IBM XIV Storage System: designed to provide grid-based, enterprise-class storage capabilities

Table of contents

At a glance

The IBM® XIV Storage System, a new option in enterprise-class storage from IBM, includes:

- The IBM XIV Storage System Model A14
- A grid-based array of storage devices
- Support for a quantity of 180 1 TB Serial ATA (SATA) hard disk drives; available in capacity on demand
- Twenty-four ports of 4Gb Fibre Channel host connectivity
- Six ports of 1Gb iSCSI connectivity
- Advanced functions such as synchronous remote mirroring, thin provisioning, data migration, and writeable snapshot technology

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The IBM XIV Storage System requires a corresponding software license (5639-XXA) for each entitled data or interface module.

All features and functions in this announcement are supported on the IBM XIV Storage System Model A14 with IBM XIV Storage System Software V10.0.0, or later installed.

Overview

The IBM XIV Storage System is designed to be a scalable enterprise storage system based upon a grid array of hardware components. XIV is designed to:

- Support customers requiring Fibre Channel (FC) or Internet Small Computer System Interface (iSCSI) host connectivity
- Provide a high level of consistent performance with no data hot-spots in the grid-based storage device
- High redundancy through the use of unique grid-based rebuild technology
- Provide support for 180 SATA hard drive spindles providing up to 79 TB of useable capacity
- Provide Capacity on Demand option starting at 21.2 TB raw capacity
- Support 24 x 4Gb Fibre Channel ports for host connectivity
- Support 6 x 1Gb iSCSI ports for host connectivity
- Support 120 GB of total system cache

Key prerequisites

The IBM XIV Storage System requires a corresponding software license (5639-XXA) for each entitled data or interface module.

All features and functions in this announcement are supported on the IBM XIV Storage System Model A14 with IBM XIV Storage System Software V10.0.0, or later installed.

Planned availability dates

All functions and features except Data Migration

August 15, 2008

- Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, Luxemborg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and United States

September 12, 2008

- Brazil, China, India, Russia, and South Korea

August 29, 2008

- All other countries

December 12, 2008

- Argentina, Peru, Taiwan, Ukraine, Uruguay, and Venezuela

Data Migration

October 17, 2008

- The Data Migration function will be provided by IBM to existing installations in a software installation update.

Height-Weight Limits

November 14, 2008

- Feature number 0200 (Height-Weight Limits)

Description

The IBM XIV Storage System is comprised of hardware machine type 2810 and Model A14 and the requisite software 5639-XXA.

The hardware Model A14 is designed to support enterprise-class storage requirements for FCP and iSCSI capable hosts. The base order will always include the following hardware:

- One hundred and eighty 1 TB disk drives
- Fifteen total modules:
  - Nine data modules
  - Six interface modules
- Twenty-four 4Gb FC ports for host attachment
- Six 1Gb iSCSI ports for host attachment
- Three uninterruptible power supplies
- Seventy-nine terabytes of useable capacity
- One hundred and twenty gigabytes of cache

In this release, this is the only orderable physical configuration.

A patch panel is integrated into the IBM XIV Storage System for ease of customer connectivity. Be aware that the optical cables that connect the patch panel to the rest of the device are .50 micron optical cables. Ideally, the cables that connect to this patch panel should also be .50 micron optical cables. Refer to the *Installation and Planning Guide* for more information.

You must also order the requisite IBM XIV Storage System Software for each module in the rack. Refer to the 5639-XXA for details on IBM XIV Storage System Software functionality.

There are two methods of ordering the 2810-A14. One is a fully entitled order, and the other is a Capacity on Demand (CoD) order. They are mutually exclusive of each other.

A fully entitled order always consists of six Interface Modules (1100) and nine Data Modules (1105).

A CoD order will always consist of six CoD Interface Modules (1110) and nine CoD Data Modules (1115). In addition, you must also order a minimum of four activation features (1119).

All CoD increments must be activated within a twelve-month period from the date of installation; all such activation is permanent.

Contact your IBM representative to obtain additional information regarding CoD offering contracts, terms and conditions.

Feature descriptions

- 0018 - This feature indicates that a requisite corollary AAS software order is also being placed.
- 0030 - This feature indicates that this unit is the base unit of an installation.
- 0100 - This feature indicates a customer preference for UNIX® (AIX®, HP-UX, Solaris) host attachment. This feature is for reference only and does not affect the configuration of the machine.

