ESCALA

Cabling your Server

REFERENCE
86 A1 00FB 00

ESCALA

Cabling your Server

Hardware

November 2008

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REFERENCE
86 A1 00FB 00

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Safety notices

Safety notices may be printed throughout this guide.

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, a safety information booklet is included in the publications package shipped with the product. The booklet contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information in the booklet. You should also refer to the booklet any time you do not clearly understand any safety information in the U.S. English publications.

Laser safety information

The servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with IEC 60825 as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

CAUTION:
This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:

- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

(C026)

CAUTION:
Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)

CAUTION:
This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:

- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metallically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

Cabling your server

Learn how to cable your server with a console or interface that is available for your server. This might include the Advanced System Management Interface (ASMI), Hardware Management Console (HMC), or Integrated Virtualization Manager.

To learn more about the cabling options that are available for your server, see the following console and interface descriptions.

Advanced System Management Interface

The Advanced System Management Interface (ASMI) is the interface to the service processor that allows you to perform general and administrator-level service tasks, such as reading service processor error logs, reading vital product data, setting up the service processor, and controlling the system power. The ASMI might also be referred to as the service processor menus. Set up access to the ASMI if you plan to manage the AIX® or Linux® operating systems without an HMC. The ASMI can also be used to setup your Virtual I/O Server (VIOS).

Hardware Management Console

The Hardware Management Console (HMC) is a dedicated workstation that runs integrated system management software. The HMC manages hardware tasks and configures logical partitions on managed systems. It also acts as a focal point for hardware detection and reporting.

Integrated Virtualization Manager

The Integrated Virtualization Manager provides a Web-based system management interface and a command-line interface that you can use to manage and configure servers that use the Virtual I/O Server. On the managed system, you can create logical partitions, manage the virtual storage and virtual Ethernet, and view service information related to the server. The Integrated Virtualization Manager is packaged with the Virtual I/O Server, but it is enabled only on certain platforms and where no Hardware Management Console (HMC) is present.

Cabling a model 03E/4A and the Hardware Management Console

Learn how to cable the expansion units, if applicable to your server; connect the external cables, power cords, and Hardware Management Console (HMC) cables; attach devices; and route the cables after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:
- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:
1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:
1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see Installing and configuring the system and system devices . For information about specific models, see:
- 03E/4A

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units . For information about connecting expansion units, see Connecting your expansion units .
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the Connecting the external cables section.

Connecting the external cables

__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable did not come with your server, you must supply it.

Attaching devices by using a system port

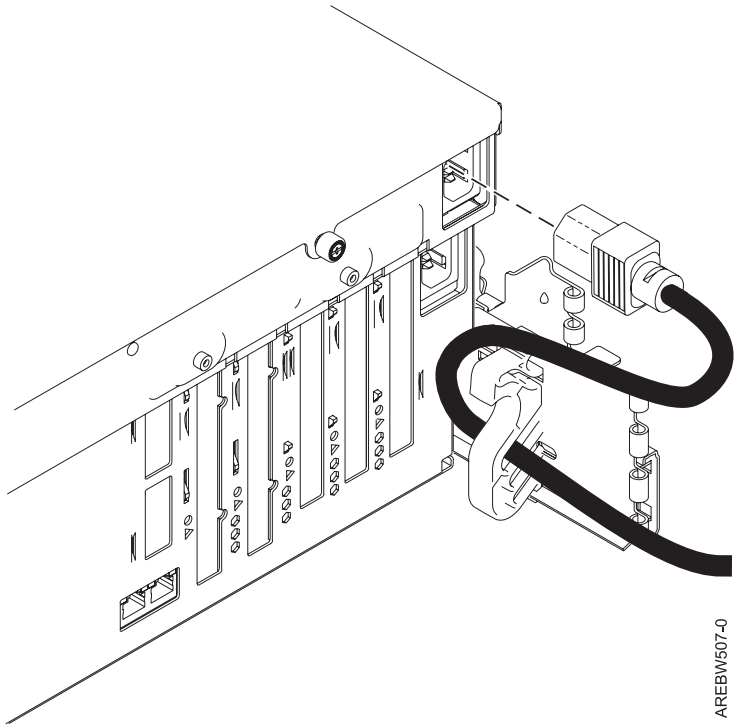
__

Connecting the power cords

__ Route the power cords through the retention brackets that are provided to prevent the power cords from becoming unplugged unexpectedly.

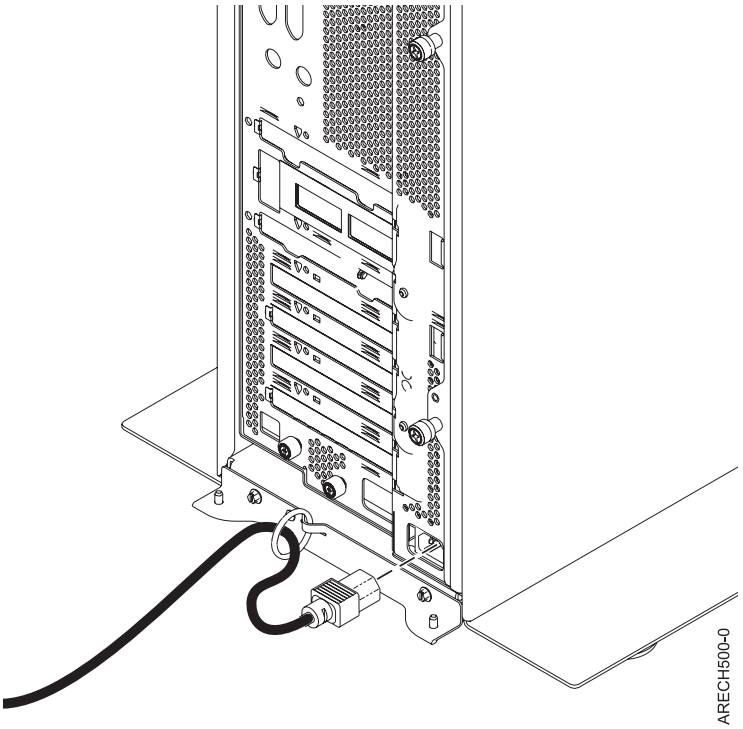
__ If your server is equipped with a retention bracket, route the power cord under the bracket before you plug it into the rear of the server.

__ If your server is rack-mounted, route the power cord under the retention bracket as shown in the following figure.



Connecting the power cords

__ If your server is mounted deskside, route the cable through a retention ring as shown in the following figure.



__ Plug the power cords into the system, display, and attached devices.

Connecting the HMC cables

_ Cable the HMC. For instructions, see Cabling the HMC. Then return to this step.

