



Installing or replacing a DS5100 or DS5300 host interface card

This document provides the installation and replacement instructions and the safety, warranty, environmental, and electronic emission notices for the IBM® System Storage® DS5100 and DS5300 host interface card options. Store this document with your other product documentation for future reference.

Safety information

The multilingual *IBM Safety Information* document is provided on the *IBM Support Software DVD* that came with your DS5100 or DS5300 storage controller. Before you install or replace a host interface card, review the Safety information that came with the storage controller and the following notice:

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

Getting started

Before you install or replace a host interface card, review the information in “Inventory checklist” and in “Installation guidelines” on page 3 to verify that you have all of the items that you need to complete the installation; then, use the instructions in “Installing or replacing a host interface card” on page 4 to install the host interface card.

Inventory checklist

The items that ship with the host interface card vary, based on the option or field replaceable unit (FRU) that you ordered.

Table 1. Host interface card option and FRU contents.

Host interface card option	Option contents	FRU part number and contents
Two quad 4 Gbps Fibre Channel host interface card option	• Quad 4 Gbps Fibre Channel host interface card (2) • 4 Gbps shortwave SFP (8) • Quad 4 Gbps host interface port cover (2) • Installation instructions (1, this document)	• Quad 4 Gbps—FRU 46C4482 – Quad 4 Gbps Fibre Channel host interface card (1) – Installation instructions (1, this document)
Two quad 8 Gbps Fibre Channel host interface card option	• Quad 8 Gbps Fibre Channel host interface card (2) • 8 Gbps shortwave SFP (8) • Quad 8 Gbps host interface port cover (2) • Installation instructions (1, this document)	• Quad 8 Gbps—FRU 49Y4124 – Quad 8 Gbps Fibre Channel host interface card (1) – Installation instructions (1, this document)
Two 2-port 1 Gbps iSCSI host interface card option	• 2-port 1 Gbps iSCSI host interface card (2) • 2-port 1 Gbps iSCSI host interface port cover (2) • Installation instructions (1, this document)	• 2-port 1 Gbps iSCSI—FRU 59Y5095 – 2-port 1 Gbps iSCSI host interface card (1) – Installation instructions (1, this document)
Two 2-port 10Gbps iSCSI host interface card option	• 2-port 10 Gbps iSCSI host interface card (2) • 2-port 10 Gbps iSCSI host interface port cover (2) • Installation instructions (1, this document)	• 2-port 10 Gbps iSCSI—FRU 81Y2445 – 2-port 10 Gbps iSCSI host interface card (1) – Installation instructions (1, this document)

Installation guidelines

To avoid potential problems with your DS5100 or DS5300 storage subsystem, observe the following guidelines when you install or replace a host interface card:

Attention: The DS5100 or DS5300 does not support both a 1 Gbps iSCSI host interface card and a 10 Gbps iSCSI host interface card in the same storage subsystem.

- Within a given storage subsystem, the type of host interface cards and the slots in which the cards are installed must be the same in both controllers. For example, if controller A in storage subsystem 1 has a 4 Gbps host interface card in slot 1 and an 8 Gbps host interface card in slot 2, controller B in storage subsystem 1 must also have a 4 Gbps host interface card in slot 1 and an 8 Gbps host interface card in slot 2.
- When you install or replace host interface cards in both controllers, you must power down the storage subsystem. If you plan to install a new host interface card or replace an existing host interface card with a different type of host interface card (for example, replacing a 4 Gbps card with an 8 Gbps card), schedule down time to service the storage subsystem.
- If you replace an existing host interface card in an existing controller with a different type of host interface card, you must replace the host interface cards in the same slots in both controllers at the same time. IBM does not support a storage subsystem configuration where the combination of host interface cards installed in each controller within a given storage subsystem does not match.
- It is not a requirement that you power off the storage subsystem when you replace a defective host interface card with the same type of host interface card. However, if you do not power off the storage subsystem, you must complete the replacement procedure within 15 minutes to avoid potential overheating of the equipment, which could cause equipment damage.
- To help prevent damage caused by electrostatic discharge, always use proper antistatic protection when handling host interface adapters and tray components.
- The controller firmware version must support the host interface card option, or the controller will enter Lockdown state when its power switch is turned on. Before you install the host interface card, ensure that the controller firmware meets the minimum version required to support the host interface card option. For details about controller firmware requirements and downloads, see step 4 on page 4 in “Installing or replacing a host interface card” on page 4.

Installing or replacing a host interface card

To install or replace a host interface card, you must remove the DS5100 or DS5300 controller from its bay, insert or replace the host interface card, and reinstall the controller in its bay.

For redundancy, you must add the same type of host interface card in the same host interface slots (slot 1, slot 2, or both) of both controllers. While you replace a host interface card in one controller, both the other controller and the input/output (I/O) path from the hosts to the other controller must be in Optimal state.

To install or replace a host interface card, complete the following steps:

1. Verify that you have all of the items that you need before you begin the installation or replacement procedure (see “Inventory checklist” on page 2).
2. Review the installation guidelines (see “Installation guidelines” on page 3).
3. If you are replacing a defective host interface card with the same type of host interface card, use the DS Storage Manager and the Fibre Channel switch management GUI to verify that there is an optimal path from the host servers to the controller that is *not* having a host interface card replaced or installed. Otherwise, a loss of data access will occur when you remove the controller from its bay for host interface card replacement.
4. If you are adding a new host interface card to an existing controller or replacing an existing host interface card with a different type of host interface card in an existing controller, verify that the supported controller firmware *version* is installed on the controller (see Table 2). If necessary, download the required controller firmware version and install it. You can find the latest firmware at the IBM System Storage Support Web Site: www.ibm.com/systems/support/storage/disk

Table 2. Supported controller firmware versions for host interface card options

Host interface card options	Host interface card FRU part number	Supported controller firmware version	Controller FRU part number	Intermix with other host interface cards
4 Gbps Fibre Channel	46C4482	7.3x.xx.xx and higher	46C8879 for DS5100 44E5610 for DS5300, (See note 1)	✓ (See note 2)
8 Gbps Fibre Channel	49Y4124	7.50.xx.xx and higher	49Y4133 for DS5100 49Y4144 for DS5300	✓ (See notes 2, 3)
1 Gbps iSCSI	59Y5095	7.60.xx.xx and higher	49Y4133 for DS5100 49Y4144 for DS5300	✓ (See notes 2, 4, 6)
10 Gbps iSCSI	81Y2445	7.77.xx.xx and higher	49Y4133 for DS5100 49Y4144 for DS5300	✓ (See notes 2, 5, 6)

