Netfinity 8500R

Start Here
Before using this Netfinity Server Library and the product it supports, be sure to read the information in the Safety Information book and the “Legal Information” section of this Server Library.
Thank you for purchasing an IBM® Netfinity® 8500R server. This “Start Here” section gives you an overview of the Server Library for the Netfinity 8500R. “Start Here” also contains a list of features and provides illustrations of some of the major components of the Netfinity 8500R.

The Netfinity Server Library that comes with your server contains software CDs and a book that provides detailed information about setup and installation, your server hardware, software (ServerGuide® and Netfinity Manager™), Advanced System Management, getting help, and legal information.

Organize your Netfinity Server Library binder with the software CDs in the front, followed by the book.

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Overview of the Netfinity Server Library

The following list describes the sections of the Netfinity Server Library.

Express Setup and Installation
This section is written for all users, but it is designed with the experienced user in mind. Here you will find the information you need to set up and cable your server, start and configure your server, and install your network operating system (NOS).

Hardware Information
This section contains detailed information, such as:
- Configuration procedures
- Option installation instructions
- Rack installation instructions
- Problem solving and troubleshooting procedures
- Server records and specifications

ServerGuide and Netfinity Manager Information
This section contains detailed information about:

ServerGuide
Software setup and installation tools specifically designed for IBM Netfinity servers.

Netfinity Manager
A group of distributed applications designed to enhance the hardware systems-management capabilities of a network.

Advanced System Management Information
This section contains detailed information about Advanced System Management, using the Netfinity Manager Advanced System Management services.

Getting Help, Service, and Information
This section contains telephone numbers and Web site addresses where you can get assistance.

Legal Information
This section contains detailed legal information (warranties, electronic emission statements, and so forth).
Reviewing the Safety Information

Before installing this product, read the Safety Information.
Antes de instalar este producto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
(安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Pred instalaci tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d’installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este producto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安装本產品之前，請先閱讀「安全資訊」。
Help information

If you want help at any time during the setup, installation, or operation of your server, refer to the “Getting Help, Service, and Information” section of this Server Library. There you will find telephone numbers and Web site addresses where you can get assistance.

Inventory list

The following is a list of the items that come with your Netfinity 8500R server.

Hardware:

- Four lift handles (attached to the server)
- One power-switch cover
- Six power cords:
  - Three 110 V ac power cords, U.S. only (used to plug into 110 V ac electrical outlets)
  - Three 220 V ac power cords, all countries (used to plug into 220 V ac electrical outlets)

  Note: Power cords vary by country.

- One rack installation hardware kit that includes:
  - Three 220 V ac power cords (used for Intrarack)

Software:

- IBM ServerGuide CDs
- Other software packages

Publications:

- Netfinity Server Library
- Safety Information book
- IBM Netfinity Rack Installation Template

If an item is missing or damaged, contact your place of purchase.

Note: Record the machine type, model number, and serial number of your server. You will need this information when you register your server with IBM.

Registering your server gives you access to information about updates, performance tips, and compatibility. You can register your server on the World Wide Web at: http://www.ibm.com/pc/register

System features

The Netfinity 8500R server incorporates new design features and components. Refer to the following information and illustrations to familiarize yourself with your Netfinity 8500R server.
### Features at a glance

The following table summarizes the features of the Netfinity 8500R server.

<table>
<thead>
<tr>
<th>Processors</th>
<th>Expansion-slot connectors</th>
<th>Power supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intel® Pentium® III Xeon™ processor with Streaming SIMD Extensions</td>
<td>Supports up to 14 adapters:</td>
<td>- Standard: Three hot-swap power supplies</td>
</tr>
<tr>
<td>- Expandable to eight 550 MHz Pentium III Xeon processors</td>
<td>- 12 available PCI slot connectors</td>
<td>-  750 Watts each</td>
</tr>
<tr>
<td>- 100 MHz Front Side Bus (FSB)</td>
<td>- Eight 64-bit, 33 MHz, hot-plug PCI slot connectors</td>
<td>- Auto-sensing function</td>
</tr>
<tr>
<td>- 16 KB of level-1 cache memory</td>
<td>- Four 64-bit, 66 MHz, hot-plug PCI slot connectors</td>
<td>- Built-in overload and surge protection</td>
</tr>
<tr>
<td>- 512 KB, 1 MB, or 2 MB of level-2 cache with error checking and correction (ECC) memory integrated into processor</td>
<td>- Standard: I/O integrated function card</td>
<td>- Automatic restart after a loss of power</td>
</tr>
<tr>
<td>- Upgradable processor speeds when available</td>
<td>- Standard: Advanced System Management PCI adapter</td>
<td>- Redundant power available</td>
</tr>
</tbody>
</table>

#### Memory

- One memory board standard
  - Sixteen 168-pin, dual inline memory-module (DIMM) connectors
  - Supports up to 8 GB
- Expandable to 16 GB
- 100 MHz, PC100, registered synchronous dynamic random-access memory (SDRAM) with ECC
- Support for 128 MB, 256 MB, and 512 MB DIMMs
- Support for a second memory board (optional)

#### Diskette drive

- Supports one diskette drive
- Standard: One 3.5-inch, 1.44 MB

#### Hard disk drives

- Two half-high, 3.5-inch drive bays
- Supports up to two internal hard disk drives

#### CD-ROM drive

- Standard: Integrated drive electronics (IDE)

