



Netfinity 8500R

**Start Here**





Netfinity 8500R

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**Note**

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*.

**First Edition (September 1999)**

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## Start here

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).

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## Reviewing the Safety Information



Before installing this product, read the Safety Information.

Antes de instalar este produto, leia as Informações de Segurança.

在安裝本產品之前，請仔細閱讀 **Safety Information** (安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací 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.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

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 produto, 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.

安裝本產品之前，請先閱讀「安全資訊」。

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## 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.

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## 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>

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## 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.



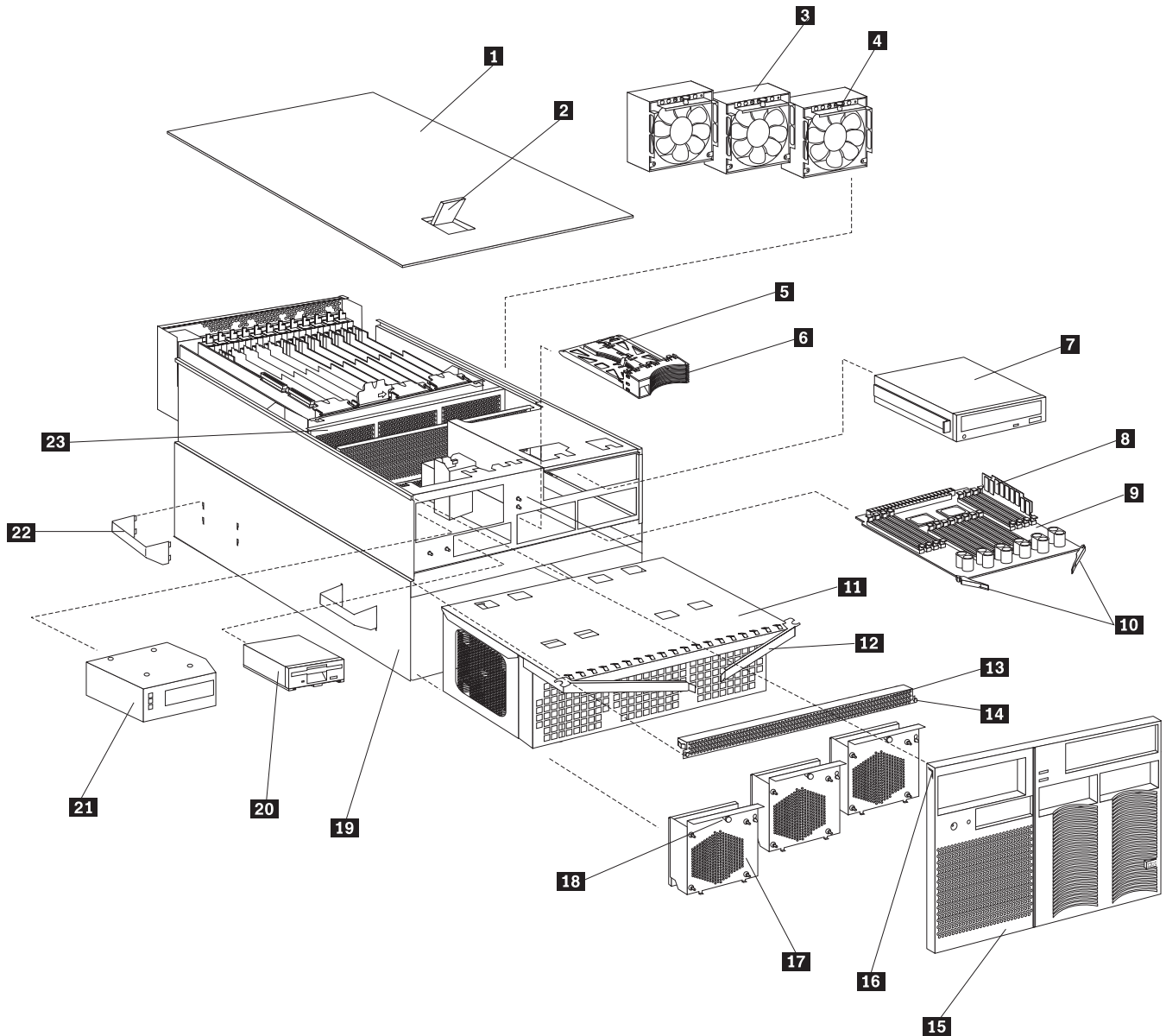
## Features at a glance

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

<p><b>Processors</b></p> <ul style="list-style-type: none"> <li>• Intel® Pentium® III Xeon™ processor with Streaming SIMD Extensions</li> <li>• Expandable to eight 550 MHz Pentium III Xeon processors</li> <li>• 100 MHz Front Side Bus (FSB)</li> <li>• 16 KB of level-1 cache memory</li> <li>• 512 KB, 1 MB, or 2 MB of level-2 cache with error checking and correction (ECC) memory integrated into processor</li> <li>• Upgradable processor speeds when available</li> </ul> <p><b>Memory</b></p> <ul style="list-style-type: none"> <li>• One