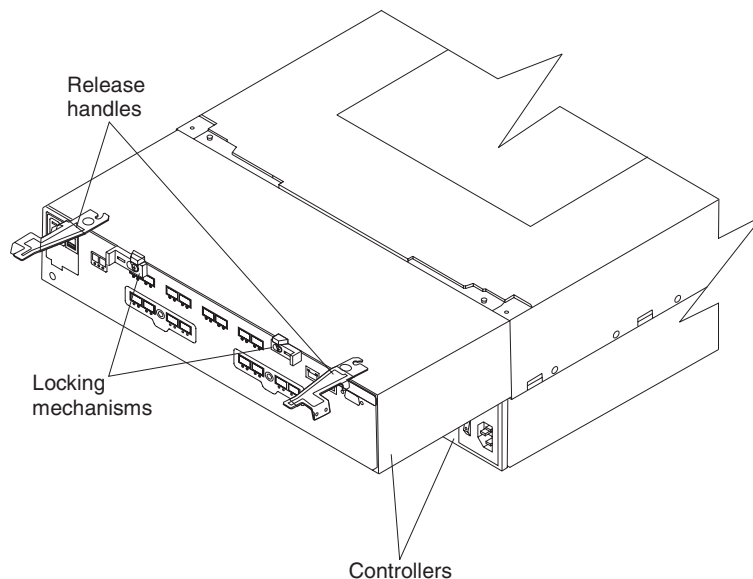
Notes:

1. These controller FRU part numbers were initially released when the DS5100 and DS5300 storage subsystems supported 4 Gbps host interface card options only. The controller firmware installed in these DS5100 and DS5300 controller FRUs was version 7.30.xx.xx, which does not support 8 Gbps Fibre Channel host interface card options. Installing an 8 Gbps host interface card into a controller with controller firmware version 7.30.xx.xx will cause the controller to enter the Lockdown state during the controller boot process before the controller attempts to synchronize the controller firmware with the other controller. Because of this limitation in version 7.30.xx.xx, after the release of the 8 Gbps Fibre Channel host interface option, these FRU part numbers were automatically replaced by the 49Y4133 (for DS5100) and 49Y4144 (DS5300), if ordered. The controller firmware in these new controller FRUs is firmware version 7.36.xx.xx or higher, which does attempt to synchronize the controller firmware with the other controller before going into the Lockdown state if the controller firmware version of the surviving controller does not support 8 Gbps host interface cards.
2. The same type of host interface card must be installed in the same host interface card slot in both controllers. For example, if controller A has a 4 Gbps host interface card in slot 1 and an 8 Gbps host interface card in slot 2, controller B must have a 4 Gbps host interface card in slot 1 and an 8 Gbps host interface card in slot 2. Otherwise, the controller or controllers will enter the Lockdown state.
3. The installed controller firmware version must be 7.50.xx.xx and higher.
4. The installed controller firmware must be 7.60.xx.xx and higher.
5. The installed controller firmware must be 7.77.xx.xx and higher.
6. Do not intermix a 1 Gbps iSCSI host interface card and a 10 Gbps iSCSI host interface card in the same storage subsystem. Otherwise, the controller or controllers will enter the Lockdown state.

5. Use the DS Storage Manager client program to save the full subsystem configuration (**Storage Subsystem → Configuration → Save**) and to collect all support data (**Advanced → Troubleshooting → Collect all support data**).
6. Put on antistatic protection.
Attention: To avoid potential hardware damage, always use proper antistatic protection when handling the host interface cards and bay components.
7. Label each of the cables that you are going to remove from the controller so that you can reconnect the cables correctly after you reinstall the controller.
8. Record the information from the seven-segment display that is on the rear of the controller, take the controller offline, and wait for the Service Action Allowed LED on the controller to turn on.

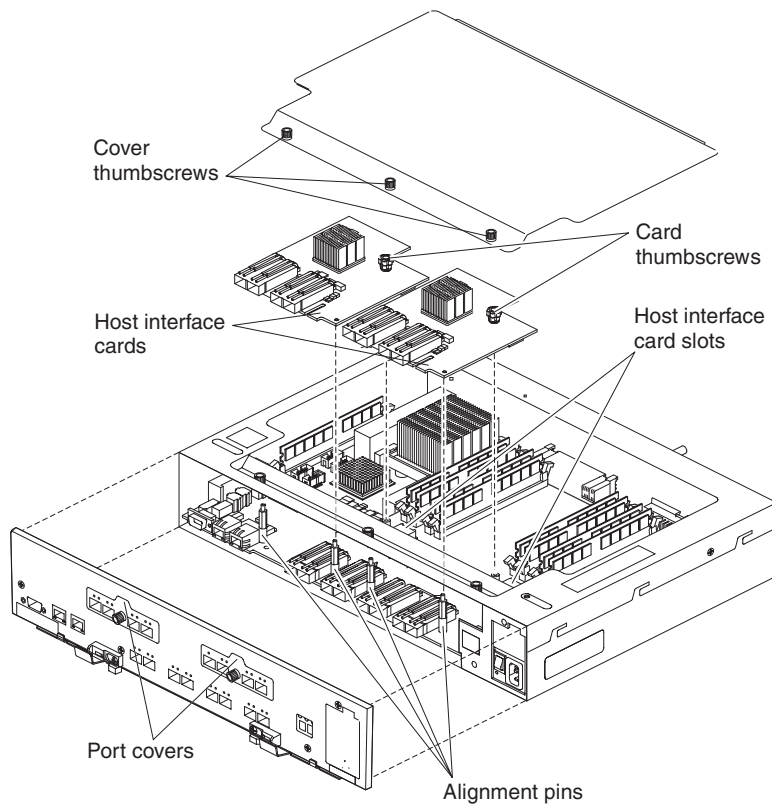
Important: You must power down the storage subsystem when you add or replace host interface cards in both controllers at the same time. If you are adding a new host interface card to an existing controller or replacing an existing host interface card with a different type of host interface card, schedule down time to service the storage subsystem.

9. Determine your next step:
 - If you are replacing a failed host interface card, turn off the power switch on the controller that you are going to remove; then, wait until all of the LEDs on the controller are unlit before you proceed to Step 10.
 - If you are installing a new host interface card in an existing controller or replacing an existing host interface card with a different type of host interface card in an existing controller, turn off the power switches on both controllers; then, wait until all of the LEDs on the controller are unlit before you proceed to Step 10.
10. Unplug the power cord from the controller and set the power cord aside.
11. Disconnect all of the host interface cables from the controller.
12. Disconnect all of the drive interface cables from the controller.
13. Complete the following steps to remove the controller:
 - a. Unlock and rotate the release handles out to release the controller.
 - b. Using the release handles and then your hands, pull the controller out of the controller tray.



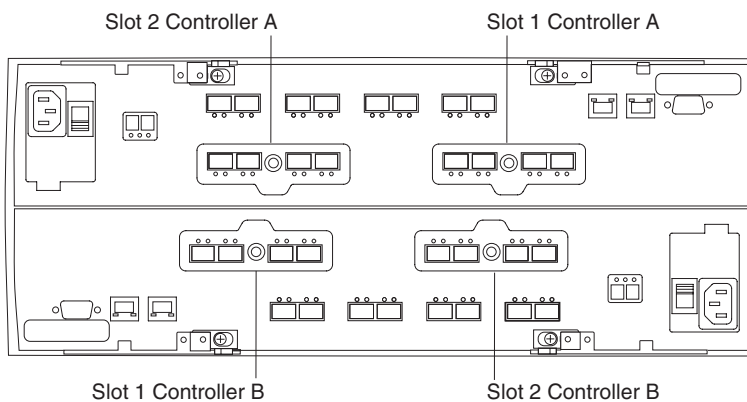
14. Set the controller on a flat, static-free surface with the release handles down and the host interface ports up.