Routing the cables through the cable-management arm

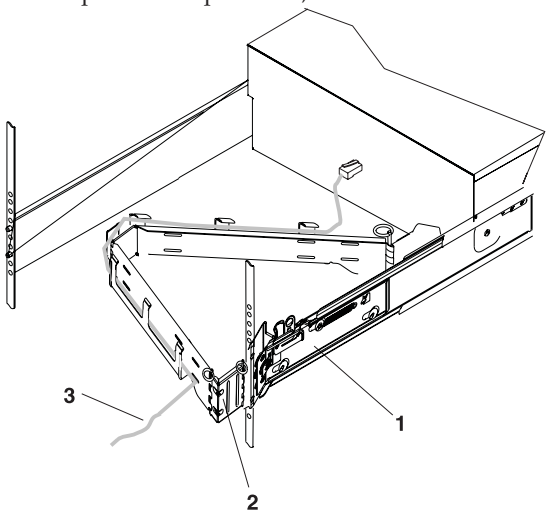
__ Is your server installed in a rack?

- **No.** Proceed to the section After you finish.
- **Yes.** Do the following steps:

  __ Place the rack-mounted system in the service position. For instructions, see . Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position .

Routing the cables through the cable-management arm

__ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

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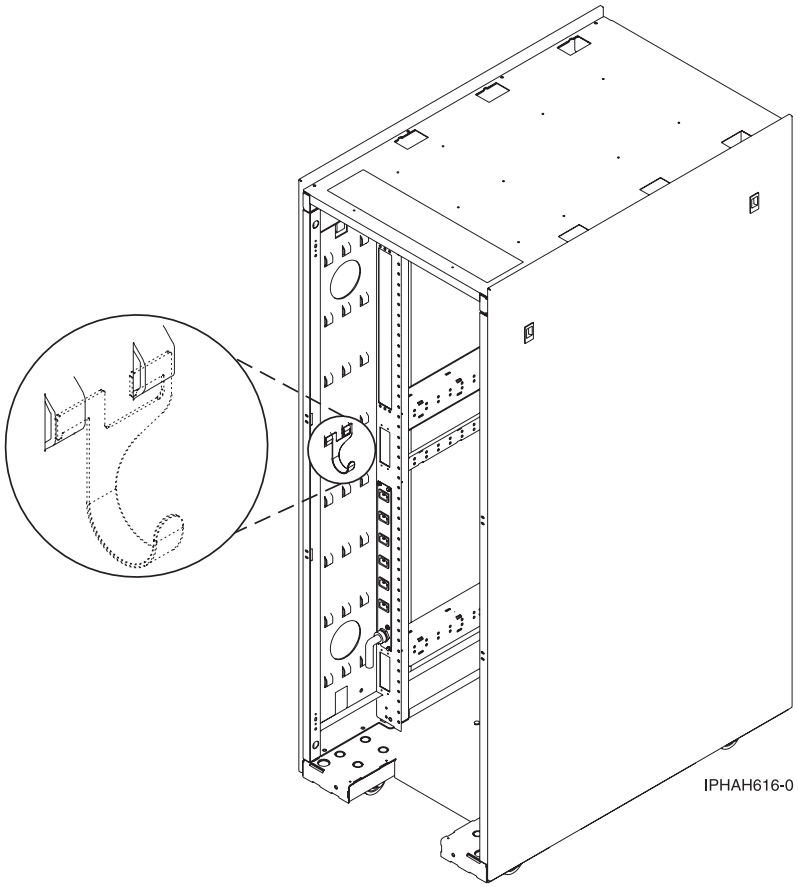
_ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



__ Return to your initial server setup checklist and complete the next step.

Related information

Managing the Hardware Management Console

Cabling a model 03E/4A to access the Integrated Virtualization Manager

Learn how to access the Integrated Virtualization Manager (IVM); connect external cables and power cords; cable expansion units, if applicable to your server; route the cables; and attach devices after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:

1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:

1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see Installing and configuring the system and system devices . For information about specific models, see:

- 03E/4A

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units. For information about connecting expansion units, see Connecting your expansion units.
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the section Connecting the external cables.

Connecting the external cables

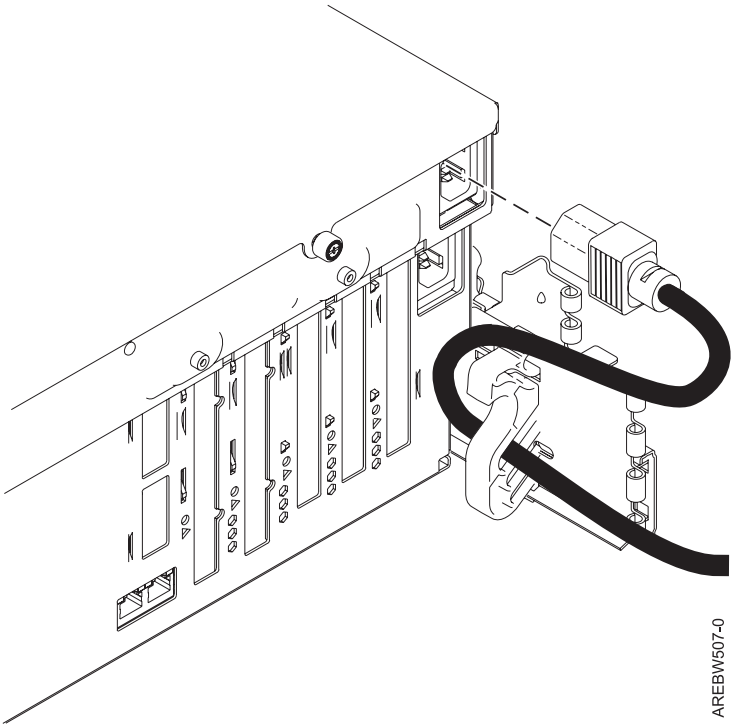
__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable was not provided with your server, you must supply it.

Connecting the power cords

__ Route the power cords through the retention brackets that are provided to prevent the power cords from becoming unplugged unexpectedly.

