

IBM Internet Security Systems
Proventia Network Intrusion Prevention System



IPS Virtual Appliance Getting Started Guide

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About this publication

This guide is designed to help you install and configure your Proventia Network Intrusion Prevention System (IPS) Virtual Appliance.

Scope

This guide describes the virtual appliance models GV1000 and GV200 and explains the different ways to initially install the virtual appliances on your network. It also includes virtual appliance setup procedures.

Additional documentation is located on the IBM ISS Web site at <http://www.iss.net/support/documentation/>.

Intended audience

This guide is intended for network security system administrators who are responsible for installing and configuring IPS systems. This guide assumes that you are familiar with network security policies and IP network configuration.

About Proventia product documentation

Related publications

Refer to the following documents for more information about the IPS Virtual Appliance.

Table 1. Reference documentation

Document	Contents
<i>Proventia Network Intrusion Prevention System Help</i>	Help located in Proventia Manager and the Proventia Network IPS Policy Editor in SiteProtector
<i>Readme File</i>	Readme file with the most current information about product issues and updates, and how to contact Technical Support available at http://www.iss.net/download/
<i>Proventia Network IPS G and GX User Guide</i>	Information about using all Proventia G appliances running release version 1.2 or later

The documentation described in this topic is available on the IBM ISS Web site at <http://www.iss.net/support/documentation/>.

Knowledgebase

The IBM ISS Support Knowledgebase contains valuable information about the IPS products. Locate the Knowledgebase at <http://www.iss.net/support/knowledgebase/>. You can search the knowledgebase using key words or Answer IDs.

Tip: See Answer ID 3321 for the latest tips and known issues for Proventia Network Intrusion Prevention System appliances.

Licensing agreement

For licensing information about IBM Internet Security System products, download the IBM Licensing Agreement from http://www.ibm.com/services/us/iss/html/contracts_landing.html.

Technical support

IBM ISS provides technical support through its Web site and by e-mail or telephone.

The IBM ISS Web site

The IBM Internet Security Systems (IBM ISS) Resource Center Web site at <http://www.iss.net/support/> provides direct access to online user documentation, current versions listings, detailed product literature, white papers, and the Technical Support Knowledgebase.

Hours of support

The following table provides hours for Technical Support at the Americas and other locations.

Table 2. Hours of technical support

Location	Hours
Americas	24 hours a day
All other locations	Monday through Friday, 9:00 A.M. to 6:00 P.M. during their local time, excluding IBM ISS published holidays Note: If your local support office is located outside the Americas, you may call or send an e-mail to the Americas office for help during off-hours.

Contact information

For contact information, go to the IBM Internet Security Systems Contact Technical Support Web page at <http://www.ibm.com/services/us/iss/support/>.

Chapter 1. Introducing the Proventia Network IPS Virtual Appliance

This chapter explains the advantages of using the Proventia Network Intrusion Prevention System (IPS). This chapter also lists general information about the virtual appliance, such as required system resources and types of installation files.

Topics

“Proventia Network IPS” on page 2

“IPS Virtual Appliance release-specific information” on page 2

Proventia Network IPS

Proventia Network IPS products are network security appliances and virtual appliances that you can deploy either at the gateway or at the network to block intrusion attempts, denial of service (DoS) attacks, malicious code, backdoors, spyware, peer-to-peer applications, and a growing list of threats without requiring extensive network reconfiguration.

You can use the IPS Virtual Appliance to detect intrusions on a network segment and to prevent intrusions for physical and virtual assets.

IPS Virtual Appliance release-specific information

This topic lists information about system resources and types of installation files.

System resources

When you configure the computer that hosts the virtual appliance, be sure to allocate enough power for memory and storage:

- 1024 MB RAM
- 8 GB storage

Types of installation files

You can download the IPS Virtual Appliance from the IBM ISS Download Center at <http://www.iss.net/download/> in Open Virtualization Format (OVF) or in Virtual Machine Configuration File Format (VMX).

Chapter 2. Configuring the virtual environment

This chapter explains how to import and install the Proventia Network IPS Virtual Appliance in Open Virtualization Format (OVF) and in Virtual Machine Configuration Format (VMX) and lists pre-configured settings.

Topics

“Installing an OVF of the IPS Virtual Appliance” on page 4

“Installing a VMX of the IPS Virtual Appliance” on page 5

“Pre-configured settings” on page 7

Installing an OVF of the IPS Virtual Appliance

This topic explains how to import and install the Proventia Network IPS Virtual Appliance using an OVF file.

