

IBM XIV Storage System Gen3 offers a new high-performance model 114 for machine types 2810 and 2812

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At a glance



IBM® XIV® Storage Systems Gen3 is designed to provide a new higher-performing option in enterprise-class storage from the IBM XIV Storage System series. XIV Gen3 model 114 offers up to four times the performance of previous generation systems and includes:

- A virtualized grid-based array of storage devices
- Up to 180 2 TB Serial Attached SCSI (SAS) hard disk drives
- Up to 161 TB of usable capacity in a single frame
- Up to 24 ports of 8Gb Fibre Channel host connectivity
- Up to 22 ports of 1Gb iSCSI host connectivity
- Up to 360 GB of cache
- High-performance InfiniBand interconnectivity
- Multi-core processors
- Advanced software functions:
 - Synchronous and asynchronous remote mirroring

- Thin provisioning
- Data migration
- Quality of Service controls
- LDAP authentication support
- VMware VAAI support
- Differential, writeable snapshot technology
- One and three-year warranty models

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

IBM XIV Storage System Gen3 Model 114 for machine types 2810 and 2812 is an innovative, high-end, open disk system designed to help reduce costs, simplify management and speed access to important data. The IBM XIV Storage System Gen3 represents the third generation of the IBM XIV series of storage systems and offers:

- Up to 180 2 TB Serial Attached SCSI (SAS) hard disk drives
- Up to 161 TB of useable capacity in a single frame
- Up to 24 ports of 8Gb Fibre Channel host connectivity
- Up to 22 ports of 1Gb iSCSI host connectivity
- Up to 360 GB of cache
- High-performance InfiniBand interconnectivity
- Multi-core processors
- Three uninterruptible power supplies

IBM XIV Storage System Gen3 will be upgradeable to an SSD Caching option which is planned for the first half of 2012. The SSD caching option is being designed to provide up to 7.5 TB of fast read cache to support and up to a 90% reduction in I/O latency for random read workloads.

IBM 2812 XIV Storage System Gen3 Model 114 together with IBM 2810 XIV Storage System Gen3 Model 114 enable a flexible warranty choice for XIV Gen3 storage. 2812 Model 114 supports a 3-year warranty to complement the 1-year warranty offered by the functionally equivalent, 2810 Model 114.

IBM XIV Storage System Gen3 models are part of a series of IBM XIV Storage Systems.

Key prerequisites

XIV Storage System Gen3 Model 114 with IBM XIV Storage System Software Version 11.0, or later, installed.

Planned availability date

September 8, 2011

Description

The IBM XIV Storage System series is an innovative, high-end, open disk system series designed to support business requirements for a highly available information

infrastructure. The XIV architecture is a grid of standard Intel™ and Linux™ components connected in any-to-any topology. This architecture is designed to support enterprise-class reliability, performance, and scalability.

IBM XIV Storage System Gen3 carries on the XIV tradition of providing consistent, high performance, and high reliability with a low total cost of ownership. Several design factors contribute to this achievement:

- **Self-tuning and self-healing:** XIV's unique fully virtualized architecture supports high system performance without manual tuning. The system can self-optimize automatically upon changes in the hardware configuration, such as the addition of modules or replacement of modules upon failure.
- **Ease of management:** Ease of management that goes below the surface, with a virtualized architecture, highly intuitive GUI, and clever implementation of role-based management all add up to create a streamlined user experience, with less administration.
- **High performance:** A high-speed InfiniBand internal interconnect, load balancing, use of all system resources, innovative caching, and massive CPU power combine to support high performance.
- **Enhanced connectivity:** The IBM XIV Gen3 offers improved host connectivity with up to twenty-four 8Gbps Fibre Channel ports and up to twenty-two 1Gbps iSCSI host connectivity ports.
- **Reliability:** High reliability and availability through hardware redundancy, rapid rebuild times, automatic self-healing, and preemptive, proactive support services.
- **Improved capacity usage:** Efficient capacity utilization functionality, including space-efficient snapshots and advanced thin provisioning, helps support savings in capacity and cost, and less administration requirements.
- **High-density storage:** Enterprise-class, high density SAS disk drives create increased physical space efficiencies. Using 2 TB drives. XIV Gen3 provides 161 TB usable capacity in a single rack. The ability to store so much data in one system using fewer, large capacity drives, as well as the use of multi-core processors, can help to reduce power and cooling expenses for a more energy-efficient solution.
- **Innovative caching:** Up to 360 GB of total system cache with flexible and powerful cache implementation allows the XIV system to leverage large slots for reads while enabling it to manage a smaller slot size for improved cache management and better performance.

