



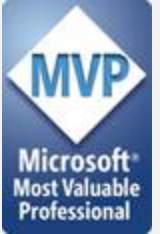
CLB376 - Upgrading and Migrating to SharePoint 2010, On-Premise and in the Cloud

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Introduction – Peter Carson



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Agenda

- 2007 Upgrade to 2010 On Premise
- Real Life Example
- Upgrading to the Cloud
- Q&A

Upgrading MOSS 2007 to SharePoint 2010

- Goals
- Approaches
- Best Practices and Gotchas
- Worksheet and Checklists
- Tools
- Capacity Planning Recommendations
- OS Considerations and Virtualization
- Database Considerations

Migration Goals

- These include Platform Upgrade plus any combination of the following:
 - Rebranding
 - New Information Architecture
 - Leverage New SharePoint 2010 Capabilities
 - New Governance, Legal and Compliance Initiatives
 - and more ... driven by business needs
- Alignment of IT SharePoint Initiative with Business Goals

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Migration Approaches

- Upgrade Approaches
 - In-place Upgrade
 - Database Attach Upgrade
 - 3rd Party Migration Tools
- Downtime Mitigation Techniques
 - Parallel Upgrade
 - Attach and upgrade multiple database at a time
 - Hybrid Approaches
 - Database attach with read-only databases
 - Continue to provide read-only access to content in existing farm
 - In-place upgrade with detached databases
 - Detached databases from farm, in-place upgrade farm, attach and upgrade multiple databases in parallel

Migration Approaches

- Special Cases
 - Upgrade from Forms-Based Authentication
 - Upgrade from older versions of SharePoint (2001 and 2003)
 - Search First Migration

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- **Best Practices and Gotchas**
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Migration Best Practices

1. Document your MOSS 2007 environment.
2. Update the MOSS 2007 servers to Service Pack 2 (SP2) or later.
3. Ensure the MOSS 2007 environment is fully functioning before upgrading.
4. Before an in-place upgrade, migrate to 64-bit servers.
5. Run the pre-upgrade checker to look for potential issues.
6. [Perform a trial upgrade on a test farm first to find potential issues.](#)
7. Plan for capacity.
8. Back up your environment.
9. Optimize your environment before upgrade.
10. [Create a communication plan.](#)
11. (Optional) If you are using the database attach upgrade method, set the original databases to read-only.
12. Do not add any servers to your server farm after you begin the upgrade process.
13. After upgrade, review the Upgrade Status page and upgrade logs to determine whether there are issues that must be addressed. Then review the upgraded sites.
14. Train the users.

Migration Gotchas

- Third Party Web Parts and Components
- Customizations
 - Master Page Design
 - Features
 - Binaries (BIN folder, GAC)
 - Web.config file entries
 - Event Handlers
 - Timer Jobs
- Backup and Restore (Freshness of contents)

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Worksheet and Checklists

- [Microsoft Upgrade Worksheet for SharePoint 2010](#)
 - For recording information about your MOSS 2007 environment while you prepare for upgrading.
- [Checklist for in-place upgrade](#)
- [Checklist for database attach upgrade](#)

Microsoft Upgrade Worksheet for SharePoint 2010

The [Microsoft Upgrade Worksheet for SharePoint 2010](#) provides a framework for recording information about your environment while you prepare for upgrading from MOSS 2007.

- Fill out each worksheet in this workbook to get a complete understanding of the servers, services, Web applications, sites, and customizations in your environment.
- Some of this information is generated for you when you run the **pre-upgrade checker** tool and can be copied from the XML report that the tool generates

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Migration Tools

- [Pre-upgrade Checker Tool](#)
 - STSADM.EXE -o preupgradecheck
- Inventory Tools
- [Metalogix Migration Manager for SharePoint](#)
- [DocAve SharePoint Migrator for SharePoint](#)

