



IBM WebSphere DataPower Integration Blade XI50B
Type 4195

Installation and User's Guide





IBM WebSphere DataPower Integration Blade XI50B
Type 4195

Installation and User's Guide

Note

Before using this information and the product it supports, read the general information in "Notices" on page 39, the *Warranty Information* document, and the *IBM Safety Information* and the *Environmental Notices and User Guide* documents on the IBM Documentation CD.

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Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

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

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

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

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.

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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.

ཐོན་ཁུངས་འདི་བདེ་སྤྱོད་མ་བྱས་གོང་། རྒྱུ་ལྷིང་གཟུང་
བྱ་འདྲ་མིན་ཡོད་པའི་འོད་སྤེར་བལྟ་དགོས།

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

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canjbinj soengq cungj vahgangj ancien siusik.

Safety statements

Review all safety statements before installing this product.

Important:

Each caution and danger statement in this document is labeled with a number. This number is used to cross reference an English-language caution or danger statement with translated versions of the caution or danger statement in the *Safety Information* document.

For example, if a caution statement is labeled "Statement 1", translations for that caution statement are in the *Safety Information* book under "Statement 1".

Be sure to read all caution and danger statements in this document before you perform the procedures. Read any additional safety information that comes with the server or optional device before you install the device.

This device is intended for use with UL listed IBM BladeCenters.

Statement 1



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Connect to properly wired outlets any equipment that will be attached to this product.
- 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 table when installing, moving, or opening covers on this product or attached devices.

To Connect:

1. Turn everything OFF.
2. First, attach all cables to devices.
3. Attach signal cables to connectors.
4. Attach power cords to outlet.
5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.

Statement 2



CAUTION:

When replacing the lithium battery, use only IBM Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- Throw or immerse into water
- Heat to more than 100°C (212°F)
- Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.

Statement 21



CAUTION:

Hazardous energy is present when the blade is connected to the power source. Always replace the blade cover before installing the blade.

Chapter 1. Introduction

The IBM® WebSphere® DataPower® Integration Blade XI50B, Type 4195 is compatible with IBM BladeCenter H and HT units and with IBM BladeCenter E units that have an advanced management module installed. The appliance is a double-wide configuration that installs in two adjacent blade bays of the BladeCenter unit.

Note: Unless otherwise stated, references to the BladeCenter unit apply to all supported BladeCenter unit types.

This *Installation and User's Guide* provides information about:

- Setting up the blade appliance
- Starting and configuring the blade appliance
- Performing basic troubleshooting of the blade appliance
- Replacement parts for the blade appliance

Packaged with this document are resource CDs that help you to configure hardware and system software.

The blade appliance comes with a limited warranty. For information about the terms of the warranty and getting service and assistance, see the *Warranty Information* document for your blade appliance on the IBM *Documentation* CD.

The blade appliance might have features that are not described in the documentation that comes with the blade appliance, and the documentation might be updated occasionally to include information about those features, or technical updates might be available to provide additional information that is not included in the blade appliance documentation.

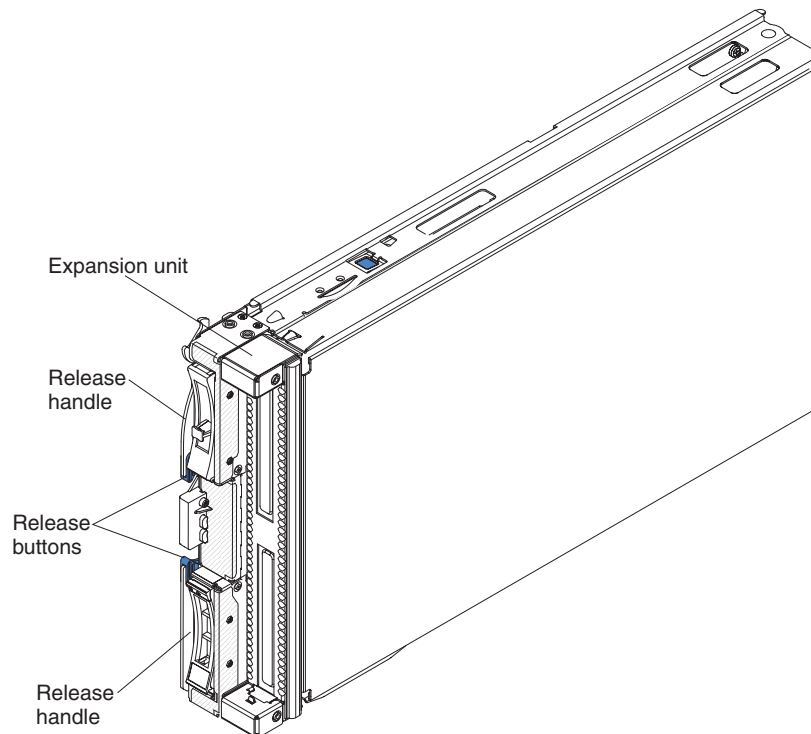
To download the latest blade appliance firmware, see "Downloading the firmware image" on page 25.

To check for updated documentation, go to <http://www.ibm.com/software/integration/datapower/library/documentation/>. You can obtain other up-to-date information about the blade appliance at <http://www.ibm.com/systems/bladecenter/>.

You can subscribe to information updates specific to your blade appliance at <http://www.ibm.com/support/mynotifications>.

The model number and serial number are on the ID label on the side of the control panel on the front of the blade appliance, and on a label on the side of the blade appliance that is visible when the blade appliance is not in the BladeCenter unit.

Note: The illustrations in this document might differ slightly from the hardware.



A set of blank labels comes with the BladeCenter unit. When you install the blade appliance in the BladeCenter unit, write identifying information on a label and place the label on the BladeCenter unit bezel. See the documentation for your BladeCenter unit for recommended label placement.

Important: Do not place the label on the blade appliance itself or in any way block the ventilation holes on the blade appliance.

Related documentation

This *Installation and User's Guide* contains general information about the blade appliance. The following documentation is in PDF on an IBM *Documentation* CD that comes with the blade appliance:

- *Problem Determination and Service Guide*

This document is for the HS22 blade server that is the blade appliance system board assembly. It is referenced by this *Installation and User's Guide* and contains additional information to help you solve problems yourself, and it contains information for service technicians. The HS22 blade server *Problem Determination and Service Guide* should be used in addition to the blade appliance specific information contained in this *Installation and User's Guide*.

- *Safety Information*

This document contains translated caution and danger statements. Each caution and danger statement that appears in the documentation has a number that you can use to locate the corresponding statement in your language in the *Safety Information* document.

- *Warranty Information*

This document contains information about the terms of the warranty and getting service and assistance.

- *Environmental Notices and User Guide*

This document contains translated environmental notices.

The following documentation is available at <http://www.ibm.com/software/integration/datapower/library/documentation/>:

- *IBM WebSphere DataPower SOA Appliances: Administrators Guide*

This document describes the concepts and tasks to configure the blade appliance.

- *IBM WebSphere DataPower: Command Reference*

This document describes the commands used to configure the blade appliance.

Depending on your BladeCenter product, additional documents might be included on an IBM *Documentation* CD. In addition to the documentation in this library, be sure to review the *Planning and Installation Guide* for your BladeCenter unit for information to help you prepare for system installation and configuration. To check for updated documentation and technical updates, go to <http://www.ibm.com/software/integration/datapower/library/documentation/>.

The IBM Documentation CD

Use the IBM Documentation CD to access the blade appliance documentation in PDF format.

You can run the IBM *Documentation CD* on any personal computer that meets the hardware and software requirements.

The IBM *Documentation CD* contains documentation for your blade appliance in Portable Document Format (PDF) and includes the IBM Documentation Browser to help you find information quickly.

Hardware and software requirements

The IBM *Documentation CD* requires the following minimum hardware and software:

- Microsoft Windows XP, Windows 2000, or Red Hat Enterprise Linux 5 Server
- 100 MHz microprocessor
- 32 MB of RAM
- Adobe Acrobat Reader 3.0 (or later) or xpdf, which comes with Linux operating systems

Using the Documentation Browser

Use these instructions to start the Documentation Browser.

Use the Documentation Browser to browse the contents of the CD, read brief descriptions of the documents, and view documents, using Adobe Acrobat Reader or xpdf. The Documentation Browser automatically detects the regional settings in use in your system and displays the documents in the language for that region (if available). If a document is not available in the language for that region, the English-language version is displayed.

