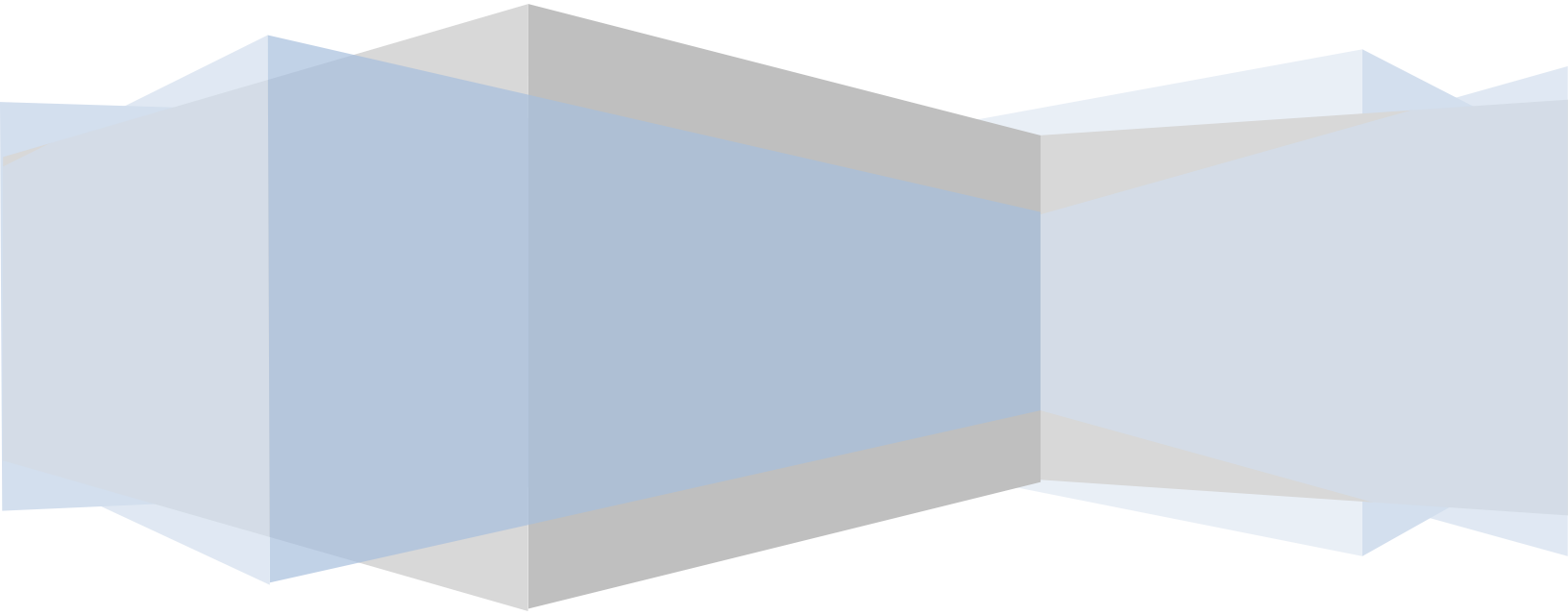
Windows Server 2008 Essentials

Installation, Deployment and Management



Windows Server 2008 Essentials – First Edition

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Chapter 1. About Windows Server 2008 Essentials

Consisting of 35 chapters of detailed, in depth and practical information, Windows Server 2008 Essentials is intended to cover all aspects of installing, configuring and administering Windows Server 2008 systems. Whether new to Microsoft's Windows Server operating systems, or upgrading from Windows Server 2003, this eBook is designed to help the reader traverse the learning curve as rapidly as possible.

Topics covered in this publication include installation and upgrades, networking configuration, terminal services, disk and partition management, RAID configuration, security, BitLocker encryption, remote desktop access, print services, resource sharing, clustering, load balancing and user permission management.

In addition to providing a detailed overview of the features and functions of Windows Server 2008, this on-line book also provides practical, step by step examples intended to bridge the gap between text book theory and real world practice.

Chapter 2. Windows Server 2008 Editions and System Requirements

Before embarking on the installation of Windows Server 2008, it is important to first gain an understanding of the different editions available and the corresponding hardware requirements. It is also important to be aware of the upgrade options available with each edition. With this objective in mind, this chapter will focus on providing an overview of both the different Windows Server 2008 editions and the recommended hardware requirements.

2.1 Windows Server 2008 Standard Edition

Windows Server 2008 Standard is one of Microsoft's entry level server offerings (alongside Windows Web Server 2008) and is one of the least expensive of the various editions available. Both 32-bit and 64-bit versions are available, and in terms of hardware Standard Edition supports up to 4GB of RAM and 4 processors.

Windows Server 2008 is primarily targeted and small and mid-sized businesses (SMBs) and is ideal for providing domain, web, DNS, remote access, print, file and application services. Support for clustering, however, is notably absent from this edition.

An upgrade path to Windows Server 2008 Standard is available from Windows 2000 Server and Windows Server 2003 Standard Edition.

2.2 Windows Server 2008 Enterprise Edition

Windows Server 2008 Enterprise Edition provides greater functionality and scalability than the Standard Edition. As with Standard Edition both 32-bit and 64-bit versions are available. Enhancements include support for as many as 8 processors and up to 64GB of RAM on 32-bit systems and 2TB of RAM on 64-bit systems.

Additional features of the Enterprise edition include support for clusters of up to 8 nodes and Active Directory Federated Services (AD FS).