Evaluating your SharePoint 2007 environment

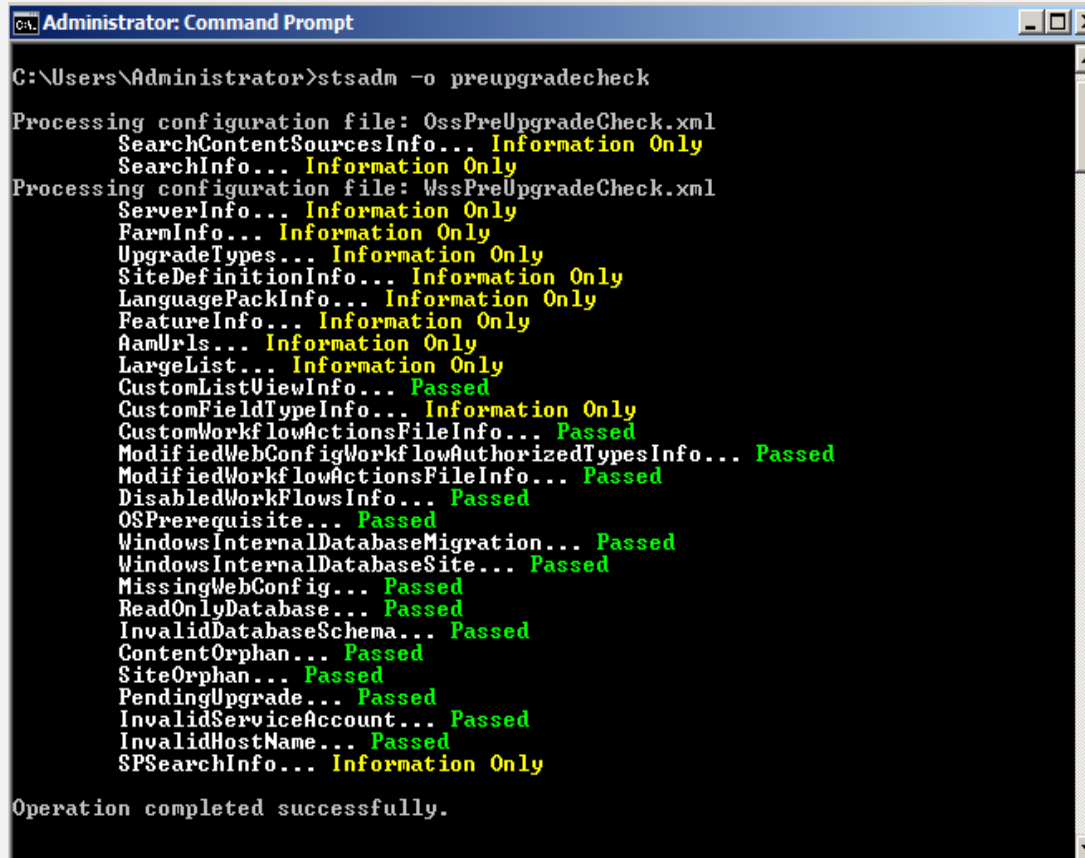
- Install October 2009 Cumulative Update or later
- Clean up
- Run the PreUpgradeCheck
- Run EnumAllWebs
- Evaluate customizations that are used in the environment

PreUpgradeCheck

- STSADM operation for your SharePoint 2007 environment
- Used to find potential upgrade issues and to review recommendations and best practices
- Latest version available in the October 2009 Cumulative Update
- Specifies which Web Parts, Features, Event Handlers, and setup files exist in your environment and how many times they are used
- Running only takes a few minutes, but addressing issues might take days or weeks
- Perform multiple times as you clean up your environment and test your upgrade process

PreUpgradeCheck

Stsadm -o preupgradecheck



```
C:\Users\Administrator>stsadm -o preupgradecheck

Processing configuration file: OssPreUpgradeCheck.xml
  SearchContentSourcesInfo... Information Only
  SearchInfo... Information Only
Processing configuration file: WssPreUpgradeCheck.xml
  ServerInfo... Information Only
  FarmInfo... Information Only
  UpgradeTypes... Information Only
  SiteDefinitionInfo... Information Only
  LanguagePackInfo... Information Only
  FeatureInfo... Information Only
  AamUrls... Information Only
  LargeList... Information Only
  CustomListViewInfo... Passed
  CustomFieldTypeInfo... Information Only
  CustomWorkflowActionsFileInfo... Passed
  ModifiedWebConfigWorkflowAuthorizedTypesInfo... Passed
  ModifiedWorkflowActionsFileInfo... Passed
  DisabledWorkFlowsInfo... Passed
  OSPrerequisite... Passed
  WindowsInternalDatabaseMigration... Passed
  WindowsInternalDatabaseSite... Passed
  MissingWebConfig... Passed
  ReadOnlyDatabase... Passed
  InvalidDatabaseSchema... Passed
  ContentOrphan... Passed
  SiteOrphan... Passed
  PendingUpgrade... Passed
  InvalidServiceAccount... Passed
  InvalidHostName... Passed
  SPSearchInfo... Information Only

Operation completed successfully.
```

