



# Tips and tricks for optimizing Microsoft Windows Server 2003 with Service Pack 1 on ProLiant servers

integration note, 2<sup>nd</sup> edition

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# Abstract

This integration note includes the latest tips, shortcuts, enhanced commands, and software tool descriptions enabling network administrators, developers, and other users to optimize the many features of Microsoft® Windows® Server 2003 with Service Pack 1 (SP1).

Tips and tricks are presented for the following areas:

- General Windows Server 2003 with SP1 information and commands for drivers, utilities, and software applications
- Server installation and configuration, memory, processors, networking, management, and storage

The following symbol is used throughout this document to represent the tips and tricks:

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**TIP:**

Text set off in this manner contains tips that make it easier to perform a certain task.

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## Introduction

For more than 20 years, HP and Microsoft engineers and service teams have worked side-by-side researching, developing, and testing solutions to meet the most demanding business objectives and to help companies drive new business development efforts. HP and Microsoft continue their winning partnership with the release of Windows Server 2003 with SP1.

Throughout this integration note, tips and tricks are provided in an effort to efficiently upgrade to the Microsoft server operating system. These tips are based on the experiences of HP engineers installing Windows Server 2003 with SP1 on a variety of ProLiant servers. Tips for optimizing HP value-add products are also included, as well as pertinent information regarding optimal functionality of management products.

## General server operating system tips

This section provides users with general Windows Server 2003 with SP1 server operating system tips.

Before deciding on an upgrade strategy, take the time to cleanup your current system. It will save time in the actual design and pilot your system.

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### TIP:

- Clean up your master user domain namespaces and resolve duplicate names across the enterprise and resolve duplicate usernames across the enterprise.
  - Clean up Windows Internet Naming Service (WINS) and ensure that it works properly.
  - Consolidate your DNS architecture and administration.
  - Collapse unneeded resource domains.
  - Audit your security environment.
  - Ensure that all third-party products are compatible with Windows Server 2003 with SP1.
  - Upgrade the servers and options to capitalize on the performance and scalability of Windows Server 2003 with SP1.
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For users who would like to make the jump to the interface easier, follow the tip below.

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### TIP:

To change the view of the desktop, graphical user interface (GUI), and Start menu to look more like the Microsoft Windows 2000 interface:

1. Right click on the **Start** button on the taskbar.
  2. Select **Properties**.
  3. Select **Classic Start Menu**.
- 

### TIP:

Visit the Microsoft Windows Server 2003 Product Support Center: [www.microsoft.com/technet/downloads/winsrvr/servicepacks/sp1/default.msp](http://www.microsoft.com/technet/downloads/winsrvr/servicepacks/sp1/default.msp). This website contains detailed HOWTOs and instructions for performing tasks that will enhance the Windows Server 2003 with SP1 experience.

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## Software tips

This section provides users with Windows Server 2003 with SP1 driver and utility tips. Many of the drivers and utilities that HP provides can be found on the ProLiant Essentials Foundation Pack.

Information about additional drivers and utilities supporting Windows Server 2003 with SP1 is available at [www.hp.com/servers/manage](http://www.hp.com/servers/manage).

The ProLiant Support Pack (PSP) is an advanced software delivery tool replacing the SSD utility. It also includes an installer that analyzes system requirements and installs all the necessary drivers. Some elements of the PSP for Microsoft Windows Server 2003 are superseded by the components residing on the Windows Server 2003 with SP1 media or are otherwise supported for use with Windows Server 2003 with SP1.

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**TIP:**

If management functionality is desired before installing the PSP, ensure that the **Management and Monitoring Tools** are selected, installed, and configured before installation (refer to the [Configuring SNMP settings for Insight Management Agents and HP Systems Insight Manager](#) section of this document for details). If not done properly, the Insight Management Agents will not work, requiring a re-install of the PSP.

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## Hardware and firmware tips

The following sections emphasize tips and tricks that may be helpful to server installation, configuration, memory/processor functionality, and networking.

### Server installation and configuration tips

The ROM-Based Setup Utility (RBSU) is available on all second generation and later ProLiant servers. This configuration utility is embedded in the system ROM and is available by pressing the F9 key.

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**TIP:**

When installing Microsoft Windows Server 2003 with SP1 on a fully populated ProLiant DL760 G2 containing 8 processors with hyper-threading enabled, it is important to select the Windows Server 2003 OS option, if this option is not selected, the proper number of processors may not be seen by the Microsoft server operating system.

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**TIP:**

Before installing or upgrading to Microsoft Windows Server 2003 with SP1 make sure that the server ROM and system firmware is upgraded to the latest available by checking the Support & drivers website, [www.hp.com/cgi-bin/hpsupport/index.pl](http://www.hp.com/cgi-bin/hpsupport/index.pl).

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## Memory and processor tips

Intel's Hyper-Threading technology enables the ProLiant server to work more efficiently by maximizing processor resources and enabling a single processor to run two separate threads of software simultaneously, potentially providing greater throughput and improved performance.