IBM XIV Storage System Gen3 will be upgradeable to an SSD Caching option which is planned for the first half of 2012. The SSD caching option is being designed to provide up to 7.5 TB of fast read cache to support and up to a 90% reduction in I/O latency for random read workloads.

- **Flexible warranty:** Configurations are available in both one- and three-year warranty options.
- **Capacity on Demand (CoD) configurations:** CoD configurations are available to provide a method to quickly provision new physical storage and can be ordered at any of the valid partially populated capacities. Up to three CoD modules can be over-provisioned. Contact your sales representative for further details on CoD conditions.

The following tables depict the configurations supported on the IBM XIV Storage System Gen3 Model 114:

2 TB HDD modules

| | | | | | | | | |
|----------------------------------|----|----|-----|-----|-----|-----|-----|-----|
| Total Modules | 6 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Useable Capacity (TB) | 55 | 88 | 102 | 111 | 125 | 134 | 149 | 161 |
| Interface Modules (feature 1125) | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

| | | | | | | | | |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Data Modules (feature 1126) | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Disk Drives | 72 | 108 | 120 | 132 | 144 | 156 | 168 | 180 |
| Fibre Channel Ports | 8 | 16 | 16 | 20 | 20 | 24 | 24 | 24 |
| iSCSI Ports | 6 | 14 | 14 | 18 | 18 | 22 | 22 | 22 |
| Memory (GB) | 144 | 216 | 240 | 264 | 288 | 312 | 336 | 360 |

Accessibility by people with disabilities

A US 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

- High-performance InfiniBand interconnect
- New motherboard and processors
- SAS controllers and 2 TB drives
- 50% more cache per module (24 GB)
- Expanded iSCSI connectivity
- Upgradeable to SSD caching
- 8Gb FC ports

Statement of general direction

IBM XIV Storage System Gen3 will be upgradeable to an SSD Caching option which is planned for the first half of 2012. The SSD caching option is being designed to provide up to 7.5 TB of fast read cache to support and up to a 90% reduction in I/O latency for random read workloads.

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice and represent goals and objectives only.

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver an material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

Product number

| Description | Machine | Model | Feature numbers |
|---------------------------------|---------|-------|-----------------|
| IBM XIV Storage System Model R3 | 2810 | 114 | |
| AAS SW order indicator | 2810 | 114 | 0018 |
| Base unit indicator | 2810 | 114 | 0030 |
| Retail unit indicator | 2810 | 114 | 0035 |
| OEM unit indicator | 2810 | 114 | 0036 |
| Ruggedized Rack | 2810 | 114 | 0080 |

| | | | |
|--------------------------------------|------|-----|------|
| Rear Water-Cooled Door | 2810 | 114 | 0082 |
| UNIX host attachment | 2810 | 114 | 0100 |
| Linux host attachment | 2810 | 114 | 0101 |
| Windows host attachment | 2810 | 114 | 0102 |
| Vmware host attachment | 2810 | 114 | 0103 |
| Height / Weight Reduction | 2810 | 114 | 0200 |
| Israel MoD Indicator | 2810 | 114 | 0202 |
| RFID Labeling | 2810 | 114 | 0203 |
| CoD 1 year agreement | 2810 | 114 | 0301 |
| CoD 2 years agreement | 2810 | 114 | 0302 |
| CoD 3 years agreement | 2810 | 114 | 0303 |
| 6 module initial capacity | 2810 | 114 | 0806 |
| 9 module initial capacity | 2810 | 114 | 0809 |
| 10 module initial capacity | 2810 | 114 | 0810 |
| 11 module initial capacity | 2810 | 114 | 0811 |
| 12 module initial capacity | 2810 | 114 | 0812 |
| 13 module initial capacity | 2810 | 114 | 0813 |
| 14 module initial capacity | 2810 | 114 | 0814 |
| 15 module initial capacity | 2810 | 114 | 0815 |
| 2TB Interface Module | 2810 | 114 | 1125 |
| 2TB Data Module | 2810 | 114 | 1126 |
| 2TB CoD Interface Module | 2810 | 114 | 1145 |
| 2TB CoD Data module | 2810 | 114 | 1146 |
| 2TB HDD CoD Activation | 2810 | 114 | 1149 |
| Ethernet cable | 2810 | 114 | 3900 |
| Fibre cable (LC) | 2810 | 114 | 3910 |
| Fibre cable (LC/SC) | 2810 | 114 | 3920 |
| Modem | 2810 | 114 | 9101 |
| Single phase power | 2810 | 114 | 9890 |
| Three phase 60A non-EMEA delta power | 2810 | 114 | 9891 |
| Three phase 30A EMEA wye power | 2810 | 114 | 9892 |
| Three phase 30A non-EMEA delta power | 2810 | 114 | 9894 |
| US/CA/LA/AP 60A pin cord | 2810 | 114 | 9811 |
| EMEA/Aus/NZ 60A hard wired | 2810 | 114 | 9813 |
| 3ph non-EMEA 60A pin cord | 2810 | 114 | 9820 |
| 3ph EMEA 30A hard wired | 2810 | 114 | 9822 |
| 3ph 30A non-EMEA pin cord | 2810 | 114 | 9824 |

