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integration note

deployment of Microsoft Windows .NET Enterprise Server 64-bit Edition on ProLiant DL590/64 servers

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abstract

Compaq, a wholly owned subsidiary of Hewlett-Packard Company, introduced a server based on the Intel® Itanium™ architecture in July 2001. In addition to the new processor technology, the ProLiant DL590/64 platform introduces some other new technologies that make it substantially different from previous Intel processor-based platforms.

In support of the Itanium processor family, Microsoft released the Microsoft® Windows® .NET Enterprise Server 64-bit Edition operating system for Itanium-based servers. This document describes the level of support available for the Microsoft operating system on the ProLiant DL590/64 including:

- Recommended system configurations

- Supported software, storage options, and network adapters

- Recommended installation procedures

- Support limitations for Microsoft Windows, including known issues with workarounds

This document is intended to augment the documentation provided with the ProLiant DL590/64 server and the documentation provided with Microsoft Windows .NET Enterprise Server 64-bit Edition. It is offered with the intent of enhancing the user's experience of Windows on the Itanium-based platform.

introduction to the architecture

The Intel® Itanium™ architecture, upon which the ProLiant DL590/64 is built, is a dramatic departure from the IA-32 architecture. The Intel® Itanium™ processor and platforms are capable of using 64-bits of directly addressable memory and can execute Intel® Itanium™ instructions directly.

Apart from the processor enhancements, the supporting elements of the ProLiant DL590/64 platform provide a host of new features that make the ProLiant DL590/64 different from other members of the ProLiant family of servers. The following list highlights some of the more significant differences:

- Standard Basic I/O Services (BIOS) has been replaced with Extensible Firmware Interface (EFI)

- EFI boot manager functions replace the old BIOS menu functions

- EFI partition(s) on disks, CDs or floppies provide a means of storing components that support the EFI environment

- ROM is more intelligent in the selection of settings and defaults, reducing the effort and attention required by the system operator during initial setup

- 8-bit (DOS) and 16-bit applications are not supported, though well-behaved 32-bit Windows applications are supported in compatibility mode

- Master Boot Record (MBR) boot devices have been replaced with GUID Partition Table (GPT) devices

default configurations

Table 1 lists the default configurations of the ProLiant DL590/64 server models available for purchase.

table 1. ProLiant DL590/64 default configurations

	configuration 1	configuration 2
processors	2 x 733 MHz/2 MB (4 proc sockets)	2 x 800 MHz/4 MB (4 proc sockets)
memory boards	1 memory board (32 DIMM sockets) (64 DIMM socket capable with optional second memory board)	2 memory boards (64 DIMM sockets)
SDRAM	1 GB (4 x 256 MB)	4 GB (8 x 512 MB)
memory expansion[1]	Multiples of 4 C100 v1.2 CL2 up to 32 GB	Multiples of 4 C100 v1.2 CL2 up to 64 GB
hard drives	Optional	Optional
power supply	1 (support for 3)	2 (support for 3)
system power module	1 (support for 3)	2 (support for 3)
PCI hot plug	Standard	Standard
redundant hot plug fans	Standard	Standard
network interface	Dual Port 10/100	Dual Port 10/100
RAID controller	Embedded	Embedded
LS-120	Standard	Standard
CD–ROM	Standard	Standard
form factor	7U Rack	7U Rack

Footnotes:

1. Memory for the ProLiant DL590/64 must meet very tight specifications due to timing requirements of the memory support chipset used in the server. All memory used within the ProLiant DL590/64 must conform to those exact specifications. For this reason, HP does not support transferring memory modules from other non-Itanium platforms into the ProLiant DL590/64.

Windows .NET Enterprise Server 64-bit Edition releases

Windows .NET Enterprise Server 64-bit Edition was initially released as Windows Advanced Server Limited Edition (LE) 1.0, which was the initial OS release supported by the ProLiant DL590/64 server. This release was followed by a later update, Windows Advanced Server LE 1.1. The DL590/64 server supports all versions of the 64-bit Windows products. The ProLiant software associated with Windows Advanced Server LE 1.1 and Enterprise Server 64-bit Edition are identical.

