationArchitecture)
* [Gathering relevant information](#GatheringRelevantInformation)
* [Information architecture planning stages](#InformationArchitecturePlanningStages)
* [Documenting your information architecture](#DocumentingYourInformationArchitecture)

What Is an Information Architecture?

The initial requirement when you start to design a Web site is to establish the information architecture. The information architecture defines how your site's content, such as Web pages, documents, and lists, is organized and presented to users. This goes beyond appearance issues, such as color, font, or navigation.

Gathering Relevant Information

There is a range of fundamental questions that you must answer. The following table shows some of these questions and categorizes them by high-level requirement.

|  |  |
| --- | --- |
| **Category** | **Question** |
| Users | * Who are your users? * Where are your users located? * What languages do your users understand and want to use? * How do they want to use your information? * How are your users grouped? * External customers * External partners * Internal divisions * Internal departments * Internal various locations (national and international) * Will you need to target information at specific users or audiences? |
| Topology | * Do you require multiple farms? * How many top-level site collections do you require? * What subsites do you require? * Will you require a multitier publishing infrastructure? * Will you have a common security infrastructure for all users? * What are the site-specific security requirements? * Are there any unique subsite security requirements? |
| Appearance | * Do you want to use a common brand across your sites? * Do you want to design your own: * Master pages? * Site or List Templates? * Page layouts? * Style sheets? * Custom controls? * Web Parts? |
| Navigation | * Will you use the default navigation tools? * Will you require custom development for personalized navigation? |
| Information | * What information types will your users want to work with? * What metadata will you require? * What additional content types will you require? * Will you implement search? * How will you configure search? * How will you optimize search? * Will you need to integrate LOB or other external data? |
| Information Security | * What are your auditing requirements? * Do you have defined information management policies? |

You can include topology components, such as the number of farms, site collections, sites, and subsites or the security design in your information architecture. However, these are often nonfunctional outcomes of the information architecture design.

This is not an exhaustive list of items that you must consider. The development of an information architecture is a sizeable undertaking. Following are some good recommendations on how to start the process.

Information Architecture Planning Stages

You can divide the planning into three main processes:

* Survey of existing systems
* Survey user requirements
* Survey business requirements

If you have an existing WCM environment, you can gain a lot of information by analyzing the sites and defining the current information architecture and usage. This does not mean that you simply copy the structure that currently exists, but rather that you can use elements such as logs to identify what is used, what is popular, and what is not required by the business and users.

However, it is important to note that logs are not always an accurate reflection of business value and usefulness, because they do not necessarily reflect usability.

It is essential to analyze user requirements. In addition to your focus on information that users require and how they use it, you need to define how they want to see and find that information. To this end, you must resolve navigation and location issues. These decisions might affect the topology, as remote users or low-grade communications infrastructure can adversely affect your design. The people-related information recorded with your information architecture will also help you to determine how to group site users based on the business processes they participate in, the distribution lists and social networks they belong to, the content they are likely to create or view, or the organizational structure in which they work.

Ultimately, Office SharePoint Server 2007 is a business server. You must ensure that you understand the business drivers that are influencing your information architecture. The business rules will have a major affect on your security and consequently on your overarching structure. For example, you may have Internet and internal customers. This may enforce physical structures, such as multiple farms, but you may also need to manage the information architecture, such as branding or content types, for various internal and external business units.

Documenting Your Information Architecture

You must document your information architecture thoroughly. The architecture will inevitably change over the lifetime of your sites, with new information, user, and content types arriving as your business develops. As with any documentation you write, it is important to be succinct and to develop information architecture documentation during the lifetime of your design, development, and implementation phases. Reverse engineering of documentation almost always leads to inferior quality, which does not help with future development.

Because you must gather information architecture content before you start your design, this should be the first system documentation that you produce. Microsoft provides a fast-start worksheet to help you define and develop your information architecture, which you can download from the [Microsoft Office SharePoint Server 2007 Information Architecture Worksheet](http://go.microsoft.com/fwlink/?LinkID=73273&clcid=0x409) (http://go.microsoft.com/fwlink/?LinkID=73273&clcid=0x409 ).

Determining Sites and Subsites

Your information architecture analysis will determine the structure of your Internet or intranet site. By dividing the information architecture into business processes, projects, or large content groupings, and by using those divisions to sketch out a hierarchy of site collections, sites, subsites, and content within each site, you can plan where information belongs within that hierarchy. Your information architecture will let you do the following:

* [Plan site collections for WCM](#PlanningSiteCollectionsforWCM)
* [Plan sites and subsites for WCM](#PlanningSitesandSubsitesforWCM)

Planning Site Collections for WCM

Your information architecture should define the data that your organization wants to make available to Internet and intranet sites. So long as you observe capacity planning guidelines, as detailed in the [Plan for software boundaries (Office SharePoint Server)](http://go.microsoft.com/fwlink/?LinkID=105578&clcid=0x409) (http://go.microsoft.com/fwlink/?LinkID=105578&clcid=0x409), it is a good idea to group the content and features into a site collection. This provides a number of benefits for users, contributors, developers, and administrators.