| Description | Machine | Model | Feature numbers |
|---------------------------------|---------|-------|-----------------|
| IBM XIV Storage System Model R3 | 2812 | 114 | |
| AAS SW order indicator | 2812 | 114 | 0018 |
| Base unit indicator | 2812 | 114 | 0030 |
| Retail unit indicator | 2812 | 114 | 0035 |
| OEM unit indicator | 2812 | 114 | 0036 |
| Ruggedized Rack | 2812 | 114 | 0080 |
| Rear Water-Cooled Door | 2812 | 114 | 0082 |
| UNIX host attachment | 2812 | 114 | 0100 |
| Linux host attachment | 2812 | 114 | 0101 |
| Windows host attachment | 2812 | 114 | 0102 |
| Vmware host attachment | 2812 | 114 | 0103 |
| Height / Weight Reduction | 2812 | 114 | 0200 |
| Israel MoD Indicator | 2812 | 114 | 0202 |
| RFID Labeling | 2812 | 114 | 0203 |
| CoD 1 year agreement | 2812 | 114 | 0301 |
| CoD 2 years agreement | 2812 | 114 | 0302 |
| CoD 3 years agreement | 2812 | 114 | 0303 |
| 6 module initial capacity | 2812 | 114 | 0806 |
| 9 module initial capacity | 2812 | 114 | 0809 |
| 10 module initial capacity | 2812 | 114 | 0810 |
| 11 module initial capacity | 2812 | 114 | 0811 |
| 12 module initial capacity | 2812 | 114 | 0812 |
| 13 module initial capacity | 2812 | 114 | 0813 |
| 14 module initial capacity | 2812 | 114 | 0814 |
| 15 module initial capacity | 2812 | 114 | 0815 |
| 2TB Interface Module | 2812 | 114 | 1125 |
| 2TB Data Module | 2812 | 114 | 1126 |
| 2TB CoD Interface Module | 2812 | 114 | 1145 |
| 2TB CoD Data module | 2812 | 114 | 1146 |
| 2TB HDD CoD Activation | 2812 | 114 | 1149 |
| Ethernet cable | 2812 | 114 | 3900 |
| Fibre cable (LC) | 2812 | 114 | 3910 |
| Fibre cable (LC/SC) | 2812 | 114 | 3920 |

| | | | |
|--------------------------------------|------|-----|------|
| Modem | 2812 | 114 | 9101 |
| Single phase power | 2812 | 114 | 9890 |
| Three phase 60A non-EMEA delta power | 2812 | 114 | 9891 |
| Three phase 30A EMEA wye power | 2812 | 114 | 9892 |
| Three phase 30A non-EMEA delta power | 2812 | 114 | 9894 |
| US/CA/LA/AP 60A pin cord | 2812 | 114 | 9811 |
| EMEA/Aus/NZ 60A hard wired | 2812 | 114 | 9813 |
| 3ph non-EMEA 60A pin cord | 2812 | 114 | 9820 |
| 3ph EMEA 30A hard wired | 2812 | 114 | 9822 |
| 3ph 30A non-EMEA pin cord | 2812 | 114 | 9824 |

Model conversions

No model conversions.