15. Loosen the three thumbscrews that secure the top cover to the controller; then, remove the top cover.



16. Determine your next step:
- If you are replacing a failed host interface card with a functioning host interface card or changing an existing functioning host interface card with one of another type (such as replacing a 4 Gbps host interface card with an 8 Gbps host interface card), continue with Step 17.
 - If you are installing a new host interface card in an empty host interface card slot, go to Step 20 on page 7.
17. Locate the host interface card that you want to replace.

Attention: If you are replacing an existing host interface card with a different type of host interface card, record the host interface card slot of the card you replaced. You must replace the host interface card that is in the same host interface slot of the other controller in the storage subsystem.

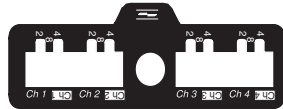
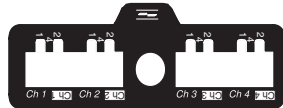


18. Loosen the host interface card thumbscrew that secures the card to the controller card; then, gently lift the host interface card to remove its pins from the connector on the controller card.

Note: The connector is located on the corner of the host interface card, next to the thumbscrew. Note how the card fits against the two guide posts, which help align the connecting hardware.

19. Place the host interface card that you removed on a static-free surface.
20. Complete the following steps to install the host interface card:
 - a. Use the thumbscrew to remove the port cover from the host interface slot; then, store the port cover in a safe place. You will reinstall it in Step 22.
 - b. Align the new host interface card with the guide posts.
 - c. Gently push down on the connector to seat the pins into the connector socket.
21. Tighten the thumbscrew to fasten the host interface card securely to the controller card. Do not overtighten the thumbscrew.
22. Determine your next step:
 - If you installed a new host interface card, look in the option kit for a new port cover label (see Table 3); then, install the label on the front of the host interface port cover.
 - If you replaced a failed host interface card, install the host interface card port cover that you removed in Step 20a.

Table 3. Host interface port covers

Quad 8 Gbps port cover label:	
Quad 4 Gbps port cover label:	
1 Gbps iSCSI port cover label:	
10 Gbps iSCSI port cover label:	

23. Replace the controller top cover; then, tighten the three thumbscrews to secure the cover on the controller.
24. Slide the controller all the way into the tray; then, rotate the release handles inward to lock the controller in place.
25. Reconnect all of the host interface cables to the appropriate host interface ports.

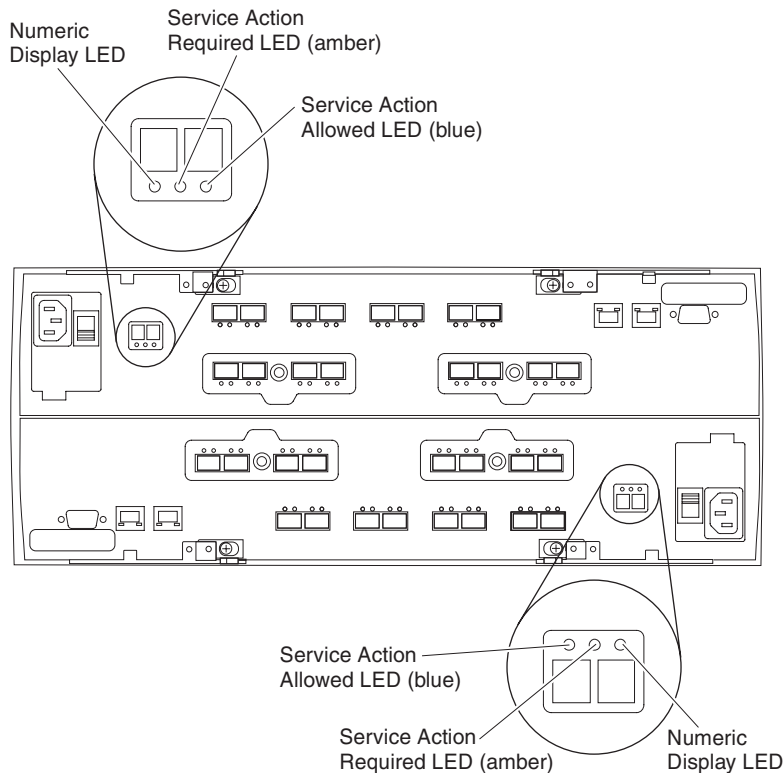
Note: If you installed a new host interface card in an empty host interface card slot or replaced an existing host interface card with a different type of host interface card, you might need to use a different type of cable to connect the ports on the card to the server host bus adapters or switches.

26. Reconnect all of the drive interface cables from the storage expansion enclosure ESMs to the controller.

Note: Make sure that you connect the host interface cables to the appropriate host interface ports and the drive interface cables to the appropriate drive interface ports. Incorrectly cabling host interface cables to drive interface ports and drive interface cables to host interface ports can cause problems when you restart the controller after you install it in the chassis.

27. Determine your next step:
 - If you replaced a failed host interface card, continue with Step 28 on page 8.

- If you installed a new host interface card in an empty host interface card slot or replaced an existing host interface card with a different type of host interface card, repeat Step 7 on page 5 through Step 26 on page 7 to replace the host interface card in the same host interface card slot of the other controller in the storage subsystem; then, go to Step 28.
28. Plug in the controller power cords.
 29. Turn on the controller power switches.
 30. Look at the LEDs on each controller to verify that the controller is rebooting correctly.



The LEDs come on and go off intermittently for approximately 60 seconds (possibly longer) and the Numeric Display LED flashes various codes. After the Numeric Display LED displays a number that matches the previously recorded enclosure IDs, you are able to discover the controller through the DS Storage Manager software.

After the controller completes the boot process, a number appears in the Numeric Display LED. This number is the enclosure ID of the controller, and it should match the enclosure ID in the Numeric Display LED on the other (non-replaced) controller. If the numbers (enclosure IDs) are different, refer to the *DS5000 Installation, User's, and Maintenance Guide* for troubleshooting information.

31. Look at the Service Action Required LED on the controller, and look at all of the controller tray Service Action Required LEDs. Based on the LED status, determine your next step:
 - All of the Service Action Required LEDs are off and the Subsystem Management window indicates an Optimal status – Go to Step 34 on page 9.
 - Any of the controller tray Service Action Required LEDs are on – Make sure that the controller is installed correctly. Reinstall the controller, if necessary; then, go to Step 32.
32. Open the DS Storage Manager client and make sure that the storage subsystem is in the Optimal state. Redistribute LUNs, if necessary. If your storage subsystem does not have an Optimal status, click the Recovery Guru toolbar button in the Subsystem Management window to determine if any other actions are required.
33. Did this action correct the problem?
 - Yes – Go to Step 34 on page 9.
 - No – If the problem remains, contact IBM Support.

34. Remove the antistatic protection.
35. Use the DS Storage Manager client to create, save, and print a new storage subsystem profile as well as collect and save all support data.

