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# tips and tricks for optimizing Microsoft Windows Server 2003 on ProLiant servers

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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 the Microsoft® Windows® Server 2003 operating system (OS).

Tips and tricks are presented for the following areas:

- general Windows Server 2003 operating system information and commands for drivers, utilities, and software applications
- server installation and configuration, memory, processors, networking, management, and storage

## symbols in text

The following symbols can be found in the text of this document:



**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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**IMPORTANT:** Text set off in this manner presents clarifying information or specific instructions.

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

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**Note:** Text set off in this manner presents commentary, sidelights, or interesting points of information.

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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.

Throughout this integration note, tips and tricks are provided in an effort to efficiently upgrade to the new Windows operating system. These tips are based on the experiences of HP engineers installing Windows Server 2003 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.

## preparing your system for Windows 2003 Server

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 new system.



- 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.
- Upgrade the servers and options to capitalize on the performance and scalability of Windows Server 2003.

## general OS tips

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

For users who would like to make the jump to the interface easier, follow the tip below.



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**.



Visit the Microsoft Windows Server 2003 Product Support Center at <http://support.microsoft.com/default.aspx?scid=fh;en-us;winsvr2003>. This website contains detailed HOWTOs and instructions for performing tasks that will enhance the Windows Server 2003 experience.

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## software tips

This section provides users with Windows Server 2003 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 is available at [www.hp.com/servers/manage](http://www.hp.com/servers/manage).

### ProLiant Support Pack

The ProLiant Support Pack 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 ProLiant Support Pack for Microsoft Windows Server 2003 are superseded by the components residing on the Windows Server 2003 media or are otherwise supported for use with Windows Server 2003.



If management functionality is desired before installing the ProLiant Support Pack (PSP), ensure that the **Management and Monitoring Tools** are selected, installed, and configured before installation. If not done properly, the Agents will not work, requiring a re-install of the PSP.

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## hardware and firmware tips

### server installation and configuration tips

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

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.



When installing Microsoft Windows Server 2003 on a fully populated ProLiant DL 760 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 OS.

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Before installing or upgrading to Microsoft Windows Server 2003 make sure that the server ROM and system firmware is upgraded to the latest available from the HP website at <http://h18023.www1.hp.com/support/files/server/us/romtabl.html>.

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For additional information on Intel's Hyper-Threading technology, see the memory and processor tips section.

## memory and processor tips

Intel's Hyper-Threading technology enables the ProLiant server 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 distinguishes between logical and physical processors, regardless of how they are counted by the BIOS. This provides a powerful advantage over Microsoft Windows 2000, in that Windows Server 2003 only treats physical processors as counting against the license limit.



On ProLiant servers, Hyper-Threading can be enabled or disabled through RBSU. The support is enabled by default. Most ProLiant Generation 2 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.

## networking tips

Microsoft Active Server Pages (ASPs), 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).



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.

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.msp](http://www.microsoft.com/windowsserver2003/techinfo/overview/iis.msp).

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## management tips

### Integrated Lights-Out and Remote Insight Lights-Out Edition II

HP offers management products and software designed to make the IT administrator's job easier and more efficient. Three of these solutions include Integrated Lights-Out (iLO), Remote Insight Lights-Out Edition II (RiLOE II), and Insight Manager 7.

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.



#### 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.



#### server display properties tips

HP recommends users implement the following settings.

- Plain Background (no wallpaper pattern)
  - Smaller display resolutions (800x600 or 1024x768 pixels)
-

iLO Remote Console,  
RiLOE II and  
Emergency  
Management Services  
Virtual Console

A new feature of Windows Server 2003 is the Emergency Management Services (EMS). EMS console provides a text-based screen to access a host server on select ProLiant servers using Windows Server 2003.

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. 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

The device drivers that support iLO are part of the PSP that is located on the HP website (<http://h18023.www1.hp.com/support/files/server/us/>) or on the SmartStart CD.

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**Note:** iLO is not included on the HP ProLiant BL10e blade server. Remote Insight Lights-Out Edition II (RiLOE II) is not an available option on the ProLiant BL10e server at this time.

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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.



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.

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For more details on using Emergency Management Services, see the Microsoft white paper located at [www.microsoft.com/hwdev/platform/server/headless/default.asp](http://www.microsoft.com/hwdev/platform/server/headless/default.asp).

## SNMP communities and ProLiant Management Agents

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



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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SNMP defaults in Windows Server 2003 vary from the Windows 2000 defaults. By default, Windows Server 2003 accepts SNMP packets only from localhost and not from any remote management workstations. By default, the Insight Manager 7 automatic discovery option will not locate Windows Server 2003 or any other SNMP auto-discover tool.



Once SNMP is installed on Windows Server 2003, a community string for ProLiant Management Agents should be added allowing Insight Manager to manage the system. For discovery purposes, the administrator should be using the same community string on the server and in Insight Manager 7.

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## installing SNMP

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



To install SNMP:

- Select the **Control Panel** from the Start menu.
  - Select **Add/Remove** Programs.
  - Click the **Add/Remove Windows Components** button.
  - Select **Management and Monitoring Tools** from the list of components.
  - Click the **Details** button.
  - Select **Simple Network Management Protocol** so that a checkmark is displayed in the checkbox.
  - Click the **OK** button, and then the **Next** button.
  - Click the **Finish** button.
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## iLO Virtual Media

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*” will be displayed. iLO Virtual Media provides the administrator with a Virtual Floppy disk 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 new capabilities for devices when connected to USB supported operating systems.



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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## storage tips

With the release of Windows Server 2003, new integrated storage and backup features 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.

See the Frequently Asked Questions for specific information on “[Making Shadow Copies of Shared Folders.](#)”



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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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 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.

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

## for more information

For more information about Windows Server 2003, visit the Windows Server 2003 support page at <http://h18001.www1.hp.com/partners/microsoft/windowsserver2003/support.html> and the Microsoft website ([www.microsoft.com/](http://www.microsoft.com/)).

## feedback

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