Use one of the following procedures to start the Documentation Browser:

- If Autostart is enabled, insert the CD into the CD drive. The Documentation Browser starts automatically.
- If Autostart is disabled or is not enabled for all users, use one of the following procedures:

- If you are using a Windows operating system, insert the CD into the CD or DVD drive and click **Start → Run**. In the **Open** field, type

```
e:\win32.bat
```

where *e* is the drive letter of the CD or DVD drive, and click **OK**.

- If you are using Red Hat Linux, insert the CD into the CD or DVD drive; then, run the following command from the `/mnt/cdrom` directory:

```
sh runlinux.sh
```

Select your blade appliance from the **Product** menu. The **Available Topics** list displays all the documents for your blade appliance. Some documents might be in folders. A plus sign (+) indicates each folder or document that has additional documents under it. Click the plus sign to display the additional documents.

When you select a document, a description of the document is displayed under **Topic Description**. To select more than one document, press and hold the Ctrl key while you select the documents. Click **View Book** to view the selected document

or documents in Acrobat Reader or xpdf. If you selected more than one document, all the selected documents are opened in Acrobat Reader or xpdf.

To search all the documents, type a word or word string in the **Search** field and click **Search**. The documents in which the word or word string appears are listed in order of the most occurrences. Click a document to view it, and press Ctrl+F to use the Acrobat search function, or press Alt+F to use the xpdf search function within the document.

Click **Help** for detailed information about using the Documentation Browser.

Notices and statements in this document

Use this information to understand the most common documentation notices and statements and how they are used.

The caution and danger statements in this document are also in the multilingual *Safety Information* document, which is on the IBM *Documentation CD*. Each statement is numbered for reference to the corresponding statement in the *Safety Information* document.

The following notices and statements are used in this document:

- **Note:** These notices provide important tips, guidance, or advice.
- **Important:** These notices provide information or advice that might help you avoid inconvenient or problem situations.
- **Attention:** These notices indicate possible damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage might occur.
- **Caution:** These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.
- **Danger:** These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

Features and specifications

Use this table to view specific information about the blade appliance, such as blade appliance hardware features and the dimensions of the blade appliance.

Notes: Power, cooling, removable-media drives, external ports, and advanced system management are provided by the BladeCenter unit.

The following table is a summary of the features and specifications of the blade appliance.

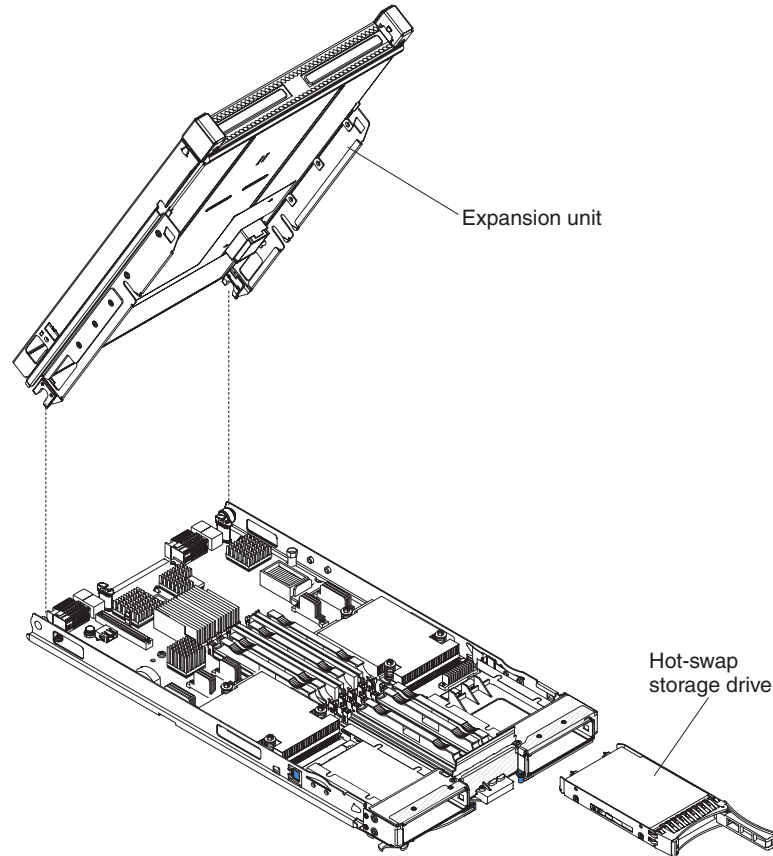
Table 1. Features and specifications

<p>Microprocessor: Supports two multi-core Intel Xeon microprocessors</p> <p>Memory:</p> <ul style="list-style-type: none"> • 12 dual inline memory module (DIMM) connectors • Type: Very Low Profile (VLP) double-data rate (DDR3) DRAM. Supports six 2 GB DIMMs on the system board <p>Drives: Two hot-swap, small form factor (SFF) Serial Attached SCSI (SAS) storage drives</p> <p>Integrated functions:</p> <ul style="list-style-type: none"> • Local service processor: Integrated Management Module (IMM) with Intelligent Platform Management Interface (IPMI) firmware • Integrated Matrox G200eV video controller • LSI 1064E SAS controller • Broadcom BCM5709S dual-port Gigabit Ethernet controller • Broadcom BCM57711 dual-port 10 Gigabit Ethernet controller <p>Note: The blade appliance high-speed Ethernet interfaces are available only when the blade appliance is installed in BladeCenter unit that is high-speed-switch capable. A high-speed 10GbE I/O module must also be installed in the BladeCenter unit that is set up for operation with the blade appliance.</p> <p><i>(continued)</i></p>	<p>Integrated functions: <i>(continued)</i></p> <ul style="list-style-type: none"> • Integrated keyboard/video/mouse (cKVM) controller through IMM • Light path diagnostics • RS-485 interface for communication with the management module • Automatic server restart (ASR) • USB 2.0 for communication with cKVM and removable media drives • Serial over LAN (SOL) • Redundant buses for communication with keyboard, mouse, and removable media drives <p>Predictive Failure Analysis (PFA) alerts:</p> <ul style="list-style-type: none"> • Microprocessors • Memory • Storage drives <p>Electrical input: 12 V dc</p> <p>Size:</p> <ul style="list-style-type: none"> • Height: 24.5 cm (9.7 inches) (6U) • Depth: 44.6 cm (17.6 inches) • Width: 5.9 cm (2.32 inches) • Maximum weight: 7.4 kg (16.3 lb) 	<p>Environment:</p> <ul style="list-style-type: none"> • Air temperature: <ul style="list-style-type: none"> – Blade server on: 10°C to 35°C (50°F to 95°F). Altitude: 0 m to 914.4 m (0 ft to 3000 ft) – Blade server on: 10°C to 32°C (50°F to 89.6°F). Altitude: 914.4 m to 2133.6 m (3000 ft to 7000 ft) – Blade server off: 10°C to 43°C (50°F to 109.4°F). Altitude: 914.4 m to 2133.6 m (3000 ft to 7000 ft) – Blade server shipping: -40°C to 60°C (-40°F to 140°F) • Humidity: <ul style="list-style-type: none"> – Blade server on: 8% to 80% – Blade server off: 8% to 80% – Blade server storage: 5% to 80% – Blade server shipment: 5% to 100% • Particulate contamination: <p>Attention: Airborne particulates and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the server. For information about the limits for particulates and gases, see “Particulate contamination” on page 41.</p>
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Major components of the blade appliance

Use this information to locate the major components on the blade appliance.

The following illustration shows the major components of the blade appliance.



Input/output connectors and devices

The input/output connectors that are available to the blade appliance are supplied by the BladeCenter unit. See the documentation that comes with the BladeCenter unit for information about the input/output connectors.

The blade appliance has two selection buttons on the control panel: the media tray select button and the keyboard/video/mouse select button. See “Blade appliance controls and LEDs” on page 9 for information about these buttons and their functions.

The Ethernet controllers on the blade appliance communicate with the network through the Ethernet-compatible I/O modules in the BladeCenter unit. Network signals to and from the blade appliance or any expansion cards are automatically routed to a same-network-interface I/O module through circuitry in the BladeCenter unit.

Chapter 2. Power, controls, and indicators

Use this information to view power features, turn on and turn off the blade appliance, and view the functions of the controls and indicators.

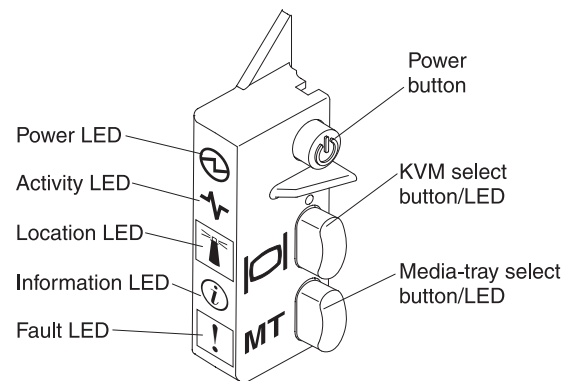
Blade appliance controls and LEDs

Use this information for details about the controls and LEDs on the blade appliance.