Before you begin

You should have a virtual environment with virtual switches already configured. If not, consult your applicable VMware documentation.

Download the IPS Virtual Appliance as an OVF file from the IBM ISS Download Center at <http://www.iss.net/download/>.

About this task

Install an OVF file using VMware ESX or VMware ESXi.

Procedure

1. In VMware ESX or VMware ESXi, use the VMware Infrastructure Client, and navigate to **File** → **Virtual appliance** → **Import**. An importing wizard opens.
2. Select **Import from file** and click **Browse** to navigate to the OVF file on your network.
3. Complete the following sections of the importing wizard with the settings that are applicable to your network:

Option	Description
Name and Location	The virtual appliance's name and location in your network
Datastore	The data store in your network that stores the virtual appliance files
Network Mapping	<p>The networks in your virtual system that map to the virtual appliance's networks:</p> <ul style="list-style-type: none">• Kill port (<i>Network Adapter 1</i>)• Management (<i>Network Adapter 2</i>)• Protected A (<i>Network Adapter 3</i>)• Protected B (<i>Network Adapter 4</i>) <p>Important: Map a different virtual network to each protected and managed port. If each port does not have its own virtual network, a loop might occur in the network and result in network failure.</p>

After the wizard is finished, the system takes a few minutes to import the virtual appliance.

What to do next

Continue to configure your OVF file by completing the task “Editing virtual machine settings.”

Editing virtual machine settings

This topic explains how to enable network adapters for the OVF file of the Proventia Network IPS Virtual Appliance.

Before you begin

You should have imported and installed the IPS Virtual Appliance using an OVF file.

Procedure

1. Click **Edit Virtual Machine Settings** in the VMware Infrastructure Client.
2. Click **Edit Settings**. A Virtual Machine Properties window opens.
3. For each network adapter, highlight the adapter and enable the **Connect at power on** check box.

What to do next

You must turn on the virtual machine and open a console in order to access the Proventia Setup Assistant. For more information about configuring the virtual appliance, see Chapter 3, “Configuring the Proventia Network IPS Virtual Appliance,” on page 9

Installing a VMX of the IPS Virtual Appliance

This topic explains how to install the Proventia Network IPS Virtual Appliance using a VMX file.

Before you begin

You should have a virtual environment. If not, consult your applicable VMware documentation.

Download the IPS Virtual Appliance as a VMX file from the IBM ISS Download Center at <http://www.iss.net/download/>.

About this task

Install a VMX file using VMware Server.

Procedure

1. In VMware Server, use the VMware Infrastructure Web Access and click **Add Virtual Machine to Inventory** in the Commands pane.
2. Select the VMX file of the IPS Virtual Appliance and click **OK**. VMware Server adds the virtual appliance to the inventory.

What to do next

Continue to configure your VMX file by completing the task “Editing hardware settings.” This task ensures the network adapters are properly configured.

Editing hardware settings

This topic explains how to review and configure the network adapters for the VMX file of the Proventia Network IPS Virtual Appliance.

Before you begin

You should have added the IPS Virtual Appliance to your VMware inventory using a VMX file.

Procedure

1. In VMware Infrastructure Web Access, select the Proventia Network IPS Virtual Appliance from the Inventory pane.
2. Review the network adapters in the Hardware pane. The network adapters should correspond to the following virtual networks:
 - Network adapter 1: Kill port
 - Network adapter 2: Management
 - Network adapter 3: Protected A
 - Network adapter 4: Protected B

Tip: If you need to review what virtual networks were assigned to what Network Interface Cards (NICs), use VMware’s Virtual Network Editor to review and assign NICs to virtual networks.

3. If the virtual networks do not correspond to the network adapters listed earlier, configure the network adapters.

Important: Map a different virtual network to each protected and managed port. If each port does not have its own virtual network, a loop might occur in the network and result in network failure.

- a. Click the arrow next to the network adapter.
- b. Complete the following options in the Network Adapter window with these listed settings:

Option	Setting
Device Status	Connected
Connect at power on	Enabled
Network Connection	Appropriate virtual network
MAC Address	Generated by the host

What to do next

Turn on the virtual machine in VMware Infrastructure Web Access and open a console to access the Proventia Setup Assistant. For more information about configuring the virtual appliance, see Chapter 3, “Configuring the Proventia Network IPS Virtual Appliance,” on page 9

Pre-configured settings

This topic lists the pre-configured settings that are imported with the file of the Proventia Network IPS Virtual Appliance.