PreUpgradeCheck Report

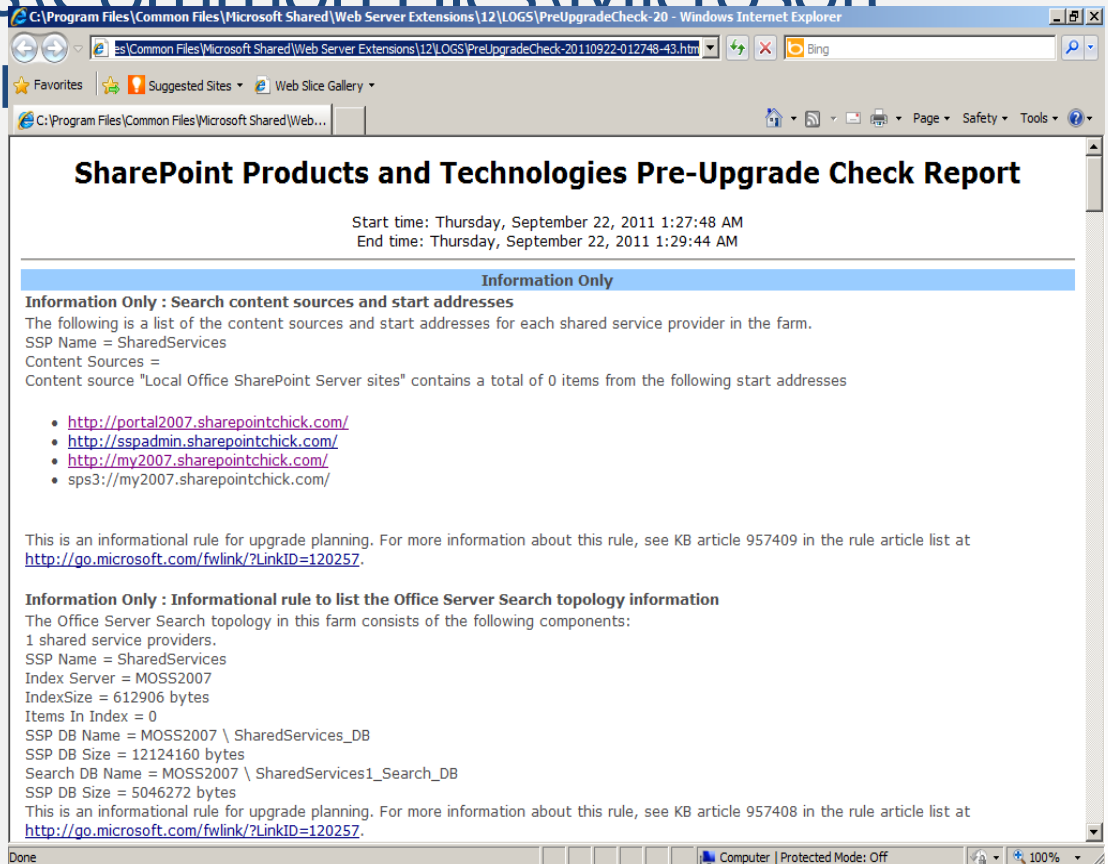
- Upgrade readiness and supported paths
 - Returns a list of all servers and components in the Farm and whether the servers meet requirements for upgrading
- Alternate access mapping settings
 - Returns a list of the Alternate Access Mapping URLs that are being used
- Installed elements
 - Returns a list of all Site Definitions, Site Templates, Features, and Language Packs that are installed in the Farm
- Unsupported customizations
 - Reports about any unsupported customizations that exist in the Farm

PreUpgradeCheck Report

- Orphaned objects
 - Lists any orphaned List Items, Lists, Documents, Sites, and Site Collections in the Farm
- Valid configuration settings
 - Reports any missing or invalid configuration settings
 - Missing Web.config files
 - Invalid host names
 - Invalid service accounts
- Database requirements
 - Checks whether databases are set to read/write, and lists any databases and Site Collections that are stored in the Windows Internal Database that are larger than 4 GB

PreUpgradeCheck Report

- C:\Program Files\Common Files\Microsoft Shared\Web Se



The screenshot shows a Windows Internet Explorer browser window. The address bar contains the URL: `es:\Common Files\Microsoft Shared\Web Server Extensions\12\LOGS\PreUpgradeCheck-20110922-012748-43.htm`. The page title is "SharePoint Products and Technologies Pre-Upgrade Check Report".

SharePoint Products and Technologies Pre-Upgrade Check Report

Start time: Thursday, September 22, 2011 1:27:48 AM
End time: Thursday, September 22, 2011 1:29:44 AM

Information Only

Information Only : Search content sources and start addresses
The following is a list of the content sources and start addresses for each shared service provider in the farm.
SSP Name = SharedServices
Content Sources =
Content source "Local Office SharePoint Server sites" contains a total of 0 items from the following start addresses

- <http://portal2007.sharepointchick.com/>
- <http://sspadmin.sharepointchick.com/>
- <http://my2007.sharepointchick.com/>
- sps3://my2007.sharepointchick.com/

This is an informational rule for upgrade planning. For more information about this rule, see KB article 957409 in the rule article list at <http://go.microsoft.com/fwlink/?LinkID=120257>.