- 0101 - This feature indicates a customer preference for Linux® host attachment. This feature is for reference only and does not affect the configuration of the machine.
- 0102 - This feature indicates a customer preference for Windows® host attachment. This feature is for reference only and does not affect the configuration of the machine.
- 0103 - This feature indicates a customer preference for VMWare host attachment. This feature is for reference only and does not affect the configuration of the machine.
- 0200 - This optional feature ensures the maximum shipping weight of the machine does not exceed 200 kg during the initial shipment. This feature is ordered for installations where receiving a full-sized, assembled storage unit would be impractical. The unit would be delivered fully tested but partially disassembled into several easily transported subassemblies. This feature would allow racks to be safely tilted to enter doors lower than the overall unit height as well as transported on lower weight capacity elevators. At the installation site, the unit will be assembled and installed by IBM technicians. This feature will increase the machine installation time and should only be ordered if required.
- 1100 - This feature provides one interface module and twelve 1 TB SATA HDDs populated in the chassis of the module. A total of six interface modules are required for a valid order.
- 1105 - This feature provides one data module and twelve 1 TB SATA HDDs populated in the chassis of the module. A total of nine data modules are required for a valid order.
- 1110 - This feature has the same description as 1100 above, but is used to indicate a CoD order.
- 1115 - This feature has the same description as 1105 above, but is used to indicate a CoD order.
- 1119 - This feature is used to increment the licensed available capacity in a capacity on demand machine. It provides 5.27 TB of useable capacity. A minimum of four is required for an initial CoD order, and a maximum of 15 is needed to fully populate the 2810-A14. 1110 and 1115 are prerequisites.
- 3900 - This feature represents a 30 meter Ethernet cable for host attachment.
- 3910 - This feature represents a 30 meter LC/LC fibre cable for host attachment.
- 3920 - This feature represents a 30 meter LC/SC fibre cable for host attachment.
- 9000 - Maintenance module - This module is required and used for centralized administration and IP-based VPN connectivity.
- 9101 - This feature indicates that the rack will ship with a modem. The modem can be used for call-home and remote-access functionality.
- 9800 - This feature indicates that the rack will ship supporting single-phase power.
- 9801 - This is the appropriate power line cord for the United States, Canada, Latin America, and Asian Pacific countries.
- 9802 - This is the appropriate power line cord for use in the city of Chicago in the United States.
- 9803 - This is the appropriate power line cord for Europe and the Middle East.
- 9804 - This is the appropriate power line cord for Israel.

IBM storage consulting, data mobility, and implementation services

IBM has a broad array of storage consulting, data mobility, and implementation services to assist customers in the development of strategies to simplify their storage and data management environments to enable business growth and innovation. In addition, implementation and integration services are available to assist with the integration of the IBM XIV Storage System within their IT infrastructures as a part of their tactical execution of those strategies.

IBM Storage Optimization and Integration Consulting, and IBM Data Mobility Services are available from IBM Global Technology Services.

- IBM Storage Optimization and Integration Services

    http://www-935.ibm.com/services/us/index.wss/ offerfamily/gts/a1027725
- IBM Data Mobility Services

    http://www-935.ibm.com/services/us/index.wss/ offerfamily/its/a1029084

For additional information or to request these or other storage and data consulting services, visit the Storage and Data Services Web site

Post-sale, fee-based services to assist customers with the introduction of the IBM XIV Storage System into their operating environments will be available from IBM. These services include SmoothStart^{tm} planning and implementation services, snapshot replication configuration services, and upgrade and migration services.

IBM XIV Storage System SmoothStart planning and implementation services

These services are designed to provide remote planning and on-site configuration, basic skills transfer, and integration of client host systems for the IBM XIV Storage System within the customer's environment.

IBM XIV Storage System Snapshot replication configuration services

These services are designed to provide remote planning and on-site configuration, and basic skills transfer for snapshot replication copy services function of the IBM XIV Storage System within the customer's environment.

IBM XIV Storage System upgrade and migration services

These services are designed to provide remote planning and on-site migration support for IBM XIV Storage System R1 to R2 upgrades within the customer's environment.