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Warranty information

IBM Warranty Information

Machine Type(s)	Country of Purchase	Warranty Period (Years)	Type of Warranty Service*	Service Level*
IBM Host Interface Card	Worldwide	1	1	1

Types of Warranty Service: 1) Customer Replaceable Unit (CRU); 5) CRU and On-site; 6) CRU and Courier or Depot; 7) CRU and Customer Carry-in or Mail-in; 8) CRU and Machine Exchange.

Service Levels: 1) Next Business Day (NBD), 9x5; 2) Same Business Day (SBD), 9x5; 3) Same Day, 24x7.

* See "Type of Warranty Service" and "Service Levels" in the *IBM Statement of Limited Warranty* for explanations of warranty service types and service levels.

You can obtain a copy of the *IBM Statement of Limited Warranty* for this product from the IBM Web site at http://www.ibm.com/servers/support/machine_warranties/. The Statement of Limited Warranty is available on this site in 17 languages. The table above provides the product-specific information for "Part 3 - Warranty Information" of the Statement of Limited Warranty.

You can also obtain a copy of the Statement of Limited Warranty from your IBM Sales Representative or your IBM reseller. For IBM in Canada or the United States, call 1-800-IBM-SERV (or 1-800-426-7378). For IBM in the European Union (EU), Asia Pacific, and Latin America countries, contact IBM in that country or visit the IBM Directory of Worldwide Contacts at the following IBM Internet website: <http://www.ibm.com/planetwide/>.

Informace o záruce IBM

Typ stroje (strojů)	Země nákupu	Záruční doba (roky)	Typ záručního servisu *	Servisní úroveň *
IBM Host Interface Card	Celosvětově	1	1	1

Typy záručního servisu: 1) CRU (Customer Replaceable Unit); 5) CRU and On-site; 6) CRU and Courier or Depot; 7) CRU and Customer Carry-in or Mail-in; 8) CRU and Machine Exchange.

Servisní úroveň: 1) Další pracovní den (Next Business Day, NBD), 9x5; 2) Stejný pracovní den (Same Business Day, SBD), 9x5; 3) Stejný den (Same Day), 24x7.

* Vysvětlení termínů "Typ záručního servisu" a "Servisní úroveň" najdete v dokumentu *Prohlášení o omezené záruce*.

Dokument *Prohlášení o omezené záruce* pro tento produkt získáte na webové stránce IBM http://www.ibm.com/servers/support/machine_warranties/. Dokument *Prohlášení o omezené záruce* je k dispozici v 17 jazykových verzích. Ve výše uvedené tabulce najdete informace specifické pro daný produkt, které se vztahují k části "Část 3 - Informace o záruce" v dokumentu *Prohlášení o omezené záruce*.

Dokument *Prohlášení o omezené záruce* můžete získat také od vašeho zástupce IBM nebo prodejce IBM. V Kanadě nebo ve Spojených státech volejte 1-800-IBM-SERV (nebo 1-800-426-7378). V zemích Evropské unie (EU), v zemích Asie a Pacifické oblasti a v zemích Latinské Ameriky kontaktujte IBM v dané zemi nebo navštivte adresář IBM celosvětových kontaktů na těchto webových stránkách IBM: <http://www.ibm.com/planetwide/>.

IBM 保修信息

机器类型	购买地所在国家或地区	保修期 (年)	保修服务类型*	服务级别*
IBM Host Interface Card	全球	1	1	1

保修服务类型：1) 客户可更换部件 (CRU)；5) CRU 和现场服务；6) CRU 和专人取送或仓库维修；7) CRU 和客户送修或邮寄送修；8) CRU 和机器更换服务。

服务级别：1) 下一个工作日 (NBD)，9x5；2) 同一个工作日 (SBD)，9x5；3) 当天，24x7。

* 请参阅 *IBM 有限保证声明* 中的“保修服务类型”和“服务级别”，获取保修服务类型和服务级别的说明。

您还可以从以下 IBM Web 站点获得 *IBM 有限保证声明* 的副本：

http://www.ibm.com/servers/support/machine_warranties/。该站点提供 17 种语言的有限保证声明。

上表提供该有限保证声明中“第三部分 — 保修信息”的特定于产品的信息。

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要联系欧盟 (EU)、亚太地区以及拉丁美洲国家或地区的 IBM 分支机构，请与所在国家或地区的 IBM 办事处联系或访问以下 IBM 网站：<http://www.ibm.com/planetwide/>。

IBM 保證資訊

機型	採購國家或地區	保固期間 (年)	保固服務類型*	服務等級*
IBM Host Interface Card	全球	1	1	1

保固服務類型：1) 客戶可自行更換組件 (CRU)；5) CRU 及站上；6) CRU 及快遞或維修站；7) CRU 及客戶親自送件或郵寄送件；8) CRU 及機器交換。**服務等級：**1) 營業日隔天 (NBD)，9x5；2) 營業日當天 (SBD)，9x5；3) 當天，全年 24 小時無休。

* 請參閱「*IBM 有限保證聲明*」中的「保固服務類型」及「服務等級」，以取得保固服務類型及服務等級的說明。

您可以從 IBM 網站取得本產品的「*IBM 有限保證聲明*」：

http://www.ibm.com/servers/support/machine_warranties/。

此網站提供 17 種語言之「有限保證聲明」。上表提供「有限保證聲明」中「第三部分 - 保證資訊」的產品特定資訊。

您也可以向您的「IBM 業務代表」或 IBM 轉銷商索取「有限保證聲明」。若為加拿大或美國之 IBM，請電洽：1-800-IBM-SERV（或 1-800-426-7378）。如需歐盟 (EU)、亞太地區及拉丁美洲各國之 IBM 資訊，請聯絡該國家或地區之 IBM，或造訪 IBM 網站上的 IBM Directory of Worldwide Contacts：<http://www.ibm.com/planetwide/>。

Informations relatives à la garantie IBM

Type(s) de machine	Pays d'acquisition	Période de garantie (en années)	Type de service prévu par la garantie*	Niveau de service*
IBM Host Interface Card	Monde	1	1	1

Types de garantie : 1) Unité remplaçable par l'utilisateur (CRU) ; 5) CRU et Service sur site ; 6) CRU et Service de collecte ou de dépôt ; 7) CRU et Service de livraison ou d'expédition par le client ; 8) CRU et Service de remplacement de Machine.

Niveaux de service : 1) Jour ouvré suivant (NBD), 9x5 ; 2) Même jour ouvré (SBD), 9x5 ; 3) Même jour, 24x7.

* Pour plus d'informations sur les types de garantie et les niveaux de service, voir "Type de garantie" et "Niveaux de service" dans la Déclaration de Garantie IBM.

Pour vous procurer un exemplaire de la Déclaration de Garantie IBM pour ce produit, rendez-vous sur le site Web d'IBM à l'adresse : http://www.ibm.com/servers/support/machine_warranties/. La Déclaration de Garantie est disponible sur ce site dans 17 langues. Le tableau ci-dessus fournit les informations spécifiques au produit pour le "Chapitre 3 : Informations relatives à la Garantie" de la Déclaration de Garantie.

