



**Remote Deployment Manager 4.1**

**Compatibility and Configuration Guide  
for IBM® Systems**

**Note:**

Before using this information and the product it supports, read the general information in Appendix B, "Notices" on page 13.



© Copyright International Business Machines Corporation 2003. All rights reserved.

U.S. Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

## Contents

<b>About the Guide</b> .....	<b>v</b>
How to Find Your Way Around .....	v
Further Reference .....	v
Links .....	v
<b>Chapter 1. Supported Computers</b> .....	<b>1</b>
IBM Servers .....	1
Workstations .....	3
<b>Chapter 2. Supported Adapters</b> .....	<b>5</b>
Ethernet Adapters .....	5
Token Ring Adapters .....	6
RAID Adapters .....	6
SCSI Adapters .....	6
Advanced Systems Management .....	7
<b>Appendix A. Wake on LAN Issues</b> .....	<b>9</b>
Wake on LAN Notes .....	9
Intel PRO/1000 Adapters .....	10
<b>Appendix B. Notices</b> .....	<b>13</b>
Edition notice .....	14
Trademarks .....	14



---

## About the Guide

This document includes information about the hardware and software that IBM® Remote Deployment Manager (RDM) supports. You will find tables that detail which IBM systems are supported as RDM systems. Supported network interface cards (NICs) are listed here as well. RDM requires certain levels of firmware for both system hardware and network adapter to function properly. Please check the tables for proper BIOS levels.

Although one of the features of RDM is to distribute software to computers across a LAN, the terms and conditions of the IBM International Program License Agreement for RDM do not grant any license to install, copy, or use any application software or operating system software not provided with RDM. This includes, but is not limited to Windows® 2000 Professional, Windows 2000 Server and Advanced Server, Windows XP Professional, Windows Server 2003, Linux®, and DOS. Always ensure that you have obtained suitable licenses for any software you intend to use with RDM.

## How to Find Your Way Around

This guide is organized in numbered chapters and sections. The Table of Contents above lists the different sections and corresponding page numbers. If you are viewing the guide online with Acrobat Reader, you can easily navigate the document by clicking the hyperlinked text in the Table of Contents as well as the references to the World Wide Web. You will notice that the cursor changes when you move it above hyperlinked text.

## Further Reference

In addition to this guide, there are various other sources that you can consult on RDM:

- *Remote Deployment Manager 4.1 Installation Guide* – Describes the complete RDM installation process
- *Remote Deployment Manager 4.1 Getting Started* – Step-by-step examples of using several tasks
- *Remote Deployment Manager 4.1 Operations Guide* – A detailed reference for RDM tasks, features, interface, and customizations

## Links

This *Compatibility Guide* lists compatibility of RDM with system hardware, network adapters, and operating systems. For current information, go to the RDM home page at [http://www.ibm.com/servers/eserver/xseries/systems\\_management/sys\\_migration/rdm.html](http://www.ibm.com/servers/eserver/xseries/systems_management/sys_migration/rdm.html).



## Chapter 1. Supported Computers

The following information is a comprehensive listing of all IBM computers supported by RDM version 4.1. The BIOS level shown in the matrices indicate the levels that were used in testing. It is recommended that you update your systems to the most recent BIOS level. To get BIOS updates, check the support page for a particular system.