Control panel controls and LEDs

Use this information for details about the controls and LEDs on the blade appliance control panel.

The following illustration identifies the buttons and information LEDs on the blade-appliance control panel.



Power-on LED: This green LED indicates the power status of the blade appliance in the following manner:

- Flashing rapidly: The blade appliance IMM (service processor) is initializing and the BladeCenter management module is discovering the blade appliance.
- Flashing slowly: The blade appliance is discovered, initialized, and ready to be turned on.

Note: If the BladeCenter unit does not have enough power to turn on the blade appliance, the BladeCenter management module denies the blade appliance permission to turn on, through the IMM, a short time after power is applied to the blade appliance. The blade appliance will turn off immediately, the fault led will light, and an error entry will appear in the management module event log.

- Lit continuously: The blade appliance has power and is turned on.

Activity LED: When this green LED is lit, it indicates that there is activity on the external storage device or network.

Location LED: The system administrator can remotely turn on this blue LED to aid in visually locating the blade appliance. When this LED is lit, the location LED on the BladeCenter unit is also lit. The location LED can be turned off through the

advanced-management-module Web interface. For more information about the advanced-management-module Web interface, see <http://www.ibm.com/systems/management/>.

Information LED: When this amber LED is lit, it indicates that information about a system event in the blade appliance has been placed in the advanced-management-module event log. The information LED can be turned off through the advanced-management-module CLI, SNMP, or Web interface. For more information about the advanced-management-module Web interface, see <http://www.ibm.com/systems/management/>.

Fault LED: When this amber LED is lit, it indicates that a system error has occurred in the blade appliance. The blade-error LED turns off only after the error is corrected. If the error has occurred in the blade appliance expansion unit, the fault LED on the expansion unit is also lit.

Power-control button: Press this button to turn on or turn off the blade appliance.

Note: The power-control button has effect only if local power control is enabled for the blade appliance. Local power control is enabled and disabled through the advanced-management-module Web interface.

Keyboard/video/mouse (KVM) select button: Press this button to associate the shared BladeCenter unit keyboard port, video port, and mouse port with the blade appliance. The LED on this button flashes while the request is being processed and then is lit when the ownership of the keyboard, video, and mouse has been transferred to the blade appliance. It can take approximately 20 seconds to switch the keyboard, video, and mouse control to the blade appliance.

Using a keyboard that is directly attached to the advanced management module, you can press keyboard keys in the following sequence to switch KVM control between blade servers and appliances instead of using the KVM select button:

```
NumLock NumLock blade_server_number Enter
```

blade_server_number is the two-digit number of the blade-server bay in which the blade appliance is installed. Since the blade appliance occupies more than one blade-server bay, it is identified by the lowest bay number that it occupies.

If there is no response when you press the KVM select button, you can use the advanced-management-module Web interface to determine whether local control has been disabled on the blade appliance. See <http://www.ibm.com/systems/management/> for more information.

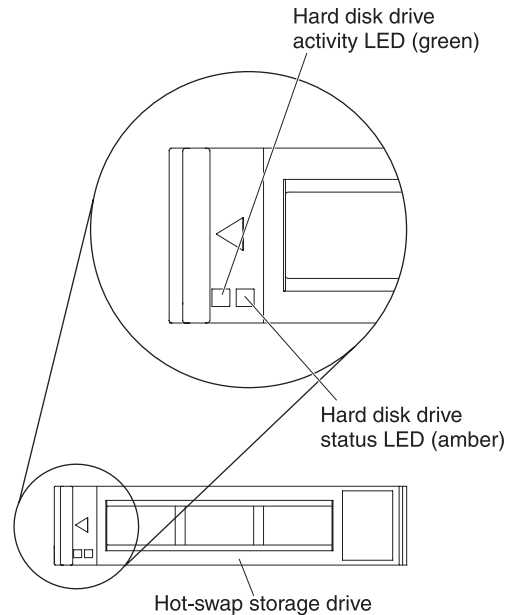
Media-tray select button: Press this button to associate the shared BladeCenter unit media tray (removable-media devices) with the blade appliance. The LED on the button flashes while the request is being processed and then is lit when the ownership of the media tray has been transferred to the blade appliance. It can take approximately 20 seconds for the blade appliance to recognize the media tray.

If there is no response when you press the media-tray select button, you can use the advanced-management-module Web interface to determine whether local control has been disabled on the blade appliance. See the *IBM BladeCenter Advanced Management Module User's Guide* for information and instructions.

Storage drive controls and LEDs

Use this information for details about the controls and LEDs on the blade appliance storage drives.

The following illustration identifies the information LEDs on the SAS hot-swap hard disk drive.



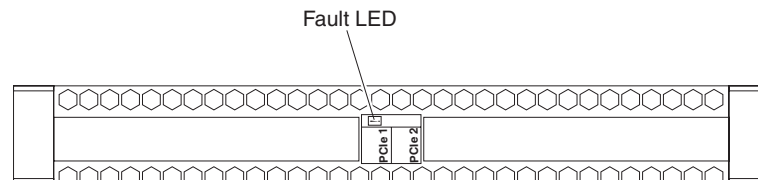
Hard disk drive activity LED (green): When this green LED is lit, it indicates that there is activity on the storage drive.

Hard disk drive status LED (amber): When this amber LED is lit, it indicates that an error has occurred with the storage drive. The LED turns off only after the error is corrected.

Expansion unit controls and LEDs

Use this information for details about the controls and LEDs on the blade appliance expansion unit.

The following illustration identifies the fault LED on the expansion unit.



Fault LED: When this amber LED is lit, it indicates that an error has occurred in the expansion unit. The expansion unit error LED turns off only after the error is corrected. If an error occurs in the expansion unit, the fault LED on the blade appliance control panel is also lit.

Turning on the blade appliance

Use this information to turn on the blade appliance.

After you connect the blade appliance to power through the BladeCenter unit, the blade appliance can start in any of the following ways:

- You can press the power-control button on the front of the blade appliance (see “Blade appliance controls and LEDs” on page 9) to start the blade appliance.

Notes:

1. Wait until the power-on LED on the blade appliance flashes slowly before you press the power-control button. While the blade appliance is initializing and synchronizing with the BladeCenter management module, the power-on LED flashes rapidly, and the power-control button on the blade appliance does not respond. This process can take approximately two minutes after the blade appliance has been installed.
 2. While the blade appliance is starting, the power-on LED on the front of the blade appliance is lit and does not flash. See “Blade appliance controls and LEDs” on page 9 for the power-on LED states.
 3. If the BladeCenter unit does not have enough power to turn on the blade appliance, the BladeCenter management module denies the blade appliance permission to turn on, through the IMM, a short time after power is applied to the blade appliance. The blade appliance will turn off immediately, the fault led will light, and an error entry will appear in the management module event log.
- If a power failure occurs, the BladeCenter unit and the blade appliance can be configured to start automatically when power is restored through the advanced management module.
 - You can turn on the blade appliance remotely by using the management module.

Turning off the blade appliance

Use this information to turn off the blade appliance.

When you turn off the blade appliance, it is still connected to power through the BladeCenter unit. The blade appliance can respond to requests from the BladeCenter management module, such as a remote request to turn on the blade appliance. To remove all power from the blade appliance, you must remove it from the BladeCenter unit.

The blade appliance can be turned off in any of the following ways:

- You can press the power-control button to perform a controlled shut down the blade appliance (see “Blade appliance controls and LEDs” on page 9).
- If the blade appliance stops functioning, you can press and hold the power-control button for more than 4 seconds to force the blade appliance to turn off.
- The management module can turn off the blade server through the advanced-management-module Web interface. For additional information, see the *IBM BladeCenter Advanced Management Module User's Guide* or go to <http://www.ibm.com/systems/management/> for more information.

Chapter 3. Installing and removing the blade appliance

Use this information for instructions about installing the blade appliance. Some device-removal instructions are provided in case you have to remove a device for maintenance purposes.

Note: See Chapter 6, “Parts listing, Type 4195,” on page 31 for important information about replacing a blade appliance base assembly or USB key that has failed.

Installation guidelines

Before you install the blade appliance, read the following information.

- Before you begin, read “Safety statements” on page vii and “Handling static-sensitive devices” on page 14. This information will help you work safely.
- After you install your new blade appliance and perform initial configuration, take the opportunity to check for, download, and apply the most recent firmware updates. This will help to ensure that any known issues are addressed and that your blade appliance is ready to function at maximum levels of performance.