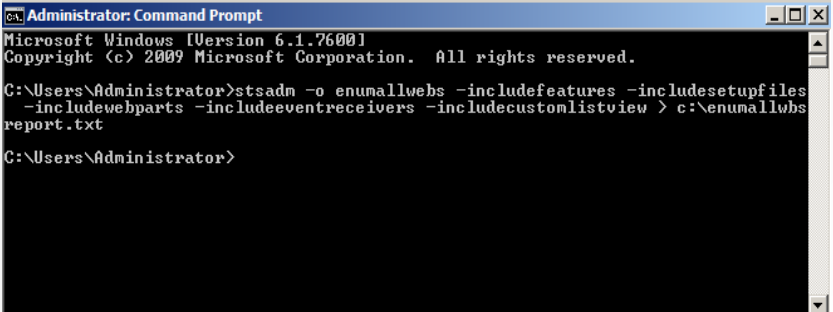
Information Only : Informational rule to list the Office Server Search topology information
The Office Server Search topology in this farm consists of the following components:
1 shared service providers.
SSP Name = SharedServices
Index Server = MOSS2007
IndexSize = 612906 bytes
Items In Index = 0
SSP DB Name = MOSS2007 \ SharedServices_DB
SSP DB Size = 12124160 bytes
Search DB Name = MOSS2007 \ SharedServices1_Search_DB
SSP DB Size = 5046272 bytes

This is an informational rule for upgrade planning. For more information about this rule, see KB article 957408 in the rule article list at <http://go.microsoft.com/fwlink/?LinkID=120257>.

Done

EnumAllWebs

- STSADM operation for your SharePoint 2007 environment
- Latest version available in the October 2009 Cumulative Update
- Displays the IDs and site map status for all Site Collections and Sites in the content database
- Specifies which server-side files (Web Parts, Features, Event Handlers, and setup files) are used by which sites
- Pipe output to .txt or .xml file



```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>stsadm -o enumallwebs -includefeatures -includesetupfiles
-includewebparts -includeeventreceivers -includecustomlistview > c:\enumallwebs
report.txt

C:\Users\Administrator>
```