Windows .NET Enterprise Server 64-bit Edition was released concurrently with the 32-bit Release Candidate (RC1) versions of Windows .NET Standard Server, Enterprise Server, Web Server, and Datacenter Server. Windows .NET Enterprise Server 64-bit Edition is the first release of Windows .NET that supports the Itanium-2 platforms.

supported software

Assemble the following software packages to facilitate your installation, optimize performance, and manage your Microsoft Windows Enterprise Server 64-bit Edition environment.

Table 2 includes the minimum versions of Compaq utilities and other software needed to operate with Microsoft Windows .NET Enterprise Server 64-bit Edition; these versions can be found at the locations listed below.

table 2. supported compaq utilities and value-add software

description		version	location
Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A[1]	Compaq Advanced System Management Controller Driver (CPQASM.SYS)	5.20.2505.0	www.compaq.com/support/files/server/us/locOsCat/52.html
	Compaq PCI Hot Plug Controller Driver (CPQPHP64.SYS)	6.0.0.23	
	Compaq Array Configuration Utility XE	1.30.7.0	
	Compaq Enhanced Integrated Management Display Service	1.0.0.0	
	Compaq ProLiant Administrative Tools	1.0.0.7	
	Compaq Survey Utility	2.36.12.0	
	Compaq Foundation Agent	5.10.0.0	
	Compaq NIC Agent	5.10.0.0	
	Compaq Server Agent	5.10.1.0	
	Compaq Storage Agent	5.10.0.0	
ProLiant DL590/64 Server Support Software CD		1.00	Included with server
StorageWorks Solution Software Kit[2]		1.6	CP001834.EXE (www.compaq.com/support/files)

Footnote:

1. The contents listing of the Compaq Support Paq for Microsoft Windows Advanced, Limited Edition Version 1.02A does not include the storage and network interface controller drivers. These drivers are listed in Table 3 and Table 4, respectively.

2. The HSG80 Enterprise/Modular Storage RAID Array Fibre Channel Solution Software Version 8.6 for Windows Advanced Server, Limited Edition and Intel Itanium is a Storage Solutions kit update for attaching MA8000, EMA12000, or EMA16000 storage to the ProLiant DL590/64. Support for the MA8000 product family in this release does not include multi-path or Cluster Services (at this time there is no SecurePath product support for Windows Advanced Server, Limited Edition). For other Compaq SANworks product support, refer to specific QuickSpecs for that software product.

Notes:
- All Compaq support software that is supported for use on the ProLiant DL590/64 is included on the Compaq ProLiant DL590/64 Server Support Software CD and in Version 1.02A of the Compaq Support Paq (CSP) for Microsoft Windows Advanced Server, Limited Edition.
- CSP Version 1.02 is to be used for Windows .NET Enterprise Server 64-bit Edition and its previous edition, Windows Advanced Server, Limited Edition 1.1, only. Use CSP Version 1.00A with Version 1.0 of the operating system only.

IMPORTANT: Even though Microsoft ships a 64-bit version of Microsoft Windows XP Professional Edition, HP does not support the use of the Professional Edition on server platforms.

device support

Microsoft Windows .NET Enterprise Server 64-bit Edition has a true 64-bit kernel. Any code that executes in kernel mode, such as drivers, must be developed specifically to interface correctly with the 64-bit kernel. Therefore, drivers that were developed for any 16-bit or 32-bit versions of Windows will not function properly with Microsoft Windows .NET Enterprise Server 64-bit Edition.

At present, there is no program in place to provide a means for obtaining digital signatures for 64-bit drivers. As a result, all device drivers that are released for use with Microsoft Windows .NET Enterprise Server 64-bit Edition are, by default, unsigned. Therefore, after the OS loads, if you install drivers that replace drivers loaded from the OS media you will see a pop-up message warning you that you are about to install an unsigned driver.

Customers should install only signed components when those components are available. Since no signatures are available for the 64-bit products at this time, customers are advised to install the latest available drivers, even though they are not digitally signed.