To download the latest blade appliance firmware, see “Downloading the firmware image” on page 25.

- Observe good housekeeping in the area where you are working. Place removed covers and other parts in a safe place.
- Back up all important data before you make changes to disk drives.
- Before you remove a blade appliance from the BladeCenter unit, you must shut down the blade appliance. You do not have to shut down the BladeCenter unit itself.
- Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the blade server, open or close a latch, and so on.
- Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped, which means that you can remove or install the component while the appliance is running. (Orange can also indicate touch points on hot-swap components.) See the instructions for removing or installing a specific hot-swap component for any additional procedures that you might have to perform before you remove or install the component.
- For a list of supported devices for the blade appliance, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/>.

System reliability guidelines

To help make sure that proper cooling and system reliability requirements are met, review the following guidelines.

- To ensure proper cooling, do not operate the BladeCenter unit without a blade device or blade filler installed in each blade-server bay. See the documentation for your BladeCenter unit for additional information.
- Each microprocessor socket always contains a microprocessor and heat sink.
- Each DIMM socket always contains a memory module or filler.
- Each hot-swap SAS bay contains a SAS storage drive or filler.
- Make sure that the ventilation holes on the blade appliance are not blocked.
- The blade appliance battery must be operational. If the battery becomes defective, replace it immediately. For instructions, see the *IBM BladeCenter HS22 Problem Determination and Service Guide*.

Handling static-sensitive devices

To reduce the possibility of damage from electrostatic discharge, observe the following precautions.

Attention: Static electricity can damage the blade appliance and other electronic devices. To avoid damage, keep static-sensitive devices in their static-protective packages until you are ready to install them.

- When you work on a BladeCenter unit that has an electrostatic discharge (ESD) connector, use a wrist strap, especially when you handle modules, optional devices, or blade devices. To work correctly, the wrist strap must have a good contact at both ends (touching your skin at one end and firmly connected to the ESD connector on the front or back of the BladeCenter unit).
- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed circuitry.
- Do not leave the device where others can handle and damage it.
- While the device is still in its static-protective package, touch it to an *unpainted* metal part of the BladeCenter unit or any *unpainted* metal surface on any other grounded rack component in the rack in which you are installing the device for at least 2 seconds. This drains static electricity from the package and from your body.
- Remove the device from its package and install it directly into the blade appliance without setting down the device. If it is necessary to set down the device, put it back into its static-protective package. Do not place the device on the blade appliance cover or on a metal surface.
- Take additional care when you handle devices during cold weather. Heating reduces indoor humidity and increases static electricity.

Installing the blade appliance

To install the blade appliance, complete the following tasks.

1. Make sure that the expansion unit is installed (see “Installing the expansion unit” for information on installing the expansion unit).

Statement 21



CAUTION:

Hazardous energy is present when the blade server is connected to the power source. Always replace the blade server cover before installing the blade server.

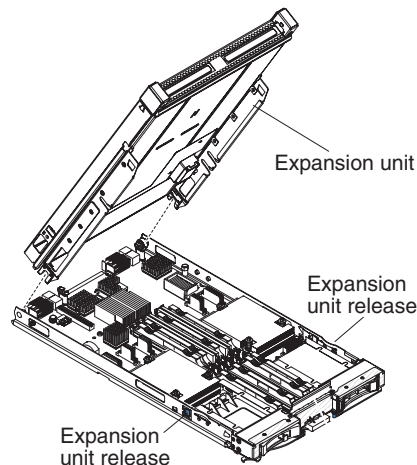
2. Install the blade appliance into the BladeCenter unit (see “Installing the blade appliance in a BladeCenter unit” on page 16).
3. Turn on the blade appliance (see “Turning on the blade appliance” on page 12). If you have just connected the power cords of the BladeCenter unit to electrical outlets, you must wait until the power-on LED on the blade appliance flashes slowly before you press the power-control button.
4. If this is the first time you are installing the blade appliance, you will need to configure it (see Chapter 4, “Setting up the initial firmware configuration,” on page 21).

Installing the expansion unit

Use these instructions to install the expansion unit.

The expansion unit is required for the IBM WebSphere DataPower Integration Blade XI50B appliance to operate.

To install the expansion unit, complete the following steps.



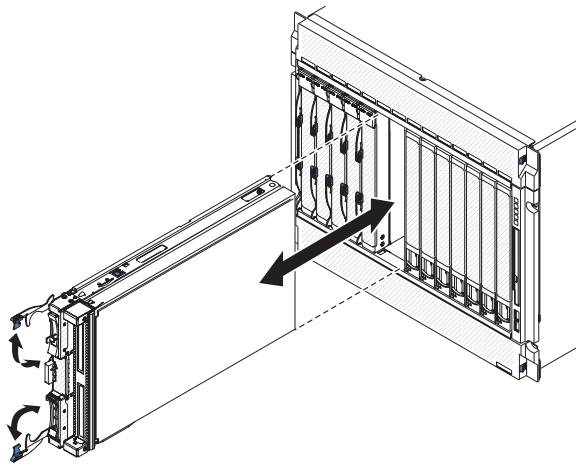
1. Before you begin, read “Safety statements” on page vii and “Installation guidelines” on page 13.
2. Orient the expansion unit as shown in the illustration.
3. Lower the expansion unit so that the slots at the rear slide down onto the cover pins at the rear of the blade appliance.

4. Pivot the expansion unit closed, and press it firmly into place until the expansion-unit releases click. The connector on the expansion unit automatically aligns with and connects to the blade expansion connector on the system board.
5. If you have other devices to install or remove, do so now; otherwise, go to “Installing the blade appliance” on page 15.

Installing the blade appliance in a BladeCenter unit

Use these instructions to install the blade appliance in a BladeCenter unit.

The following illustration shows how to install a blade appliance into a BladeCenter unit. See the documentation for your BladeCenter unit for additional information. To install a blade appliance in a BladeCenter unit, complete the following steps.



Statement 21



CAUTION:

Hazardous energy is present when the blade server is connected to the power source. Always replace the blade cover before installing the blade server.

1. Before you begin, read “Safety statements” on page vii and “Installation guidelines” on page 13.
2. Select the blade bays for the blade appliance; two blade bays are required.

Notes:

- a. For BladeCenter units that have multiple power domains, make sure that the blade appliance is installed in a power domain that has power. For example, when any blade appliance or device is in blade bay 7 through 14 of some BladeCenter units, power modules must be installed in all four power-module bays. For additional information, see the *Installation and User's Guide* that comes with the BladeCenter unit.
- b. If you are reinstalling a blade appliance that you removed, you must install it in the same blade bays from which you removed it. Some blade appliance configuration information and update options are established

according to blade bay number. Reinstalling a blade appliance into a different blade bay from which it was removed can have unintended consequences, and you might have to reconfigure the blade appliance.

- c. To help ensure proper cooling, performance, and system reliability, make sure that each blade bay on the front of the BladeCenter unit contains a blade device or blade filler. Do not operate a BladeCenter unit for more than one minute without a blade device or blade filler in each blade bay.
3. Make sure that the release handles on the blade appliance are in the open position (perpendicular to the blade appliance).
4. Slide the blade appliance into the blade bays until it stops.
5. Push the release handles on the front of the blade appliance to the closed position.

Note: After the blade appliance is installed, the blade appliance initializes and synchronizes with the management module. This process takes approximately two minutes to complete. The power-on LED flashes rapidly, and the power-control button on the blade appliance does not respond until this process is complete.

6. Turn on the blade appliance (see “Turning on the blade appliance” on page 12 for instructions).
7. Make sure that the power-on LED on the blade appliance control panel is lit continuously, indicating that the blade appliance is receiving power and is turned on.
8. If you have other blade devices to install, do so now.
9. Optional: Write identifying information on one of the labels that comes with the BladeCenter unit and place the label on the BladeCenter unit bezel. See the documentation for your BladeCenter unit for information about the label placement.

Important: Do not place the label on the blade appliance or in any way block the ventilation holes on the blade appliance.

10. If the blade appliance is installed in a BladeCenter HT unit, reinstall the bezel assembly on the BladeCenter HT unit. For detailed instructions for reinstalling the bezel assembly, see the *Installation and User's Guide* that comes with the BladeCenter HT unit.

If this is the initial installation of the blade appliance in the BladeCenter unit, if you have changed the configuration of the blade appliance, or if you are installing a different blade appliance from the one that you removed, you must configure it. See Chapter 4, “Setting up the initial firmware configuration,” on page 21 for details.