memory board standard <ul style="list-style-type: none"> <li>– Sixteen 168-pin, dual inline memory-module (DIMM) connectors</li> <li>– Supports up to 8 GB</li> </ul> </li> <li>• Expandable to 16 GB</li> <li>• 100 MHz, PC100, registered synchronous dynamic random-access memory (SDRAM) with ECC</li> <li>• Support for 128 MB, 256 MB, and 512 MB DIMMs</li> <li>• Support for a second memory board (optional)</li> </ul> <p><b>Diskette drive</b></p> <ul style="list-style-type: none"> <li>• Supports one diskette drive</li> <li>• Standard: One 3.5-inch, 1.44 MB</li> </ul> <p><b>Hard disk drives</b></p> <ul style="list-style-type: none"> <li>• Two half-high, 3.5-inch drive bays</li> <li>• Supports up to two internal hard disk drives</li> </ul> <p><b>CD-ROM drive</b></p> <ul style="list-style-type: none"> <li>• Standard: Integrated drive electronics (IDE)</li> </ul>	<p><b>Expansion-slot connectors</b></p> <p>Supports up to 14 adapters:</p> <ul style="list-style-type: none"> <li>• 12 available PCI slot connectors <ul style="list-style-type: none"> <li>– Eight 64-bit, 33 MHz, hot-plug PCI slot connectors</li> <li>– Four 64-bit, 66 MHz, hot-plug PCI slot connectors</li> </ul> </li> <li>• Standard: I/O integrated function card</li> <li>• Standard: Advanced System Management PCI adapter</li> </ul> <p><b>Upgradable features</b></p> <ul style="list-style-type: none"> <li>• Advanced System Management PCI adapter upgrades (when available)</li> <li>• Diagnostics upgrades (when available)</li> <li>• Memory upgrades (when available)</li> <li>• POST/BIOS upgrades (when available) to update electrically erasable programmable read-only memory (EEPROM) on the I/O integrated function card</li> </ul> <p><b>Security features</b></p> <ul style="list-style-type: none"> <li>• Chassis-intrusion detector (tower option only)</li> <li>• Power-on and administrator passwords</li> <li>• Security-error indicator (tower option only)</li> <li>• Selectable drive-startup sequence</li> <li>• Side cover lock (tower option only)</li> <li>• Unattended start mode</li> </ul> <p><b>SCSI features</b></p> <ul style="list-style-type: none"> <li>• Wide Ultra2 SCSI (LVD) controller<sup>1</sup> <ul style="list-style-type: none"> <li>– One external connector</li> <li>– One internal connector</li> </ul> </li> <li>• Two bays available for internal SCSI hard disk drives</li> </ul>	<p><b>Power supplies</b></p> <ul style="list-style-type: none"> <li>• Standard: Three hot-swap power supplies</li> <li>• 750 Watts each</li> <li>• Auto-sensing function</li> <li>• Built-in overload and surge protection</li> <li>• Automatic restart after a loss of power</li> <li>• Redundant power available</li> </ul> <p><b>Predictive Failure Analysis™ (PFA) alerts</b></p> <ul style="list-style-type: none"> <li>• Fans</li> <li>• Power supplies</li> <li>• Memory</li> <li>• Hard disk drives</li> <li>• Processors</li> </ul> <p><b>Integrated functions</b></p> <ul style="list-style-type: none"> <li>• I/O integrated function card</li> <li>• Voltage regulators for processors</li> <li>• Two serial ports</li> <li>• Two Universal Serial Bus (USB) ports</li> <li>• One parallel port</li> <li>• Mouse port</li> <li>• Keyboard port</li> <li>• Video port</li> <li>• Wake on LAN™ capability</li> <li>• Alert on LAN™ capability</li> <li>• Advanced System Management PCI adapter <ul style="list-style-type: none"> <li>– Full-duplex 10/100 Mbps Ethernet controller for system management use</li> <li>– Advanced System Management Interconnect port</li> <li>– Two serial ports</li> </ul> </li> <li>• ServeRAID™ adapter support</li> <li>• Built-in programmable read-only memory (PROM) based diagnostics</li> </ul>
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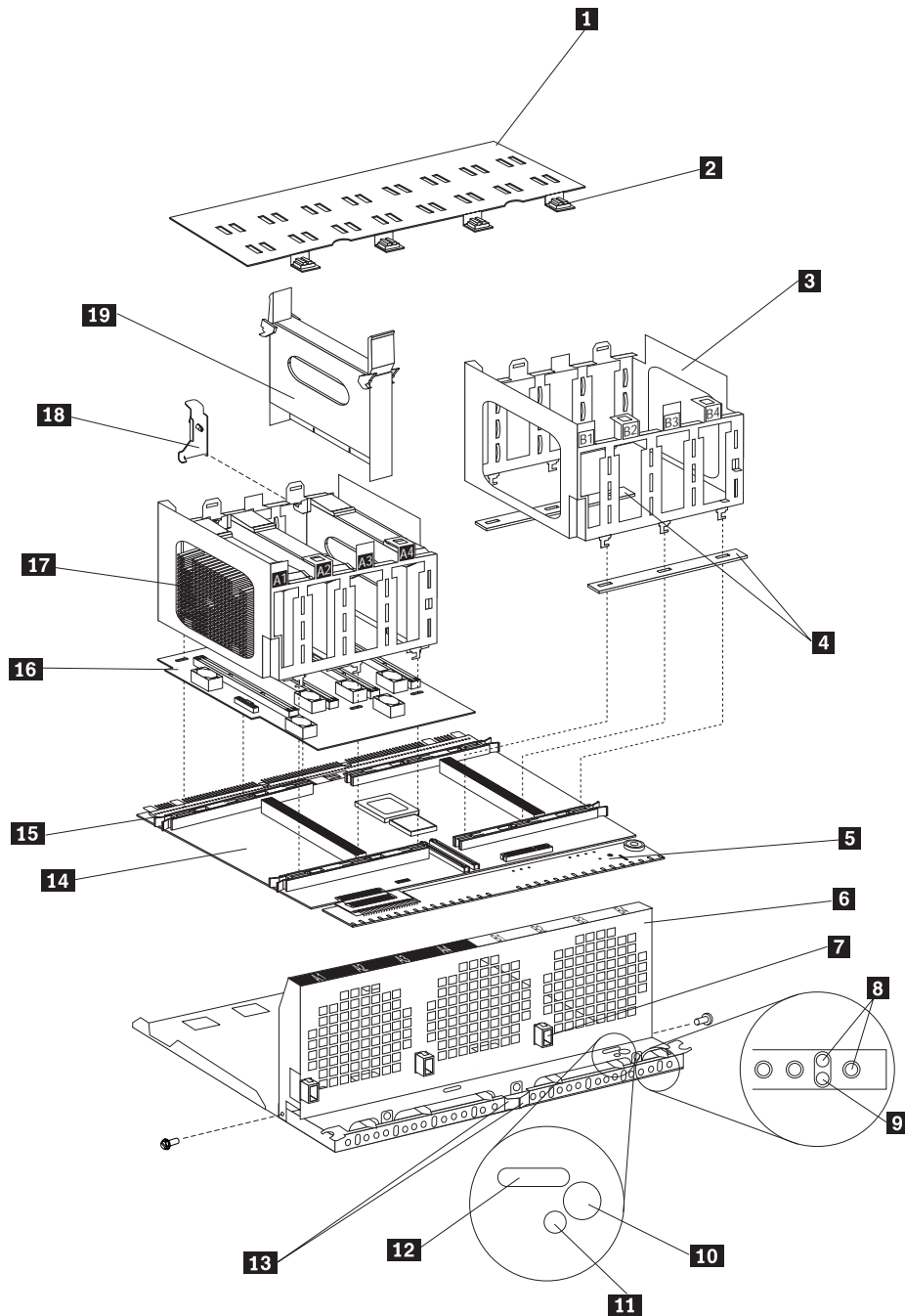
<sup>1</sup> LVD = low-voltage differential