For both users and contributors a site collection offers a unified environment that offers consistency of content, navigation, and branding. For contributors, you can provide consistent authoring tools and shared functionality, such as content types and workflows. A site collection centralizes administration. Your administrator can work with unified security, policies, and features. In addition to this, performance management focuses on a well-defined body of data that is used in a consistent manner. This makes it much easier to analyze and interpret usage and audit logs.

For you, as an architect, site collections provide a central repository of galleries and libraries of common resources, such as the Master Page gallery or the Site Collection Images library. A site collection also defines the scope for many objects in Office SharePoint products and technologies.

Planning Sites and Subsites for WCM

Your sites and subsites usually inherit branding from the parent site, although each subsite can have other unique settings, along with unique content. Within a site collection, if you decide to enable divisions or regions to have their own branding, you should partition your site collection content into subsites. This enables more granular control of the appearance, content, and features of the various pages in these site collection. The default setting in

Office SharePoint Server 2007 is to inherit many settings at the site, list, and item levels. This makes it faster to deploy a new site, as well as easier to control subsite appearance and offer consistent navigation.

The features of subsites that you can configure uniquely include:

* Templates
* Security
* Global and Current Navigation
* Web pages
* Site and System Master pages
* Page layouts
* Searchable columns
* Content types
* Workflows

You can override inherited properties in the Site Settings pages.

Recording Your Site Structure Decisions

For each site collection in your solution based on Office SharePoint Server 2007, use the Microsoft worksheets (Site Creation Worksheet and Determine Sites Worksheet) to record your site and subsite planning decisions. Enter each site on a separate row of the spreadsheet. If you have multiple site collections in your solution, use a separate worksheet for each site collection. You can download the worksheets from [Planning worksheets for Office SharePoint Server 2007](http://go.microsoft.com/fwlink/?LinkId=140099&clcid=0x409) (http://go.microsoft.com/fwlink/?LinkId=140099&clcid=0x409 ).

Planning Site Navigation

When you plan your site navigation, it is essential that you work with your business stakeholders and system users. The information architecture that you identify is also immensely useful in defining your site navigation. By the time you plan your site navigation, you should have identified security requirements. You should also have established the breadth and locale of your site audience, so that you can decide whether there are any cultural navigation standards to which you need to adhere. The following are involved in your site navigation planning:

* [Gathering information from the current solution](#GatheringInfofromCurrentSolution)
* [Creating an intuitive navigation site structure](#CreatingIntuitiveNavigationSiteStructure)
* [The Office SharePoint Server 2007 navigation model](#SharePointServer2007NavigationModel)

Gathering Information from the Current Solution

If you have current Web solutions in your organization, you can learn a great deal from current practices. This does not mean that you copy existing navigation models on a 1:1 basis, but rather that you identify, in discussion with stakeholders and users, elements that are popular and those that are not. Use of existing navigation systems goes beyond simple matters of color or style. Users become familiar with navigation systems, so it may be useful to compare your new model to existing options. This will both affect and be affected by your information architecture. If users are familiar with current document storage and location patterns, you may wish to capitalize on the existing familiarity.

Creating an Intuitive Navigation Site Structure

When a system is described as intuitive, it means that it is easy for users to anticipate the next step in a process or identify a required function. WCM manages a user experience that is heavily influenced by the ease of use of the navigation interface. Because of this, Office SharePoint Server 2007 WCM enables a site to inherit its navigation system, or provide a modified navigation instance. When you design your navigation, you must define what your users and the business need to achieve. If you want users to be restricted to a subset of the entire site collection, you should ensure that the navigation system you implement limits user access.

Web sites are usually hierarchical in structure, and it is a good idea to reflect this in your navigation, whether users can see all of the site collection or just defined elements. Office SharePoint Server 2007 provides additional navigation configuration options for publishing sites, beyond those available to other templates. These are found on the Site Settings Page in the Look and Feel section, under Navigation. This page enables you to configure whether to show sites and subsites in your navigation, as well as how to sort subsites, pages, headings, and navigation links. You can also create and manage navigation links and headings.

The Office SharePoint Server 2007 Navigation Model

Office SharePoint Server 2007 is built on ASP.NET 2.0, the features of which depend on communication between the Web application and a data store. To provide this access in a consistent fashion, ASP.NET 2.0 uses the provider model. The provider model defines a set of interfaces into the data to service storage and retrieval for specified requests. A provider is a pattern, but a provider also offers a starting point from which developers can extend the provider model to meet project-specific data store or retrieval requirements. ASP.NET 2.0 uses a variety of providers to provide services; for example, membership, profile, and site navigation providers.

The site navigation provider maps the physical storage locations of ASP.NET pages with a logical model that can be used for in-site navigation and can be linked to the various new navigation controls. ADO.NET has always used a provider model to facilitate the connection between a database and the ADO.NET API. ASP.NET 2.0 builds upon the data provider by encapsulating many of the ADO.NET data calls in a new object called a data source.