Feature conversions

| Machine Type | From feature | To feature | Conversion requirements |
|--------------|--------------|------------|---|
| 2810/2812 | 9890 | 9891 | Single-phase to 3ph 60A power conversion |
| 2810/2812 | 9890 | 9892 | Single-phase to 3ph 30A power conversion |
| 2810/2812 | 9890 | 9894 | Single-phase to three-phase 30A non-EMEA |
| 2810/2812 | 9891 | 9890 | 3ph 60A to Single-phase power conversion |
| 2810/2812 | 9891 | 9892 | 3ph 60A to 3ph 30A power conversion |
| 2810/2812 | 9891 | 9894 | 3ph 60A to three-phase 30A non-EMEA |
| 2810/2812 | 9892 | 9890 | 3ph 30A to Single-phase power conversion |
| 2810/2812 | 9892 | 9891 | 3ph 30A to 3ph 60A power conversion |
| 2810/2812 | 9892 | 9894 | 3ph 30A to three-phase 30A non-EMEA |
| 2810/2812 | 9894 | 9890 | Three-phase 30A non-EMEA to single-phase power conversion |
| 2810/2812 | 9894 | 9892 | Three-phase 30A non-EMEA to 3ph 30A power conversion |
| 2810/2812 | 9894 | 9891 | Three-phase 30A non-EMEA to 3ph 60A power conversion |

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=111-128>

Publications

The following publications are shipped with this product:

| Title | Order number |
|--|--------------|
| International Program License Agreement Additional copies | Z125-3301 |
| IBM XIV Storage System Safety Notices (standard - 29 languages) | GA32-0832 |
| License Information document | GC27-2216 |
| IBM System Storage® XIV Storage System Machine type 2810 and 2812 Statement of Limited Warranty | GC27-2268 |

Product publications can be viewed and downloaded online from the IBM XIV Storage System Information Center at

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

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at

<http://publib14.boulder.ibm.com/infocenter/systems>

IBM Publications Center Portal

<http://www.ibm.com/shop/publications/order>

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, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded 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

Specified operating environment

Physical specifications

IBM XIV Storage System Model 2810-114

- Width: 648 mm (25.53 in)
- Depth: 1242.7 mm (48.96 in)
- Height: 2024.6 mm (79.76 in)
- Weight: 1047.8 kg (2310 lb)

IBM XIV Storage System Model 2812-114

- Width: 648 mm (25.53 in)
- Depth: 1242.7 mm (48.96 in)
- Height: 2024.6 mm (79.76 in)
- Weight: 1047.8 kg (2310 lb)

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

Operating environment

IBM XIV Storage System Model 2810-114

- Temperature: 10° to 35° C (50° to 95° F)
- Relative humidity: 25 to 80%
- Wet bulb (caloric value): 23 kcal/hour or Btu
- Electrical power: 6.7 kVA max consumption
- Noise level: 56 dBa

IBM XIV Storage System Model 2812-114

- Temperature: 10° to 35° C (50° to 95° F)
- Relative humidity: 25 to 80%
- Wet bulb (caloric value): 23 kcal/hour or Btu
- Electrical power: 6.7 kVA max consumption
- Noise level: 56 dBa

Hardware requirements

2810-114 and 2812-114 must have the 5639-YYB IBM XIV Storage Software for operation

Software requirements

The IBM XIV Storage Software (5639-YYB) must have the IBM XIV Storage System Gen3 (Machine type 2810 or 2812) Model 114 for operation.

Planning information

Customer responsibilities

Installation planning

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

<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 are customer responsibilities. Logical configuration refers to defining hosts, volumes, and 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 are customer responsibilities. 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. 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. See the [Services](#) section for more information on available services.

You are responsible for downloading or obtaining from IBM, and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM machine) and other software updates in a timely manner from an IBM Internet website or from other electronic media, and following the instructions that IBM provides. You may request IBM to install Machine Code changes; however, you may be charged for that service.

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 fiber optic cables. All Fibre Channel connections to the XIV device should be made with 50 micron (multimode) fiber optic cables.

Security, auditability, and control

This product uses the security and auditability features of the host hardware, host software, and/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.

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™ 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

IBM Global Financing

Yes

Warranty period

Technical Advisor support will be provided during the warranty period. This XIV support will be delivered remotely and will include a documented support plan, coordinated problem management, reporting on client's hardware inventories and microcode levels, and consultation regarding XIV microcode updates. The Technical Advisor will conduct a Welcome Call with the client and provide a statement of work for this support.