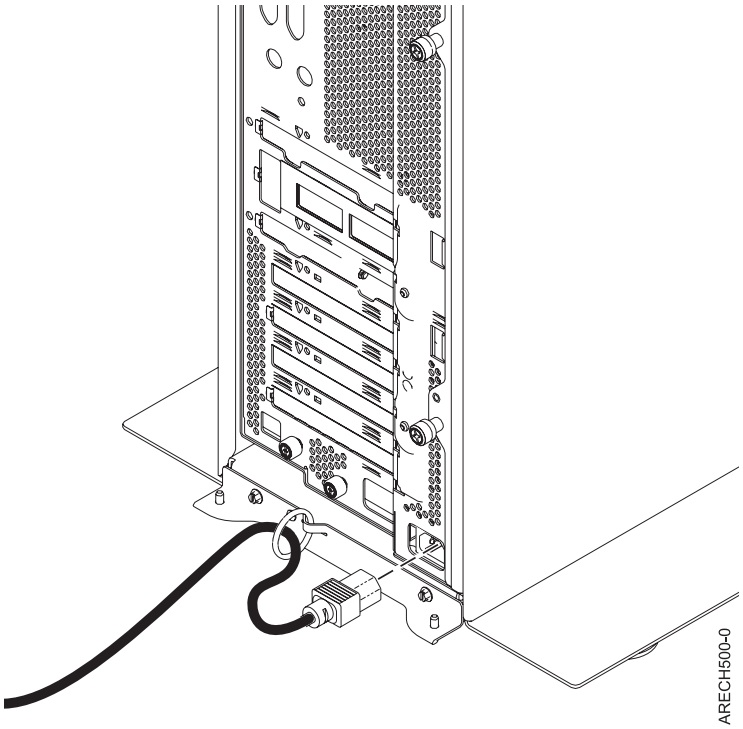
__ If your server is equipped with a retention bracket, route the power cord under the bracket before you plug it into the rear of the server.

__ If your server is rack-mounted, route the power cord under the retention bracket as shown in the following figure.



Connecting the power cords

__ If your server is mounted deskside, route the cable through a retention ring as shown in the following figure.



__ Plug the power cords into the system, display, and attached devices.

Attaching devices by using a system port

__ If you want to access the Advanced System Management Interface (ASMI) when the system is in standby, attach an ASCII terminal to a system port on the rear of the server.

__ If you want to access the ASMI remotely when the system is in standby, attach a modem to a system port on the rear of the server.

__ If you are connecting the device to an uninterruptible power supply, see the documentation that is included with your uninterruptible power supply. You might need additional hardware.

Note: For the model 5/20 or server, any other application that uses a system port requires a system port adapter to be installed into a PCI slot.

Accessing the IVM

__ For IVM access, the system must have VIOS installed and must be on a corporate network. Integrated Virtualization Manager has a Web-based graphical interface that enables the administrator to remotely manage the server with a browser.

Connecting to the Advanced System Management Interface

__ Use one of the following methods to connect to the Advanced System Management Interface (ASMI):

- Connect an Ethernet cable to HMC1 on the back of the server and to an Ethernet port on a PC.
- Connect a null modem serial cable to one of the serial ports on the server and to a serial port on the PC.

__ To set up and access the ASMI (including terminals), see Accessing the ASMI.

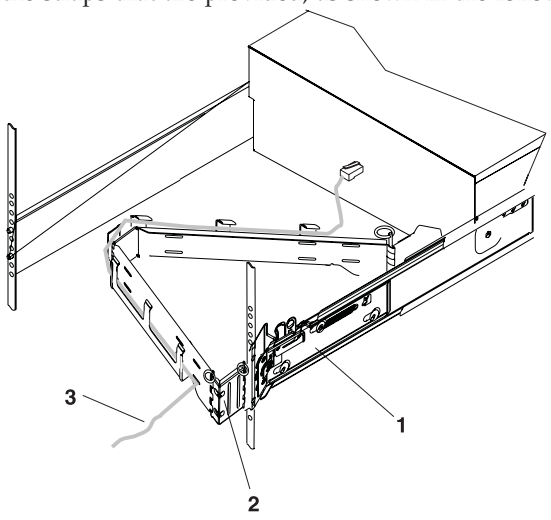
Routing the cables through the cable-management arm

__ Is your server installed in a rack?

- **No.** Proceed to the section Starting your server.
- **Yes.** Do the following steps:

__ Place the rack-mounted system in the service position. For instructions, see Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position.

__ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

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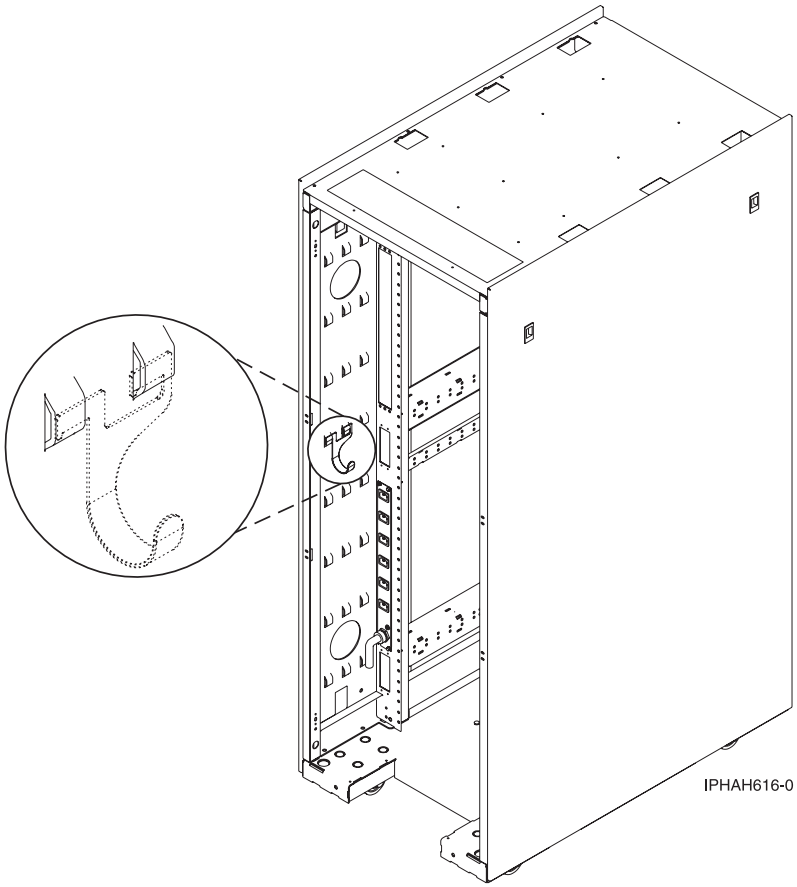
__ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



Cabling a model 03E/4A to access the Advanced System Management Interface

The Advanced System Management Interface (ASMI) is the interface to the system's firmware. Learn how to cable expansion units, if applicable to your server; connect external cables and power cords; attach devices; route the cables; connect to the ASMI; and start your server after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:
- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:
1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:
1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see Installing and configuring the system and system devices . For information about specific models, see:
- 03E/4A

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units . For information about connecting expansion units, see Connecting your expansion units .
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the Connecting the external cables section.