Table 3. Pre-configured settings

Selection	Setting
Guest operating system	Linux®
Version (guest operating system)	Other Linux 32-bit
Number of virtual processors	1
Memory	1024 MB
Number of NICs	4 <ul style="list-style-type: none"> • Eth0: RS Kill Port • Eth1: Management • Eth2: Protected A • Eth3: Protected B
SCSI Adapter	BusLogic
Virtual disk size (storage)	8 GB, stored with the virtual machine
Virtual device node	SCSI (0:0)

Chapter 3. Configuring the Proventia Network IPS Virtual Appliance

This chapter describes how to configure the Proventia Network IPS Virtual Appliance.

Use the “Configuration checklist” on page 11 to gather the information you need to complete the configuration process.

Topics

“Process overview” on page 10

“Configuration checklist” on page 11

“Completing the initial configuration” on page 12

“Accessing Proventia Manager” on page 15

Process overview

This topic provides an overview of the steps required to set up a Proventia Network IPS Virtual Appliance.

The setup process

The following table outlines the steps required to set up the virtual appliance.

Note: To setup Proventia IPS products, verify you have the following application versions:

- Internet Explorer version 6.0 or later
- Java™ Runtime Environment (JRE) version 1.5, (the application prompts you with an installation link if you do not have it installed)

Table 4. Setup process

Step	Description	Procedure
1	Gather required information.	"Configuration checklist" on page 11
2	Log in to the Proventia Setup Assistant as admin/admin.	"Completing the initial configuration" on page 12
3	Configure initial network and virtual appliance settings.	"Completing the initial configuration" on page 12
4	Contact your IBM representative for your license registration number. Do these steps: <ol style="list-style-type: none">1. Register your customer license at the IBM ISS License Registration Center (https://www1.iss.net/cgi-bin/lrc).2. Download the license key file from the IBM ISS Registration Center to your network. Note: Consider uploading the license key file to a designated directory so that the virtual appliance can download and install the latest updates automatically.3. Upload the license when you log on to Proventia Manager, when prompted.	"Acquiring the license file" on page 18 "Installing the license file" on page 18

Table 4. Setup process (continued)

Step	Description	Procedure
5	Log in to Proventia Manager.	"Accessing Proventia Manager" on page 15 Note: Use the new log in information configured in "Completing the initial configuration."
6	Apply updates.	"Downloading updates" on page 19 "Installing updates" on page 19

Configuration checklist

Use this checklist to obtain the information you need to configure your virtual appliance.

Table 5. Required information checklist

✓	Setting	Description
<input type="checkbox"/>	Virtual appliance hostname	The unique computer name for your virtual appliance Example: myvirtualappliance
	Your setting:	
<input type="checkbox"/>	Virtual appliance domain name	The domain suffix for the network Example: mydomain.com
	Your setting:	
<input type="checkbox"/>	Virtual appliance domain name server	The IP address of the server you are using to perform domain name lookups (DNS search path) (optional) Example: 10.0.0.1
	Your setting:	
<input type="checkbox"/>	Management port IP address	An IP address for the management network port
	Your setting:	
<input type="checkbox"/>	Management port subnet mask	The subnet mask value for the network that will connect to your management port
	Your setting:	
<input type="checkbox"/>	Management port default gateway (IP address)	The IP address for the management gateway
	Your setting:	

Table 5. Required information checklist (continued)

✓	Setting	Description
<input type="checkbox"/>	Adapter mode	The adapter (operation) mode to use for the virtual appliance Note: The adapter mode should correspond to the way you configured the virtual appliance into your network
	Your setting:	

IPS Virtual Appliance operating modes

How you connect the virtual appliance to the network depends on the mode in which you want to run the virtual appliance. The inline virtual appliances include the following operating modes:

Note: For information about how to configure the mode of the virtual appliance, see the *Proventia Network IPS G and GX Appliance User Guide*.