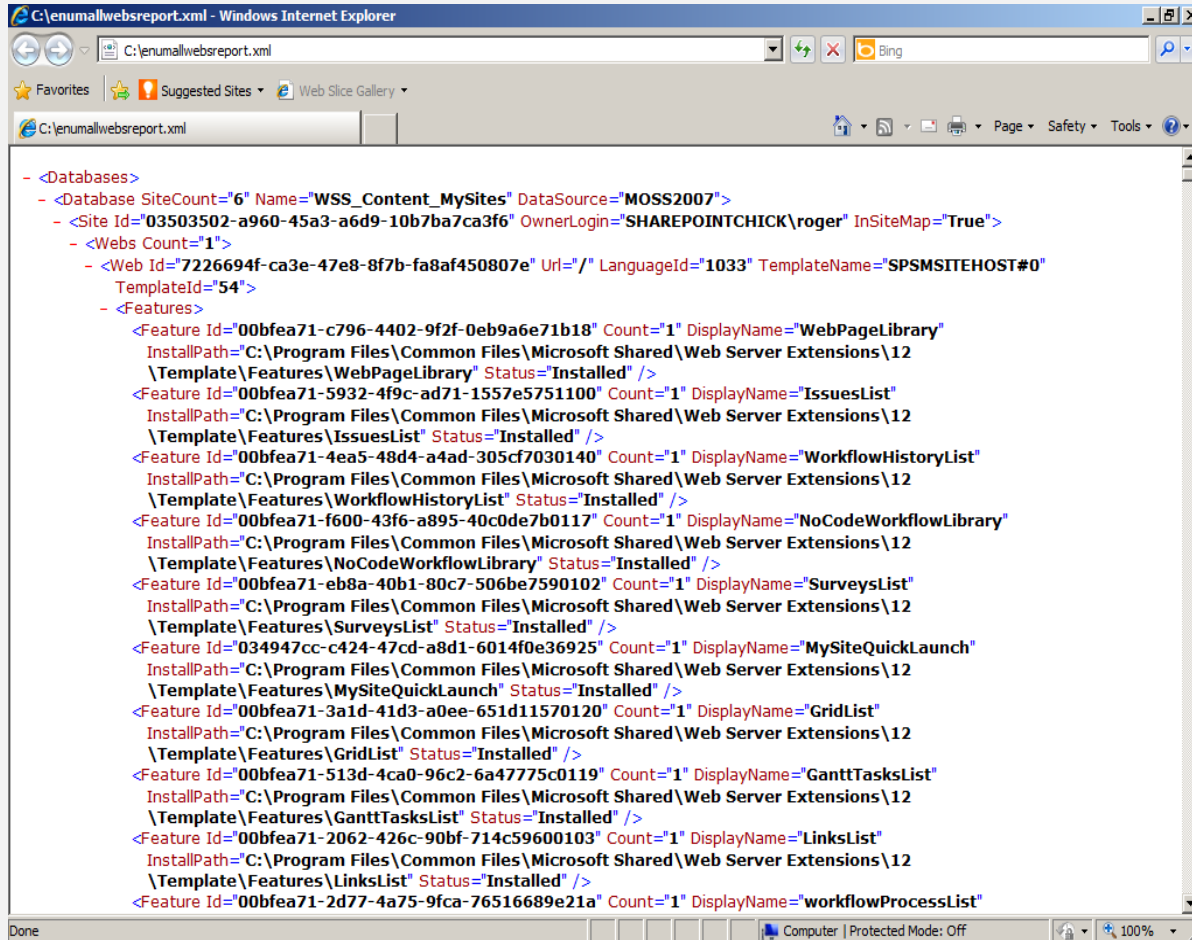
EnumAllWebs parameters

- DatabaseName
 - DatabaseServer
 - IncludeFeatures
 - IncludeSetupFiles
 - IncludeWebParts
 - IncludeEventReceivers
 - IncludeCustomListView
-
- Documentation on TechNet is not complete

EnumAllWebs output

- The total number of Site Collections in the content database and the number of Site Collections in the site map
- The Site Collections, their IDs and owners and whether they are listed in the site map
- For host-named Site Collections the host header is listed
- List of Web Parts, Features, Event Handlers, custom List Views, and setup files for each site

EnumAllWebs output



```
- <Databases>
- <Database SiteCount="6" Name="WSS_Content_MySites" DataSource="MOSS2007">
- <Site Id="03503502-a960-45a3-a6d9-10b7ba7ca3f6" OwnerLogin="SHAREPOINTCHICK\roger" InSiteMap="True">
- <Webs Count="1">
- <Web Id="7226694f-ca3e-47e8-8f7b-fa8af450807e" Url="/" LanguageId="1033" TemplateName="SPSMSITEHOST#0"
  TemplateId="54">
- <Features>
  <Feature Id="00bfea71-c796-4402-9f2f-0eb9a6e71b18" Count="1" DisplayName="WebPageLibrary"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\WebPageLibrary" Status="Installed" />
  <Feature Id="00bfea71-5932-4f9c-ad71-1557e5751100" Count="1" DisplayName="IssuesList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\IssuesList" Status="Installed" />
  <Feature Id="00bfea71-4ea5-48d4-a4ad-305cf7030140" Count="1" DisplayName="WorkflowHistoryList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\WorkflowHistoryList" Status="Installed" />
  <Feature Id="00bfea71-f600-43f6-a895-40c0de7b0117" Count="1" DisplayName="NoCodeWorkflowLibrary"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\NoCodeWorkflowLibrary" Status="Installed" />
  <Feature Id="00bfea71-eb8a-40b1-80c7-506be7590102" Count="1" DisplayName="SurveysList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\SurveysList" Status="Installed" />
  <Feature Id="034947cc-c424-47cd-a8d1-6014f0e36925" Count="1" DisplayName="MySiteQuickLaunch"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\MySiteQuickLaunch" Status="Installed" />
  <Feature Id="00bfea71-3a1d-41d3-a0ee-651d11570120" Count="1" DisplayName="GridList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\GridList" Status="Installed" />
  <Feature Id="00bfea71-513d-4ca0-96c2-6a47775c0119" Count="1" DisplayName="GanttTasksList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\GanttTasksList" Status="Installed" />
  <Feature Id="00bfea71-2062-426c-90bf-714c59600103" Count="1" DisplayName="LinksList"
    InstallPath="C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12
    \Template\Features\LinksList" Status="Installed" />
  <Feature Id="00bfea71-2d77-4a75-9fca-76516689e21a" Count="1" DisplayName="workflowProcessList"
```

Identify and Update Customizations

- Create a list of all customizations in the environment
 - Solutions
 - Features
 - Web Parts
 - Event Handlers
 - Master Pages
 - CSS files
 - ...
- Identify the source of the customizations (third-party or in-house)
- Find or create updated or upgraded versions of all customizations
- Make sure you check **all** SharePoint servers in the Farm

Inventory Your Current System

- PowerShell scripts to inventory your farm
- Goes through the web app, site collection, site, list and library, folder, and item level