For additional information or to request these or other custom services:

- Send an e-mail to storsvcs@us.ibm.com
- Visit the following Web site and click on "Contact now" to submit your inquiry or request

  http://www.ibm.com/systems/services/labservices/ labservices_storage.html

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

  http://www.ibm.com/able/product_accessibility/index.html

Product positioning

The IBM XIV Storage System (2810-A14) provides the hardware platform required for the IBM XIV Storage System Software. The combination of hardware and software enables a revolutionary grid-based architecture designed to provide an exceptionally easy to use, high performance, scalable, reliable enterprise disk system for UNIX, Linux, Windows, and other supported distributed open server platforms. It can provide a platform to address the need for reducing complexity while keeping pace with midrange to high-end disk capacity demands. This system is a great addition to the IBM disk storage family, core products in the IBM Information Infrastructure. It is a good fit for clients who want to be able to grow capacity without managing multiple tiers of storage to increase performance and reduce cost. These users also may want to improve their backup capabilities, as well as reduce the task load on storage administrators. The XIV system is especially well suited as a consolidated utility storage for fast growing, dynamic mixed, and emerging workloads.

Statement of general direction

IBM intends to provide best practice configuration guidance, change management, asset awareness, capacity utilization, performance trending, and operational reporting capabilities via IBM TotalStorage® Productivity Center software support for the IBM XIV Storage System.

In addition, IBM intends to provide single sign-on capabilities for many IBM devices, including the IBM XIV Storage System and storage software applications that enable the administrator to use a single set of secure credentials to authenticate across all products via a single centralized point-of-control.

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IBM plans, during the second half of 2008, to add support for XIV as a disk system managed by IBM System Storage^{tm} SAN Volume Controller. This additional support will provide connectivity for XIV systems to the very broad range of operating system environments supported by SVC.

This statement of direction is based on Tivoli's current development plans and is subject to change without prior notice.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice. Any reliance on these statements of general direction is at the relying party's sole risk and will not create liability or obligation for IBM.

Reference information

Refer to Hardware Announcement ZP08-0415, dated August 12, 2008

Product number

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Description                        Machine   Model    Feature

IBM XIV Storage System             2810      A14

Software order indicator:
- AAS SW order indicator                              0018

Base unit indicator                                   0030

Attachment indicators:
- UNIX host attachment                                0100
- Linux host attachment                               0101
- Windows host attachment                             0102
- VMware host attachment                              0103

Height-Weight limits                                  0200

Modules (1 TB disk drives):
- Interface module                                    1100
- Data module                                         1105
- CoD interface module                                1110
- CoD data module                                     1115
- CoD 5.3 TB activation                               1119

Host attachment cables (30 meter):                    3900
- Ethernet cable                                      3910
- Fibre cable (LC)                                    3920
- Fibre cable (LC/SC)

Maintenance module                                    9000

Modem                                                 9101

Power indicator:
Single-phase power                                    9800

Single-phase line cords:
- US/Canada/LA/AP line cord                           9801
- US Chicago line cord                                9802
- EMEA line cord                                      9803
- Israel line cord                                    9804
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Publications

No publications are shipped with this product.

Product publications can be viewed and downloaded online after August 15, 2008, from the IBM
XIV Storage System Information Center at

http://publib.boulder.ibm.com/infocenter/ibmxiv/r2/index.jsp

The following publications can be ordered after August 15, 2008, from the IBM Publications Center:

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Title                                        Order number

IBM XIV Storage System XCLI Guide            GC27-2213

IBM XIV Storage System Theory of Operation Guide   GC27-2214

IBM Statement of Limited Warranty - 29 Languages   Z125-4753

IBM Systems Safety Notices - 29 Languages    G229-9054
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The IBM Publications Center is at

http://publib.boulder.ibm.com/infocenter/ibmxiv/r2/index.jsp

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

http://www.ibm.com/services/

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

http://www.ibm.com/services/continuity

For details on education offerings related to specific products, visit

http://www.ibm.com/services/learning/index.html

Select your country, and then select the product as the category.

Technical information

- Russia/GOST ME01, IEC-60950-1
- IEC-60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950, and EN55024)
- CISPR 22, Class A
- FCC - Verified to comply with Part 15 of the FCC Rules (Class A) prior to product delivery

Specified operating environment

Physical specifications

```
Width:    600 mm
Depth:  1,092 mm
Height: 1,991 mm
Weight:   869 kg
```

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

Operating environment

```
Temperature:  10 to 35 degrees C
Relative humidity:  25 to 80  percent
Max wet bulb:  23 C
Thermal dissipation:  26K Btu/hour
Maximum power consumption in watts:  8.4 KW
Sound Power, LwAu = 8.4 bels
```

Hardware requirements

The 2810-A14 must have the 5639-XXA IBM XIV Storage Software for operation.