Table 6. Operating modes

Mode	Response	Benefits
Inline protection	Block, quarantine, firewall	Monitors the network and actively blocks malicious traffic
Inline simulation	Block, quarantine (simulated), firewall	<ul style="list-style-type: none"> Monitors the network without affecting traffic patterns Helps you to baseline and test your security policy
Passive monitoring	Block	<ul style="list-style-type: none"> Replicates traditional IDS technology Monitors traffic without sitting inline

Completing the initial configuration

Use the Proventia Setup program to configure Proventia Network IPS Virtual Appliance network settings. This topic lists the steps to configure the virtual appliance, apply your settings, and log off from Proventia Setup.

Before you begin

You must turn on the virtual machine and open a console in the applicable virtual platform in use in your network.

Procedure

1. At the unconfigured login prompt, type the user name `admin`, and then press **ENTER**.
2. Type the default password `admin`.
3. Select **OK**, and then press **ENTER**.
4. Follow the on-screen instructions. The following table describes the required information. You can use the information you provided in the “Configuration checklist” on page 11 to complete many of these settings.

Information	Description
Change Password	<ul style="list-style-type: none">• Root Password: When you access the virtual appliance from a command line, you must provide this password.• Admin Password: When you access the virtual appliance, you must provide this password. This password can be the same as the root password.• Proventia Manager Password: When you access Proventia Manager, you must provide this password.
Network Configuration Information	<ul style="list-style-type: none">• IP Address: The IP address of the management network adapter.• Subnet Mask: The subnet mask value for the network that is connected to the management interface.• Default Gateway: The IP address for the management gateway.
Host name settings	<p>The virtual appliance uses domain names and DNS information to send e-mail and SNMP responses.</p> <ul style="list-style-type: none">• Hostname: The computer name for the appliance. Example: <code>myappliance</code>• Domain Name: The domain suffix (DNS search path) for the network. Example: <code>mycompany.com</code>

Information	Description
DNS Configuration	<p>The virtual appliance uses domain names and DNS information to send e-mail and SNMP responses. If you do not configure this information during the setup process, you must specify the IP address of the appliance's mail server each time you define an e-mail or SNMP response.</p> <ul style="list-style-type: none"> • Primary Name Server: The IP address for the DNS used to perform domain name lookups. Example: 10.0.0.1 • Secondary Name Server: The IP address for the secondary DNS used to perform domain name lookups. • Tertiary DNS Server: The IP address for the third DNS used to perform domain name lookups. • DNS Search Suffix: The suffix used when performing DNS query searches for short, unqualified computer names.
Time Zone Configuration	<p>These settings determine the time zone for the virtual appliance.</p>
Date/Time Configuration	<p>You must set the date and time for the virtual appliance as it appears in the management interface, so that you can accurately track events as they occur on the network.</p>
Agent Name Configuration	<p>The Agent Name is the virtual appliance name as it appears in the management interface. This name should correspond to a meaningful classification in the network scheme, such as the virtual appliance's geographic location, business unit, or building address.</p>

Information	Description
Adapter Mode Configuration	<p>The adapter mode determines how the virtual appliance behaves within the network in order to protect it. Review “IPS Virtual Appliance operating modes” in the “Configuration checklist” topic if you are not sure which mode to select.</p> <p>Important: When you select the adapter mode for the single port pair, confirm that you have selected the correct adapter mode for the virtual appliance’s network connections. You might experience significant network implications if you have configured this setting incorrectly.</p>

5. On the Adapter Mode Configuration screen, press **ENTER**. A progress bar appears while the virtual appliance applies your settings. The logout screen appears, indicating that the configuration is complete.
6. Select **Logout**, and then press **ENTER**.

Accessing Proventia Manager

Proventia Manager is the Web-based management interface for the virtual appliance.

About this task

Use Proventia Manager to perform the following tasks:

- Monitor the status of the virtual appliance
- Configure and manage settings
- View quarantine tables and apply changes
- Review and manage virtual appliance activities

Procedure

1. Start your Web browser.
2. Type `https://<virtual appliance IP address>`.
3. Log in using the user name `admin` and the Proventia Manager password.
4. If a message informs you that you do not have Java Runtime Environment (JRE) installed, install it, and then return to this procedure.
5. Select the appropriate language.
6. Select **Yes** to use the Getting Started procedures.

Note: Use the Getting Started procedures to help you customize the virtual appliance settings. If this window does not open, you can access the Getting Started procedures from the Help.

7. Click **Launch Proventia Manager**.

Chapter 4. Installing licenses and applying updates

This chapter describes how to obtain a license, install the license, and apply updates for your Proventia Network IPS Virtual Appliance.