Windows Server 2000, Windows 2000 Advanced Server, Windows Server 2003 Standard Edition and Windows Server 2003 Enterprise Edition may all be upgraded to Windows Server 2008 Enterprise Edition.

2.3 Windows Server 2008 Datacenter Edition

The Datacenter edition represents the top end of the Windows Server 2008 product range and is targeted at mission critical enterprises requiring stability and high uptime levels. Windows Server 2008 Datacenter edition is tied closely to the underlying hardware through the

implementation of custom Hardware Abstraction Layers (HAL). As such, it is currently only possible to obtain Datacenter edition as part of a hardware purchase.

As with other versions, the Datacenter edition is available in 32-bit and 64-bit versions and supports 64GB of RAM on 32-bit systems and up to 2TB of RAM on 64-bit systems. In addition, this edition supports a minimum of 8 processors up to a maximum of 64.

Upgrade paths to Windows Server 2008 Datacenter Edition are available from the Datacenter editions of Windows 2000 and 2003.

2.4 Windows Web Server 2008

Windows Web Server 2008 is essentially a version of Windows Server 2008 designed primarily for the purpose of providing web services. It includes Internet Information Services (IIS) 7.0 along with associated services such as Simple Mail Transfer Protocol (SMTP) and Telnet. It is available in 32-bit and 64-bit versions and supports up to 4 processors. RAM is limited to 4GB and 32GB on 32-bit and 64-bit systems respectively.

Windows Web Server 2008 lacks many of the features present in other editions such as clustering, BitLocker drive encryption, multipath I/O, Windows Internet Naming Service (WINS), Removable Storage Management and SAN Management.

2.5 Windows Server 2008 Features Matrix

Now that we have covered in general terms the various different editions of Windows Server 2008 we can now look in a little more detail at a feature by feature comparison of the four different editions. This is outlined in the following feature matrix:

Feature	Enterprise	Datacenter	Standard	Web	Itanium
ADFS Web Agent	Yes	Yes	Yes	No	No
Directory uIDM	Yes	Yes	Yes	No	No
Desktop Experience	Yes	Yes	Yes	Yes	No
Windows Clustering	Yes	Yes	No	No	Yes
Windows Server Backup	Yes	Yes	Yes	Yes	Yes
Windows Network Load Balancing (WNLB)	Yes	Yes	Yes	Yes	Yes

Simple TCP/IP Services	Yes	Yes	Yes	No	Yes
SMTP	Yes	Yes	Yes	Yes	No
Subsystem for Unix-Based Applications (SUA)	Yes	Yes	Yes	No	Yes
Telnet Client	Yes	Yes	Yes	Yes	Yes
Telnet Server	Yes	Yes	Yes	Yes	Yes
Microsoft Message Queuing (MSMQ)	Yes	Yes	Yes	No	Yes
RPC Over HTTP Proxy	Yes	Yes	Yes	No	Yes
Windows Internet Naming Service (WINS)	Yes	Yes	Yes	No	No
Wireless Client	Yes	Yes	Yes	No	No
Windows System Resource Manager (WSRM)	Yes	Yes	Yes	Yes	Yes
Simple SAN Management	Yes	Yes	Yes	No	No
LPR Port Monitor	Yes	Yes	Yes	No	No
The Windows Foundation Components for WinFX	Yes	Yes	Yes	Yes	Yes
BITS Server Extensions	Yes	Yes	Yes	No	Yes
iSNS Server Service	Yes	Yes	Yes	Yes	No
BitLocker Drive Encryption	Yes	Yes	Yes	No	Yes
Multipath IO	Yes	Yes	Yes	No	Yes
Removable Storage Management	Yes	Yes	Yes	No	Yes

TFTP	Yes	Yes	Yes	No	Yes
SNMP	Yes	Yes	Yes	Yes	Yes
Server Admin Pack	Yes	Yes	Yes	Yes	No
RDC	Yes	Yes	Yes	No	Yes
Peer-to-Peer Name Resolution Protocol	Yes	Yes	Yes	Yes	Yes
Recovery Disk	Yes	Yes	Yes	Yes	Yes
Windows PowerShell	Yes	Yes	Yes	Yes	Yes

2.6 Windows Server 2008 Hardware Requirements

Before investing time and resources into downloading and installing Windows Server 2008, the first step is to gain an appreciation of the hardware requirements necessary to effectively run the operating system. The following table provides an overview of Microsoft's recommended minimum hardware:

Category	Minimum / Recommended Requirements
Processor	• Minimum: 1GHz (x86 processor) or 1.4GHz (x64 processor) • Recommended: 2GHz or faster **Note:** For Itanium based systems an Intel Itanium 2 processor is required.
Memory	• Minimum: 512MB RAM • Recommended: 2GB RAM or greater • Maximum (32-bit systems): 4GB (Standard) or 64GB (Enterprise and Datacenter) • Maximum (64-bit systems): 32GB (Standard) or 2TB (Enterprise, Datacenter and Itanium-Based Systems)
Available Disk Space	• Minimum: 10GB • Recommended: 40GB or greater **Note:** Systems with RAM in excess of 16GB will require greater amounts of disk space to accommodate paging, hibernation, and dump files
Drive	DVD-ROM drive
Display and Peripherals	• Super VGA or greater-resolution monitor (800x600) • Keyboard

	• Microsoft Mouse or compatible pointing device

As with the specified system requirements for all Windows systems it is best to aim for the *Recommended* values rather than the *Minimum* values to ensure acceptable levels of performance. For example, whilst it is possible to run Windows Server 2008 in 512MB of RAM it is unlikely that performance levels will be optimal with such a configuration.