Upgrading MOSS 2007 to SharePoint 2010

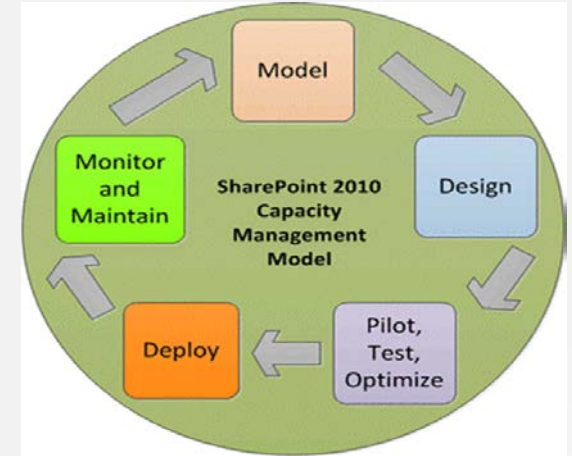
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Capacity Planning Decisions

- Understand the concepts behind effective capacity management.
- Define performance and capacity targets for your environment.
- Select the appropriate data architecture.
- Choose hardware to support the number of users and the features you intend to deploy.
- Test, validate, and adjust your environment to achieve your performance and capacity targets.
- Monitor and adjust your environment to match demand.

Capacity Management

- Capacity Management Model
 - Model
 - Design
 - Pilot, Test, Optimize
 - Deploy
 - Monitor and Maintain



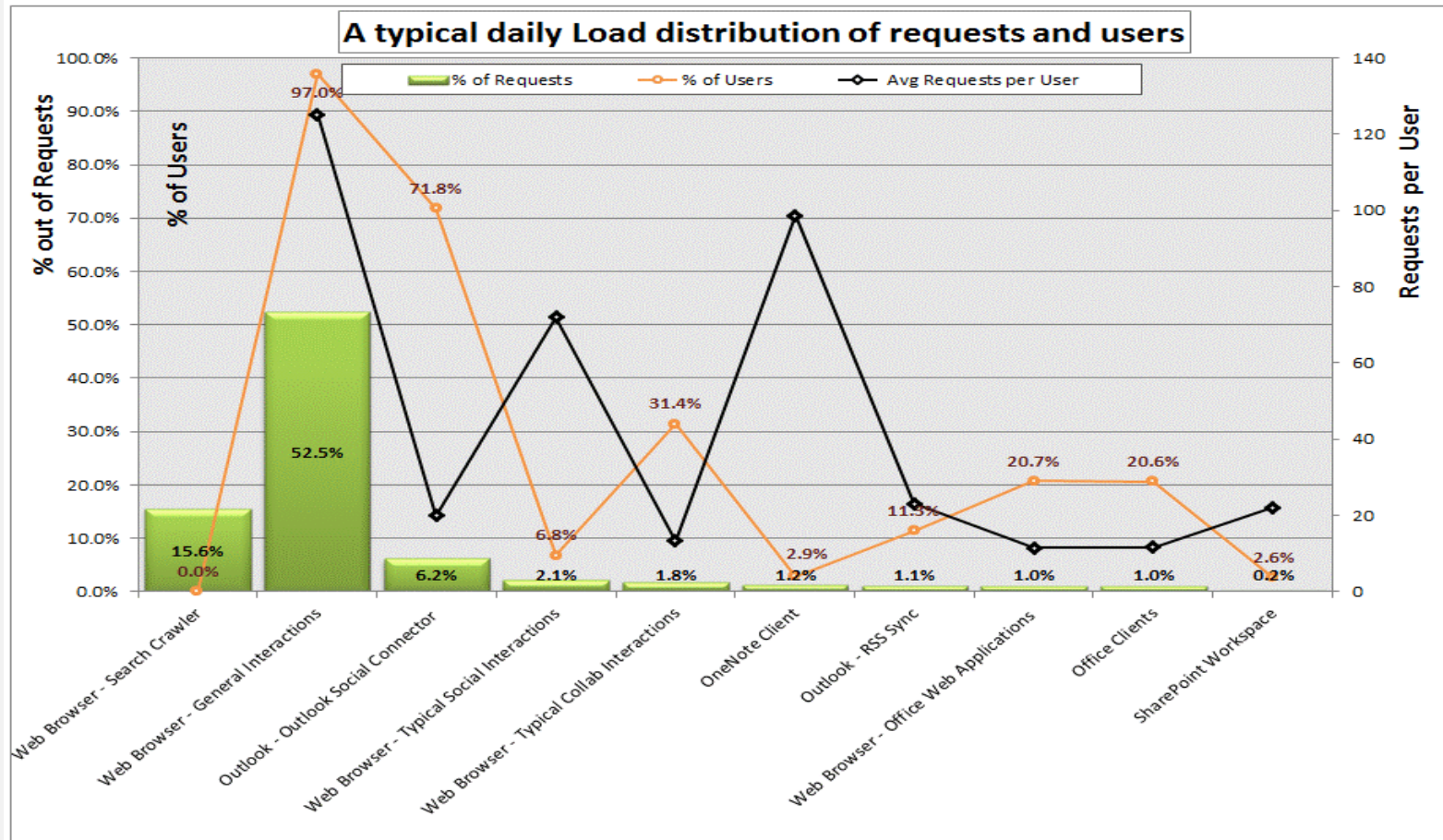
Model: Understand Expected Workload

Workload

- Workload describes the demand that the system will need to sustain, the user base and usage characteristics. The following table provides some key metrics that are helpful in determining your workload. You can use this table to record these metrics as you collect them.

