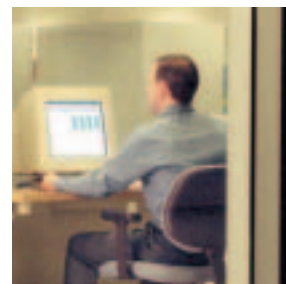
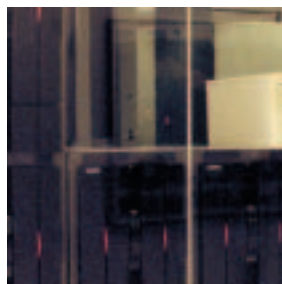


# The benefits of HP NAS running Windows Storage Server 2003

The intent of this data sheet is to present HP's Windows Storage Server 2003 NAS product feature sets. This paper will also discuss key advantages of WSS 2003 compared to previous generation Windows powered NAS.



## What is Windows Storage Server 2003?

Microsoft® Windows® Storage Server 2003 is a network attached storage (NAS) operating system that enables original equipment manufacturers to build appliances that provide dedicated file serving capabilities and storage on the network. Windows Storage Server 2003 is built on top of Microsoft Windows Server™ 2003, which ensures that HP StorageWorks NAS devices built upon the Windows Storage Server operating system have all the performance and scalability benefits associated with Windows Server 2003. A NAS appliance built Windows Storage Server 2003 is designed to perform without requiring a monitor, keyboard and mouse. Instead, this "headless" appliance is remotely managed through a Web-based user interface for the minimal configuration tasks required for setup. Unlike application servers which require proper planning to implement well, HP StorageWorks NAS devices built with Windows Storage Server 2003 are designed to be deployed in under 15 minutes, and can be attached directly to the company local area network (LAN) with no interruption to services. Once plugged in, these NAS devices require minimal maintenance. Unlike proprietary solutions, Windows Storage Server 2003 works with standard HP ProLiant and HP StorageWorks hardware from multiple original equipment manufacturers (OEMs).

## Advantages of Windows Storage Server 2003

Windows Storage Server 2003 is designed for simplicity, reliability and performance. HP StorageWorks NAS appliances built on Windows Storage Server operating system integrate seamlessly into the IT network to provide one of the most economical file serving and network attached storage solutions available to departmental and enterprise-sized businesses.

### • Ease of Deployment

Depending on the expertise of the system administrator and the complexity of the computing environment, installation of an application or general purpose server can take anywhere from several hours to a day or more of work. Because Windows Storage Server 2003 comes preconfigured, other than using the web browser interface to set up users and shares, the only installation work necessary is plugging the device into the company LAN. In less than 15 minutes, gigabytes to terabytes of storage can be made available to users across multiple OS platforms.

### • Simple Management

Windows Storage Server 2003 can be managed remotely through Terminal Services sessions or through a Web browser interface from any desktop on the network. Because Windows Storage Server 2003 uses the Windows operating system, administrators already familiar with Windows do not have to learn a new NAS operating system.

- **Dependability**

Windows Storage Server 2003 is designed to fully support redundant hardware components – disks, power supplies and fans – to provide continuous and uninterrupted availability should a hardware failure occur. And because NAS devices are designed this way, the potential points of hardware failure are fewer than with general purpose servers.

- **Enhanced Data Protection**

Through built-in point-in-time shadow technology, Windows Storage Server 2003 helps businesses keep their data online 24x7 year-round. Using the infrastructure provided by Windows Server 2003 Volume Shadow Copy Service (VSS), the system administrator can use point-in-time shadow copy technologies to make up to 512 snapshots per volume using NTBACKUP (of which 64 are reserved for Shadow Copies for Shared Folders). These shadow copy backups are available for rapid restores should the need arise. Unlike tape backups which can take hours to restore, these shadow copy backups can be restored in minutes.

The end user can also benefit from point in time imaging technologies, using the Shadow Copies for Shared Folders (SCSF) feature. SCSF enables users to restore accidentally deleted or overwritten files or entire folders without the need for IT intervention. A maximum of 64 SCSF per volume can be created.

- **ISV Utility Support**

HP StorageWorks NAS devices developed with Windows Storage Server 2003 include all of the benefits of application support available in Windows Server 2003. Critical ISV utilities, such as antivirus, backup, replication and disk quota software, are immediately available and supported in Windows Storage Server 2003. NAS devices not based on Windows Storage Server 2003 are not able to support these kinds of products without special versions, or those operational procedures must be performed from application servers on the NAS files and file.

- **Robust Security**

Because it can be integrated seamlessly with Active Directory services, Windows Storage Server 2003 can take advantage of the Windows security features such as data and file encryption, network authentication, secure network transport, and network wide group policies.