## Exploded view of the Netfinity 8500R server (front)



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

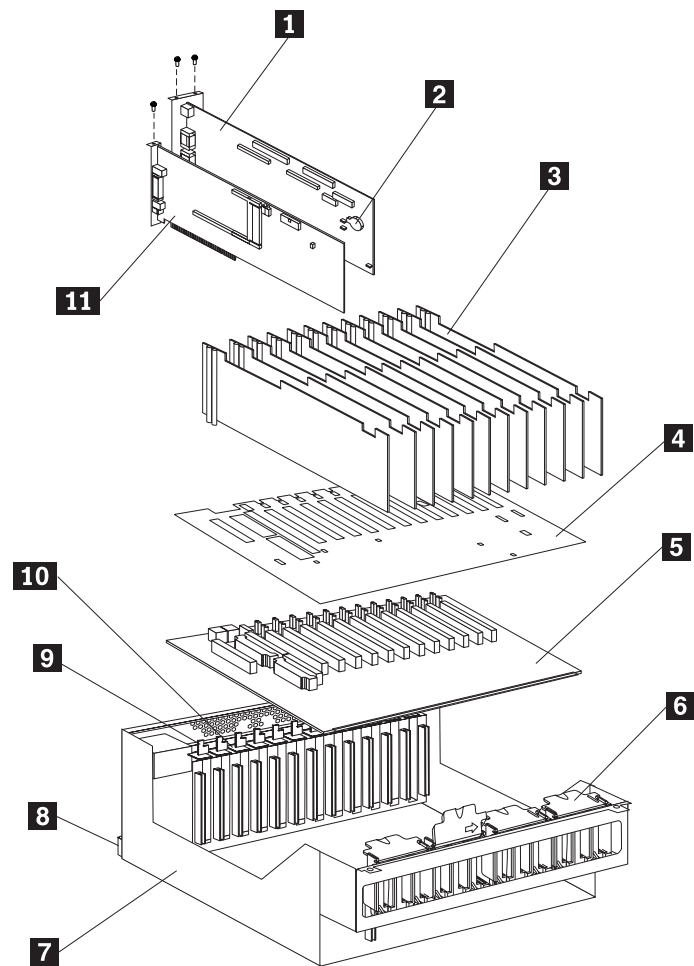
# Exploded view of the Netfinity 8500R processor housing assembly