Connecting the external cables

__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable did not come with your server, you must supply it.

Attaching devices by using a system port

__ If you are connecting the server to an uninterruptible power supply, see the documentation that is included with your uninterruptible power supply. You might need additional hardware.

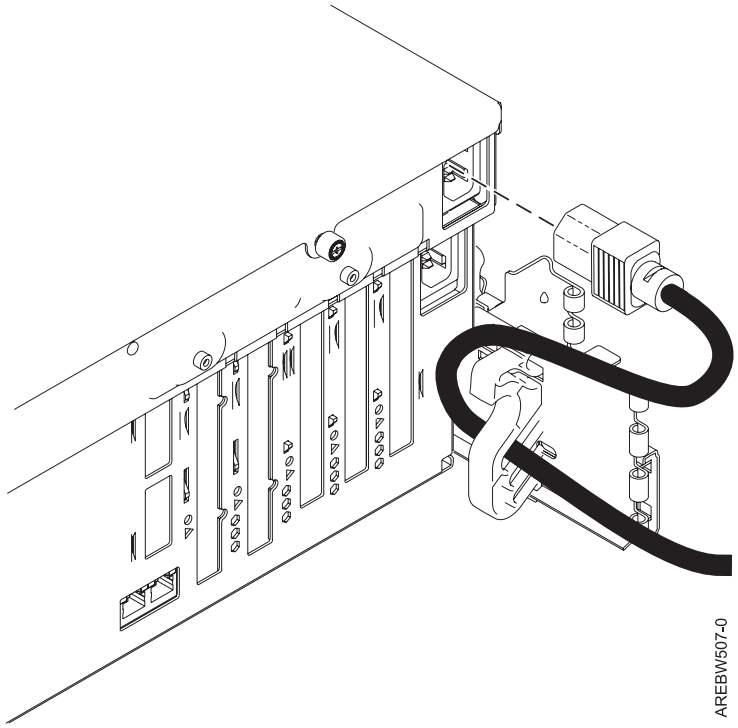
Note: For the model 5/20 server, any other application that uses a system port requires a system port adapter to be installed into a PCI slot.

Connecting the power cords

__ Route the power cords through the retention brackets that are provided to prevent the power cords from becoming unplugged unexpectedly.

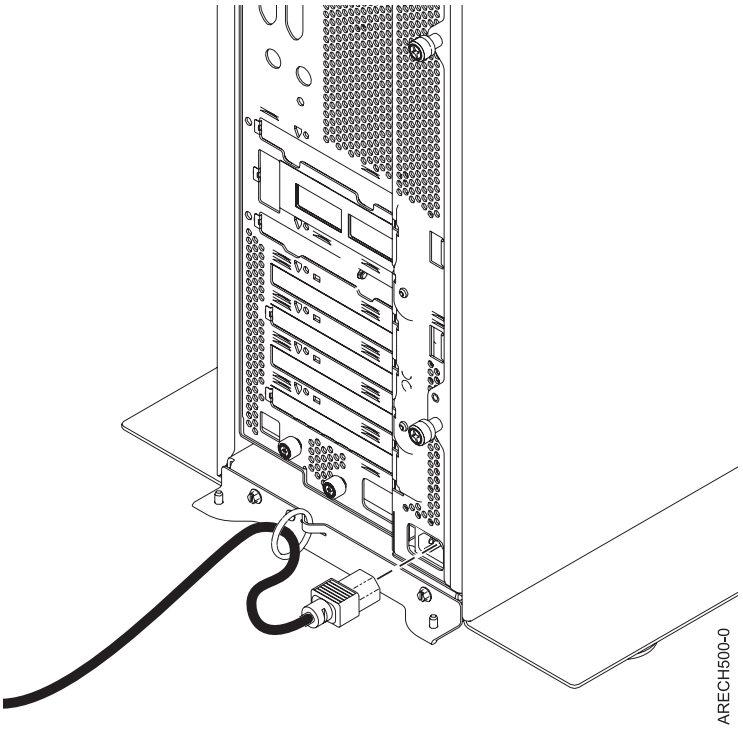
__ If your server is equipped with a retention bracket, route the power cord under the bracket before you plug it into the rear of the server.

__ If your server is rack-mounted, route the power cord under the retention bracket as shown in the following figure.



Connecting the power cords

__ If your server is mounted deskside, route the cable through a retention ring as shown in the following figure.



__ Plug the power cords into the system, display, and attached devices.

Routing the cables through the cable-management arm

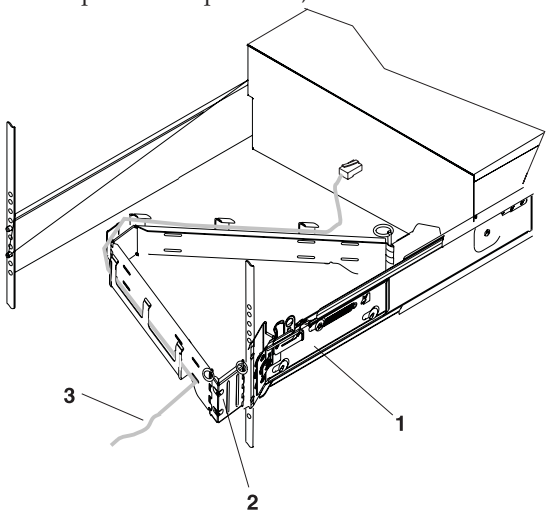
__ Is your server installed in a rack?

- **No.** Proceed to the section Starting your server.
- **Yes.** Do the following steps:

__ Place the rack-mounted system in the service position. For instructions, see .Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position .

Routing the cables through the cable-management arm

__ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

IPHAH615-0

__ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

Connecting to the ASMI

__ Use one of the following methods to connect to the ASMI:

- Connect an Ethernet cable to HMC1 on the back of the server and to an Ethernet port on a PC.

  With an Ethernet connection, you access the ASMI graphical user interface (GUI).
- Connect a null modem serial cable to one of the serial ports on the server and to a serial port on the PC.