Topics

“Acquiring the license file” on page 18

“Installing the license file” on page 18

“Initial updates” on page 19

Acquiring the license file

Proventia Network IPS systems require a properly configured license file to run. If you have not installed the appropriate license file, you cannot manage the system. To purchase a license, contact your IBM representative.

About this task

The Licensing page displays important information about the current status of the license file, including expiration dates. The Licensing page also allows you to access the License Information page, which includes information about how to acquire a current license.

Procedure

1. Contact your IBM representative for your license registration number.
2. Register your customer license at the IBM ISS License Registration Center. Go to <https://www1.iss.net/cgi-bin/lrc> and follow the instructions.
3. Download the license key file from the IBM ISS Registration Center.

Note: You must save the license file to the appropriate location so that the Proventia Manager software can locate and acknowledge it.

What to do next

Upload the license key file to a designated directory so that the IPS system can download and install the latest updates automatically.

Installing the license file

The license file is necessary to make your IPS system run at full capability. You must install the license before you can manage the system.

Before you begin

Before you install the license file, you should have completed the following steps:

- Register your customer license
- Download the license from the IBM ISS Registration Center

Procedure

1. In Proventia Manager, select **System** → **Licensing**.
2. Click **Browse**.
3. Locate the license file.
4. Click **OK**, and then click **Upload**.

Initial updates

Before you begin to create policies to manage your network security, you must ensure you have applied the latest updates to the virtual appliance. The system retrieves updates from the IBM ISS Download Center, which is accessible over the Internet.

Note: For information about maintaining IPS system updates, see “Updating the Appliance,” in the *Proventia Network IPS G and GX Appliance User Guide*.

Types of updates

You can install the following updates:

- **Firmware updates.** These updates include new program files, fixes or patches, enhancements, or online Help updates.
- **Intrusion prevention updates.** These updates contain the most recent security content provided by IBM ISS X-Force.

You can find updates on the Updates to Download page, and you can schedule automatic update downloads and installations from the Update Settings page.

Note: Some firmware updates require you to restart the IPS system. For more information about product issues and updates, see your intrusion prevention system Readme file.

Downloading updates

Procedure

1. Select **Updates** → **Available Downloads**.
2. If your IPS system requires it, the Export Administration Regulation window appears. Review the agreement, select **Yes**, and then click **Submit**.
3. The Updates to Download window appears and displays the following message if updates are available: There are updates available. Click here to see details.
4. Click the link in the message.
5. On the Updates to Download page, click **Download All Available Updates**.

Installing updates

Procedure

1. In Proventia Manager, select **Updates** → **Available Installs**.
2. If your IPS system requires it, the Export Administration Regulation window appears. Review the agreement, select **Yes**, and then click **Submit**.

3. On the Available Installs page, select the updates you want to install and then click **Install Updates**.

Note: Some firmware updates require you to restart the IPS system. For more information about product issues and updates, see your intrusion prevention system Readme file.

4. View the installation status in the Update History table on the Update Status page.

Chapter 5. Reinstalling the virtual appliance

This chapter explains how to reinstall the Proventia Network IPS Virtual Appliance.

Topics

“Results of reinstalling the IPS Virtual Appliance” on page 22

“Reinstalling the IPS Virtual Appliance” on page 22

Results of reinstalling the IPS Virtual Appliance

Reinstalling the virtual appliance has the following results:

- Overwrites software configuration changes you have made since you first installed the virtual appliance
- Restores the original, default login credentials:
 - User name: admin
 - Password: admin

Important: Reinstalling the virtual appliance erases all data from the system and returns it to its initial state. Only perform this procedure under the guidance of IBM ISS technical support.

Reinstalling the IPS Virtual Appliance

This topic explains how to reinstall the IPS Virtual Appliance.

Before you begin

- Create a backup of the current system in Proventia Manager. You can restore the system settings from this backup after you reinstall the virtual appliance. See "Appliance Management" in the *IBM Proventia Network Intrusion Prevention System G and GX Appliance User Guide* for more information.
- Record the following virtual appliance settings for the management interface:
 - IP address, subnet mask, and default gateway
 - Hostname, domain name, and DNS server name

Procedure

1. Download or retrieve the Proventia Network IPS Virtual Appliance file in the appropriate format.
2. Install the IPS Virtual Appliance. For more information, see Chapter 2, "Configuring the virtual environment," on page 3.