The Role of Blogs and Wikis

Blogs and wikis have become some of the most widely used forms of Web-based text communication because they are popular and immediate. It might be worthwhile to review your user and business requirements to see whether either of these publishing solutions can better serve your organization.

Office SharePoint Server 2007 offers a number of advantages over the blogs and wikis that are used on some Internet sites. Probably the two most important advantages are the ability to moderate content through an authoring approval process and the ability to brand the sites so that they conform to your corporate style and navigation guidelines.

Following are general reasons to choose blogs and wikis:

* [Disadvantages of the formal content management process](#DisadvantagesofFormalContentMngt)
* [Advantages of blog and wiki business scenarios](#AdvantagesofBlog_WikiBusinessScenarios)

Disadvantages of the Formal Content Management Process

The formal author approval inevitably lacks immediacy, because there must always be a time delay during the notification, review, edit, and publishing processes. This is clearly a justifiable time overhead in many scenarios, but there are also scenarios where minor content flaws are acceptable in order to deliver important information.

Advantages of Blog and Wiki Business Scenarios

Blogs and wikis are useful for a wide range of communications applications. The following scenarios are common to a number of businesses.

|  |  |
| --- | --- |
| **Category** | **Scenario** |
| Blog | * [Field Service and Customer Service Collaboration](#BlogFieldService) * [Research](#BlogResearch) * [Shift Handover](#BlogShiftHandover) |
| Wiki | * [Human Resources](#WikiHumanResources) * [Compliance Standards](#WikiComplianceStandards) * [Project Communication](#WikiProjectCommunication) |

Blog: Field Service and Customer Service Collaboration

Knowledge bases are popular in technical and service organizations, to support field staff and call center staff. A blogging service provides an agile medium for field service or customer service operatives to put forward good practice, ideas, or advice, from which others can benefit. The ability to post comments or new blogs based on the same theme enables users of the system to provide a greater depth of information, beyond a basic fix. The search capability of Office SharePoint Server 2007 also makes the information easy to search.

Blog: Research

Research demands peer-communication in all areas of business. Modern, multinational business can make telephone or face-to-face meetings difficult to schedule, because of time-zone differences. Blogs remedy all of these problems because:

* A participant can contribute at convenient and appropriate times.
* Centralized, written records of all comments and ideas are available.

Blogs also enable participants to prepublish ideas before any official publication. This encourages the rigorous review of ideas, and better-disciplined research practices.

Blog: Shift Handover

Many jobs require some element of information handover between one work shift and another. This is particularly the case for organizations that provide 24-hour services, such as hospitals. Often handovers involve a verbal report or paper-based notes, which may be incomplete or difficult to read. Blogs enables shift workers to:

* Provide readable handover information to all other workers, without the necessity of calling the whole team together.
* Maintain a record of handover notes, which enables audit of handover notes. This can be particularly important in industries that are required to provide proof of regulatory compliance.
* Query handover information by using search, expediting problem escalation.

Wiki: Human Resources

Human resource personnel regularly need to collaborate with senior staff in other departments to develop content, such as job descriptions or vacancy advertisements. Design discussions such as these often lead to multiple rounds of meetings, to develop agreed-upon wording. Use of a wiki for such interdepartmental communication facilitates:

* Remote discussion
* Document access for all parties throughout the development process
* Collaborative contributions from the right people at the right time

Wiki: Compliance Standards

Compliance is an important feature of modern business because industry and statutory regulations demand a great depth and breadth of adherence to policy rules, often involving multidisciplinary teams. Communication and drafting of company policies require operational, legal, and management input, which can make the development of such policies, and therefore compliance, slow to achieve or incomplete. Use of a wiki provides:

* An auditable process for policy development
* A cross-departmental collaboration platform
* An easy-to-use facility for all staff, from advanced IT professionals to IT novices

Wiki: Project Communication

Project communication is often independent of other project documentation. By using wikis and blogs, you can centralize all documentation and provide a structured repository for current discussion and a well-structured archive. Wikis provide:

* A shared space for public project notices and notes, based on a Web browser
* A discussion forum for project planning
* An ongoing resource for the life of the project, which captures the decision-making processes throughout the project life cycle

Review of Module 1

* What is Web Content Management?
* First steps in your Web Content Management architecture review

References

The following videos provide supplemental information to these modules. There is no one-to-one correspondence between the modules and the videos:

* [Video 1](http://go.microsoft.com/fwlink/?LinkId=140097&clcid=0x409) (http://go.microsoft.com/fwlink/?LinkId=140097&clcid=0x409)
* [Video 2](Video%202) (http://go.microsoft.com/fwlink/?LinkID=140063&clcid=0x409)
* [Video 3](Video%203) (http://go.microsoft.com/fwlink/?LinkID=140068&clcid=0x409)
* [Video 4](Video%204) (http://go.microsoft.com/fwlink/?LinkId=140101&clcid=0x409)