- **Load Balancing and Server Fail Over**

Windows Storage Server 2003 integrates effectively with the Distributed File System, enabling effective management of the servers and files on the business network. DFS works to provide a single hierarchical view all the servers and their shares. Replicating the data across multiple servers and keeping the data synchronized with File Replication Service (FRS) is an effective way to balance the network load. In the event that a server fails, DFS will automatically redirect clients to the closest available server.

## Quick Comparison

### Windows Powered OS NAS vs. Windows Storage Server 2003

The principal difference between HP's Windows Powered OS (WPOS) NAS and Windows Storage Server 2003 (WSS2003) NAS product lines is the base operating system. WPOS is based on Microsoft's Windows 2000 Advanced Server and include modifications for enhanced file serving performance and heterogeneous protocol support. WSS 2003 is built from Microsoft's Windows 2003 Server Family and also contain further file serving performance enhancements and capabilities. The following chart supplies a quick overview comparison between these two product lines.

Features	HP WPOS NAS	HP WSS2003 NAS
<b>General</b>		
Based Operating System	Windows2000 Advanced Server	Windows2003 Standard and Enterprise Server Family
Print Support	No	Yes
ADS support	Yes	Yes
Security Packages	Yes (all supported security packages)	Yes (all supported security packages)
<b>Protocol Support</b>		
SMB/ CIFS	Yes	Yes
NFS	Yes (Based on SFU 2.3. Contains Server For NFS, NFS authentication, user name mapping, unix-command line tools, password synchronization, and activestate perl)	Yes (Based on NAS 3.0 SFU. Contains Server for NFS, NFS authentication, and user name mapping)  No (missing password synchronization, unix-command line tools and activestate perl)
Appletalk (AFTP)	Yes	Yes
Http	Yes	Yes
WebDAV	Yes (must download from MSFT)	Yes
Novell Netware (IPX / SPX)	Yes (WEB UI and remote desktop support)	Yes (management through remote desktop only)
DFS	Yes (single-root)	Yes (multi-root support)
NETBEUI	Yes	Yes

<b>Transport</b>		
Fibre Channel	Yes	Yes
SCSI	Yes	Yes
ISCSI	No	No
Ethernet	Yes	Yes
MultiPath IO (MPIO)	Yes (SecurePath)	Yes (SecurePath)
<b>Software Support</b>		
IIS	Yes (IIS v 5.0)	Yes (IIS v. 6.0)
Remote Data Replication	Hp DataCopy 2.2.x	OpenView Storage Mirroring (November)
Backup (via 3rd party)	Yes	Yes
Anti-Virus	Yes	Yes
Replication (FRS)	Yes	Yes
<b>Management</b>		
WEB UI	Yes	Yes
Remote Desktop for Administration	Yes	Yes
VDS support	No	Yes
SNMP	Yes	Yes
Telnet	Yes	Yes
MultiDevice Manager (MDM)	Yes	No (discontinued: MDM has been replaced by Automated Deployment Services (ADS))
Quota Management	Yes	Yes
Local UI	Yes	Yes
Watchdog Timer	Yes	Yes
System Monitoring	Yes	Yes
Localization	Yes (English, Japanese)	Yes (English)
<b>Reliability / Availability</b>		
Snapshot	Yes (CDP PSM)	Yes (Microsoft VSS)
Clustering	Yes (2 nodes maximum)	Yes (8 nodes maximum)
RAID	Yes (0,1,5, ADG, etc...)	Yes (0,1,5, ADG, etc...)

**Chart 1:** A quick comparison of HP's WPOS and SS2003 Product lines

## VSS Snapshot Features

A key difference for Windows Storage Server 2003 is that with Microsoft's Volume Shadow Copy Service (VSS) a native snapshot software solution is embedded. The attached table provides a summary of key features available through VSS.

<b>Features</b>	<b>Microsoft VSS</b>
Maximum number of snapshots	512 total snapshots, 64 shadow copies
Maximum number of volumes	Unlimited
Read-write snapshots	No
Configure location of snapshot in a different volume	Yes
Dynamically changing snapshot file size	Yes
Mounting snapshots in user-accessible namespace (i.e. mountpoint)	No
Volume Restore	No
Upgrading of snapshot components	No
Scriptable volume revert	No
GUI interface	Yes
Volume Defragmentation	Yes (limited support depending upon bus and IO load)
CIFS user access	Yes (users must install client software. Client software is currently only supported for XP, 98 2 <sup>nd</sup> Ed., 2000, and 2003)
NFS user access	Yes
Cluster support	Yes
Cluster scheduled jobs support	No

**Chart 2:** A detailed feature list of Microsoft's VSS snapshot technology



For more information please visit:  
[www.hp.com/eur/easyasnas](http://www.hp.com/eur/easyasnas)

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