Software requirements

The 5639-XXA must have the 2810-A14 IBM XIV Storage System hardware for operation.

Planning information

Customer responsibilities

Physical configuration planning

Physical configuration planning is a customer responsibility. Your IBM XIV sales team can help you properly configure your IBM XIV Storage System order.

Installation planning

Installation planning is a customer responsibility. Installation planning and usage documentation and resources may be found at the IBM product support Web site

http://www.ibm.com/systems/support/storage/XIV

Customer documentation, safety, and warranty information for the IBM XIV Storage System and IBM XIV Storage System Software products can also be found at

http://publib.boulder.ibm.com/infocenter/ibmxiv/r2/index.jsp

Logical configuration planning and creation

Logical configuration planning and creation is a customer responsibility. Logical configuration refers to defining hosts, volumes, LUNs, mapping to hosts, Defining Event Notifications, Defining Target Connectivity, Defining Mirroring, Defining Snapshots, and all actions related to implementation of the XIV Storage System within the customer's IT environment, other than physical installation.

Creation of the initial logical configuration and all subsequent modifications to the logical configuration is a customer responsibility. The logical configuration can be created, applied, and modified using the IBM XIV GUI or XCLI. This XIV GUI provides a very easy to use, and straightforward option for accomplishing these tasks, and is the recommended method. Your IBM XIV sales team can assist you in becoming quickly familiar with the XIV GUI.

IBM SmoothStart Implementation and Configuration Services are also available for those customers who prefer to have IBM complete the initial configuration for them. Additional services are also available. Refer to the section of this announcement for more information on available services.

Cable orders

There are two types of cables available for host attachment to the XIV Storage System. Feature 3900 should be used to attach iSCSI hosts, and features 3910 and 3920 are to be used to connect hosts via fibre optic cable. All Fibre Channel connections to the XIV device should be made with 50 micron (multimode) fibre optic cable.

Security, auditability, and control

This product uses the security and auditability features of the host hardware, host software, or application software to which it is attached.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent[tm] is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

http://www.ibm.com/support/electronic

Terms and conditions

Warranty period

One year

Warranty service

If required, IBM provides repair or exchange service depending on the types of warranty service specified for the machine. IBM will attempt to resolve your problem over the telephone, or electronically via an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. If applicable to your product, parts considered Customer Replaceable Units (CRUs) will be provided as part of the machine's standard warranty service.

Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country-specific and location-specific information.

CRU Service

IBM provides replacement CRUs to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request. CRUs are designated as being either a Tier 1 or a Tier 2 CRU.

Tier 1 CRU

Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

Tier 2 CRU

You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

Based upon availability, CRUs will be shipped for next business day (NBD) delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU. You may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

• None

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Service level is 24 hours per day, 7 days a week, 6 hour average, same day response.

Additional reference for Europe

For additional information, refer to the European Hardware Operations Guide and Service Level Description Table available at

http://www-5.ibm.com/services/europe/maintenance/

Non-IBM parts service

Warranty service

IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to their customers, and normal warranty service procedures for the IBM machine apply.

Warranty service upgrades

During the warranty period, warranty service upgrades provide an enhanced level of On-site Service for an additional charge. Service levels are response-time objectives and are not guaranteed. See the Warranty services section for additional details.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must

be clean, well lit, and suitable for the purpose. The following on-site response-time objectives are available as warranty service upgrades for your machine. Available offerings are:

- 24 hours per day, 7 days a week, 6 hour average, same day response.

CRUs may be provided as part of the machine's standard warranty CRU Service except that you may install a CRU yourself or request IBM installation, at no additional charge, under one of the On-site Service levels specified above. For additional information on the CRU Service, refer to the warranty information.

Maintenance services

If required, IBM provides repair or exchange service depending on the types of maintenance service specified for the machine. IBM will attempt to resolve your problem over the telephone or electronically, via an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response-time objectives and are not guaranteed. The specified level of maintenance service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information. The following service selections are available as maintenance options for your machine type.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Service levels are:

- 24 hours per day, 7 days a week, 6 hour average, same day response

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), and depending upon the maintenance service offerings in your geography, IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request.