Workload Characteristics	Value	
Average daily RPS		
Average RPS at peak time		
Total number of unique users per day		
Average daily concurrent users		
Peak concurrent users at peak time		
Total number of requests per day		
Expected workload distribution	No. of Requests per day	%
Web Browser - Search Crawl		
Web Browser - General Collaboration Interaction		
Web Browser - Social Interaction		
Web Browser - General Interaction		
Web Browser - Office Web Apps		
Office Clients		
OneNote Client		
SharePoint Workspace		
Outlook RSS Sync		
Outlook Social Connector		
Other interactions(Custom Applications/Web services)		

Model: Workload Distribution



Model: Analyzing SharePoint Server 2010 IIS Logs

- To discover key metrics about an existing SharePoint Server 2010 deployment, such as how many users are active, how heavily they are using the system, what kind of requests are coming in, and from what kind of clients they originate, it is necessary to extract data from ULS and IIS logs.
- One of the easiest ways to acquire this data is to use [Log Parser](#), a powerful tool available free for download from Microsoft. Log Parser can read and write to a number of textual and binary formats, including all the IIS formats.

Model: Understand Expected Dataset

- Dataset describes the volume of content stored in the system and how it can be distributed in the data store. The following table provides some key metrics that are helpful in determining your dataset. You can use this table to record these metrics as you collect them.

Object	Value
DB size (in GB)	
Number of Content DBs	
Number of site collections	
Number of web apps	
Number of sites	
Search index size (# of items)	
Number of docs	
Number of lists	
Average size of sites	
Largest site size	
Number of user profiles	

Model: Farm Performance and Reliability

Targets

- One of the deliverables of the Model is a good understanding of the performance and reliability targets that best fit the needs of your organization. A properly designed SharePoint Server solution should be able to achieve "four nines" (99.99%) of uptime with sub-second server responsiveness.

Performance and Reliability		Targets
Server availability		%
Server responsiveness		Sec.
Server spikiness		Sec.
System resource utilization	CPU	%
	Memory Available	%

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OS Considerations and Virtualization

Hyper-V in Windows Server 2008 R2 includes five core areas of improvement for creating dynamic virtual data centers:

1. Increased availability for virtualized data centers
2. Improved management of virtualized data centers
3. Increased Performance and Hardware Support for Hyper-V Virtual Machines
4. Improved Virtual Networking Performance
5. A simplified method for physical and virtual computer deployments by using .vhd files

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Database Considerations

SharePoint Server 2010 Functionality and SQL Server Editions Comparison

SharePoint Server 2010 Functionality	SQL Server 2008 R2 Enterprise	SQL Server 2008 R2 Standard	SQL Server 2008 R2 Express	SQL Server 2008 Enterprise	SQL Server 2008 Standard	SQL Server 2008 Express	SQL Server 2005 Enterprise	SQL Server 2005 Standard
SharePoint Server 2010	64-bit only	64-bit only	64-bit only	64-bit only Service Pack (SP) 1, Cumulative Update (CU) 2 required, CU5 or later recommended	64-bit only SP1, CU2 required, CU5 or later recommended	64-bit only	64-bit only SP3 CU3 required	64-bit only SP3 CU3 required
Remote BLOB storage (RBS) on a non-local device Requires RBS add-in from the SQL Server 2008 R2 Feature Pack.	X			X				
RBS on a local device. Requires RBS add-in from the SQL Server 2008 R2 Feature Pack.	X	X	X	X	X	X		
Backup compression	X	X		X				
Data compression for the Search Crawl and Property databases	X			X				
Table partitioning for Web Analytics Reporting databases	X			X				
Transparent data encryption	X			X				
Resource governor	X			X				
Database auditing	X			X				
Clustered database server	X (faster recovery)	X 2 nodes only		X (faster recovery)	X 2 nodes only		X (faster recovery)	X 2 nodes only

Example - Heart and Stroke Foundation of Ontario

- Volunteer-based health charity
- HSFO is a member of a federation of ten independent provincial Foundations and one National body
- Tickr is the HSFO Intranet built on MOSS 2007

The screenshot displays the website for the Heart & Stroke Foundation of Ontario. The header features the organization's logo and tagline, "Communicate. Collaborate. Create.", along with a search bar and a navigation menu with items like "About HSFO", "Departments", "Employee Info", "Volunteers at HSFO", "Resources", "Programs", and "News and Events".