Microsoft Windows-based servers receive processor information from the BIOS. When examining the processor count provided by the BIOS, Windows Server 2003 with SP1 distinguishes between logical

and physical processors, regardless of how they are counted by the BIOS. Windows Server 2003 with SP1 only treats physical processors as counting against the license limit.

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**TIP:**

On ProLiant servers, Hyper-Threading can be enabled or disabled through RBSU. The support is enabled by default. Most ProLiant Generation 2 (G2) and later servers have the RBSU embedded in the system ROM. For a list of servers supporting this feature, refer to [Appendix A: RBSU-enabled servers](#).

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## Networking tips

Microsoft Active Server Pages (ASP), ASPXs and ISAPI applications must be enabled in Internet Information Server (IIS) at or subsequent to IIS installation since by default they are not enabled.

During setup of IIS, an administrator has the opportunity to enable ASPX and FrontPage extensions. If you need more information, see the Frequently Asked Questions at [www.microsoft.com/windowsserver2003/community/centers/iis/iis\\_faq.asp](http://www.microsoft.com/windowsserver2003/community/centers/iis/iis_faq.asp).

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**TIP:**

ISAPI or ASP applications are going to run properly, these must be enabled after initial setup using the IIS administration console in Microsoft Windows Server 2003 with SP1.

For information on enabling ISAPI and ASP's see the "Technical Overview of Internet Information Services (IIS) 6.0" white paper at [www.microsoft.com/windowsserver2003/techinfo/overview/iis.mspx](http://www.microsoft.com/windowsserver2003/techinfo/overview/iis.mspx).

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## Management tips

HP offers management products and software designed to make the IT administrator's job easier and more efficient. Four of these solutions include Integrated Lights-Out (iLO), Remote Insight Lights-Out Edition II (RILOE II), Lights-Out 100 Remote Management, and Systems Insight Manager.

### Improving mouse and display properties with remote management products

Through the integrated remote graphics console support in the firmware, iLO and RILOE II provide seamless access to the server in full graphics mode, without requiring the installation of any software on host server and management client.

The mouse response and performance in the graphical remote console of iLO and RILOE II can be significantly improved by following a few simple steps. It only takes a few minutes to make these settings on the host server.

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**TIP:****Server mouse properties tips**

HP recommends users implement the following steps.

- Select **None** for mouse pointer scheme.
  - Select **Disable Pointer Trails**.
  - Disable pointer shadow.
  - Set the Mouse settings for Remote Console at 75-80% (mouse speed up).
  - Disable Enhanced Pointer Precision.
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**TIP:****Server display properties tips**

HP recommends users implement the following settings.

- Plain Background (no wallpaper pattern)
  - Smaller display resolutions (800x600 or 1024x768 pixels)
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## Performing remote management with Microsoft Emergency Management Services

Windows Server 2003 with SP1 features Emergency Management Services (EMS). EMS console provides a text-based screen to access a host server on select ProLiant servers using Windows Server 2003 with SP1.

The typical usage model for the EMS console is to physically connect a serial cable to a server, thus enabling headless server management. ProLiant blade servers require that the serial port be accessed via the diagnostic adapter. This capability is beneficial to customers with a serial infrastructure already in place. It then becomes possible to use the same infrastructure with Windows Server 2003 with SP1. Additional information is available on “headless server” operation and the design of Emergency Management Services at [www.microsoft.com/hwdev/platform/server/headless/default.asp](http://www.microsoft.com/hwdev/platform/server/headless/default.asp)

Microsoft EMS gives you the ability to display running processes, change the priority of processes, and halt processes. The EMS console and iLO Remote Console may be used at the same time. iLO EMS is available over the network through a Web browser.

### iLO driver support

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**TIP:**

The device drivers that support iLO are part of the PSP that is located on the HP website ([www.hp.com/cgi-bin/hpsupport/index.pl](http://www.hp.com/cgi-bin/hpsupport/index.pl)) or on the SmartStart CD.

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**TIP:**

If you are updating the RILOE II drivers, make sure that RILOE II is running the latest version of the RILOE II firmware. The latest version can be obtained as a Smart Component from the HP website at [www.hp.com/servers/lights-out](http://www.hp.com/servers/lights-out).

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RILOE II redirects this console to the remote client via the Ethernet. This feature only works on ProLiant servers with the latest ROMs. If a valid ROM is not detected, the EMS choice will be grayed out in the browser interface.

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**TIP:**

1. Validate that the system supports EMS.
  2. Use `bootcfg` to auto update the boot file for EMS.
  3. To enable EMS Console on the OS side, type `"bootcfg /ems on /port biosset /id 3"`.
  4. At the DOS prompt type `"bootcfg /ems /?"` for further help on available options and commands.
- 

Lights-Out 100 Remote Management accesses the Windows EMS console remotely by establishing a telnet session to the IP address of the target server from a client PC. Consult the operating system documentation for further details on establishing telnet sessions. For Windows EMS console configuration information, refer to the appropriate Lights-Out 100 Remote Management user guide at <http://h18004.www1.hp.com/products/servers/management/remotemgmt/lightsout100/index.html>.