Updating the blade appliance configuration

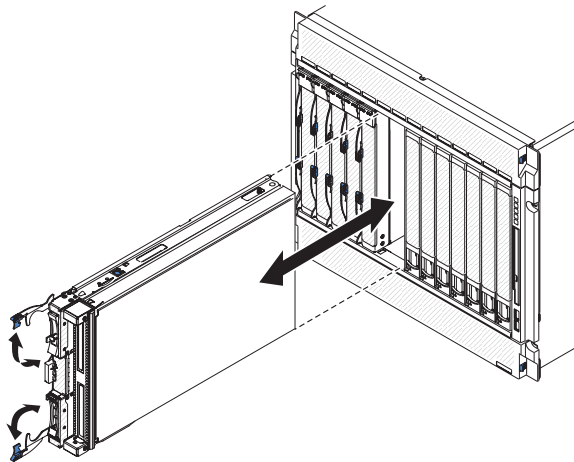
Use this information to update the blade appliance configuration.

When the blade appliance starts for the first time after you add or remove an internal device, you might receive a message that the configuration has changed. See Chapter 4, “Setting up the initial firmware configuration,” on page 21 and the *IBM WebSphere DataPower SOA Appliances: Administrators Guide* and *IBM WebSphere DataPower: Command Reference* for your blade appliance for details about updating the blade appliance configuration.

Removing the blade appliance from the BladeCenter unit

Use these instructions to remove the blade appliance from the BladeCenter unit.

The following illustration shows how to remove a blade appliance, blade server, or blade filler from a Type 8852 BladeCenter unit. The appearance of your BladeCenter unit might be different; see the documentation for your BladeCenter unit for additional information.



Attention:

- To maintain proper system cooling, do not operate the BladeCenter unit without a blade device, expansion unit, or filler module installed in each blade server bay.
- When you remove the blade appliance, note the blade-server bay number. Reinstalling a blade appliance into a different blade server bay from the one it was removed from can have unintended consequences. Some configuration information and update options are established according to blade-server bay number; if you reinstall the blade appliance into a different bay, you might have to reconfigure the blade appliance.

To remove the blade appliance, complete the following steps:

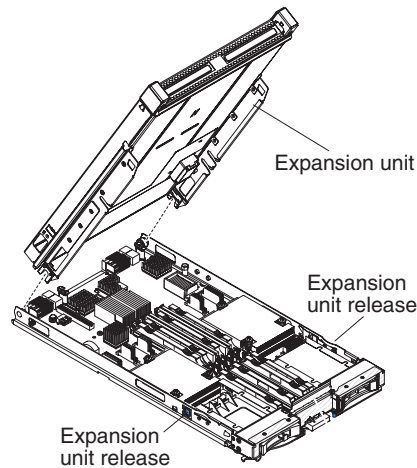
1. If the blade appliance is operating, turn off the blade appliance (see “Turning off the blade appliance” on page 12 for more information).
Attention: Wait at least 30 seconds, until the storage devices stops spinning, before you proceed to the next step.
2. Open the two release handles as shown in the illustration. The blade appliance moves out of the blade server bay approximately 0.6 cm (0.25 inch).

3. Pull the blade appliance out of the bay.
4. Place either a blade filler or another blade device in the blade server bay within one minute.

Removing the expansion unit

Use these instructions to remove the expansion unit from the blade appliance.

To remove the expansion unit, complete the following steps:



1. Before you begin, read “Safety statements” on page vii and “Installation guidelines” on page 13.
2. If the blade appliance is installed in a BladeCenter unit, remove it (see “Removing the blade appliance from the BladeCenter unit” on page 18 for instructions).
3. Carefully lay the blade appliance on a flat, static-protective surface, with the expansion unit side up.
4. Press the expansion unit release on each side of the blade appliance and lift the expansion unit from the blade appliance.
5. Rotate the expansion unit open; then, lift the expansion unit from the blade appliance.
6. If you are instructed to return the expansion unit, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Chapter 4. Setting up the initial firmware configuration

Use the procedures in this section to perform the initial, base firmware configuration. This configuration is the minimal configuration to add a DataPower appliance to your environment.

Configuration requirements

To perform the initial firmware configuration, there are both connection and information requirements.

Connection requirements

To perform the initial blade appliance configuration, you can use either a concurrent-KVM (cKVM) or a Serial over LAN (SOL) console connection.

Both of these connections are accessed through the advanced management module in the BladeCenter unit, either using a local physical connection (keyboard, video, or serial port) to the advanced management module, or a network connection to the advanced management module. For information about connecting to the advanced management module, see the *IBM BladeCenter Advanced Management Module User's Guide* or the *IBM BladeCenter Advanced Management Module Command-Line Interface Reference Guide*.

Information requirements

You will need the following information before you can configure the initial base configuration for your blade appliance.

- The operating modes to set up for your blade appliance. Make these selections carefully: if you configure a wrong mode for your environment, you will need to re-initialize the blade appliance. See the *IBM WebSphere DataPower SOA Appliances: Administrators Guide* for information about operating modes and their use.

Note: The Ethernet interface information in this section is for establishing the initial management network configuration for connecting to the blade appliance. The Ethernet interfaces used for management access after initial setup and for all other blade appliance access are set up at a later time.

- The Ethernet interface and its IP address to be used for appliance management access during initial setup. Since the appliance does not provide security while performing initial setup, this interface should be on a private, internal part of the customer network. If the device you will be using to configure the blade appliance is not on the same subnet as the appliance, you will need the IP address and subnet mask for the default gateway (router) that supports the subnet for the selected Ethernet interface.

Note:

- During normal blade appliance operation, additional Ethernet interfaces might be available when using a VLAN. Use of a VLAN is not supported during initial blade appliance setup.
- By default, the ETH1, ETH2, ETH7, and ETH9 Ethernet interfaces for the blade appliance are associated with BladeCenter H unit I/O-module bays 1, 2, 7, and 9, respectively. For additional information about how Ethernet interfaces are

associated with I/O modules installed in the BladeCenter unit, see the blade server configuration information in the *IBM BladeCenter Advanced Management Module User's Guide*.

Password for administration account

There are some important considerations for the administrator (admin) account password.

The first time that you start the DataPower appliance, you are prompted to change the password for the admin account.

Attention: Do not misplace the new password for the admin account. If you misplace this password, security best practice dictates that you should return the appliance to IBM Support to reset this password.

When you receive the appliance after a password-reset, you must perform an initial firmware setup. As a result, none of your past configuration data will remain on the appliance. If another user account can log in and has the appropriate access permission, that user can reset the password for the admin account and retain your configuration data. See the *IBM WebSphere DataPower SOA Appliances: Administrators Guide* or technote 1257115 at <http://www.ibm.com/support/docview.wss?rs=2362&uid=swg21257115>, for information about creating and administrating privileged user accounts.

If you need to return the appliance, see the *IBM BladeCenter HS22 Problem Determination and Service Guide* for information about the return process.

Considerations for operational modes

During the initial firmware configuration, the script prompts you for supported operational modes.

Attention: Use care when selecting operational modes. If you select an incorrect mode for your environment, the only way to change one is to reinitialize the appliance.

The appliance supports disaster recovery mode and Common Criteria compatibility mode.

Disaster recovery mode

Disaster recovery mode allows you to create a secure backup that you can use to restore all settings for an appliance. A secure backup creates a set of files that you can use to recover the configuration of a lost appliance. A secure backup contains private data on the appliance (certificates, keys, and user data). An administrator cannot see this data in the backup. The appliance encrypts this data with the DataPower key.

The backup-restore process must be used among appliances that are at the same firmware level and have the same compatible configuration (auxiliary storage, iSCSI, and so forth). You can use the disaster recovery process during the end-of-life migration to move configuration details from one appliance to another.

Common Criteria compatibility mode

Common Criteria compatibility mode (CC mode) puts the appliance in a mode that enforces a set of policies required to pass the Common Criteria security testing criteria (EAL4). If you are unsure about whether to use this mode, then you most likely should not. In general, this mode is only used when a specific authority requires the appliance to be EAL4 certified. If this authority is not a specific requirement for your use of the appliance, use normal mode. You should not use CC mode to be *more secure*.

CC mode forces several settings to specific values. The appliance enforces these values at reboot, if changed. These values affect audit log policies and include a group of default rules and actions.

Initializing the blade appliance

To initialize the blade appliance when it is started for the first time, use the following procedure.

The first time that you start the blade appliance is different from any subsequent startup. You will be asked to configure operating modes, review and accept the licensing agreement, and change the password for the administration (admin) account. On subsequent startups from a serial connection, you will not be prompted to perform these initialization tasks. You will instead be prompted to log in with a local account: if this account has an expired password, you will be prompted to change it.