Pour vous procurer un exemplaire de la Déclaration de Garantie, contactez votre ingénieur commercial IBM ou votre revendeur IBM. Au Canada ou aux Etats-Unis, appelez le 1-800-IBM-SERV (ou 1-800-426-7378). Dans les pays de l'Union européenne (UE), de la zone Asie-Pacifique et d'Amérique latine, prenez contact avec IBM dans le pays où vous résidez ou visitez le site d'IBM Directory of Worldwide Contacts, à l'adresse suivante : <http://www.ibm.com/planetwide/fr/>.

Informationen zum Herstellerservice von IBM

Maschinen-typ(en)	Land des Erwerbs	Zeitraum des Herstellerservice (Jahre)	Art des Herstellerservice*	Service-Level*
IBM Host Interface Card	Weltweit	1	1	1

Art des Herstellerservice: 1) CRU-Service; 5) CRU-Service und Service vor Ort; 6) CRU-Service und Kurier- oder Aufbewahrungsservice; 7) CRU-Service und Anlieferung durch den Kunden oder Versand; 8) CRU-Service und Maschinenaustauschservice.

Service-Levels: 1) Am nächsten Arbeitstag (NBD), 9x5; 2) Am selben Arbeitstag (SBD), 9x5; 3) Am selben Tag, 24x7.

* Unter "Art des Herstellerservice" und "Service-Levels" im Dokument "Freiwilliger Herstellerservice" werden die verschiedenen Arten des Herstellerservice und die Service-Levels näher erläutert.

Ein Exemplar des Dokuments "Freiwilliger Herstellerservice" für dieses Produkt kann über die IBM Website http://www.ibm.com/servers/support/machine_warranties/ heruntergeladen werden. Das Dokument steht auf dieser Site in 17 Sprachen zur Verfügung. Die obige Tabelle enthält die produkt-spezifischen Informationen für "Teil 3 - Informationen zum Herstellerservice".

Das Dokument "Freiwilliger Herstellerservice" ist auch beim zuständigen IBM Vertriebsbeauftragten oder IBM Reseller erhältlich. In Kanada und den Vereinigten Staaten von Amerika lautet die Telefonnummer des IBM Service wie folgt: 1-800-IBM-SERV (oder 1-800-426-7378). In den Ländern der Europäischen Union (EU), des asiatisch-pazifischen Raums und Lateinamerikas sollte sich der Kunde direkt an IBM vor Ort wenden oder die Kontaktinformationen im IBM Directory of Worldwide Contacts auf der folgenden IBM Internet-Website nachschlagen: <http://www.ibm.com/planetwide/>.

IBM - Πληροφορίες σχετικά με την Εγγύηση

Τύπος(-οι) Μηχανής	Χώρα Αγοράς	Περίοδος Εγγύησης (Έτη)	Είδος Υπηρεσιών Εγγύησης*	Επίπεδο των Υπηρεσιών*
IBM Host Interface Card	Παγκοσμίως	1	1	1

Είδη Υπηρεσιών Εγγύησης: 1) Υπηρεσίες Μονάδων Αντικαθιστώμενων από τον Πελάτη ("μονάδες CRU"), 5) Υπηρεσίες CRU και Επί Τόπου Υπηρεσίες, 6) Υπηρεσίες CRU και Υπηρεσίες Courier ή Depot, 7) Υπηρεσίες CRU και Υπηρεσίες με Μεταφορά ή Αποστολή από τον Πελάτη, 8) Υπηρεσίες CRU και Ανταλλαγής Μηχανής.

Επίπεδα των Υπηρεσιών: 1) Επόμενη Εργάσιμη Ημέρα (Next Business Day - NBD), 9x5, 2) Ίδια Εργάσιμη Ημέρα (Same Business Day - SBD), 9x5, 3) Ίδια Ημέρα, 24x7.

* Ανατρέξτε στις ενότητες "Είδη Υπηρεσιών Εγγύησης" και "Επίπεδα των Υπηρεσιών" στη Δήλωση Περιορισμένης Εγγύησης της IBM για μια επεξήγηση των διαφόρων ειδών υπηρεσιών εγγύησης και επιπέδων υπηρεσιών.

Μπορείτε να αποκτήσετε ένα αντίγραφο της Δήλωσης Περιορισμένης Εγγύησης της IBM για αυτό το προϊόν από την ακόλουθη ιστοσελίδα της IBM στο Internet:

http://www.ibm.com/servers/support/machine_warranties/.

Η Δήλωση Περιορισμένης Εγγύησης της IBM διατίθεται σε αυτή την ιστοσελίδα σε 17 γλώσσες.

Στον παραπάνω πίνακα παρέχονται οι πληροφορίες για το συγκεκριμένο προϊόν για το "Μέρος 3 - Πληροφορίες σχετικά με την Εγγύηση" της Δήλωσης Περιορισμένης Εγγύησης.

Μπορείτε επίσης να αποκτήσετε ένα αντίγραφο της Δήλωσης Περιορισμένης Εγγύησης από τον Εκπρόσωπο Πωλήσεων της IBM ή το μεταπωλητή προϊόντων της IBM. Για να επικοινωνήσετε με την IBM στον Καναδά ή στις Ηνωμένες Πολιτείες, καλέστε τον αριθμό 1-800-IBM-SERV (ή 1-800-426-7378). Για να επικοινωνήσετε με την IBM στην Ευρωπαϊκή Ένωση (ΕΕ), στην Ασία/Ειρηνικός και στις χώρες της Λατινικής Αμερικής, απευθυνθείτε στα τοπικά γραφεία της IBM στη συγκεκριμένη χώρα ή επισκεφθείτε τον κατάλογο "IBM Directory of Worldwide Contacts" στην ακόλουθη ιστοσελίδα της IBM στο Internet: <http://www.ibm.com/planetwide/>.

Informazioni di Garanzia di IBM

Tipi di macchine	Paese di acquisto	Periodo di garanzia (anni)	Tipo di garanzia Servizio*	Livello di servizio*
IBM Host Interface Card	Worldwide	1	1	1

Tipi di garanzia di servizio: 1) Customer Replaceable Unit (CRU); 5) CRU e On-site; 6) CRU e Courier o Depot; 7) CRU e Customer Carry-in o Mail-in; 8) CRU e Machine Exchange.

Livelli di servizio: 1) Next Business Day (NBD), 9x5; 2) Same Business Day (SBD), 9x5; 3) Same Day, 24x7.

* Fare riferimento a “Tipo di servizio di garanzia” e a “Livelli di servizio” nell’*IBM Statement of Limited Warranty* per informazioni sui tipi di servizi di garanzia e sui livelli di servizio.

È possibile ottenere una copia dell’*IBM Statement of Limited Warranty* per questo prodotto dal sito Web IBM all’indirizzo http://www.ibm.com/servers/support/machine_warranties/. La Statement of Limited Warranty è disponibile su questo sito in 17 lingue. La tabella precedente fornisce le informazioni specifiche del prodotto per “Parte 3 - Informazioni sulla garanzia” della Statement of Limited Warranty.