Important: Map a different virtual network to each protected and managed port. If each port does not have its own virtual network, a loop might occur in the network and result in network failure.

What to do next

Log in with the default user name and password (admin/admin) and use Proventia Setup to configure the virtual appliance.

Appendix. Safety, environmental, and electronic emissions notices

Safety notices may be printed throughout this guide. **DANGER** notices warn you of conditions or procedures that can result in death or severe personal injury. **CAUTION** notices warn you of conditions or procedures that can cause personal injury that is neither lethal nor extremely hazardous. **Attention** notices warn you of conditions or procedures that can cause damage to machines, equipment, or programs.

DANGER notices

DANGER

To prevent a possible shock from touching two surfaces with different protective ground (earth), use one hand, when possible, to connect or disconnect signal cables. (D001)

DANGER

Overloading a branch circuit is potentially a fire hazard and a shock hazard under certain conditions. To avoid these hazards, ensure that your system electrical requirements do not exceed branch circuit protection requirements. Refer to the information that is provided with your device or the power rating label for electrical specifications. (D002)

DANGER

If the receptacle has a metal shell, do not touch the shell until you have completed the voltage and grounding checks. Improper wiring or grounding could place dangerous voltage on the metal shell. If any of the conditions are not as described, **STOP**. Ensure the improper voltage or impedance conditions are corrected before proceeding. (D003)

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (D004)

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 IBM ISS provided power cord. Do not use the IBM ISS 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.

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.

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.

(D005)

CAUTION notices

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:

The battery contains lithium. To avoid possible explosion, do not burn or charge the battery.

Do not:

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

Exchange only with the IBM ISS-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM ISS has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM ISS part number for the battery unit available when you call. (C003)

CAUTION:

For 19" rack mount products:

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- (For sliding drawers) Do not pull or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- (For fixed drawers) This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

(R001 Part 2 of 2)

Product handling information

One of the following two safety notices may apply to this product. Please refer to the specific product specifications to determine the weight of the product to see which applies.

CAUTION:

This part or unit is heavy but has a weight smaller than 18 kg (39.7 lb). Use care when lifting, removing, or installing this part or unit. (C008)

CAUTION:

The weight of this part or unit is between 18 and 32 kg (39.7 and 70.5 lb). It takes two persons to safely lift this part or unit. (C009)



Product safety labels

One or more of the following safety labels may apply to this product.

DANGER

Hazardous voltage, current, or energy levels are present inside any component that has this label attached. Do not open any cover or barrier that contains this label. (L001)



DANGER

Multiple power cords. The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords. (L003)



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 US English source. Before using a US English publication to install, operate, or service this IBM ISS 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 US English publications.

Laser safety information

The following laser safety notices apply to this product:

CAUTION:

This product may 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)

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.

Product recycling and disposal

This unit must be recycled or discarded according to applicable local and national regulations. IBM encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. IBM offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products. Information on IBM ISS product recycling offerings can be found on IBM's Internet site at [http:// www.ibm.com/ibm/environment/products/prp.shtml](http://www.ibm.com/ibm/environment/products/prp.shtml).

Esta unidad debe reciclarse o desecharse de acuerdo con lo establecido en la normativa nacional o local aplicable. IBM recomienda a los propietarios de equipos de tecnología de la información (TI) que reciclen responsablemente sus equipos cuando éstos ya no les sean útiles. IBM dispone de una serie de programas y servicios de devolución de productos en varios países, a fin de ayudar a los propietarios de equipos a reciclar sus productos de TI. Se puede encontrar información sobre las ofertas de reciclado de productos de IBM en el sitio web de IBM [http:// www.ibm.com/ibm/environment/products/prp.shtml](http://www.ibm.com/ibm/environment/products/prp.shtml).



Notice: This mark applies only to countries within the European Union (EU) and Norway.

Appliances are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable through the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE. For proper collection and treatment, contact your local IBM representative.

注意: このマークは EU 諸国およびノルウェーにおいてのみ適用されます。

この機器には、EU 諸国に対する廃電気電子機器指令 2002/96/EC(WEEE) のラベルが貼られています。この指令は、EU 諸国に適用する使用済み機器の回収とリサイクルの骨子を定めています。このラベルは、使用済みになった時に指令に従って適正な処理をする必要があることを知らせるために種々の製品に貼られています。

Remarque: Cette marque s'applique uniquement aux pays de l'Union Européenne et à la Norvège.