**Note:** Assembly has been rotated to show servicing orientation.

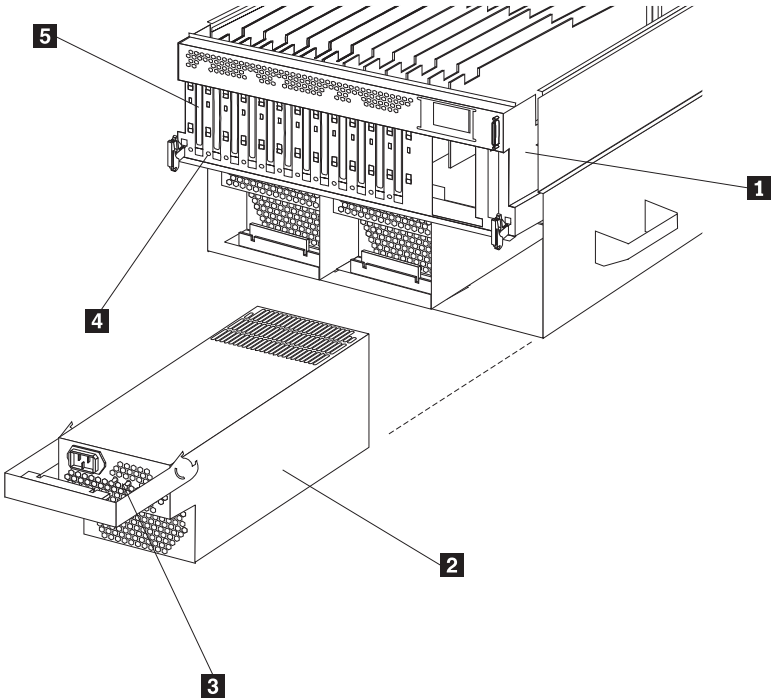
- |  |  |   |
|--|--|---|
| <b>1</b> Processor cage cover          | <b>7</b> Fan connector                       | <b>14</b> Processor controller board              |
| <b>2</b> Processor-cage-cover fastener | <b>8</b> Processor fail LED                  | <b>15</b> Processor-cage latch            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

## Exploded view of the Netfinity 8500R I/O housing assembly



- |          |                            |          |                            |           |  |
|----------|----------------------------|----------|----------------------------|-----------|--|
| <b>1</b> | I/O function card          | <b>5</b> | I/O board                  | <b>9</b>  | Adapter retention latch                |
| <b>2</b> | Battery                    | <b>6</b> | Adapter retention cover    | <b>10</b> | Tab                                    |
| <b>3</b> | Insulator                  | <b>7</b> | I/O housing                | <b>11</b> | Advanced System Management PCI adapter |
| <b>4</b> | I/O board protector shield | <b>8</b> | I/O-housing-assembly latch |           |  |

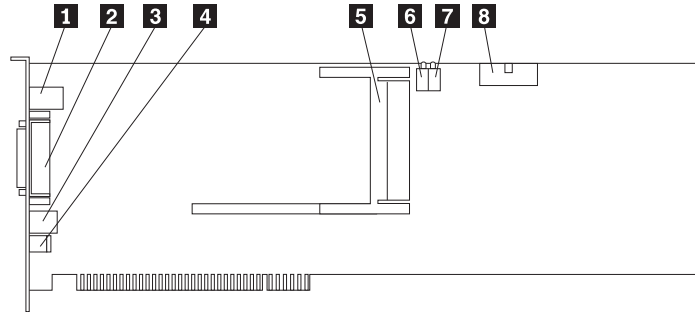
# Exploded view of the Netfinity 8500R server (rear)



- 1** I/O housing assembly
- 2** Power supply
- 3** Power supply LEDs

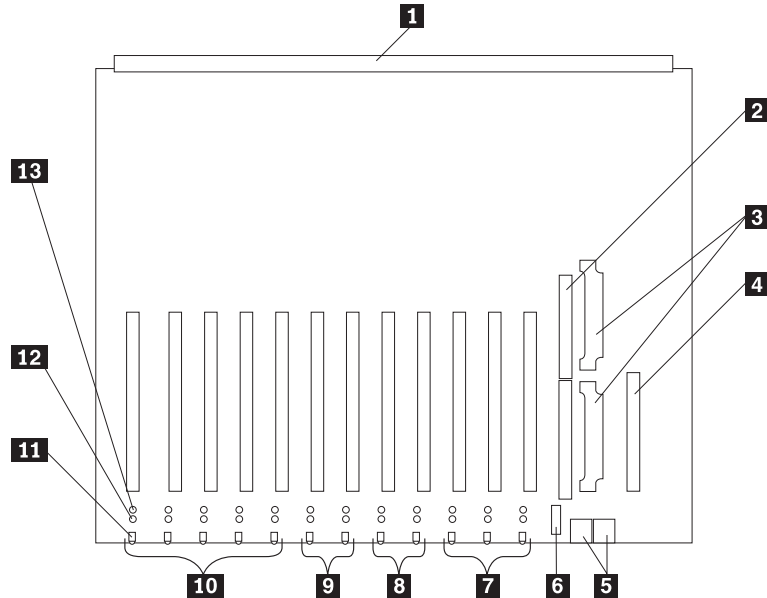
- 4** PCI slot and PCI adapter LED
- 5** Expansion-slot cover