### IBM Servers

System		Maintenance				Operating System Deployment												
						Native Install						Clone Install						
Type	Model	Tested BIOS Level	ISMP Flash	CMOS Update	RAID Config	2000 S	2000 AS	2003 SE	2003 EE	2003 WE	RH 7.3	RH 8.0	2000 S	2000 AS	2003 SE	2003 EE	2003 WE	
8478 <sup>13</sup>	xSeries 200	EXJT35A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8479 <sup>1</sup>	xSeries 200	ZRJT21A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8480 <sup>2,14</sup>	xSeries 205	JPJT33A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8645 <sup>3</sup>	xSeries 220	TUJT20A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8646	xSeries 220	JJJT18A	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8647 <sup>4,5</sup>	xSeries 225	OPJT25A	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8654	xSeries 330	TTJT32A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8656	xSeries 340	ILJT44A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8658	xSeries 230	ILKT44A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8664 <sup>6,7</sup>	xSeries 240	TPKT58A	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8665 <sup>6</sup>	xSeries 250	MWJT31A		Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8666 <sup>6</sup>	Netfinity® 7100	MWJT31A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8668	xSeries 232	QAJT31A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8669	xSeries 342	QAJT31A	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8670 <sup>10</sup>	xSeries 345	GRJT38A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8670 <sup>10</sup>	xSeries 345	GRJT38A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8672	xSeries 300	ABE117A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8673	xSeries 305	PLE146A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8674	xSeries 330	EMJT13A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8675 <sup>13</sup>	xSeries 330	TVE115A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
8676	xSeries 335	T2JT19A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8678	BladeCenter HS20	BRJT17A		Y	N/A	Y	Y	Y	Y	Y	Y	Y	N/A	Y	Y	Y	Y	Y
8681	xSeries 370	MMKT33A	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8682	xSeries 350	ARE125A		Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8685 <sup>15</sup>	xSeries 255	AVJT12A	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
8686	xSeries 360	RUJT50A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8687 <sup>13</sup>	xSeries 440	VIJT39A	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N

Y = Supported

N = Not supported

N/A = Not applicable

\* = A user-created LCCMOS.BAT file is required

**2000 S** = Windows 2000 Server, **2000 AS** = Windows 2000 Advanced Server, **2003 SE** = Windows Server 2003 Standard Edition, **2003 EE** = Windows Server 2003 Enterprise Edition, **2003 WE** = Windows Server 2003 Web Edition, **RH 7.3** = Red Hat Linux Version 7.3, **RH 8.0** = Red Hat Linux Version 8.0

**Notes:**

1. For xSeries 200, machine type 8479: With Flash Update Diskette, Version ZRE123A, system does not wake.
2. For xSeries 205, machine type 8480: Requires BIOS level 33 to boot to network with external NIC. Complete these steps:
  - a. Flash BIOS to 33A level
  - b. Add the PCI base Intel® NIC
  - c. Restart system
  - d. Type F1 at early POST
  - e. Type Ctrl-S at Intel Boot Agent
  - f. Set the option of Intel Boot Agent to "network first and then local devices"
  - g. Set BIOS start sequence to network1, network0, CDROM, and hard drive
  - h. Restart system
3. For xSeries 220, machine type 8645: Discovery hangs after contact with Token Ring card on startup with a firmware level of cs118l, cs118k, or cs118q.
4. For xSeries 225, machine type 8647: Fails CMOS Update task due to BIOS.
5. For xSeries 225, machine type 8647: With BIOS level 20A and using onboard Ethernet, the system continues to reboot after scan.
6. To deploy Red Hat Linux on this system, you must use a PXE 2.0 or 2.1 network adapter (instead of the on-board network adapter).
7. For xSeries 240, machine type 8664: BIOS level 58A causes a POST Startup Error if a reboot occurs while a task is in progress. Problem not seen with BIOS level 57A.
8. Limited information about blades is collected by the Management Module. You need to run RDM scan on the blade objects that Director creates when you discover systems. Drag the blade objects to the built-in scan task. RDM will then collect all the required information and add it to those objects.
9. No matter what switch module is connected to the chassis, the blades are collected using the first Ethernet adapter seen in the BIOS, which is the Ethernet adapter that is connected to switch module number two. If you have only one switch module and connect it to slot number one, the blade cannot be scanned nor managed with RDM, since you have a wrong MAC address. Put the switch in slot 2 for proper operation.
10. For 8670 and 8671 systems: You may have to set the ServeRAID™ write cache to "write through" mode in order to run the Secure Data Disposal task.
11. Any machine whose cmosutil program uses - s and - r to save and restore, instead of /s and /r, requires a LCCMOS.BAT file. Make note of what syntax that particular system uses when you create the .cms file initially. One of the following commands should go into the batch file:

```
cmosutil.exe - r filename.cms, or  
cmosutil.exe - r %1
```

Create the batch file on the BIOS flash diskette; then, create a BIOS image as you normally would and a CMOS image with the BIOS. The batch file should show up as the executable in the CMOS image.
12. For xSeries 235, machine type 8671: BIOS must be at level GRJT31A for Scan to detect ISMP firmware level.
13. For xSeries 200, machine type 8478; xSeries 330, machine type 8675; and xSeries 440 systems: Cloning is not supported (Get Donor task and Windows Clone Install task).
14. For xSeries 205, machine type 8480: Fails to boot from PXE following a Wake on LAN®.
15. For xSeries 255, machine type 8685: Does not support Windows Native Install task.