The main content area is divided into several sections:

- Quick Links:** A list of links including Staff Directory, Career Opportunities, New Employees Help, Forms and Templates, Attendance Tracking (ATI), Kwik-e-Mail, The Weather Network, MTO Traffic, and Learn more about Tickr.
- Poll of the Week:** A section titled "Will you be attending the Tickr launch event?" with options to "Take the Poll" and "View the Results".
- Photo Album:** A section titled "Photo Album" with a date of "Monday, July 20, 2009" and a "View slide show" link.
- What's New:** A section with three featured articles:
 - Tickr makes its HSFO debut – Now playing on PCs near you...**: Announces the launch of the new intranet.
 - Fortinos "Paints the Town Red"**: Celebrates a fundraising campaign where employees raised over \$58,000.
 - Eat well, live longer, study shows**: Shares research on healthy eating and lifestyle factors.
- Event Calendar:** Lists upcoming events such as "Tickr Makes its Debut - Launch Celebration" (8/25/2009), "Cycle 1 Area Manager Meetings" (9/1/2009), and "Labour Day" (9/7/2009).
- Success Stories:** Features articles like "Living with a stroke is a challenge, but not a barrier" and "Touring the District Stroke Centre in Chatham".
- Industry News:** Includes news items such as "Economic Woes Raise Health Fears Among Canadians" and "Health Canada approves drug for patients with atrial fibrillation".

The footer contains a "site map", "site FAQs & policies", "site feedback", "code of conduct", "privacy policy", and "in case of emergency" links, along with the copyright notice "© 2009 Heart and Stroke Foundation of Ontario".

Example - Heart and Stroke Foundation of Ontario

- Upgrade Process
 - Need to go through the 2007 upgrade first
 - That is the only source system supported
 - Needs to be fully patched to SP2
 - In-place upgrade and database migration are the two supported scenarios
 - Gradual is no longer an option
 - Database migration is our recommended
 - Similar process to the 2007 upgrade
 - Very different results

Example - Heart and Stroke Foundation of Ontario

- Upgrade Process
 - Run the pre-upgrade checker on your MOSS 2007 server
 - `Stsadm -o preupgradecheck`
 - Prepare your new 2010 farm
 - Windows Server 2008 64-bit for SharePoint and SQL servers
 - SQL Server 2008 64-bit
 - Backup your existing database through SQL
 - Restore it to the 2010 SQL Server
 - Create a new web application on the 2010 farm
 - Delete the content DB that was provisioned with the web application
 - Attach the content database to the web application
 - `Mount-SPContentDatabase -Name DBName -WebApplication SiteURL`

Upgrading to the Cloud

- There is no backup and restore option
- You typically need to use third-party tools
- Demonstration of Metalogix Migration Manager for SharePoint

next steps



- Run the PreUpgradeCheck now, even if you're not planning on upgrading right away
- Make sure you have proper change management in place to track what you're doing on your farms
- Start thinking about the hardware and software requirements needed to support 2010, and whether that is upgrading the existing farm or building a new one

resources - Upgrade and Migration



- [Upgrade and Migration for SharePoint Server 2010 Resource Centres](#)
- [Upgrade best practices \(SharePoint Server 2010\)](#)
- Microsoft SharePoint 2010 Products Upgrade Models
 - [Upgrade Planning](#)
 - [Upgrade Approached](#)
 - [Test Your Upgrade Process](#)
 - [Services Upgrade](#)
 - [Upgrading Parent and Child Farms](#)
- [Use a trial upgrade to find potential issues \(SharePoint Server 2010\)](#)
- [Determine how to handle customizations](#)

resources - SharePoint Platform



- [Hardware and software requirements \(SharePoint Server 2010\)](#)
- [SharePoint 2010 Virtualization Guidance and Recommendations](#)
- [Windows Server 2008 R2 Enterprise Edition and SharePoint Server 2010 Better Together](#)
- [SQL Server 2008 R2 and SharePoint 2010 Products: Better Together](#)

resources - Capacity Planning



- [Capacity management and sizing for SharePoint Server 2010](#)
- [Performance and capacity technical case studies](#)
- [Performance and capacity test results and recommendations](#)
- [Storage and SQL Server capacity planning and configuration](#)
- [Analyzing Microsoft SharePoint Products and Technologies Usage](#)

evaluations and feedback



- Please fill out your evaluations!
- Remember: 9 = Good; 1 = Bad
 - Let us know what you liked and disliked!
 - Have your voice heard!
- Send us an email! td_can@microsoft.com

Q & A

Microsoft[®]

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