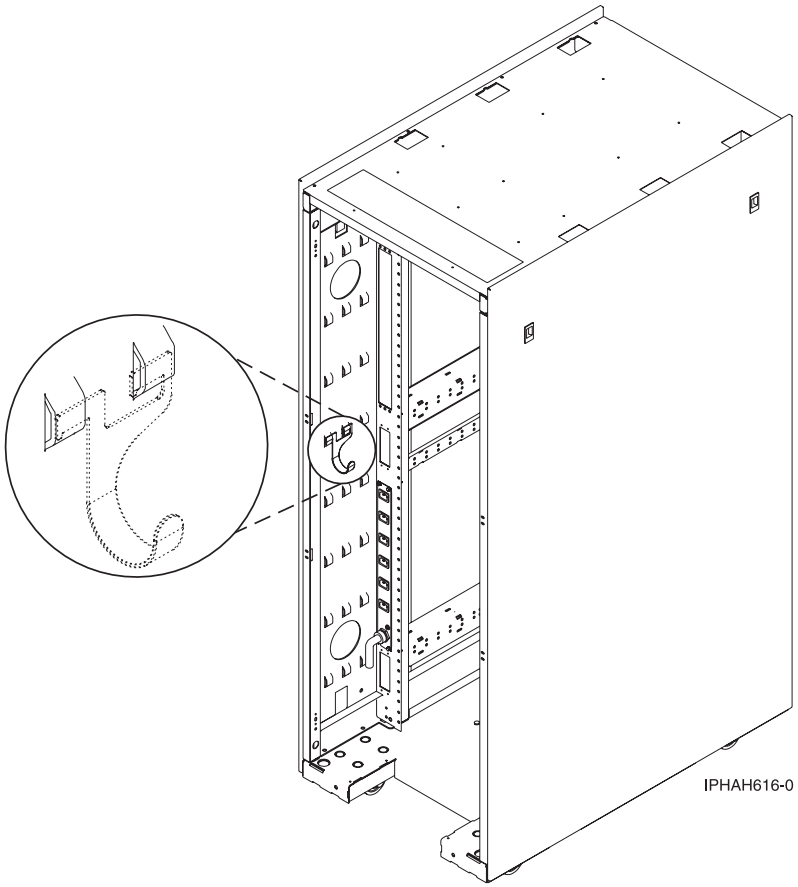
  With a serial-cable connection, you access the ASMI character-based firmware user interface.

__ To set up and access the ASMI (including terminals), see Accessing the ASMI .

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



__ Return to your initial server setup checklist and complete the next step.

Related information

Managing the Advanced System Management Interface (ASMI)

Cabling a model 04E/8A and the Hardware Management Console

Learn how to cable the expansion units, if applicable to your server; connect the external cables, power cords, and Hardware Management Console (HMC) cables; attach devices; and route the cables after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:
- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:
1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:
1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see Installing and configuring the system and system devices. For information about specific models, see

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units . For information about connecting expansion units, see Connecting your expansion units .
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the Connecting the external cables section.

Connecting the external cables

__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable did not come with your server, you must supply it.

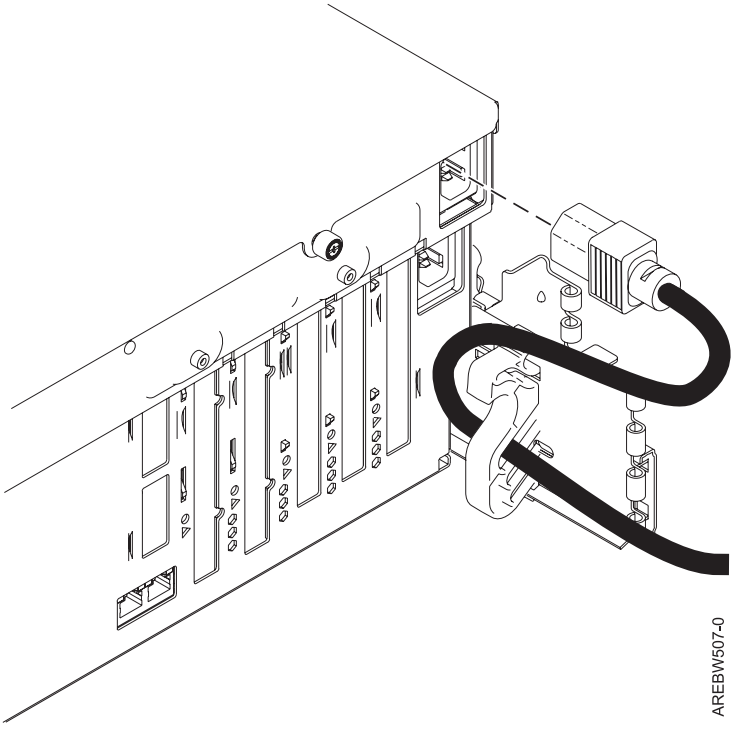
Attaching devices by using a system port

__ Each system port on the rear of the server is disabled when your server is connected to the HMC.

Connecting the power cords

__ To prevent the power cords from becoming unplugged unexpectedly, route power cords through the retention rings or under the retention brackets that are provided.

__ If your server is equipped with a retention bracket, route the power cord under the bracket before you plug it into the rear of the server, as shown in the following figure.



_ Plug the power cords into the system, display, and attached devices.

Connecting the HMC cables

_ Cable the HMC. For instructions, see Cabling the HMC. Then return to this step.

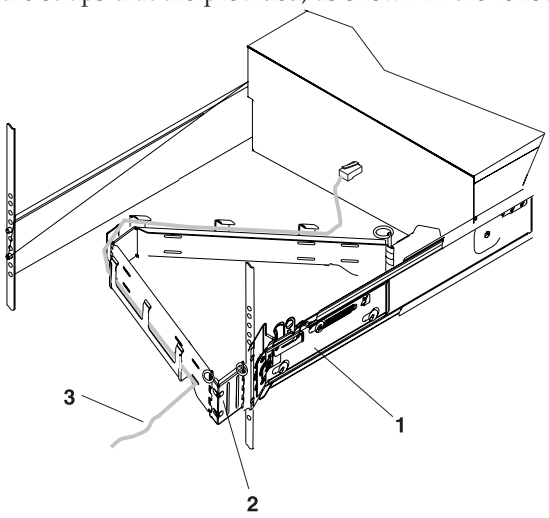
Routing the cables through the cable-management arm

__ Is your server installed in a rack?

- **No.** Proceed to the section After you finish.
- **Yes.** Do the following steps:

__ Place the rack-mounted system in the service position. For instructions, see . Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position .

__ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

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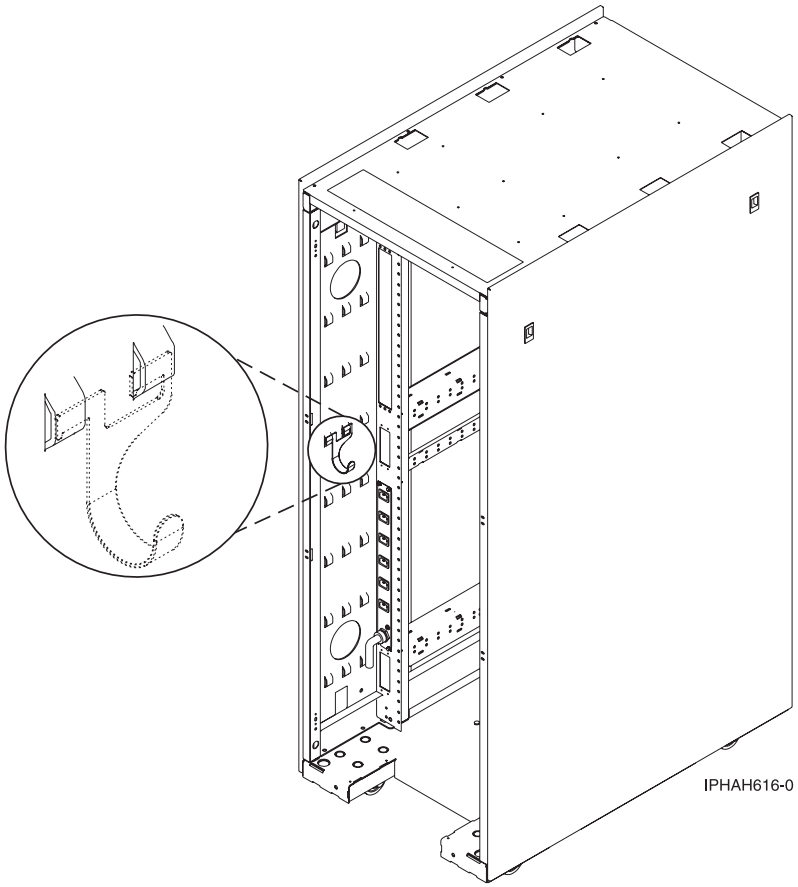
_ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



__ Return to your initial server setup checklist and complete the next step.

Related information

Managing the Hardware Management Console

Cabling a model 04E/8A to access the Integrated Virtualization Manager

Learn how to access the Integrated Virtualization Manager (IVM); connect external cables and power cords, cable expansion units, if applicable to your server; route the cables; and attach devices after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:

1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:

1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see , Installing and configuring the system and system devices. For information about specific models, see

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units . For information about connecting expansion units, see Connecting your expansion units .
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the Connecting the external cables section.

Connecting the external cables

__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable did not come with your server, you must supply it.

Attaching devices by using a system port

__ If you want to access the Advanced System Management Interface (ASMI) when the system is in standby, attach an ASCII terminal to a system port on the rear of the server.

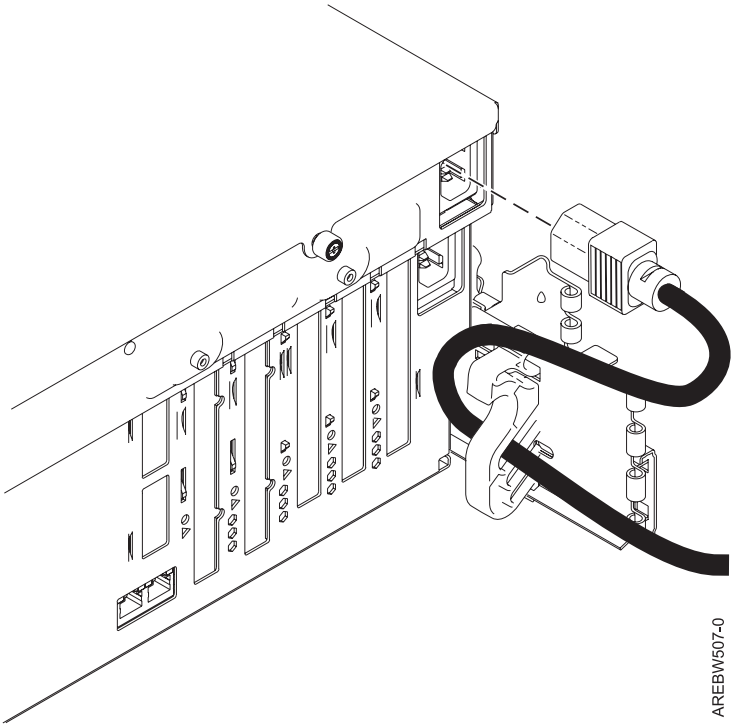
__ If you want to access the ASMI remotely when the system is in standby, attach a modem to a system port on the rear of the server.

__ If you are connecting the device to an uninterruptible power supply, see the documentation that is included with your uninterruptible power supply. You might need additional hardware.

Connecting the power cords

__ Route the power cords through the retention brackets that are provided to prevent the power cords from becoming unplugged unexpectedly.

__ Route the power cord under the bracket before you plug it into the rear of the server. See the following figure.



__ Plug the power cords into the system, display, and attached devices.

Accessing the IVM

__ For IVM access, the system must have VIOS installed and must be on a corporate network. Integrated Virtualization Manager has a Web-based graphical interface that enables the administrator to remotely manage the server with a browser.

Connecting to the ASMI

__ Use one of the following methods to connect to the ASMI:

- Connect an Ethernet cable to HMC1 on the back of the server and to an Ethernet port on a PC.
- Connect a null modem serial cable to one of the serial ports on the server and to a serial port on the PC.

__ To set up and access the ASMI (including terminals), see Accessing the ASMI.

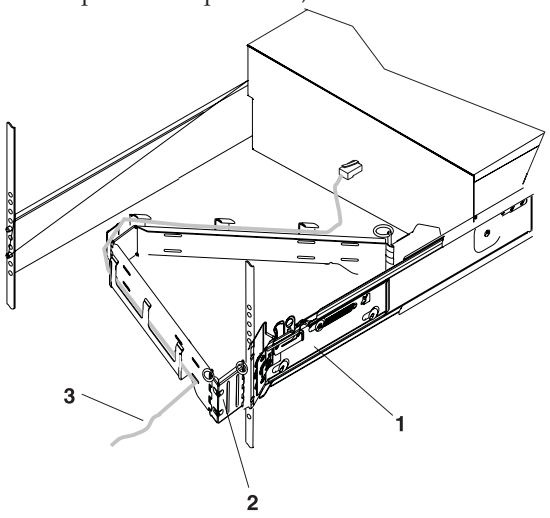
Routing the cables through the cable-management arm

__ Is your server installed in a rack?

- **No.** Proceed to the section After you finish.
- **Yes.** Do the following steps:

_ Place the rack-mounted system in the service position. For instructions, see . Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position.

_ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

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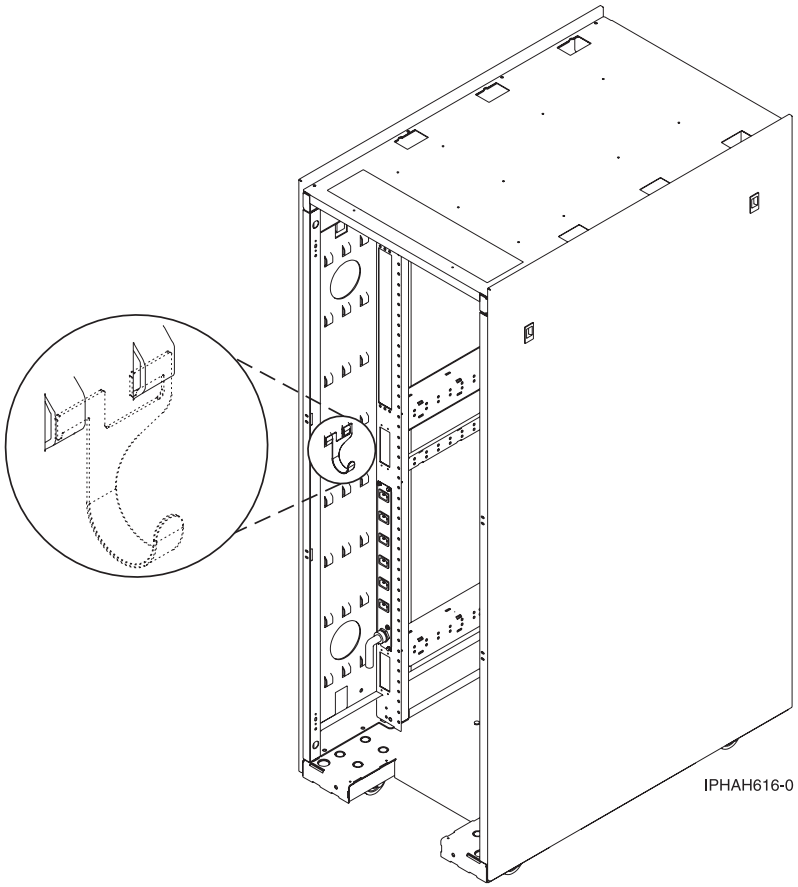
_ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



Cabling a model 04E/8A to access the Advanced System Management Interface

The Advanced System Management Interface (ASMI) is the interface to the system's firmware. Learn how to cable expansion units, if applicable to your server; connect external cables and power cords; attach devices; route the cables; connect to the ASMI; and start your server after you install all of your hardware features or before you replace parts.

About this task

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

DANGER

To Disconnect:

1. **Turn off everything (unless instructed otherwise).**
2. **Remove the power cords from the outlets.**
3. **Remove the signal cables from the connectors.**
4. **Remove all cables from the devices**

(D005a)

DANGER

To Connect:
1. **Turn off everything (unless instructed otherwise).**
2. **Attach all cables to the devices.**
3. **Attach the signal cables to the connectors.**
4. **Attach the power cords to the outlets.**
5. **Turn on the devices.**

(D005a)

To cable your server:

Before you begin

__ If you have hardware features that are not installed, install them now. For instructions, see Installing and configuring the system and system devices . For information about specific models, see

-
-

Cabling the expansion units

__ Do you have an expansion unit?

- **Yes.** For information about expansion units, see Installing expansion units . For information about connecting expansion units, see Connecting your expansion units .
  Note: Do not plug the expansion-unit power cord into the power outlet, as directed by the instructions in Expansion units topic collection, until later in this checklist.
- **No.** Proceed to the Connecting the external cables section.

Connecting the external cables

__ If you are using any optional adapters (such as token ring or 8-port EIA-232), connect the cables to the appropriate adapter connectors in the Peripheral Component Interconnect (PCI) slots of your machine.
Note: If the cable did not come with your server, you must supply it.

Attaching devices by using a system port

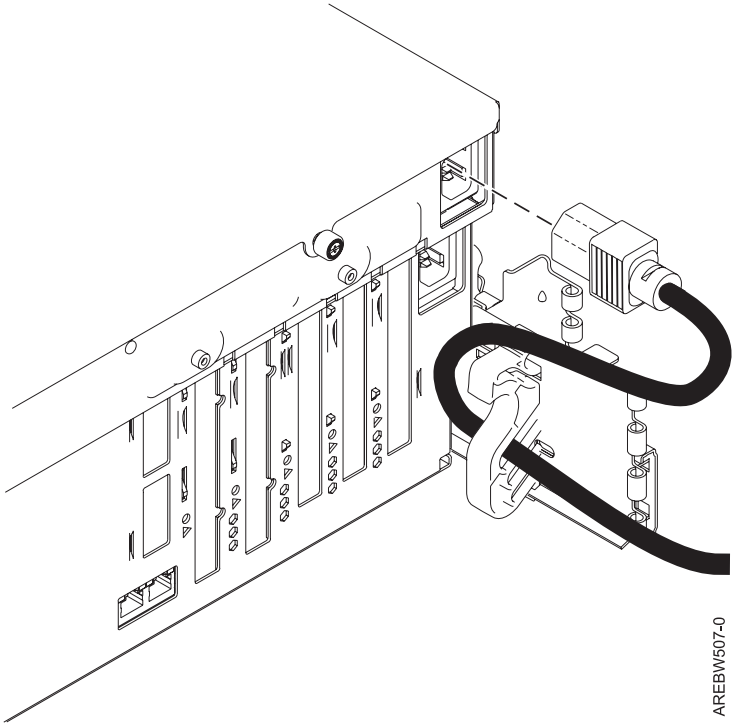
__ If you are connecting it to an uninterruptible power supply, see the documentation that is included with your uninterruptible power supply. You might need additional hardware.

Connecting the power cords

__ Route the power cords through the retention brackets that are provided to prevent the power cords from becoming unplugged unexpectedly.