To initialize the blade appliance during the first startup, complete the following steps:

1. Establish a management interface connection with the blade appliance (see “Connection requirements” on page 21).
2. If the blade appliance is not on, turn it on. See “Turning on the blade appliance” on page 12 for information and instructions. Wait for a few minutes for the blade appliance to start. When the blade appliance is ready to be initialized, the screen displays information about the operational modes.
Attention: Use care when making your operating mode selections. If you choose a wrong mode for your environment, the only way to change it is to re-initialize the blade appliance.
3. Follow the prompts to enable the appropriate operational modes for your blade appliance (see “Considerations for operational modes” on page 22 for additional information). During this process you will:
 - Read the general cautions that apply to all operational modes.
 - Read information about each operational mode.
 - Enable or disable each operational mode for the blade appliance. You will be asked to confirm your selections.

The screen displays the license agreement.

4. Read and accept the license agreement. The screen displays information about the admin password.

Attention: Do not misplace the new password for the admin account. If you misplace this password, security best practice dictates that you should return the appliance to IBM Support to reset this password.

5. Review the admin password information; then, enter a new password at the prompt. `admin` is the name of a local user account. The owner of this account can perform all tasks on the appliance.
6. Enter the new password again at the confirmation prompt.
7. When prompted, start the installation wizard.
8. Follow the prompts to complete the base configuration.

After defining the base firmware configuration, the screen displays information specific to your blade appliance, similar to the following:

```
Welcome to DataPower XI50 console configuration.  
Copyright IBM Corporation 1999-2010
```

```
Version: XI50.3.8.1.0 build 123456 on 2010/07/01 12:00:00  
Serial number: 06D0875
```

The previous sample shows the following information:

- The appliance is a DataPower XI50B appliance
- The firmware version running on the appliance is 3.8.1.0 at the 123456 build level, built at 12:00 PM on July 1, 2010
- The serial number for the appliance is 06D0875

If you were not able to complete the firmware installation, you can use the startup command to invoke the installation wizard. See “Defining the base configuration manually” on page 25 for details.

Verifying the configuration with the WebGUI

To access the WebGUI from any browser, use the following procedure.

This procedure makes the following assumptions:

- The IP address for the Ethernet interface is 10.10.13.35
 - The specialized HTTP server to support WebGUI access listens on port 9090
1. Open a Web browser.
 2. Type the following value in the Address field: `https://10.10.13.35:9090` If the Web page displays successfully, the base firmware configuration is successful.
 3. Log in to the blade appliance with the local admin account and password. If the DataPower Control Panel displays, authentication of the local admin account is successful.

Completing the configuration

Refer to these documents for information about completing configuration of your blade appliance.

Configuring the blade appliance past the base configuration is beyond the scope of this document. Use the following documents to complete the configuration of your DataPower blade appliance:

- The *IBM WebSphere DataPower SOA Appliances: Administrators Guide* for your blade appliance describes the concepts and tasks to configure the appliance.
- The *IBM WebSphere DataPower: Command Reference* for your blade appliance describes the commands to configure the appliance.

Defining the base configuration manually

The base configuration for the blade appliance can be defined only from the command line. Use the installation wizard provided during the initial boot sequence, or use the startup command to invoke the installation wizard.

Use the following procedure only if you entered n at the Do you want to run the Installation Wizard? prompt.

1. Log in to the blade appliance command line.
2. Enter `configure terminal` at the prompt to enter global configuration mode.
3. Enter `startup` at the prompt to start the installation wizard.
4. Follow the system prompts.

After defining the initial configuration, verify the configuration with the procedure in “Verifying the configuration with the WebGUI” on page 24.

Downloading the firmware image

Firmware images are available from the Fix Central Web site. This Web site provides firmware images for your DataPower appliance. If you have questions about the site, click the **Help** link in the left navigation area.

To download a firmware image, complete the following steps:

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://www.ibm.com/support/fixcentral/>.
2. Define the platform-specific search criteria.
 - a. Under **Product Group**, enter **WebSphere**.
 - b. Under **Product**, enter **WebSphere DataPower SOA Appliances**.
 - c. Under **Installed Version**, select your currently installed firmware version.
 - d. Under **Platform**, select **All**.
 - e. Click **Continue**.
3. If you are not currently authenticated with the Fix Central Web site, sign in with your IBM Support credentials.
 - a. In the **IBM ID** field, enter your IBM Support ID.
 - b. In the Password field, enter your password.
 - c. Click **Continue**.

4. From the Identify fixes page, define the search criteria to locate available firmware images.
 - a. Select your search criteria. Although there are more methods, the following methods are the only viable choices:
 - Click **Browse for fixes** to browse for all fixes for your specific product, installed version, and platform. Optionally set the checkbox to list only fixes that will not change your installed version.
 - Click **Text** and enter keywords to search for fixes that contain these entered keywords. Search examples:
 - Enter *XI* to list fixes for an IBM WebSphere DataPower Integration Appliance XI50.
 - Enter *XI*3.8.1* to list the latest 3.8.1 fixes for an IBM WebSphere DataPower Integration Appliance XI50.
 - Enter *XI*3.8.1*4195* to list the latest 3.8.1 fix for an IBM WebSphere DataPower Integration Appliance XI50 for a Machine Type 4195.
 - Enter 381 or 3.8.1 to list the 3.8.1 fixes for all DataPower appliances.
 - b. Click **Continue**.
5. From the list of available fixes, select the appropriate fixes, and click **Continue**.

Chapter 5. Solving problems

Use these instructions to resolve any problems you might encounter while installing or operating the blade appliance.

Important: Specific information for solving problems you might encounter with your DataPower XI50B blade appliance are in “IBM WebSphere DataPower Integration Blade XI50B unique information” on page 28.

The IBM WebSphere DataPower Integration Blade XI50B appliance shares many system board components with the IBM BladeCenter HS22 blade server. While solving problems for the blade appliance, refer to the information in the following topics for unique IBM WebSphere DataPower Integration Blade XI50B appliance information before going to the referenced BladeCenter HS22 documentation.

Solving installation problems

Use these instructions to resolve any problems you might encounter while installing the blade appliance.

If you install the blade appliance in the BladeCenter unit and the blade appliance does not start, perform the following actions:

- Make sure that the BladeCenter unit is correctly connected to a power source.
- Reseat the blade appliance in the BladeCenter unit (see “Installing the blade appliance in a BladeCenter unit” on page 16).
- If the power-on LED is flashing slowly, turn on the blade appliance (see “Turning on the blade appliance” on page 12).

If the blade appliance does not start after you have performed the preceding actions, see “IBM WebSphere DataPower Integration Blade XI50B unique information” on page 28; then, see the *IBM BladeCenter HS22 Problem Determination and Service Guide*.

Solving operational problems

Use these instructions to resolve any problems you may encounter while operating the blade appliance.

If the blade appliance does not operate correctly, make sure that it is properly installed and configured. See Chapter 4, “Setting up the initial firmware configuration,” on page 21, “Solving installation problems,” and the *IBM WebSphere DataPower SOA Appliances: Administrators Guide* and *IBM WebSphere DataPower: Command Reference* for your blade appliance for additional information.

If the blade appliance appears to be installed and configured correctly, see “IBM WebSphere DataPower Integration Blade XI50B unique information” on page 28; then, see the *IBM BladeCenter HS22 Problem Determination and Service Guide*.

IBM WebSphere DataPower Integration Blade XI50B unique information

This topic lists device-specific information for solving problems with the IBM WebSphere DataPower Integration Blade XI50B appliance.

The IBM WebSphere DataPower Integration Blade XI50B appliance shares many system board components with the IBM BladeCenter HS22 blade server. Pay attention to the following exceptions when using the *IBM BladeCenter HS22 Problem Determination and Service Guide* to solve problems with your blade appliance:

- The component designations for customer replaceable units (CRUs) and field replaceable units (FRUs) in the IBM WebSphere DataPower Integration Blade XI50B appliance might be different from those listed in the *IBM BladeCenter HS22 Problem Determination and Service Guide*. If these designations are not the same, use the CRU and FRU designations listed in this document when servicing the blade appliance.
- There are no serviceable components in the expansion unit of the blade appliance. Any error codes or messages that indicate a problem within the expansion unit requires that the expansion unit be replaced. See “Error logs” on page 29 for information about viewing error logs for the blade appliance.
- The IBM WebSphere DataPower Integration Blade XI50B appliance uses a unique set of firmware that includes the Unified Extensible Firmware Interface (UEFI or BIOS), an operating system, and application software. Information in the *IBM WebSphere DataPower SOA Appliances: Administrators Guide* and *IBM WebSphere DataPower: Command Reference* for your blade appliance should be used instead of information in the *IBM BladeCenter HS22 Problem Determination and Service Guide* for all firmware related issues.