Based upon availability, CRUs will be shipped for next business day delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, 1) return instructions and a container are shipped with the replacement CRU and 2) you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

CRUs are designated as being either a Tier 1 or a Tier 2 CRU.

Tier 1 CRUs: Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

For machines with On-site Same-day Response Service, IBM will replace a Tier 1 CRU part at your request, at no additional charge.

Tier 2 CRUs: You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

The following parts have been designated as Tier 1 CRUs:

- None

Feature numbers or models for which there is a maintenance charge: 2810-A14

Additional reference for Europe

Refer to the following European documents:

European Announcement Letter ZS03-0150 for IBM Customer Agreement (ICA)

European Announcement Letter ZS04-0135 for Enterprise Agreement Contract

European Announcement Letter ZS98-0118 for ServiceSuite^{tm} Contract

European HW Operations Guide and Service Level Description Table available at

http://www-5.ibm.com/services/europe/maintenance/

Machine Exchange Service

Non-IBM parts service

Under certain conditions, IBM provides services for selected non-IBM parts, at no additional charge, for machines that are covered under warranty service upgrades or maintenance services.

This service includes hardware problem determination (PD) on the non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, memory) installed within IBM machines and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

Usage plan machine

No

IBM hourly service rate classification

Three.

Maintenance service offerings

This machine is eligible under terms and conditions of IBM ServiceElite, the IBM Enterprise Service Agreement (ESA), or the IBM Maintenance Agreement. Consult your IBM representative for details.

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

Field-installable features

Yes

Model conversions

No

Machine installation

Installation is performed by IBM. IBM will install the machine in accordance with the IBM installation procedures for the machine. In the United States, contact IBM at 1-800-IBM-SERV (426-7378). In other countries contact the local IBM office.

The following activities are a customer responsibility:

- Installation planning
- Retrieval and installation of feature activation codes.
- Logical configuration planning and application

Refer to the Customer responsibilities section for more information.

Graduated program license charges apply

No

Licensed internal code and licensed machine code

This product does not contain Licensed Internal Code or Licensed Machine Code.

Pricing

IBM Global Financing

IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or visit

  http://www.ibm.com/financing

IBM Global Financing offerings are provided through IBM Credit LLC in the United States, and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Rates are based on a customer's credit rating, financing terms, offering type, equipment type, and options, and may vary by country. Other restrictions may apply. Rates and offerings are subject to change, extension, or withdrawal without notice.

Financing solutions from IBM Global Financing can help you stretch your budget and affordably acquire the new product. But beyond the initial acquisition, our end-to-end approach to IT management can also help keep your technologies current, reduce costs, minimize risk, and preserve your ability to make flexible equipment decisions throughout the entire technology life cycle.

Global Technology Services

IBM Storage consulting, data mobility, and implementation services

IBM has a broad array of Storage consulting, data mobility and implementation services to assist customers in the development of strategies to simplify their storage and data management environments to enable business growth and innovation. In addition, implementation and integration services are available to assist with the integration of the IBM XIV Storage System within their IT infrastructures as a part of their tactical execution of those strategies.

IBM Storage Optimization and Integration Consulting and Data Mobility Services are available from IBM Global Technology Services.

- IBM Storage Optimization and Integration Services

    http://www-935.ibm.com/services/us/index.wss/ offerfamily/gts/a1027725
- IBM Data Mobility Services

    http://www-935.ibm.com/services/us/index.wss/ offerfamily/its/a1029084

For additional information or to request these or other Storage and Data consulting services, visit the Storage and Data Services Web site

  http://www-935.ibm.com/services/us/index.wss/ itservice/its/a1000416

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IBM XIV Storage System upgrade and migration services

These services are designed to provide remote planning and on-site migration support for IBM XIV Storage System R1 to R2 upgrades within the customer's environment.

For additional information or to request these or other custom services:

- Send an e-mail to storsvcs@us.ibm.com
- Visit the following Web site and click on "Contact now" to submit your inquiry or request.

  http://www.ibm.com/systems/services/labservices/ labservices_storage.html

For more financing information, visit

  http://www.ibm.com/financing

Announcement countries

All European, Middle Eastern and African countries.

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Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

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  http://www.ibm.com/legal/us/en/

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

  http://www.ibm.com/planetwide/

Corrections

(Corrected on August 27, 2008)

In the Overview and Description sections, the useable capacity was corrected. In the Description section, the text for feature #1119 was amended.