

SHAREPOINT 2007 SIZING GUIDE

SIZING MOSS 2007 AND WSS v3 ON DELL SERVERS AND STORAGE

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Sharepoint 2007 Sizing Guide

SECTION 1

EXECUTIVE SUMMARY

This document is intended to be a **guide** for sizing Microsoft® SharePoint® 2007 (MOSS & WSS) server topologies. SharePoint is a platform for building rich information sharing solutions, therefore, each implementation will be unique, and specific server and storage requirements will vary greatly. Use the concepts in this document as a guideline for determining SharePoint hardware requirements.

SECTION 2

INTRODUCTION

Microsoft Office® SharePoint Server (MOSS) 2007 is a rich server application platform aimed at sharing corporate information with end users – customers, suppliers, partners, employees, and IT personnel, via a consistent, familiar and intuitive interface. MOSS 2007 is a highly scalable information sharing platform that can meet the needs of organizations of all sizes, ranging from small to global enterprises.

Windows® SharePoint Services (WSS) v3 lays the foundation on which MOSS is built. WSS provides a common framework for administration, security, management, site structure and navigation; it also provides collaboration functionality (blogs, wikis, document collaboration, etc).

Microsoft Office SharePoint Server (MOSS) 2007 extends the WSS platform with additional functionality such as content management, advanced workflow and web-based forms, enterprise search, personal sites (My Sites) and more. MOSS 2007 is designed for enterprise-wide solutions. MOSS includes a server license as well as client access licenses (CAL) for each user.

Note: “SharePoint 2007” generally refers to the collection of SharePoint technologies - MOSS 2007 and WSS v3.

SECTION 3

SERVER ROLES

SharePoint 2007 utilizes a three-tiered architecture – Web Front-End Servers (WFE), Application Servers, and Database Servers.

Web Front End Servers provide the interface to SharePoint end-users. This interface is served via Microsoft Windows Server 2003 or 2008, Internet Information Server (IIS) and MOSS (or WSS). SharePoint is installed on the WFE servers. A collection of SharePoint Servers (a.k.a. SharePoint Farm) may have one or more WFE servers. These servers incorporate high availability through the use of Windows Network Load Balancing (NLB) and/or a third-party web load balancing solution.

Application Servers run specific SharePoint services which typically are segregated to improve performance within the SharePoint Farm. Some examples of these services include Indexing, Search/Query, and/or Excel ® Services. These services can be resource intensive, therefore, dedicating a server (or servers) will off-load these taxing services from the WFE servers. SharePoint is installed on Application Servers. A SharePoint Farm may have zero or more dedicated Application Servers. High availability solutions for Application servers vary depending on the specific service offloaded.

Database Servers provide the database services for SharePoint to store information. Virtually all end-user SharePoint data is stored in Microsoft SQL Server. The database server must run one of the following – MSDE, SQL Server Express, SQL 2000 with SP3a or later, or SQL 2005 with SP1 or later. Non-Microsoft database platforms are *not supported*. SharePoint is *not* typically installed on the database server(s) – the database servers just run SQL Server. A SharePoint Farm may include one or more database servers. Database servers can achieve varying levels of high availability depending on the version of SQL. For example, SQL 2005 supports the use of mirroring and/or traditional Microsoft Cluster Services.

SECTION 4

SHAREPOINT SERVER TOPOLOGIES

Server and storage hardware requirements can vary greatly depending on the intended use of SharePoint. The business requirements and intended usage patterns must be considered when selecting a SharePoint server topology. One of the key considering factors is the number of the users which the Sharepoint farm is intended to support.

As mentioned above, SharePoint is a platform for sharing information. This information sharing can occur in many forms, such as: workgroup collaboration, enterprise-wide search of data, electronic forms and workflow, or web content management. Additionally, factors such as high availability requirements, the logical / information architecture, the number of users, and/or security compliance requirements can all impact the hardware requirements. The topologies below are intended to be a **guide** for sizing SharePoint 2007.

Note: this guide assumes a centralized server solution and well-connected network environment.