## Workstations

System		Maintenance			Operating System Deployment			
					Native Install		Clone Install	
Type	Model	Tested BIOS Level	CMOS Update	Asset ID™ Support	Windows 2000 Professional	Windows XP Professional	Windows 2000 Professional	Windows XP Professional
6204	IntelliStation E Pro	20KT41A	Y*		Y	Y	Y	Y
6214	IntelliStation E Pro	20KT41A	Y*		Y	Y	Y	Y
6219 <sup>5</sup>	IntelliStation M Pro	M6E116A	Y		Y	Y	Y	Y
6221 <sup>1</sup>	IntelliStation Z Pro	OPJT25A	Y		Y	Y	Y	Y
6226	IntelliStation E Pro	JPJT33A	Y		Y	Y	Y	Y
6846	IntelliStation E Pro	EXE135A	Y*		Y	Y	Y	Y
6849 <sup>2</sup>	IntelliStation M Pro	PGJT27A	N		Y	Y	Y	Y
6850 <sup>7</sup>	IntelliStation M Pro	DAE139A	Y		Y	Y	N	N
6851	IntelliStation R Pro	ENJT20U	Y		Y	N	Y	N
6865	IntelliStation Z Pro	NYJT33A	Y		Y	Y	Y	Y
6866 <sup>3</sup>	IntelliStation Z Pro	PFJT47A	Y		Y	Y	Y	Y
6867	IntelliStation E Pro	NWKT53A	Y		Y	Y	Y	Y
6868	IntelliStation M Pro	PLJT44A	Y		Y	Y	Y	Y
6893	IntelliStation E Pro	NUKT58A	Y		Y	N	Y	N
6898	IntelliStation M Pro	NGJT41A	Y		Y	Y	Y	Y
6899	IntelliStation Z Pro	NKKT22A	Y		Y	N	Y	N

**Notes:**

Y = Supported

N = Not supported

N/A = Not applicable

\* = A user-created LCCMOS.BAT file is required

1. For IntelliStation Z Pro, machine type 6221: System does not shutdown after firmware flash (OPJT23A).
2. To flash the BIOS for 6229, 6848, and 6849 systems with RDM 4.1, complete these steps:
  - a. Extract the BIOS-diskette image from the IBM external Web site. For example, file name might be PGJT26A.EXE.
  - b. Run the executable file to create the BIOS flash diskette.
  - c. Manually flash a donor system with the diskette.
  - d. Power on the donor system, select the F1 key, and set the CMOS settings (including the boot sequence with network before hard drive) as you want them.
  - e. Capture the CMOS image from the donor system (see instructions in the comments in the LCREFLSH.BAT file for more details).
  - f. Copy the CMOS image file onto the BIOS flash diskette.
  - g. Using Windows Explorer's "Properties" context menu, change the first 2 characters of the diskette label from PG to GB. For example, the new label is GBJT26A.