HP is working closely with Microsoft and will obtain digital signatures for our 64-bit drivers as soon as the program for producing digital signatures is available for 64-bit drivers.

supported storage options

IMPORTANT: Providing support for storage options on the ProLiant DL590/64 requires drivers that have been ported to the 64-bit architecture. The 32-bit drivers used on other Compaq server platforms will not load or function properly on ProLiant DL590/64 servers. As a result, only the storage options displayed in Table 3 are supported for use in ProLiant DL590/64 servers. Attempting to install unsupported storage options and drivers into the ProLiant DL590/64 may render the system unusable.

Table 3 lists supported Compaq storage options and drivers needed to interface with Windows.

table 3. supported compaq storage options

option	driver	location
Compaq 4.3 - 36-GB Hard Disk Drives	DISK.SYS	Windows CD
Compaq 4x-32x CD-ROM Drives	N/A	Windows CD
Compaq 64-bit/66MHz Dual Channel Wide Ultra 3 SCSI Adapter	ADPU160M.SYS	Windows CD

option	driver	location
Compaq 64-bit/66-Mhz Fibre Channel Host Adapter	CPQFCALM.SYS	Windows CD
Compaq StorageWorks Fibre Channel Array Controller Event Driver	CPQFCAC.SYS	Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A
Compaq StorageWorks Fibre Channel Filter Driver	CPQFCFTR.SYS	Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A
Compaq Integrated Smart Array Controller	CPQARRY2.SYS	Windows CD
Compaq Drive Array Notification	CPQDAEN.SYS	Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A
Compaq Smart Array 532 Controller	CPQCISSM.SYS	Windows CD
Compaq Smart Array 5300 Controller	CPQCISSM.SYS	Windows CD
Compaq Smart Array 5300 Notification Driver	CPQCISSE.SYS	Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A
Compaq StorageWorks 64-bit/33 MHz PCI-to-Fibre Channel Host Bus Adapter	CPQKGPSA.SYS	StorageWorks Solution Software Kit[1]

Notes:

- Many of these devices have firmware upgrades available through the Options ROMPaq. The latest version of the Options ROMPaq is available on the Compaq Server Software Download Center website at www.compaq.com/support/files/server/us/index.html.

- Many of the devices whose drivers are on the Windows media have driver upgrades available from the Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition. After installing Windows, users should update those drivers to enhance their reliability and functionality. The drivers located on the Windows CD do not include Compaq management functionality.

Footnote:

1. The HSG80 Enterprise/Modular Storage RAID Array Fibre Channel Solution Software Version 8.6 for Windows .NET Enterprise Server 64-bit Edition and Intel Itanium is a Storage Solutions kit update for attaching MA8000, EMA12000, or EMA16000 storage to the ProLiant DL590/64. Support for the MA8000 product family in this release does not include multi-path or Cluster Services (at this time there is no SecurePath product support for Windows .NET Enterprise Server 64-bit Edition). For other Compaq SANworks product support, refer to specific QuickSpecs for that software product.

supported network interface controllers

Table 4 lists Compaq network interface controllers supported for use with the ProLiant DL590/64 running Windows.

table 4. supported compaq network interface controllers

compaq NIC	driver	location
Fast Ethernet NICs and Modules		
Compaq NC3123 Fast Ethernet NIC (PCI 10/100 WOL)	N100645.SYS	Windows CD
Compaq NC3134 Fast Ethernet NIC (64 PCI Dual Port 10/100)	N100645.SYS	Windows CD
Compaq NC3135 Fast Ethernet Module (Dual Port 10/100 Upgrade Module for NC3134)	N100645.SYS	Windows CD
Gigabit NICs and Modules		
Compaq NC6132 Gigabit Module (1000 SX Upgrade Module for NC3134)	N1000645.SYS	Windows CD
Compaq NC6133 Gigabit Module (1000 LX Upgrade Module for NC3134)	N1000645.SYS	Windows CD
Compaq NC3133 Fast Ethernet Module (100FX Upgrade Module for NC3134)	N100645.SYS	Windows CD
Compaq NC6136 Gigabit Server Adapter (64-bit/66MHz, PCI, 1000 SX)	N1000645.SYS	Windows CD
Compaq NC7131 Gigabit Server Adapter (64-bit/66MHz, PCI, 10/100/1000-T)	N1000645.SYS	Windows CD

Note: Many of the devices whose drivers are on the Windows media have driver upgrades available from the Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition. After installing Windows, users should update those drivers to enhance their reliability and functionality.

installation procedures

Installation of the ProLiant DL590/64 occurs in five distinct phases:

- Pre-Installation Checks
- EFI Phase
- Text Mode Setup
- Graphical User Interface
- Post-Installation Updates

To install Microsoft Windows .NET Enterprise Server 64-bit Edition on the ProLiant DL590/64 so that it is fully supported by HP and Microsoft, first read the following sequence of steps completely and then follow them carefully.

pre-installation checks	1. Verify the completeness and correctness of your hardware configuration before powering on your system.