È inoltre possibile ottenere una copia della Statement of Limited Warranty dal rappresentante IBM o dal rivenditore IBM. Per IBM in Canada o negli Stati Uniti, contattare 1-800-IBM-SERV (o 1-800-426-7378). Per IBM in Europa (EU), Asia Pacifico e America latina, contattare IBM in quel paese oppure visitare la IBM Directory of Worldwide Contacts sul sito Web IBM all’indirizzo: <http://www.ibm.com/planetwide/>.

IBM 保証情報

マシン・タイプ	購入した国	保証期間 (年)	保証サービスの種類	サービス・レベル*
IBM Host Interface Card	世界共通	1	1	1

保証サービスの種類: 1) カスタマー交換可能ユニット (CRU); 5) CRU と オンサイト・サービス; 6) CRU と クーリエ・サービス; 7) CRU と 持ち込みまたは郵送サービス; 8) CRU と 機械交換サービス
サービス・レベル: 1) Next Business Day (NBD)、9 時間×週 5 日; 2) Same Business Day (SBD)、9 時間×週 5 日; 3) Same Day、24 時間×週 7 日

* 保証サービスの種類とサービス・レベルの説明については、「IBM 保証の内容と制限」の「保証サービスの種類」と「保証サービスのサービス・レベル」を参照してください。

本製品向けの「IBM 保証の内容と制限」のコピーは、IBM Web サイト (http://www.ibm.com/servers/support/machine_warranties/) から入手可能です。上記のサイトでは、「保証の内容と制限」が、17 カ国語で表示されます。上の表では、「保証の内容と制限」の『第 3 章 - 保証情報』にある製品固有の情報を示しています。

「保証の内容と制限」のコピーは、IBM 営業担当員あるいは販売店から入手いただくことも可能です。カナダまたは米国では、1-800-IBM-SERV (または 1-800-426-7378) に電話してください。EU 諸国、アジア太平洋諸国、およびラテンアメリカ諸国の IBM の場合、それぞれの国の IBM にお問い合わせいただくか、または次の IBM インターネット Web サイトにある IBM Directory of Worldwide Contacts をご覧ください。 <http://www.ibm.com/planetwide/>

IBM 보증 정보

시스템 유형	구매 국가	보증 기간(년)	보증 서비스 유형*	서비스 레벨*
IBM Host Interface Card	전세계	1	1	1

보증 서비스 유형: 1) 고객 교체 가능 장치(CRU) 5) CRU 및 현장 방문 6) CRU 및 특급 배송 또는 디포(Depot) 7) CRU 및 고객 직접 운송 또는 택배 접수 8) CRU 및 시스템 교체
서비스 레벨: 1) 익영업일(NBD), 9x5 2) 당일 영업일(SBD), 9x5 3) 당일, 24x7

* 보증 서비스 유형 및 서비스 레벨에 대한 자세한 내용은 IBM 제한 보증서의 "보증 서비스 유형"의 "서비스 레벨"을 참조하십시오.

이 제품에 대한 IBM 제한 보증서는 IBM 웹 사이트

(http://www.ibm.com/servers/support/machine_warranties/)에서 얻을 수 있습니다.

제한 보증서는 이 사이트에서 17개국 언어로 제공됩니다. 위 표는 제한 보증서의 "3부 - 보증 정보"에 대한 제품별 정보를 제공합니다.

IBM 영업 대표 또는 IBM 리셀러를 통해 제한 보증서를 얻을 수도 있습니다. 캐나다 또는 미국 IBM의 경우 1-800-IBM-SERV 또는 1-800-426-7378로 문의하십시오. 유럽 연합(EU), 아시아 태평양 및 라틴 아메리카 국가의 경우 해당 국가의 IBM에 문의하거나, 다음 IBM 인터넷 웹 사이트에서 IBM 전세계 연락처를 방문하십시오. <http://www.ibm.com/planetwide/>

IBM garantijos informacija

Įrenginio tipas (-ai)	Pirkimo šalis	Garantijos laikotarpis (metais)	Garantinės priežiūros paslaugos tipas*	Paslaugos lygis*
IBM Host Interface Card	Pasaulinis	1	1	1

Garantinės priežiūros paslaugų tipai: 1) Kliento keičiamos dalys (CRU); 5) CRU ir priežiūros paslauga, teikiama vietoje; 6) CRU ir kurjerio arba saugojimo paslauga; 7) CRU ir kliento atgabenimo ar atsuntimo paslauga; 8) CRU ir Įrenginio keitimo paslauga.

Paslaugos lygiai: 1) Kitą darbo dieną (NBD), 9x5; 2) Tą pačią darbo dieną (SBD), 9x5; 3) Tą pačią dieną, 24x7.

* Paaiškinimus apie garantinės priežiūros paslaugos tipus ir paslaugų lygius žr. IBM ribotos garantijos pareiškimo skyriuose „Garantinės priežiūros paslaugos tipas“ ir „Paslaugos lygiai“.

IBM ribotos garantijos pareiškimo kopiją galite įsigyti IBM žiniatinklio svetainėje

http://www.ibm.com/servers/support/machine_warranties/. Ribotos garantijos pareiškimas svetainėje pateikiamas 17 kalbų. Aukščiau esančioje lentelėje pateikiama Ribotos garantijos pareiškimo skyriaus „3 dalis – garantijos informacija“ specifinė produkto informacija.

Ribotos garantijos pareiškimo kopiją taip pat galite įsigyti iš IBM pardavimo atstovo arba

IBM perpardavėjo. Kanadoje arba Jungtinėse Amerikos Valstijose IBM skambinkite 1-800-IBM-SERV (arba 1-800-426-7378). Europos Sąjungos (ES), Azijos ir Ramiojo vandenyno regiono bei Lotynų Amerikos šalyse susisiekite su tos šalies IBM padaliniu arba apsilankykite IBM pasaulio kontaktų kataloge, kuris yra šioje IBM interneto svetainėje: <http://www.ibm.com/planetwide/>.

Informacje gwarancyjne IBM

Typ Maszyny	Kraj zakupu	Okres gwarancyjny (w latach)	Typ serwisu gwarancyjnego*	Poziom usług*
IBM Host Interface Card	Cały świat	1	1	1

Typy serwisu gwarancyjnego: 1) Części wymieniane przez Klienta (Customer Replaceable Units, zwane dalej "Częściami CRU"); 5) Części CRU wymieniane na miejscu u Klienta; 6) Części CRU i serwis wysyłkowy lub kurierski; 7) Części CRU i serwis z wysyłką lub transportem przez Klienta; 8) Części CRU i wymiana maszyny.

Poziomy świadczenia serwisu: 1) następny dzień roboczy, 9x5; 2) ten sam dzień roboczy, 9x5; 3) ten sam dzień, 24x7.

* Typy serwisu gwarancyjnego oraz poziomy usług zostały wyjaśnione w paragrafach:

"Typ serwisu gwarancyjnego" i "Poziomy usług" Warunków Ograniczonej Gwarancji IBM.