## Using virtual media devices

iLO Virtual Media is advanced functionality enabled by licensing the optional Integrated Lights-Out (iLO) Advanced Pack. If not licensed, the message *"iLO feature not licensed"* displays. iLO Virtual Media provides the administrator with a Virtual Floppy drive and a Virtual CD drive.

iLO Virtual Media devices connect to the host server using Universal Serial Bus (USB) technology and devices are available when the host system is booting. Using USB also enables capabilities for devices when connected to USB supported operating systems.

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**TIP:**

The iLO Virtual Media devices are available to the host operating system, on USB-supported operating systems, without any additional HP drivers running on the server. USB drivers are provided on the Windows Server 2003 CD-ROM.

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## Configuring SNMP settings for Insight Management Agents and HP Systems Insight Manager

Simple Network Management Protocol (SNMP) settings must be configured to ensure that the server accepts SNMP packets from HP Systems Insight Manager console and from any other SNMP management consoles on the network.

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**TIP:**

For more information on SNMP settings see the HOW TO "Configure the Simple Network Management Protocol (SNMP) Service in Windows Server 2003" at <http://support.microsoft.com/default.aspx?scid=kb;en-us;324263>.

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By default, Windows Server 2003 with SP1 accepts SNMP packets only from localhost and not from any remote management workstations. By default, the Systems Insight Manager automatic discovery option will not locate Windows Server 2003 with SP1 or any other SNMP auto-discover tool.

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**TIP:**

Once SNMP is installed on Windows Server 2003 with SP1, a community string for Insight Management Agents should be added allowing Systems Insight Manager to manage the system. For discovery purposes, the administrator should be using the same community string on the server and in Systems Insight Manager.

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If you want the functionality of the Insight Management Agents, install the SNMP prior to installing the ProLiant Support Pack, which contains the agents.

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**TIP:**

To install SNMP:

1. Select the **Control Panel** from the Start menu.
  2. Select **Add/Remove Programs**.
  3. Click the **Add/Remove Windows Components** button.
  4. Select **Management and Monitoring Tools** from the list of components.
  5. Click the **Details** button.
  6. Select **Simple Network Management Protocol** so that a checkmark is displayed in the checkbox.
  7. Click the **OK** button, and then the **Next** button.
  8. Click the **Finish** button.
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## Storage tips

Windows Server 2003 with SP1 provides integrated storage and backup features that offer reliable storage management of disks, volumes, and Storage Area Networks (SANs).

The Volume Shadow Copy and Restore service allows administrators to configure point in time backup of critical data volumes without interrupting service. Shadow Copy also supports open file backup permitting applications to continue to run while backup is in progress.

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**TIP:**

Administrators can control the mounting of volumes with the aid of a SAN friendly button. This benefit protects volumes from unintentional access.

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See the Frequently Asked Questions for specific information on "[Making Shadow Copies of Shared Folders](#)." Visit "[What's New in Storage Management](#)" for additional information about storage features available in Windows Server 2003.

## Conclusion

Throughout this document tips and tricks have been made available for optimizing Microsoft Windows Server 2003 with SP1 on ProLiant servers. HP and Microsoft are continuously working together to understand customers' evolving needs and to use that knowledge to provide better solutions.

If you need additional information about the HP and Microsoft Gold Certified Partnership, visit us at the Frontline Partnership.

## Appendix A: RSBU-enabled servers

The ProLiant servers listed below are pre-configured with RBSU.

<b>ProLiant BL servers</b>	<b>ProLiant DL servers</b>	<b>ProLiant ML servers</b>
ProLiant BL10e	ProLiant DL320	ProLiant ML310
ProLiant BL20p	ProLiant DL360 G2	ProLiant ML330 G2
ProLiant BL20p G2	ProLiant DL360 G4p	ProLiant ML350 G2
ProLiant BL40p	ProLiant DL380 G2	ProLiant ML350 G3
	ProLiant DL560	ProLiant ML370 G2
	ProLiant DL580 G2	ProLiant ML370 G3
	ProLiant DL740	ProLiant ML530 G2
	ProLiant DL760	ProLiant ML570 G2
	ProLiant DL760 G2	ProLiant ML570 G3
		ProLiant ML750

## For more information

For more information about Windows Server 2003, visit the Windows Server 2003 support page at [www.hp.com/go/microsoft](http://www.hp.com/go/microsoft) and the Microsoft website ([www.microsoft.com/](http://www.microsoft.com/)).

## Call to action

To help us better understand and meet your needs for ISS technology information, please send comments about this paper to: [TechCom@HP.com](mailto:TechCom@HP.com).

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