## Advanced System Management PCI adapter component locations



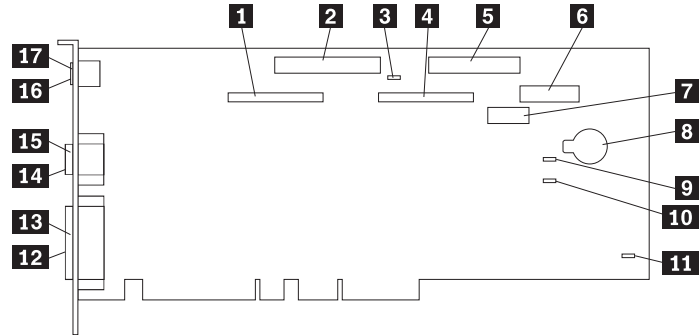
- 1** 10/100 Mbps Ethernet port connector (J8)
- 2** Dual serial port connector (J11)
- 3** Advanced System Management Interconnect bus connector (J16)
- 4** External power-supply connector (12 V dc jack J19, not used)
- 5** Personal Computer Memory Card International Association (PCMCIA) token-ring 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)

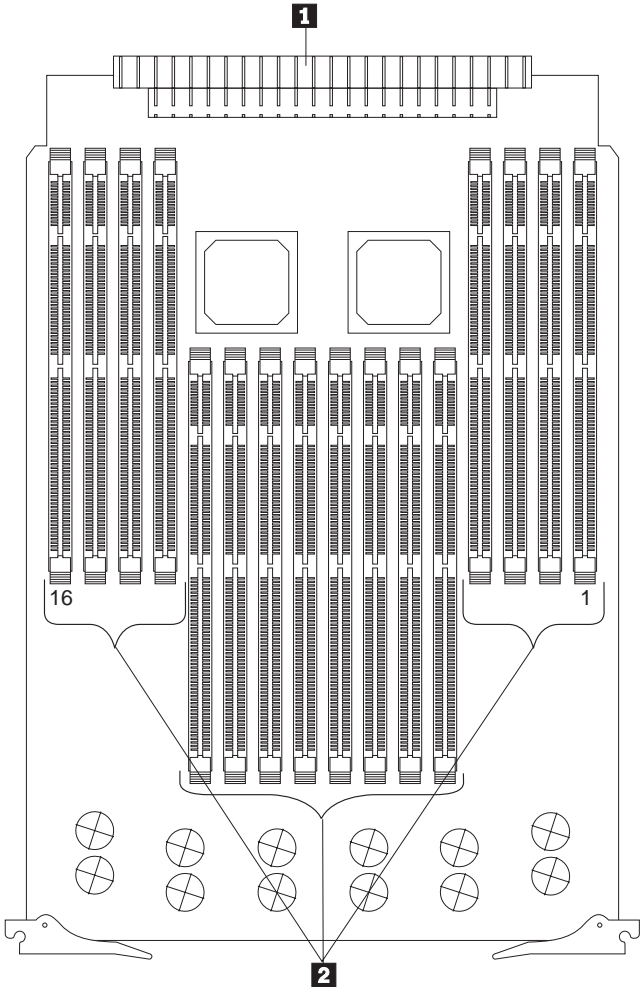
## I/O function card component locations