Diagnostic tools overview

Use this overview to locate specific diagnostic tools to diagnose and solve hardware-related problems.

The following tools are available to help you diagnose and solve hardware-related problems. Go to the IBM WebSphere DataPower Integration Blade XI50B InfoCenter at <http://publib.boulder.ibm.com/infocenter/bladectr/documentation/index.jsp> and search for "testing the hardware" to learn about additional ways to gather diagnostic information for your blade appliance.

- **POST codes, error messages, and error logs**

The POST error codes indicate the detection of a problem. See “Working with event logs during system startup” on page 30 for information about how to view logs when starting the blade appliance; then, see the *IBM BladeCenter HS22 Problem Determination and Service Guide* for more information about the codes that are in the logs.

- **Troubleshooting tables**

These tables list problem symptoms and actions to correct the problems. See the *IBM BladeCenter HS22 Problem Determination and Service Guide* for more information.

- **Light path diagnostics**

Use light path diagnostics LEDs on the system board to diagnose system errors. If the system-error LED on the system LED panel on the front or rear of the BladeCenter unit is lit, one or more error LEDs on the BladeCenter unit components also might be lit. These LEDs help identify the cause of the problem. Blade server error LEDs are described in the *IBM BladeCenter HS22 Problem Determination and Service Guide*.

- **Dynamic System Analysis (DSA) Portable Edition diagnostic program**
DSA tests the major components of the BladeCenter unit, including the management modules, I/O modules, removable-media drives, and blade servers and appliances, while the system is running. For documentation and download information for DSA, see <http://www.ibm.com/systems/management/>. For more information about diagnostic programs and error messages, see the *IBM BladeCenter HS22 Problem Determination and Service Guide*.

Note: If you are unable to find the system-error logs in the blade server firmware code, view the system-event log in the BladeCenter management module.

- **Dynamic System Analysis (DSA) Preboot diagnostic program**
The DSA Preboot diagnostic programs are stored in read-only memory and collect and analyze system information to aid in diagnosing server problems. The diagnostic programs collect the following information about the server:
 - Drive health information
 - Event log for IMM (service processor)
 - Hardware inventory, including PCI and USB information
 - Light path diagnostics status
 - LSI RAID and controller configuration
 - Network interfaces and settings
 - IMM status and configuration
 - System configuration
 - Vital product data, firmware, and Unified Extensible Firmware Interface (UEFI) configuration

The diagnostic programs create a merged log that includes events from all collected logs. The information is collected into a file that you can send to IBM Service and Support. Additionally, you can view the information locally through a generated text report file. You can also copy the log to removable media and view the log from a Web browser.

Error logs

Error codes and messages are displayed in the following types of event logs:

- **POST event log:** This log contains the three most recent error codes and messages that were generated during POST. You can view the POST event log during system startup (see “Working with event logs during system startup” on page 30 for instructions).
- **Integrated management module (IMM) event log:** This log contains a filtered subset of all IMM (service processor), POST, and system management interrupt (SMI) events. You can view the IMM event log through the Dynamic System Analysis (DSA) program (as the ASM event log).
- **System-event log:** This log contains POST and system management interrupt (SMI) events and all events that are generated by the BMC that is embedded in the IMM. You can view the system-event log during system startup (see “Working with event logs during system startup” on page 30 for instructions) and through the Dynamic System Analysis (DSA) program (as the IPMI event log).

The system-event log is limited in size. When it is full, new entries will not overwrite existing entries; therefore, you must periodically save and then clear

the system-event log. When you are troubleshooting, you might have to save and then clear the system-event log to make the most recent events available for analysis.

Messages are listed on the left side of the screen, and details about the selected message are displayed on the right side of the screen. To move from one entry to the next, use the Up Arrow (↑) and Down Arrow (↓) keys.

Some IMM sensors cause assertion events to be logged when their setpoints are reached. When a setpoint condition no longer exists, a corresponding deassertion event is logged. However, not all events are assertion-type events.

- **Advanced management module event log:** This log contains a filtered subset of IMM, POST, and system management interrupt (SMI) events. You can view the advanced management module event log through the advanced management module Web interface.
- **DSA log:** This log is generated by the Dynamic System Analysis (DSA) program, and it is a chronologically ordered merge of the system-event log (as the IPMI event log) and the IMM chassis-event log (as the ASM event log). You can view the DSA log through the DSA program.

Working with event logs during system startup

Use this information to view or clear the event log when starting the blade appliance.

To work with the error and event logs, complete the following steps:

1. Turn on the blade appliance.
2. When the prompt <F6> System Event Logs is displayed, press F6. If you have set an administrator password, you must type it to view the event logs.
3. Select one of the following:
 - To view the POST event log, select **POST Event Viewer**.
 - To view the system-event log, select **System Event Log**.
 - To clear the system-event log, select **Clear System Event Log**.

Viewing event logs without restarting the blade appliance

If the blade appliance is not hung, methods are available for you to view one or more event logs without having to restart the blade appliance.

You can view the advanced management module event log through the **Event Log** link in the advanced management module Web interface. For more information, see the advanced management module *User's Guide*.

Chapter 6. Parts listing, Type 4195

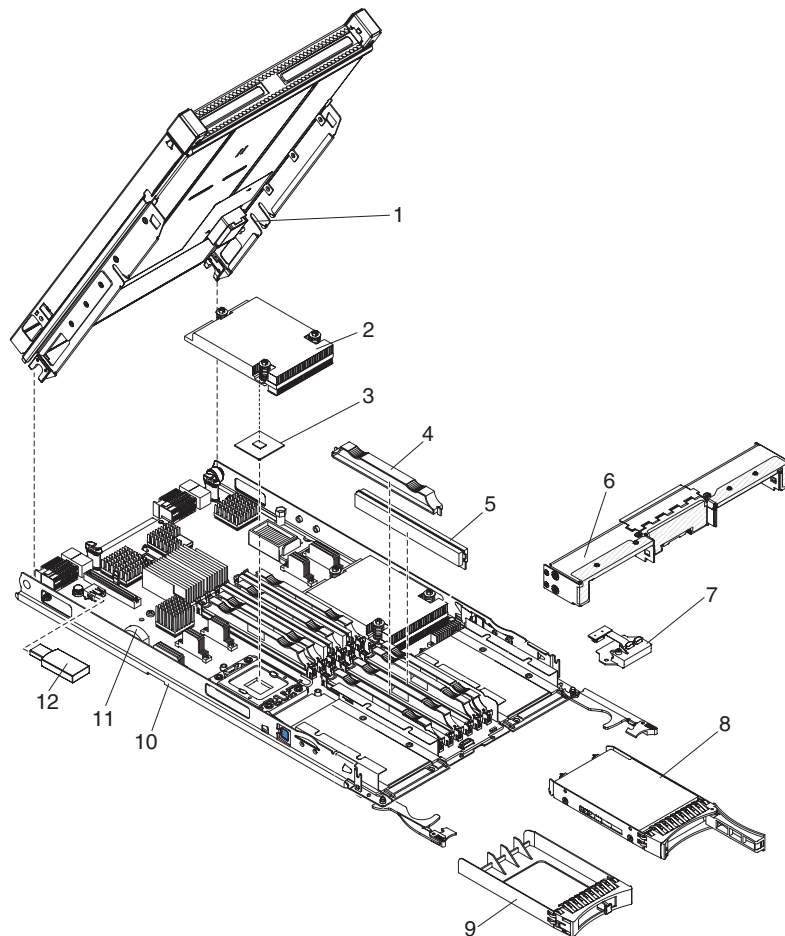
Use this information to remove and replace blade appliance components.

The following replaceable components are available for the IBM WebSphere DataPower Integration Blade XI50B Type 4195 appliance. For an updated parts listing on the Web, complete the following steps.

Note: Changes are made periodically to the IBM Web site. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://www.ibm.com/systems/support/>.
2. Under **Product support**, click **BladeCenter**.
3. Under **Popular links**, click **Software and device drivers**.
4. Click **DataPower XI50B** to display the matrix of downloadable files for the blade appliance.

Note: The illustrations in this document might differ slightly from your hardware.