Egzemplarz Warunków Ograniczonej Gwarancji dla tego produktu można pobrać z serwisu WWW IBM, znajdującego się pod adresem http://www.ibm.com/servers/support/machine_warranties/. Warunki Ograniczonej Gwarancji są tam dostępne w 17 językach. Powyższa tabela zawiera informacje specyficzne dla produktu, uzupełniające "Część 3 - Informacje gwarancyjne" Warunków Ograniczonej Gwarancji.

Egzemplarz Warunków Ograniczonej Gwarancji można otrzymać od przedstawiciela handlowego IBM lub reselera IBM. W Kanadzie i w Stanach Zjednoczonych należy zadzwonić pod numer 1-800-IBM-SERV (1-800-426-7378). W krajach Unii Europejskiej, Azji Wschodniej i Ameryki Łacińskiej należy skontaktować się z oddziałem IBM w danym kraju lub skorzystać z wykazu danych kontaktowych IBM na świecie (IBM Directory of Worldwide Contacts) pod adresem: <http://www.ibm.com/planetwide/>.

Informações sobre a Garantia da IBM

Tipo(s) de Máquina	País de Aquisição	Período de Garantia (Anos)	Tipo de Serviço de Garantia*	Nível de Serviço*
IBM Host Interface Card	Todo o mundo	1	1	1

Tipos de Serviço de Garantia: 1) Unidade Substituível pelo Cliente (CRU); 5) CRU e no Local (On-site); 6) CRU e Correio Expresso ou Recolha; 7) CRU e Entrega ou Envio para a Entidade Reparadora; 8) CRU e Troca de Máquinas.

Níveis de Serviço: 1) No dia útil seguinte (DUS), 9x5; 2) No mesmo dia útil (MDU), 9x5; 3) No mesmo dia, 24x7.

* Para obter uma explicação dos tipos de serviço de garantia e dos níveis de serviço, consulte "Tipo de Serviço de Garantia" e "Níveis de Serviço" na *Declaração de Garantia Limitada IBM*.

Poderá obter uma cópia da *Declaração de Garantia Limitada IBM* referente a este produto no sítio da Web da IBM em http://www.ibm.com/servers/support/machine_warranties/. A Declaração de Garantia Limitada está disponível neste sítio em 17 idiomas. A tabela anterior fornece as informações específicas sobre o produto para a "Parte 3 - Informações Sobre a Garantia" da Declaração de Garantia Limitada.

Poderá igualmente obter uma cópia da Declaração de Garantia Limitada junto do seu Representante de Vendas ou revendedor IBM. Para contactar a IBM no Canadá ou nos E.U.A., ligue 1-800-IBM-SERV (ou 1-800-426-7378). Para contactar a IBM na União Europeia (UE), Ásia e Pacífico, e países da América Latina, contacte a IBM do respectivo país ou visite o Directório IBM de Contactos Mundiais no seguinte sítio da Web da IBM: <http://www.ibm.com/planetwide/>.

Гарантийная информация IBM

Тип Машины	Страна приобретения	Гарантийный срок (в годах)	Тип гарантийного обслуживания*	Уровень обслуживания*
IBM Host Interface Card	Все страны	1	1	1

Типы Гарантийного Обслуживания: 1) Блоки, Заменяемые Заказчиком (“CRU”); 5) CRU и Обслуживание на Месте; 6) CRU и Курьерские или Складские Услуги; 7) CRU и Обслуживание при Доставке или Пересылке по Почте Силами Заказчика; 8) CRU и Обслуживание с Заменой Машины.

Уровни обслуживания: 1) На следующий рабочий день (Next Business Day - NBD), 9x5; 2) В тот же рабочий день (Same Business Day - SBD), 9x5; 3) В тот же день (Same Day - SD), 24x7.

* Описание типов и уровней гарантийного обслуживания приведено в разделах “Типы Гарантийного Обслуживания” и “Уровни обслуживания” *Положения IBM об Ограниченной Гарантии*.

Вы можете получить копию *Положения IBM об Ограниченной Гарантии* для данного продукта с Web-сайта http://www.ibm.com/servers/support/machine_warranties/. На этом сайте приведены версии Положения IBM об Ограниченной Гарантии на 17 языках. В вышеприведенной таблице содержится информация раздела “Часть 3 - Информация о Гарантии” Положения об Ограниченной Гарантии, относящаяся к этому продукту.

Копию Положения об Ограниченной Гарантии могут также предоставить торговый представитель или реселлер IBM. В Канаде или в США звоните в IBM по телефону 1-800-IBM-SERV (или 1-800-426-7378). Чтобы связаться с IBM в странах Европейского Союза (ЕС), Азии и Тихоокеанского бассейна, а также Латинской Америки, обращайтесь в офисы IBM в этих странах или посетите Международный каталог контактов IBM (IBM Directory of Worldwide Contacts) на следующем Web-сайте IBM: <http://www.ibm.com/planetwide/>.

IBM-ove garancijske informacije

Tipi računalnikov	Država nabave	Garancijski rok (v letih)	Vrsta garancijskega servisa*	Raven servisa*
IBM Host Interface Card	Po vsem svetu	1	1	1

Vrste garancijskega servisa: 1) Enota, ki jo zamenja stranka (CRU); 5) CRU in pri stranki; 6) CRU in kurirska služba ali skladišče; 7) CRU in strankina dostava ali pošiljanje po pošti; 8) CRU in zamenjava računalnika.

Ravni servisa: 1) Naslednji poslovni dan (NBD), 9x5; 2) Isti poslovni dan (SBD), 9x5; 3) Isti dan 24x7.

* Razlage vrst garancijskega servisa in ravni servisa boste našli v razdelkih "Vrsta garancijskega servisa" in "Ravni servisa" v IBM-ovi izjavi o omejeni garanciji.

Naročnik lahko pridobi kopijo IBM-ove izjave o omejeni garanciji za ta izdelek na IBM-ovem spletnem mestu na naslovu http://www.ibm.com/servers/support/machine_warranties/. Izjava o omejeni garanciji je na tem spletnem mestu na voljo v 17 jezikih. Zgornja tabela podaja informacije, specifične za izdelek, za "3. del - Garancijske informacije" iz izjave o omejeni garanciji.

Naročnik lahko pridobi kopijo izjave o omejeni garanciji tudi pri svojem IBM-ovem prodajnem predstavniku ali IBM-ovem prodajalcu. Za IBM v Kanadi ali v Združenih državah Amerike naj stranke pokličejo na številko 1-800-IBM-SERV (ali 1-800-426-7378). Za IBM v Evropski uniji (EU), v pacifiškem delu Azije in v državah Latinske Amerike naj se stranke obrnejo na IBM v tej državi ali pa naj obiščejo IBM-ov imenik svetovnih stikov na naslednjem IBM-ovem spletnem mestu: <http://www.ibm.com/planetwide/>.

Información de garantía de IBM

Tipo(s) de máquina	País de compra	Periodo de garantía (años)	Tipo de servicio de garantía*	Nivel de servicio*
IBM Host Interface Card	Todo el mundo	1	1	1

Tipos de servicios de garantía: 1) Unidad reemplazable por el cliente (CRU); 5) CRU y servicio in situ; 6) CRU y servicio de mensajero o depósito; 7) CRU y servicios centralizados; 8) CRU e intercambio de máquina.