- Make sure that you are using only supported storage options (see Table 3).

- Confirm that you are using only supported network interface controllers (see Table 4).

- Ensure that you have not installed any memory that was not provided for use with Itanium-based platforms.

- Make certain that you have installed some type of disk storage (not included with the system), either on the internal storage bays or as external storage.

- Confirm that you have cabled the system correctly, according to instructions included with the *ProLiant DL590/64 Setup and Installation Guide* (included with the server).

EFI phase	2. Power the server up and run through the preliminary setup and configuration steps documented in the *ProLiant DL590/64 Setup and Installation Guide* (included with the server).

3. During initialization of the Compaq Integrated Array Controller, the following text will be displayed to give the user a chance to configure any internally attached hard drives:

> Pres*s <F8> to use the Option ROM Configuration for Arrays Utility*

Press **F8** to configure the drive onto which the OS will be loaded.

text mode setup phase	4. Insert the Microsoft Windows .NET Enterprise Server 64-bit Edition CD into CD-ROM to begin installation. As the system starts up watch closely for the prompt "Press any key to boot from CD-ROM." The prompt only lasts for a few seconds. Be prepared to react when it appears.

- Allow Setup to format the partition that will be used as the system disk. This will include creation of a System Partition as well as a reserved partition. Both the System Partition and the reserved partition are required by the operating system. The system disk must be formatted as a GPT and cannot be formatted as MBR.

- The system partition contains the OSLOADER image that is used to start the OS. Do not attempt to resize or remove the System Partition or the Microsoft reserved partition that are created by default when configuring the disk space on the boot device.

- When selecting the partition that will hold the OS, be sure to select a device that has been created as a GPT device.

IMPORTANT: Do not attempt to install the OS into either the System Partition (marked "Partition1: [FAT]") or the reserved partition (marked "Partition2 [Reserved]"). Instead, use the Unpartitioned Space on the device that contains those two partitions. Do not attempt to install Windows onto a device that has been set up as an MBR device.

**graphical user
interface phase**

5. Complete the standard Microsoft Windows Advanced Server installation per the instructions provided in the Users Guide.

Note: The installation timer displayed during the GUI phase utilizes very optimistic guesses about the duration of the installation. Do not be surprised if the installation takes significantly longer than the countdown timer suggests it should take.

**post-installation
updates**

6. Install the Simple Network Management Protocol (SNMP).

    - Select the **Control Panel** from the Start menu.

    - Select **Add or 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, then the **Next** button.

    - Click the **Finish** button.

7. Remove the Microsoft Windows .NET Enterprise Server 64-bit Edition CD from the CD-ROM drive.

8. Insert the Compaq ProLiant DL590/64 Server Support Software CD into the CD-ROM drive. When the CD is inserted, it automatically invokes the procedure that installs the Microsoft Virtual Machine snap-in.

9. Allow the automatically invoked procedure to install the Microsoft Virtual Machine snap-in.

Important: Do not install the Compaq Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition from the Compaq ProLiant DL590/64 Server Support Software CD.

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10. Remove the ProLiant DL590/64 Server Support Software CD from the CD-ROM drive, and reboot the system.

11. Install Version 1.02A of the Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition containing the drivers and utilities supported for use on the ProLiant DL590/64 from the Compaq Server Software Download Center website at www.compaq.com/support/files/server/us/locOsCat/52.html.

    primary installation method

    - Run the SETUP.EXE program included with the Support Paq. By default, all software is selected for installation. In most circumstances this default selection should not be altered.