Replaceable components are of three types:

- **Consumable parts:** Purchase and replacement of consumable parts (components, such as batteries and printer cartridges, that have depletable life) is your responsibility. If IBM acquires or installs a consumable part at your request, you will be charged for the service.
- **Tier 1 customer replaceable unit (CRU):** Replacement of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.
- **Tier 2 customer replaceable unit:** You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service that is designated for your server.
- **Field replaceable unit (FRU):** FRUs must be installed only by trained service technicians.

For information about the terms of the warranty and getting service and assistance, see the *Warranty and Support Information* document.

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)	FRU part number
1	Expansion unit	46M6746		
2	Heat sink, microprocessor			46C3545
3	Microprocessor 2.13 GHz/800MHz-4MB 80W (quad core)			46D1270
4	Memory, DIMM filler	60H2962		
5	Memory, 2 GB VLP DDR3-1333	44T1497		
6	Front bezel	46D1141		
7	Control panel (front bezel)	46D1120		
8	Hard disk drive, 2.5 inch hot-swap SAS 300 GB, 10 K	42D0638		
9	Hot-swap storage-bay filler	44T2248		
10	Blade appliance base assembly (includes the system board without a microprocessor with firmware image) ^{Note 1}			68Y8094
	Alcohol Wipe Kit			59P4739
	Thermal grease			41Y9292
	Kit, miscellaneous parts (all models)		46D1122	
11	Battery, 3.0 volt (all models)	33F8354		
12	USB key, 4 GB image ^{Note 2, Note 3}	46M6745		

Note:

1. When a failed blade appliance base assembly (10) is replaced, the USB key (12) must also be replaced. Both of these parts must be ordered separately. See Note 3 for additional information about configuring the replacement blade appliance base assembly and USB key.
2. You can replace a failed USB key (12) without replacing the blade appliance base assembly (10). See Note 3 for additional information about configuring the replacement USB key.
3. The IBM WebSphere DataPower Integration Blade XI50B blade appliance base assembly is tied to its USB key through a cryptographic security mechanism. When the USB key is replaced, either alone or as part of a blade appliance base assembly replacement, the two components are automatically tied together and

all blade appliance firmware is loaded from the new USB key the first time the blade appliance is started. (This process can take up to 30 minutes and the blade appliance must not be turned off until the login prompt displays, indicating that the process is complete.) After the blade appliance firmware is loaded, you must perform an initial configuration (see Chapter 4, “Setting up the initial firmware configuration,” on page 21), make sure that the latest DataPower software is installed on the blade appliance (see “Downloading the firmware image” on page 25), and restore the customer configuration and data from a saved backup. Configuring the blade appliance past the initial configuration is beyond the scope of this document. Refer to the following documents for additional information needed to complete the configuration of replacement blade appliance components, including contact information for IBM WebSphere DataPower software support:

- The *IBM WebSphere DataPower SOA Appliances: Administrators Guide* for your blade appliance describes the concepts and tasks to configure the appliance.
- The *IBM WebSphere DataPower: Command Reference* for your blade appliance describes the commands to configure the appliance.

Appendix. Getting help and technical assistance

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you.

Use this information to obtain additional information about IBM and IBM products, determine what to do if you experience a problem with your IBM WebSphere DataPower Integration Blade XI50B appliance, and determine whom to call for service, if it is necessary.

Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself.

If you believe that you require IBM to perform warranty service on your IBM product, the IBM service technicians will be able to assist you more efficiently if you prepare before you call.

- Check for updated firmware for your system. The IBM Warranty terms and conditions state that you, the owner of the IBM product, are responsible for maintaining and updating all software and firmware for the product (unless it is covered by an additional maintenance contract). Your IBM service technician will request that you upgrade your software and firmware if the problem has a documented solution within a software upgrade.

You can obtain the latest downloads for your system from <http://www.ibm.com/support/fixcentral/>. See “Downloading the firmware image” on page 25 for instructions.

- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system. Information about diagnostic tools is in the *Problem Determination and Service Guide* on the IBM Documentation CD that comes with your system.
- Go to <http://www.ibm.com/systems/support/> to check for information to help you solve the problem.
- Gather the following information to provide to IBM service. This data will help IBM service quickly provide a solution to your problem and ensure that you receive the level of service for which you might have contracted.
 - Hardware and Software Maintenance agreement contract numbers, if applicable
 - Machine type number (IBM 4-digit machine identifier)
 - Model number
 - Serial number
 - Current system BIOS and firmware levels
 - Other pertinent information such as error messages and logs
- Submit an Electronic Service Request.
 1. Go to <http://www.ibm.com/systems/support/>.
 2. Under **Support & downloads**, click **Open service request**.
 3. Follow the prompts.

Submitting an Electronic Service Request will start the process of determining a solution to your problem by making the pertinent information available to IBM service quickly and efficiently. IBM service technicians can start working on your solution as soon as you have completed and submitted an Electronic Service Request.

**** **MISSING FILE** ****

This file was generated during the publishing process

**** **MISSING FILE** ****

This file was generated during the publishing process

Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with BladeCenter products.

One year of Software Subscription and Support is included with each new IBM WebSphere DataPower Integration Blade XI50B appliance. Software Subscription and Support provides you with:

- Technical support for your IT organization that is available 24x7 for critical (Severity 1) problems and outages at http://www.ibm.com/software/lotus/passportadvantage/remote_technical_support.html.
- Product upgrades via download or CD delivery, based on your location and eNotification preferences.
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For additional information, see the Software Subscription and Support Web site at <http://www.ibm.com/software/lotus/passportadvantage/softwaremaintenance.html>.

Hardware service and support

You can receive hardware service through your IBM reseller or IBM Services.

To locate a reseller authorized by IBM to provide warranty service, go to and click **Business Partner Locator**. For IBM support telephone numbers, see . In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

IBM Taiwan product service

Use this information to contact IBM Taiwan product service.

台灣 IBM 產品服務聯絡方式：
台灣國際商業機器股份有限公司
台北市松仁路7號3樓
電話：0800-016-888

IBM Taiwan product service contact information:

IBM Taiwan Corporation
3F, No 7, Song Ren Rd.
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Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1,048,576 bytes, and GB stands for 1,073,741,824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1,000,000 bytes, and GB stands for 1,000,000,000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives that are available from IBM.

Maximum memory might require replacement of the standard memory with an optional memory module.

Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as total bytes written (TBW). A device that has exceeded this limit might fail to respond to system-generated

commands or might be incapable of being written to. IBM is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

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

Particulate contamination

Attention: Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document.

Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If IBM determines that the levels of particulates or gases in your environment have caused damage to the device, IBM may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility.

Table 2. Limits for particulates and gases

Contaminant	Limits
Particulate	<ul style="list-style-type: none"> The room air must be continuously filtered with 40% atmospheric dust spot efficiency (MERV 9) according to ASHRAE Standard 52.2¹. Air that enters a data center must be filtered to 99.97% efficiency or greater, using high-efficiency particulate air (HEPA) filters that meet MIL-STD-282. The deliquescent relative humidity of the particulate contamination must be more than 60%². The room must be free of conductive contamination such as zinc whiskers.
Gaseous	<ul style="list-style-type: none"> Copper: Class G1 as per ANSI/ISA 71.04-1985³ Silver: Corrosion rate of less than 300 Å in 30 days

Table 2. Limits for particulates and gases (continued)

Contaminant	Limits
	<p>¹ ASHRAE 52.2-2008 - <i>Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size</i>. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.</p> <p>² The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction.</p> <p>³ ANSI/ISA-71.04-1985. <i>Environmental conditions for process measurement and control systems: Airborne contaminants</i>. Instrument Society of America, Research Triangle Park, North Carolina, U.S.A.</p>

Documentation format

The publications for this product are in Adobe Portable Document Format (PDF) and should be compliant with accessibility standards. If you experience difficulties when you use the PDF files and want to request a web-based format or accessible PDF document for a publication, direct your mail to the following address:

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P.O. Box 12195
Research Triangle Park, North Carolina 27709-2195
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When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

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 might cause undesired operation.

Industry Canada Class A emission 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 est conforme à la norme NMB-003 du Canada.

Australia and New Zealand Class A statement

Attention: 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.

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Responsible manufacturer:

International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
914-499-1900

European Community contact:

IBM Deutschland GmbH
Technical Regulations, Department M372
IBM-Allee 1, 71139 Ehningen, Germany
Telephone: +49 7032 15 2941
Email: lugi@de.ibm.com

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Technical Regulations, Abteilung M372
IBM-Allee 1, 71139 Ehningen, Germany
Telephone: +49 7032 15 2941
Email: lugi@de.ibm.com

Generelle Informationen:

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В жилых помещениях оно может создавать радиопомехи, для
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中华人民共和国“A类”警告声明

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能會造成射頻干擾，在這
種情況下，使用者會被要
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