Niveles de servicio: 1) Siguiendo día laborable (NBD), 9x5; 2) Mismo día laborable (SBD), 9x5; 3) Mismo día, 24x7.

* Consulte "Tipos de servicios de garantía" y "Niveles de servicio" en la *Declaración de garantía limitada de IBM* para consultar las explicaciones de los tipos de servicios de garantía y niveles de servicio.

Puede obtener una copia de la *Declaración de garantía limitada de IBM* de este producto en el sitio web http://www.ibm.com/servers/support/machine_warranties/. La Declaración de garantía limitada está disponible en este sitio en 17 idiomas. La tabla anterior proporciona información específica del producto para la "Parte 3 - Información sobre la garantía" de la Declaración de garantía limitada.

También puede obtener una copia de la Declaración de garantía limitada a través de su representante comercial de IBM o distribuidor de IBM. Para IBM de Canadá o Estados Unidos, llame al 1-800-IBM-SERV (o 1-800-426-7378). Para IBM de la Unión Europea (UE), Asia-Pacífico y América Latina, póngase en contacto con IBM del país o visite el Directorio de contacto IBM en el mundo en el siguiente sitio web de IBM: <http://www.ibm.com/planetwide/>.

IBM Garanti Bilgileri

Makine Tip(ler)i	Satın Alınan Ülke	Garanti Süresi (Yıl)	Garanti Hizmeti Tipi*	Hizmet Seviyesi*
IBM Host Interface Card	Dünya çapında	1	1	1

Garanti Hizmeti Tipleri: 1) Müşteri Tarafından Değiştirilebilir Birim (CRU); 5) CRU ve Müşteri Yerinde Teslim; 6) CRU ve Kurye veya Depo; 7) CRU ve Müşteri Tarafından Teslim veya Posta ile Teslim; 8) CRU ve Makine Değiştirme Hizmeti.

Hizmet Seviyeleri: 1) Sonraki İşgünü (NBD), 9x5; 2) Aynı İşgünü İçinde (SBD), 9x5; 3) Aynı Gün, 24x7.

* Garanti hizmeti tiplerine ve hizmet seviyelerine ilişkin ayrıntılı bilgi almak için *IBM Sınırlı Garanti Bildirimi* içinde yer alan “Garanti Hizmeti Tipi” ve “Hizmet Seviyeleri” başlıklı bölümlere bakın.

Bu ürün için *IBM Sınırlı Garanti Bildirimi*'nin bir kopyasını aşağıda URL adresi verilen IBM Web sitesinden de edinebilirsiniz: http://www.ibm.com/servers/support/machine_warranties/. Bu sitede 17 farklı dilde Sınırlı Garanti Bildirimi sağlanmaktadır. Yukarıdaki tabloda, Sınırlı Garanti Bildirimi “Bölüm 3 - Garanti Bilgileri” başlıklı bölümde yer alan ürüne özgü bilgiler bulunur.

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Environmental notices

The multilingual *IBM Systems Environmental Notices and User's Guide* is provided on a CD that came with your storage controller. This section contains additional environmental notices.

Restriction of hazardous substances

有毒有害物质或元素名称及含量标识

Toxic / Hazardous Substances and Elements Table

部件名称 (Parts)	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
ECAT 组合件 ECAT assemblies	×	○	○	○	○	○

○: 指示部件的所有均质材料中 Toxic 和 Hazardous 物质的含量均低于 SJ/T 11363-2006 中所描述的浓度限制要求。

○: indicates that the content of the toxic and hazardous substance in all the homogeneous materials of the part is below the concentration limit requirement as described in SJ/T 11363-2006.

×: 指示至少有一种部件均质材料中的 Toxic 和 Hazardous 物质的含量超过 SJ/T 11363-2006 中所描述的浓度限制要求。

×: indicates that the content of the toxic and hazardous substance in at least one homogeneous material of the part exceeds the concentration limit requirement as described in SJ/T 11363-2006.

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Environmental Protection Use Period (EPUP) Disclaimer: The number provided as the EPUP is provided solely to comply with applicable laws of the People's Republic of China. It does not create any warranties or liabilities on behalf of IBM to customer. The EPUP assumes that the product will be used under normal conditions in accordance with the IBM operating manual. Certain assemblies inside this product (for example, assemblies that contain a battery) may have an EPUP which is lower than the EPUP on this product.

Addendum to Environmental Notices and User's Guide

Restriction of hazardous substance notice for Turkey:

Çevreye İlişkin Bildirimlere ve Ürün Kullanım Kılavuzuna Ek:

Türkiye için;

Bu bildirim 30 Mayıs 2009 tarihi itibarıyla geçerlidir: Türkiye'de yayımlanan "Elektrikli ve Elektronik Eşyalarda Bazı Zararlı Maddelerin Kullanımının Sınırlandırılmasına Dair Yönetmelik" (EEE Yönetmeliği) uyarınca, 30 Mayıs 2009 tarihinden itibaren Türkiye'ye ithal edilecek IBM ürünleri "EEE Yönetmeliğine Uygun"dur".

Bu bildirim, EEE Yönetmeliğinin madde 2.(2) bendine göre kapsam dışı olan (*EEE Yönetmeliğinin yürürlüğe giriş tarihinden önce piyasaya sunulmuş olan ürünler için üretilen*) servis amaçlı yedek parçalar için uygulanmaz.

WEEE notice for Croatia:

Dodatak s Napomenama o zaštiti okoliša i Vodičem za korisnike

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U skladu s hrvatskim Pravilnikom o gospodarenju otpadnim električnim i elektroničkim uređajima i opremom, električka i elektronička oprema (EEE) se mora odvojeno skupljati i ponovno koristiti, reciklirati ili obnoviti na kraju korištenja. Simbol iz Dodatka IV ovog pravilnika označava potrebu odvojenog skupljanja za električni i elektronički otpad. Korisnici EEE s gornjom oznakom na proizvodu ne smiju nakon iskorištenja odbaciti EEE kao nerazvrstani gradski otpad, nego moraju koristiti načine koji su korisnicima dostupni za povrat, recikliranje i obnavljanje WEEE. Sudjelovanje korisnika je važno radi smanjenja mogućih EEE učinaka na okolinu i zdravlje ljudi, zbog moguće prisutnosti opasnih materijala u EEE.

Electronic emission notices

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment

generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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

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

Industry Canada 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.

European Union EMC Directive conformance statement

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

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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.

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

Germany Electromagnetic Compatibility Directive

Deutschsprachiger EU Hinweis:

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

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

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM

übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der IBM gesteckt/eingebaut werden.

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 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A: Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

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

Japan Voluntary Control Council for Interference (VCCI) Class A Statement

この装置は、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。 VCCI-A

Translation: This is a Class A product based on the standard of the VCCI Council. If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

Taiwanese Class A warning statement

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

People's Republic of China Class A warning statement

中华人民共和国“A类”警告声明

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。

Korea Communications Commission (KCC) Class A Statement

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

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