#### Power supplies

- Standard: Three hot-swap power supplies
- 750 Watts each
- Auto-sensing function
- Built-in overload and surge protection
- Automatic restart after a loss of power
- Redundant power available

#### Predictive Failure Analysis™ (PFA) alerts

- Fans
- Power supplies
- Memory
- Hard disk drives
- Processors

#### Integrated functions

- I/O integrated function card
- Voltage regulators for processors
- Two serial ports
- Two Universal Serial Bus (USB) ports
- One parallel port
- Mouse port
- Keyboard port
- Video port
- Wake on LAN™ capability
- Alert on LAN™ capability
- Advanced System Management PCI adapter
  - Full-duplex 10/100 Mbps Ethernet controller for system management use
  - Advanced System Management Interconnect port
  - Two serial ports
- ServeRAID™ adapter support
- Built-in programmable read-only memory (PROM) based diagnostics

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1 LVD = low-voltage differential

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Exploded view of the Netfinity 8500R server (front)

1. Top cover
2. Cover-release latch
3. System fan
4. System-fan fastener
5. Slim-high filler bezel
6. Half-high filler bezel
7. CD-ROM drive
8. Dual inline memory module
9. Memory board
10. Memory-board latches
11. Processor housing assembly
12. Processor-housing-assembly latch
13. Memory access panel
14. Memory-access-panel fastener
15. Front bezel
16. Front-bezel tab
17. Processor fan
18. Processor-fan fastener
19. Chassis
20. Diskette drive
21. Operator panel assembly
22. Server handle
23. Midplane
Exploded view of the Netfinity 8500R processor housing assembly

1. Processor cage cover
2. Processor-cage-cover fastener
3. Processor cage
4. Spacers
5. LED card
6. Fan guard
7. Fan connector
8. Processor fail LED
9. Memory fail LED
10. Press To Show Fault button
11. Capacitor Testing LED
12. Processor fail LED
13. Processor-housing-assembly latches
14. Processor controller board
15. Processor-cage latch
16. Processor daughterboard
17. Processor A1
18. Processor-daughterboard extraction tool
19. Terminator card

Note: Assembly has been rotated to show servicing orientation.
Exploded view of the Netfinity 8500R I/O housing assembly

1. I/O function card
2. Battery
3. Insulator
4. I/O board protector shield
5. I/O board
6. Adapter retention cover
7. I/O housing
8. I/O-housing-assembly latch
9. Adapter retention latch
10. Tab
11. Advanced System Management PCI adapter
Exploded view of the Netfinity 8500R server (rear)

1. I/O housing assembly
2. Power supply
3. Power supply LEDs
4. PCI slot and PCI adapter LED
5. Expansion-slot cover
Advanced System Management PCI adapter component locations

1 10/100 Mbps Ethernet port connector (J8)
2 Dual serial port connector (J11)
3 Advanced System Management Interconnect bus connector (J16)
4 External power-supply connector (12 V dc jack J19, not used)
5 Personal Computer Memory Card International Association (PCMCIA) token-ring connector (J2)
6 Power-on LED (CR2 bottom, green) and processor error LED (CR2 top, amber)
7 Ethernet activity LED (CR3 bottom, amber) and Ethernet link LED (CR3 top, green)
8 I/O function card connector (J4)
I/O board component locations

1. Midplane connector
2. I/O function card connector
3. Voltage regulator module (VRM) connectors
4. Advanced System Management PCI adapter slot
5. USB 1 and USB 2 port connectors
6. PCI switch card connector
7. Hot-plug, 64-bit, PCI slots 10–12 (bus A, 33 MHz)
8. Hot-plug, 64-bit, PCI slots 8–9 (bus B, 66 MHz)
9. Hot-plug, 64-bit, PCI slots 6–7 (bus C, 66 MHz)
10. Hot-plug, 64-bit, PCI slots 1–5 (bus D, 33 MHz)
11. Hot-plug external attention/fail LED for PCI slot (green blink = attention, amber = faulty PCI adapter)
12. Hot-plug internal attention/fail LED for PCI slot (green blink = attention, amber = faulty PCI adapter)
13. Hot-plug power LED for PCI slot (green solid, on)
I/O function card component locations

1. External SCSI connector (channel A)
2. CD-ROM drive connector
3. SCSI B detect jumper (J19)
4. Internal SCSI connector (channel B)
5. Diskette drive connector
6. Front panel connector
7. Advanced System Management PCI adapter connector
8. Battery
9. Flash page swap jumper (J13)
10. Power on password override jumper (J14)
11. Clear CMOS register contents jumper (J15)
12. Video port connector
13. Parallel port connector
14. Serial port A connector
15. Serial port B connector
16. Keyboard connector
17. Mouse connector
Memory board component locations

1 Midplane connector
2 DIMM connectors (J1–J16)
Processor controller board component locations

1. Midplane connector
2. Processor cage-release latches
3. Processor daughterboard slot B connector (secondary slot)
4. Cache coherency filter card connectors
5. Processor-core-frequency-selection jumper block
6. LED card connector
7. Processor daughterboard slot A connector (primary slot)
Processor daughterboard component locations

1 Voltage regulator modules (VRMs)
2 Processor or terminator card connectors (A1–A4 or B1–B4)
3 Processor controller-board connector
SCSI backplane component locations

1 Media power connector
2 Wide (16-bit) SCSI connector
3 SCSI hot-swap drive connectors