- 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

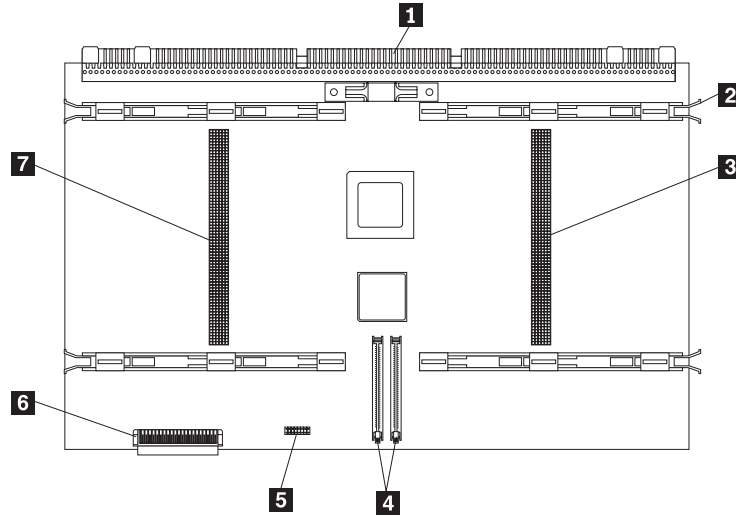


# Memory board component locations



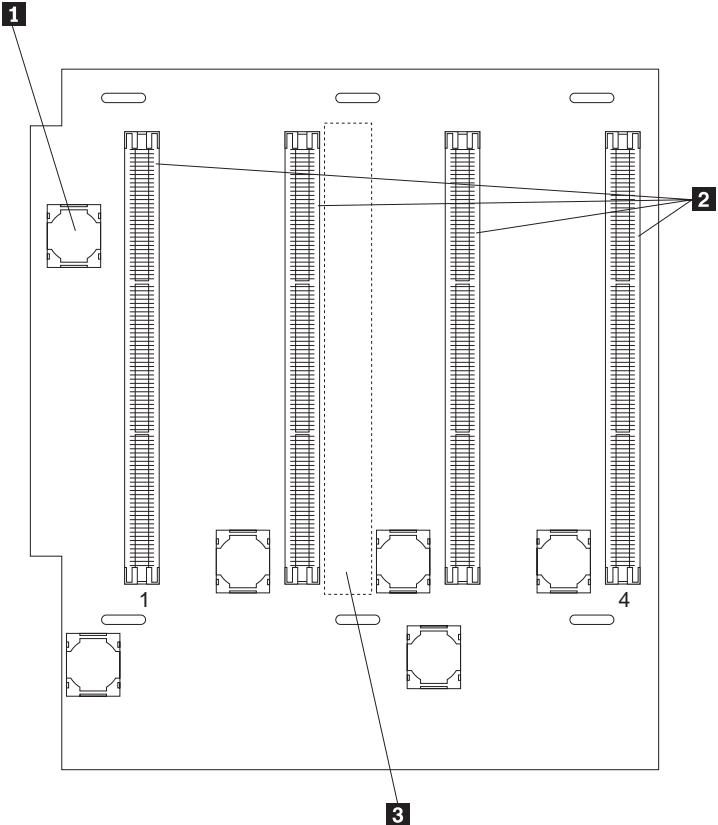
- 1** Midplane connector
- 2** DIMM connectors (J1-J16)

## Processor controller board component locations



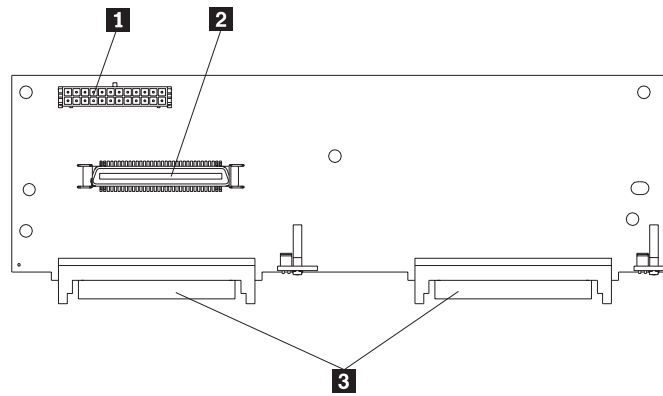
- 1** Midplane connector
- 2** Processor cage-release latches
- 3** Processor daughterboard slot B connector (secondary slot)
- 4** Cache coherency filter card connectors
- 5** Processor-core-frequency-selection jumper block
- 6** LED card connector
- 7** Processor daughterboard slot A connector (primary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

# Processor daughterboard component locations



- 1** Voltage regulator modules (VRMs)
- 1** Processor or terminator card connectors (A1–A4 or B1–B4)
- 2** Processor controller-board connector

## SCSI backplane component locations



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





Part Number: 01K7571

Printed in U.S.A.

September 1999

01K7571