Four (4) server models have been identified as a starting point for sizing an implementation of SharePoint:

Farm Size	Description	User Load (depends on usage)	High Availability
All-in-One	Test environments or small offices / workgroups. All SharePoint and SQL services running on a single server	<50 users	Internal to server only (RAID, power supplies, etc...)
Small	Light to medium user load. Limited indexing of SharePoint and external data. Very limited use of application services, e.g. Search, Excel @ Services, Project Server, etc.	<1,000 users	Internal to server (RAID, power supplies, etc...), Add servers to provide high availability options
Mid-Range	Expanded audience & user load. Some use of application services.	<5,000 users	Load balanced WFE servers and clustered database servers. SQL Mirroring and SAN snapshots provide additional HA options.
Large	Additional capacity and user load; dedicated servers for enhanced performance. Significant use of application services.	5,000 to 100,000+ users	Highly available via load balanced WFE servers and clustered SQL servers. SQL Mirroring and SAN snapshots provide additional HA options.

TABLE 1: Topology Models and Description

SECTION 4.1

ALL-IN-ONE

This solution is primarily intended for test environments, or very small workgroup implementations of Windows SharePoint Services. "All-in-One" refers to all SharePoint services and SQL running on a single Windows Server.

All-in-One server

- Dell™ PowerEdge™ two-socket server
 - 4 GB RAM
 - Disk space dependent on total amount of data. Separate RAID sets recommended for operating system, database, and log files
- Used for functionality testing (not performance testing), or workgroup collaboration with WSS
- Migration to a full-scale small, medium or large farm possible



SECTION 4.2

SMALL FARM

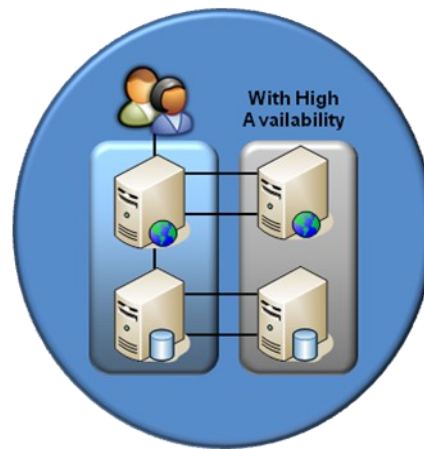
This solution is primarily intended for workgroup or small office environments wishing to utilize the advanced functionality of MOSS 2007. Two (2) servers make up this farm topology. The addition of a second Web Front-End server and a Database server can provide high availability options.

Web Front-End server

- Dell PowerEdge two-socket server
 - 4~8 GB RAM
 - (2) RAID-1 volumes: one for OS, one for SharePoint index catalog
 - Disk space calculated as 10-40% of total content to be indexed

Database server

- Dell PowerEdge two-socket server
 - 4~8 GB RAM
- Storage
 - (4) volumes; one RAID-1 for OS, one RAID-0 for TempDB, one RAID-10 for logs, and one RAID-10 for data files.
 - Calculate usable disk space for databases as 150% of total stored content
 - Use Dell internal, direct attached, iSCSI or fibre channel SAN
- Light to medium user load
- Limited indexing of SharePoint and external data
- Adding servers to this farm can provide high availability options



SECTION 4.3

MID-RANGE FARM

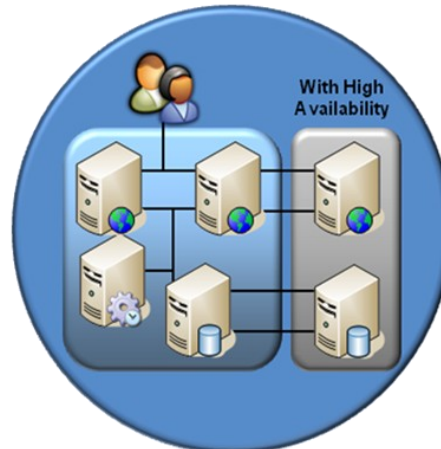
This solution is intended for larger offices utilizing a variety of the MOSS functional capabilities – Intranet sites, collaboration, workflow, and Indexing / Search. Four (4) servers make up this farm topology. The addition of another Web Front-End server and a Database server can provide high availability options.