L'étiquette du système respecte la Directive européenne 2002/96/EC en matière de Déchets des Equipements Electriques et Electroniques (DEEE), qui détermine les dispositions de retour et de recyclage applicables aux systèmes utilisés à travers l'Union européenne. Conformément à la directive, ladite étiquette précise que le produit sur lequel elle est apposée ne doit pas être jeté mais être récupéré en fin de vie.

Battery return program

This product contains a lithium battery. The battery must be recycled or disposed of properly. Recycling facilities may not be available in your area. For information on disposal of batteries outside the United States, go to <http://www.ibm.com/ibm/environment/products/batteryrecycle.shtml> or contact your local waste disposal facility.

In the United States, IBM has established a return process for reuse, recycling, or proper disposal of used IBM sealed lead acid, nickel cadmium, nickel metal hydride, and other battery packs from IBM equipment. For information on proper disposal of these batteries, contact IBM at 1-800-426- 4333. Please have the IBM part number listed on the battery available prior to your call.

For Taiwan:



Please recycle batteries 廢電池請回收

For the European Union:



Notice: This mark applies only to countries within the European Union (EU).

Batteries or packing for batteries are labeled in accordance with European Directive 2006/66/EC concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Les batteries ou emballages pour batteries sont étiquetés conformément aux directives européennes 2006/66/EC, norme relative aux batteries et accumulateurs en usage et aux batteries et accumulateurs usés. Les directives déterminent la marche à suivre en vigueur dans l'Union Européenne pour le retour et le recyclage des batteries et accumulateurs usés. Cette étiquette est appliquée sur diverses batteries pour indiquer que la batterie ne doit pas être mise au rebut mais plutôt récupérée en fin de cycle de vie selon cette norme.

バッテリーあるいはバッテリー用のパッケージには、EU 諸国に対する廃電気電子機器指令 2006/66/EC のラベルが貼られています。この指令は、バッテリーと蓄電池、および廃棄バッテリーと蓄電池に関するものです。この指令は、使用済みバッテリーと蓄電池の回収とリサイクルの骨子を定めているもので、EU 諸国にわたって適用されます。このラベルは、使用済みになったときに指令に従って適正な処理をする必要があることを知らせるために種々のバッテリーに貼られています。

In accordance with the European Directive 2006/66/EC, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a symbol for the metal concerned in the battery (Pb for lead, Hg for the mercury, and Cd for cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and treatment of batteries and accumulators. Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to potential presence of hazardous substances. For proper collection and treatment, contact your local IBM representative.

For California:

Perchlorate Material - special handling may apply. See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate>.

The foregoing notice is provided in accordance with California Code of Regulations Title 22, Division 4.5, Chapter 33. Best Management Practices for Perchlorate Materials. This product, part, or both may include a lithium manganese dioxide battery which contains a perchlorate substance.

Electronic emissions notices

The following statements apply to this IBM product. The statement for other IBM products intended for use with this product will appear in their accompanying manuals.

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 instructions contained in the

installation 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.

Note: 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, by installation or use of this equipment other than xvi IBM Internet Security Systems as specified in the installation manual, or by any other unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Note: 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.

Canadian Department of Communications Compliance Statement

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

Avis de conformité aux normes du ministère des Communications du Canada

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

European Union (EU) Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EU Council Directive 2004/108/ EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM ISS 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 ISS 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 equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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.

European Community contact:

IBM Technical Regulations
Pascalstr. 100, Stuttgart, Germany 70569

Telephone: 0049 (0) 711 785 1176
Fax: 0049 (0) 711 785 1283
e-mail: tjahn@de.ibm.com

EC Declaration of Conformity (In German)

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

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 89/336/EWG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EUMitgliedsstaaten 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.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden: "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 89/336/EWG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 18. September 1998 (bzw. der EMC EG Richtlinie 89/336) für Geräte der Klasse A.

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

Verantwortlich für die Konformitätserklärung nach Paragraf 5 des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraf 4 Abs. (1) 4:

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

update: 2004/12/07

People's Republic of China Class A Compliance Statement:

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 actions.

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。

Japan Class A Compliance Statement:

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 xviii IBM Internet Security Systems domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づいたクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Korean Class A Compliance Statement:

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

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