- h. Using Windows Explorer's "Properties" context menu, uncheck the "Read only" attribute on the LCREFLSH.BAT file (on the diskette).
  - i. Using Notepad, change "LCCMPATH" to "RDSTATUS" in the "if" statement in the LCREFLSH.BAT file.
  - j. Using Notepad, change "BIOS" to "BIOSIMAGE" in the same "if" statement in the LCREFLSH.BAT file.
  - k. Import the modified BIOS diskette into RDM in the normal way.
3. On IntelliStation Z Pro, machine type 6866 systems that contain the Intense 3D Wildcat video adapter, a yellow bang (!) is displayed in the Devices window after deploying Windows XP Professional.
4. On the first boot of Windows XP after being installed with a Windows Native Install task, two instances of "Found New Hardware" popup windows occur on systems that have IBM Director Agent installed. After going through the wizard for each, the SMBus drivers will be installed.
5. For IntelliStation M Pro, machine type 6219: Discovery hangs after contact with Token Ring card on startup with a firmware level of cs118l, cs118k, or cs118q.
6. For IntelliStation M Pro, machine type 6849: RDM System Firmware Flash tasks will always update the BIOS, even if you have selected the "Flash only if different from current version" check box.
7. For IntelliStation M Pro, machine type 6850: The 6850-10U using the on-board network adapter may hang during a Windows Clone Install task. This problem has not been observed on other 6850 models, or on a 6850-10U with a PCI network adapter.

## Chapter 2. Supported Adapters

RDM will automatically scan, configure, and recognize supported network cards. Use the following links for flash updates and other networking information:

- [IBM Auto Wake Token-Ring ISA Adapter flash](#). This is required for IntelliStation M Pro --6898
- [IBM PCI Wake On LAN Token-Ring Adapter flash](#). This is required to support a DHCP boot environment.
- For IBM adapters, please refer to either the IBM Networking Hardware Division web page at <http://www.ibm.com/networking/support/>
- For Intel adapters, please visit <http://www.intel.com/>

### Ethernet Adapters

Part Number	FRU Number	Name	Remoteboot Protocol		WOL
			PXE 2.0	PXE 1.0 <sup>1</sup>	
34L4401 (3DES US) 34L4410	34L4409	IBM 10/100 EtherJet Secure Management Adapter	Y	N	Y
34L4501 (DES non-US) 34L4510	34L4509	IBM 10/100 EtherJet Secure Management Adapter	Y	N	Y
34L1101 34L1110	34L1109	IBM 10/100 EtherJet PCI Adapter with Alert on LAN 2	Y	N	Y
34L1201 34L1210	34L1209	IBM 10/100 EtherJet PCI Management Adapter	Y	N	Y
34L0201 34L0210	30L5929	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	N	Y
08L2565 08L2567	08L2566	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	Y	Y
85H9921 85H9930	85H9928	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	Y	Y
06P3601	06P3609	IBM 10/100 Ethernet Server Adapter	Y	Y	Y
09N9901	09N9901	10/100 EtherLink Server Adapter by 3Com	Y	N	Y
09N3609	09N3609	10/100 EtherLink PCI Management Adapter by 3Com	Y	N	Y
34L4401 (3DES US), 34L4410	34L4409	IBM 10/100 EtherJet Secure Management Adapter	Y	N	Y
34L4501 (DES non-US), 34L4510	34L4509	IBM 10/100 EtherJet Secure Management Adapter	Y	N	Y
34L1101, 34L1110	34L1109	IBM 10/100 EtherJet PCI Adapter with Alert on LAN 2	Y	N	Y
34L1201, 34L1210	34L1209	IBM 10/100 EtherJet PCI Management Adapter	Y	N	Y
34L0201, 34L0210	30L5929	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	Y	Y
08L2565, 08L2567	08L2566	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	N	Y
85H9921, 85H9930	85H9928	IBM 10/100 EtherJet PCI Adapter with Wake on LAN1	Y	N	Y
		Intel Gigabit Copper (82544) PRO 1000 XT	Y	N	Y
		Broadcom Gigabit Copper (5703) NetXtreme 1000 SX	Y	N	Y
19K5543		Intel PRO/100 VE Desktop Connection	Y	N	Y
PILA8460B		Intel PRO/100+ PCI Management Adapter	Y	N	Y

**Notes:**

Y = Supported  
 N = Not supported  
 N/A = Not Applicable

1. PXE 1.0 is not supported with the Linux Native Install task.

## Token Ring Adapters

The minimum firmware level for any Token Ring adapter used with RDM is 118r.