Connecting the power cords

__ Route the power cord under the bracket before you plug it into the rear of the server. See the following figure.



__ Plug the power cords into the system, display, and attached devices.

Routing the cables through the cable-management arm

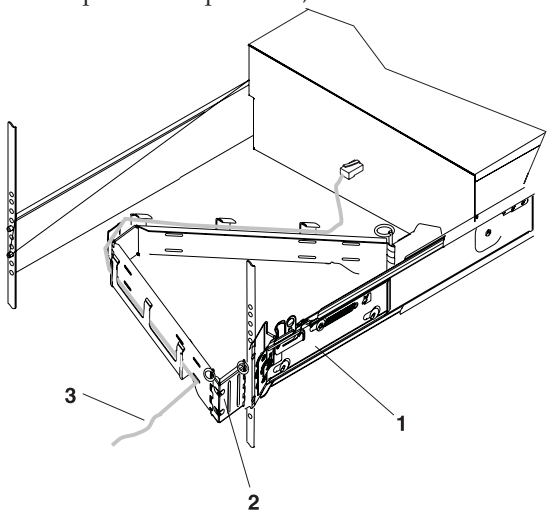
__ Is your server installed in a rack?

- **No.** Proceed to the section Starting your server.
- **Yes.** Do the following steps:

  __ Place the rack-mounted system in the service position. For instructions, see .Place the rack-mounted model 8204-E8A, 8203-E4A, 9407-M15, 9408-M25, or 9409-M50 in the service position .

Routing the cables through the cable-management arm

__ Route the cables through the hooks that are located along the cable-management arm and secure them with the straps that are provided, as shown in the following figure.



1 System rail
2 Cable management arm
3 Cable

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__ After attaching the cables to the cable-management arm, go to the front of the rack and move the system drawer in and out. Observe the cables and cable-management-arm movement to verify that the cables are not binding.

Connecting to the ASMI

__ Use one of the following methods to connect to the ASMI:

- Connect an Ethernet cable to HMC1 on the back of the server and to an Ethernet port on a PC.

  With an Ethernet connection, you access the ASMI graphical user interface (GUI).
- Connect a null modem serial cable to one of the serial ports on the server and to a serial port on the PC.

  With a serial-cable connection, you access the ASMI character-based firmware user interface.

__ To set up and access the ASMI (including terminals), see Accessing the ASMI .

Starting your server

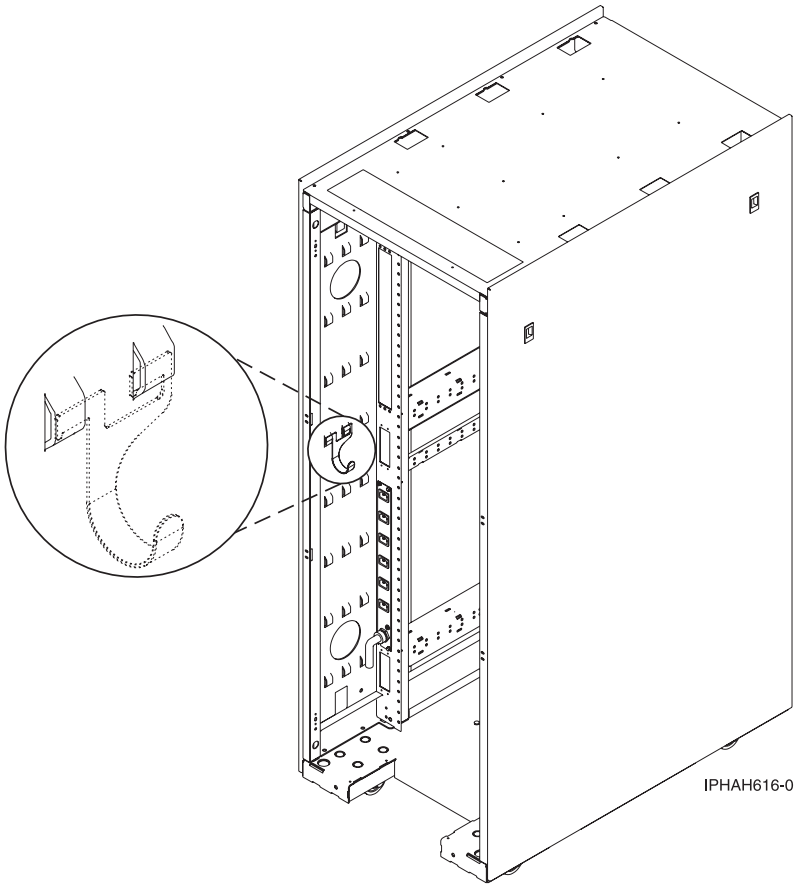
__ Turn the system on.

Note: Expect a delay between the time that the power is applied to the server or workstation and the time that an initial program load (IPL) can be performed. When power is initially applied to the server or workstation, the service processor performs a self-check and leaves the control panel blank for up to two minutes. You must wait until the `C1XX XXXX` progress codes are complete and the control panel displays `01` before you perform an IPL or change the control panel functions. After the green light starts blinking, you can press the white button to turn on the system.

After you finish

__ Did you receive a cable hook with your rack shipment?

- **No.** Continue to the next task.
- **Yes.** The cable hook manages the server cables in the rear of the rack. To install the cable hook, slide it into the slots that are located on the rear of the rack as shown in the following figure.



__ Return to your initial server setup checklist and complete the next step.

Related information

Managing the Advanced System Management Interface (ASMI)

Appendix. Notices

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

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Electronic emission notices

Class A Notices

The following Class A statements apply to the servers.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this

equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM® is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

European Community contact:
IBM Technical Regulations
Pascalstr. 100, Stuttgart, Germany 70569
Tele: 0049 (0)711 785 1176
Fax: 0049 (0)711 785 1283
E-mail: tjahn@de.ibm.com

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Statement - Japan

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The following is a summary of the VCCI Japanese statement in the box above.

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Electromagnetic Interference (EMI) Statement - People's Republic of China

声 明

此为A级产品，在生活环境中，
该产品可能会造成无线电干扰。
在这种情况下，可能需要用户对其
干扰采取切实可行的措施。

Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

Electromagnetic Interference (EMI) Statement - Taiwan

警告使用者：
這是甲類的資訊產品，在
居住的環境中使用時，可
能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

Electromagnetic Interference (EMI) Statement - Korea

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자
또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 판매 또는
구입하였을 때에는 가정용으로 교환하시기 바랍니다.

Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.

Germany Compliance Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der IBM gesteckt/eingebaut werden.

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"Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Electromagnetic Interference (EMI) Statement - Russia

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