- Click the Install button to proceed with the installation. Only software that is appropriate for the target system will be installed regardless of the software selected for installation. After installation of the appropriate software, the utility will display its results, including indication of software successfully installed, software not needed for the current system configuration, and any installation failures.

<u>command prompt installation</u>

A BP000075.CMD file is also provided with the Support Paq for use in installing the Support Paq from a command prompt without user interaction. As with the SETUP.EXE program, all software appropriate for the system it is being run on will be installed.

support limitations

This section details the known issues with running Microsoft Windows .NET Enterprise Server 64-bit Edition on ProLiant DL590/64 servers and provides information about resolving them.

general OS issues

issue 1	java applets and applications do not work with Microsoft Windows .NET Enterprise Server 64-bit Edition
description	Microsoft Windows .NET Enterprise Server 64-bit Edition includes a 64-bit version of Internet Explorer 6.0 as the default browser. Unlike previous versions of Internet Explorer, Version 6.0 does not include the Java Virtual Machine snap-in. Microsoft does not produce and distribute a 64-bit version of the Java.
	At the time of this publication, there is no Java Virtual Machine snap-in that will operate successfully with the 64-bit version of Internet Explorer 6.0.
solution	Microsoft Windows .NET Enterprise Server 64-bit Edition includes both the default 64-bit version of Internet Explorer as well as the 32-bit version of Internet Explorer. In addition, Microsoft has made the 32-bit version of the Java Virtual Machine snap-in available, both as a download from their website (www.microsoft.com/) and from Compaq media. HP has provided this snap-in on the Compaq ProLiant DL590/64 Server Support Software CD, along with a script that installs the snap-in and changes the default browser from the 64-bit version to the 32-bit version. The 64-bit browser does not recognize or utilize the 32-bit version of the snap-in.

memory issues

issue 2	working memory taken from another system does not work in the ProLiant DL590/64 server
description	If you transfer memory from other systems into the ProLiant DL590/64 that seems to meet the same specifications as the memory installed in ProLiant DL590/64 systems, you may find that the system rejects those memory modules. Itanium-based systems have very strict memory timing requirements that exceed the applicable industry standard specifications (C100 v1.2 CL2). As a result, not all memory that complies with that specification can be used with ProLiant DL590/64 servers. Memory modules that do not comply with the standard are not supported, including memory modules that conform to higher speed standards.
solution	Remove all modules that are rejected by the system, and use only memory modules that have been approved for use with Itanium processors.

storage issues

issue 3	cpqfcac.sys not installed on all storageworks fibre channel boxes
description	The Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition Version 1.02A does not install Compaq StorageWorks Fibre Channel Array Controller Event Driver, *CPQFCAC.SYS*, for all of the attached StorageWorks Fibre Channel boxes.
workaround	Install the Smart Component, *CP001600.EXE*, for the Compaq StorageWorks Fibre Channel Array Controller Event Driver twice. This action will ensure that *CPQFCAC.SYS* is installed for every attached StorageWorks Fibre Channel box.
solution	Our engineers are working to provide a solution in a future version of the Support Paq for Microsoft Windows .NET Enterprise Server 64-bit Edition.
issue 4	GPT formatted partitions are not available as cluster storage
description	By default, all partitions created under Microsoft Windows Advanced Server Limited Edition Version 1.1 are formatted using the GUID Partition Table (GPT) on-disk structure. Storage configured for use in cluster configurations must be formatted using Master Boot Record (MBR) structure.
solution	Reformat the partitions to be used as cluster storage using the MBR structure.
issue 5	software fault tolerance volumes fail during driver update or rollback
description	After upgrading or rolling back miniport drivers, software fault tolerance volumes (residing on disk controlled by the miniport drivers) go offline and fail. Reactivating the offline disks does bring back the volumes, but they are brought back in a failed state. This behavior occurs regardless of whether GPT or MBR disks are used.
solution	Microsoft is committed to resolving this issue for the next version of Windows, code-named "Longhorn."
issue 6	storage arrays formatted on 32-bit systems do not function properly as boot devices
description	Microsoft Windows .NET Enterprise Server 64-bit Edition boot devices are significantly different from boot devices formatted for use with 32-bit operating systems (such as Microsoft Windows XP, Microsoft Windows 2000, or Microsoft Windows NT 4.0). Differences between the boot devices for these environments include: • System Partition and Microsoft reserved partition are required to support the EFI boot environment of the 64-bit platforms. These partitions are not required or available on any of the 32-bit operating system environment boot devices. • Boot devices for Microsoft Windows .NET Enterprise Server 64-bit Edition must be formatted using Global Page Table (GPT) structure. The 32-bit operating environments utilize Master Boot Record (MBR) structures.
solution	Reformat or rebuild the partitions under Microsoft Windows .NET Enterprise Server 64-bit Edition.