Part Number	FRU Number	Name	Remoteboot Protocol		WOL
			PXE 2.0	PXE 1.0 <sup>1</sup>	
34L0501 34L0510	30L5980	IBM High-Speed 100/16/4 Token-Ring PCI Adapter	Y	Y	Y
34L0701 34L0710	30L6817	IBM 16/4 Token-Ring PCI Adapter 2 with Wake on LAN	Y	Y	Y
86H1880 86H1886 86H1887 08L3340 08L3294	08L3335	IBM PCI Wake on LAN Token-Ring Adapter	Y	Y	Y
34L5001 34L5010	34L5009	IBM 16/4 Token-Ring PCI Management Adapter	Y	Y	Y
34L5201 34L5210	34L5209	IBM High-Speed 100/16/4 Token-Ring PCI Management Adapter	Y	Y	Y

**Notes:**

Y = Supported

N = Not supported

1. PXE 1.0 is not supported with the Linux Native Install task.

## RAID Adapters

Part Number	FRU Number	Name
37L6889	37L6892	ServeRAID – 4H
37L6080	37L7258	ServeRAID – 4M
37L6091	09N9540	ServeRAID – 4L
06P5740	06P5741	ServeRAID – 4Mx
06P5736	06P5737	ServeRAID – 4Lx
		ServeRAID – 5I

## SCSI Adapters

Typically, RDM 4.1 automatically supports SCSI cards. On Windows 2000, RDM supports the cards compatible with the operating system.

## Advanced Systems Management

RDM 4.1 cannot configure X Windows support for machines with the Remote Supervisor Adapter II. If you want X Windows support, you have to configure it after the installation is complete. See the *RDM 4.1 Operations Guide* for more information.

Part number	FRU	Name
01K7209		Netfinity Adv. System Mgmt. PCI Adapter
09N7585		Remote Supervisor Adapter
		Remote Supervisor Adapter II



---

## Appendix A. Wake on LAN Issues

Check the system BIOS, using F1, and ensure the Wake on LAN® option is enabled, and that the alternate start sequence has the network listed ahead of the hard disk.

### Wake on LAN Notes

- For model 8672: To enable the Wake on LAN feature, you must configure the Configuration/Setup BIOS Utilities (by pressing F1 at boot). Select the Power Management Setup option, and then select Automatic Power On. Enable Wake on PCIPME, and then enable Wake Up on LAN/Ring.
- For model 8645: To enable the Wake on LAN feature, the following conditions must be met:
  - A Wake on LAN-enabled NIC adapter must be installed in PCI slot 1, and connected to the system board by the Wake on LAN cable that comes with the Wake on LAN adapter. The adapter must be a Wake on LAN-enabled adapter as identified in the xSeries 220 ServerProven list at <http://www.ibm.com/pc/compat/>.
  - Wake on LAN must be enabled in Configuration/Setup (F1 on boot). By default, it is not.
  - The boot agent of the network adapter should have the Legacy OS wake up support enabled, if supported.
  - The on-board Ethernet controller should be disabled.
  - Network Boot Protocol - PXE is the default; do not change.
  - Boot Order - ensure network is listed before hard disk on alternate boot.
  - Legacy OS wake up support. This option allows or disallows a non-Windows operating system to use adapter remote wake up capability. Disabled is the default. Enable this for RDM to use.
  - The server is either off or shut down from an Advanced Configuration and Power Interface (ACPI) operating system; that is, if you turn off the server by pressing the power button, Wake on LAN will not work.
- For model 6849 systems, the following BIOS settings should be set to enable the Wake on LAN feature:
  - Advanced/Peripheral Configuration/LAN device is enabled if using the on-board Ethernet, disabled if using a Wake on LAN-capable adapter.
  - Power/ACPI/Wake on LAN should be set to Power On.
  - Boot - confirm the appropriate network is listed before the hard disk. Note this is reset to default settings if any changes are made to BIOS. Check this, and then save immediately.
  - If using an adapter for the Wake on LAN feature:
    - adapter must be in slot 1, PCI slot numbers are shown on the system board
    - adapter must be connected to the system board with the Wake on LAN cable that comes with the adapter

## Intel PRO/1000 Adapters

The Intel PRO/1000 XT and Intel PRO/1000 XF and newer server adapters support the Intel Boot Agent, **but are shipped with Wake on LAN and PXE disabled**. To enable these features, use the IBAUTIL.EXE utility found in the BootAgnt directory on your driver CD-ROM or at the root of your Web-downloaded image.