(2) Web Front-End servers

- Dell PowerEdge two-socket server
 - 8 GB RAM
 - (2) volumes: one RAID-1 for OS and one RAID-5 for querying.
 - Disk space calculated as 10-40% of total content to be indexed

Database server

- Dell PowerEdge two-socket server
 - 8~16 GB RAM
 - Clustered SQL servers add high availability at the database server level.



- Storage
 - (4+) volumes; one RAID-1 for OS, one RAID-0 for TempDB, one or more RAID-10 for logs, and one or more RAID-10 for data files.
 - Calculate usable disk space for databases as 150% of total stored content
 - Use Dell internal, DAS, iSCSI or fiber channel storage
 - Keep databases, log files and temp DB all on separate LUNS whenever possible
 - Choose faster drives and higher spindle counts versus large drives
 - SQL Advisor tool is available at <http://www.dell.com/sql>

Application (Index) server

- Dell PowerEdge two-socket servers
 - 8 GB RAM
 - (1) RAID 5 volume
- Disk space calculated as 10-40% of total content to be indexed
- Medium to heavy user load
- Dedicated server for indexing of SharePoint and external data
- Windows Load Balancing shares user load across WFE servers
- Additional WFE and Application servers can increase performance, user capacity and add high availability.

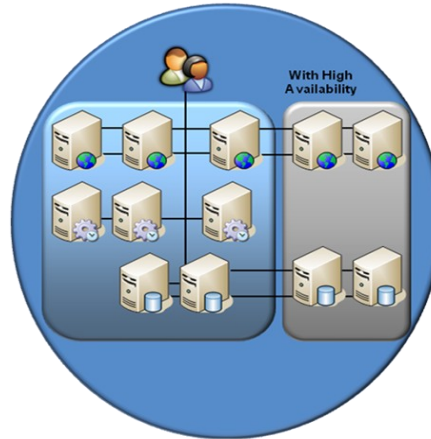
SECTION 4.4

LARGE FARM

This solution is intended for large enterprise SharePoint deployments, leveraging all of the functionality of MOSS – My Sites, Business Intelligence, Forms Services, Intranet, Content Management, collaboration, workflow, and Indexing / Search. Eight (8) initial servers make up this farm topology. The addition of more Web Front-End servers and clustered Database servers can provide further scalability and high availability options.

(3+) Web Front-End servers

- Dell PowerEdge two-socket servers
 - 8 GB RAM
 - (2) volumes: one RAID-1 for OS and one RAID-5 for querying.
 - Disk space calculated as 10-40% of total content to be indexed
 - Add servers to scale and for HA



(2+) Database servers

- Dell PowerEdge two-socket servers
 - 16 GB RAM
 - Clustered SQL servers add high availability at the database server level.
 - Use SQL mirroring to add DR capability
 - Add additional SQL clusters to scale
- Storage
 - (4+) volumes; one RAID-1 for OS, one RAID-0 for tempDB, one or more RAID-10 for logs, and one or more RAID-10 for data files.
 - Calculate usable disk space for databases as 150% of total stored content
 - Use Dell DAS, iSCSI or fibre channel storage
 - Keep databases, log files and temp DB all on separate LUNS
 - Choose faster drives and higher spindle counts versus large drives
 - A SQL Advisor tool is available at <http://www.dell.com/sql>

(3+) Application (Index, Excel) servers

- Dell PowerEdge two-socket servers
 - 8 GB RAM
 - (1) RAID 5 volume
 - Disk space calculated as 10-40% of total content to be indexed
- Heavy user load
- Dedicated servers for SharePoint indexing and/or Excel Services
- Windows Load Balancing shares user load across WFE servers
- Additional WFE and Application servers can increase performance, user capacity and add high availability.

SECTION 5

SUMMARY

Microsoft Office SharePoint Server 2007 is a highly scalable information sharing platform that can meet the needs of organizations of all sizes. The business requirements and intended usage for SharePoint must be considered in order to determine the appropriate server topology. Four (4) server models have been identified as a starting point for sizing an implementation of SharePoint: All-in-one, Small, Mid-Range, and Large.

Please contact your Dell Sales Representative for assistance.

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