issue 7	switching between multiple controllers causes compaq array configuration utility XE (ACU-XE) to crash
description	When multiple controllers reside in the ProLiant DL590/64 server and ACU-XE is used to scan through all of the controllers' property pages, an exception error occurs and a Dr. Watson log file is generated.
workaround	To access the information available in the controller property pages, do the following: 1. Close all browser windows. 2. Restart the ACU-XE application. 3. Reopen Internet Explorer and access the controller property pages that you were previously viewing.
solution	HP and Microsoft are investigating ways to resolve this issue.
issue 8	upgrading miniport driver for a secondary controller requires system reboot
description	When upgrading a miniport driver for a secondary Compaq array controller, the OS requests that the system be rebooted. The miniport driver being upgraded is supporting an array controller that is not the boot controller. The controller being supported by the upgraded miniport driver does not contain any disks, partitions, or volumes within which the page file resides.
workaround	Reboot the system.
solution	HP and Microsoft are investigating ways to resolve this issue.

hp web resources

Table 5 lists the Internet links noted throughout this document as well as additional links that you might find helpful when investigating HP solutions for Microsoft Windows .NET Enterprise Server 64-bit Edition.

table 5. hp web resources

resource description	web address
HP and Microsoft Frontline Partnership website brings together HP's technologies and services with Microsoft's leadership in operating systems and applications to deliver powerful IT solutions to support your business-from hand-held personal computing to global, enterprise-wide computing systems.	www.compaq.com/partners/microsoft
Windows .NET Enterprise Server 64-bit Edition site provides information about HP's support for this OS and links to documentation.	www.compaq.com/products/servers/software/microsoft/index.html
ProLiant DL590/64 Product Marketing site provides product information about the ProLiant DL50/64 server.	www.compaq.com/products/servers/proliantdl590

resource description	web address
Array Configuration Utility XE site includes key benefits, what's new, questions and answers, product documentation as well as the ability to download the software.	www.compaq.com/products/servers/proliantstorage/software-management/acu_matrix.html
Server Software Download Center allows downloading of the latest support software, drivers, utilities, and agents and provides information about software enhancements and fixes.	www.compaq.com/support/files/server/us/index.html Software specific to Microsoft Windows .NET Enterprise Server 64-bit Edition is located on this site at www.compaq.com/support/files/server/us/locOsCat/52.html.

Microsoft web resources

Throughout this paper, we have discussed Microsoft Windows .NET Enterprise Server 64-bit Edition installation and requirements. For additional tools and information critical to your implementation process, visit the Microsoft Web resources listed in Table 6.

table 6. Microsoft web resources

Description	Web Address
Windows .NET Enterprise Server 64-bit Edition provides links to resources on the Microsoft.com website.	www.microsoft.com/windows2000/64bit/default.asp
Windows .NET Enterprise Server 64-bit Edition Overview introduces the product, highlights the target audience, provides user scenarios, and presents the product benefits.	www.microsoft.com/windows2000/64bit/overview/overview2.asp
Introducing Windows .NET Enterprise Server 64-bit Edition presents an overview of the product and its target audience.	www.microsoft.com/windows2000/64bit/overview/default.asp
Windows .NET Enterprise Server 64-bit Edition FAQ answers common questions about the OS.	www.microsoft.com/windows2000/64bit/aslefaq.asp
64-Bit Editions of Windows Evaluation Guide helps you evaluate the 64-Bit versions of Windows, giving you the benefits of each and presenting lab scenarios.	www.microsoft.com/windows2000/64bit/evalguide/default.asp

feedback

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