Take the following steps to enable the PRO/1000 XT adapter for Wake on LAN and PXE:

1. Go to web site, <http://www.intel.com>. Search on *Boot Agent*.
2. Select the entry that contains the desired adapter, in this case, *Intel(R) PRO/1000 Family of Gigabit Desktop and Server Adapters*.

The Intel® PRO/1000 XT Server and Intel® PRO/1000 XF Server Adapters ship with Boot ROM onboard - enable using IBAUTIL.EXE (at DOS prompt, type `IBAUTIL -NIC=X -FE`).

Download the Boot Agent image, PROBOOT.EXE. Execute this, (works in a Windows 2000 environment), to find the tool, IBMUTIL.EXE. Copy to a DOS diskette. Use this to boot the client that has the PRO/1000 adapter. Execute the following commands:

```
ibautil -FE
ibautil -PXE
ibautil -WOLE
```

The adapter should then be ready for PXE and Wake on LAN.

### IBAUTIL.EXE

IBAUTIL is a utility program that changes the default settings of your Intel WfM-compatible adapter. IBAUTIL can be used to enable or disable the Wake-on-LAN and Boot Agent capabilities, as well as enable or disable some settings used by the Boot Agent.

**Wake-On-LAN:** When enabled, the adapter can react to special 'wake up' packets and power up the computer without end user intervention.

**Intel Boot Agent:** When enabled, the computer can initiate PXE/RPL boot if a valid flash image is present on the NIC.

**Note:** Desktop adapters are normally shipped with both Wake on LAN and the Boot Agent (for PXE) enabled. Server adapters are normally shipped with both Wake on LAN and the Boot Agent (for PXE) disabled.

To enable or disable these features you **MUST** use IBAUTIL. Other tools, like PROSet, can only be used to upgrade the Boot Agent image and change Boot Agent configuration settings.

If the Boot Agent on the NIC is currently disabled, use the IBAUTIL utility to enable the Boot Agent before using IBAUTIL or PROSet to upgrade the image stored in the NIC.



A reboot is required for any changes to take effect.

### Running IBAUTIL

```
IBAUTIL [-option]...
```

**Note:** IBAUTIL (for DOS) must be run with the computer booted to DOS only. This utility cannot be run in a DOS window in any Microsoft\* Windows product or in DOS compatibility mode in IBM OS/2.

### Command Line Parameters

**-ALL**

Selects all adapters found in system, works for both EEPROM and Flash activity.

**-NIC=XX**

Selects a specific adapter (1-16).

**-FLASHENABLE** or **-FE**

Enables Boot ROM.

**-WOLENABLE** or **-WOLE**

Enables Wake on LAN bit on Fast Ethernet and enables APMPME and APME EEPROM bits on Gigabit.

**-PXE**

Sets the network boot protocol to PXE.



---

## Appendix B. Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

*IBM Director of Licensing  
IBM Corporation  
North Castle Drive  
Armonk, NY 10504-1785  
U.S.A.*

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product, and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Some software may differ from its retail version (if available) and may not include all user manuals or all program functionality.

IBM makes no representations or warranties regarding third-party products or services.

---

## **Edition notice**

© COPYRIGHT INTERNATIONAL BUSINESS MACHINES CORPORATION, 2003. All rights reserved.

Note to U.S. Government Users Restricted Rights — Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

## **Trademarks**

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

IBM, the IBM logo, Asset ID, IntelliStation, Netfinity, ServeRAID, ThinkPad, and Wake on LAN are trademarks or registered trademarks of International Business Machines Corporation in the United States and/ or other countries.

Intel, ActionMedia, LANDesk, MMX, Pentium, and ProShare are trademarks of Intel Corporation in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds.

Other company, product, or service names may be trademarks or service marks of others.





48P9927

Printed in U.S.A.