- Machine type 2810: One year
- Machine type 2812: Three years

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature which replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature is the same as the machine it is installed.

Extended warranty service

The 2810 product is provided with 1 year of standard warranty. For your convenience, on the 2812, IBM has provided 2 additional years of extended warranty services to make this offering. Consult with your advisors about the appropriate financial treatment for this offering.

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 website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines onsite service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. 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 (mandatory) or a Tier 2 (optional) CRU.

Tier 1 (mandatory) CRU

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

Tier 2 (optional) 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, 4 hour average, same day response

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 website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

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, 2 hour average response

Customer Replaceable Units (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, one of the On-site Service level specified above. For additional information on the CRU Service, see 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 website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. 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-specific and location-specific information. The following service selections are available as maintenance options for your machine type.

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, 4 hour average response
- 9 hours per day, Monday through Friday, excluding holidays, next business day response. Calls must be received by 5:00 p.m. local time in order to qualify for next business day response
- 9 hours per day, Monday through Friday, excluding holidays, 4 hour average, same business day response. Same business day service level includes the installation of Tier 1 CRUs at no additional charge

Customer Replaceable Unit (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 replacement 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 may be provided as part of the machine's standard maintenance service except that you may install a CRU yourself or request IBM installation, at no additional charge, under any of the On-site Service levels specified above.

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.

Warranty service upgrades

Usage plan machine

No

IBM hourly service rate classification

Three

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

Yes

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

These products do not contain Licensed Internal Code or Licensed Machine Code.

Educational allowance

A reduced charge is available to qualified education customers. The educational allowance may not be added to any other discount or allowance.

The educational allowance is 15% for the products in this announcement.

Pricing

Product charges

| Description | Machine type | Model | Feature number | Field install only | Plant install only |
|----------------------------|--------------|-------|----------------|--------------------|--------------------|
| IBM XIV Storage System R3 | 2810 | 114 | | | |
| AAS SW order indicator | 2810 | 114 | 0018 | N | Y |
| Base unit indicator | 2810 | 114 | 0030 | N | Y |
| Retail unit indicator | 2810 | 114 | 0035 | N | Y |
| OEM unit indicator | 2810 | 114 | 0036 | N | Y |
| Ruggedized Rack | 2810 | 114 | 0080 | N | N |
| Rear Water-Cooled Door | 2810 | 114 | 0082 | N | N |
| UNIX host attachment | 2810 | 114 | 0100 | N | N |
| Linux host attachment | 2810 | 114 | 0101 | N | N |
| Windows host attachment | 2810 | 114 | 0102 | N | N |
| Vmware host attachment | 2810 | 114 | 0103 | N | N |
| Height / Weight Reduction | 2810 | 114 | 0200 | N | Y |
| Israel MoD Indicator | 2810 | 114 | 0202 | N | N |
| RFID Labeling | 2810 | 114 | 0203 | N | N |
| CoD 1 year agreement | 2810 | 114 | 0301 | N | Y |
| CoD 2 years agreement | 2810 | 114 | 0302 | N | Y |
| CoD 3 years agreement | 2810 | 114 | 0303 | N | Y |
| 6 module initial capacity | 2810 | 114 | 0806 | N | Y |
| 9 module initial capacity | 2810 | 114 | 0809 | N | Y |
| 10 module initial capacity | 2810 | 114 | 0810 | N | Y |
| 11 module initial capacity | 2810 | 114 | 0811 | N | Y |
| 12 module initial capacity | 2810 | 114 | 0812 | N | Y |
| 13 module initial capacity | 2810 | 114 | 0813 | N | Y |
| 14 module initial capacity | 2810 | 114 | 0814 | N | Y |
| 15 module initial capacity | 2810 | 114 | 0815 | N | Y |
| 2TB Interface Module | 2810 | 114 | 1125 | N | N |
| 2TB Data Module | 2810 | 114 | 1126 | N | N |
| 2TB COD Interface Module | 2810 | 114 | 1145 | N | N |
| 2TB COD Data module | 2810 | 114 | 1146 | N | N |
| 2TB HDD CoD Activation | 2810 | 114 | 1149 | N | N |
| Ethernet cable | 2810 | 114 | 3900 | N | N |
| Fibre cable | 2810 | 114 | 3910 | N | N |

| | | | | | |
|--------------------------|------|-----|------|---|---|
| (LC) | | | | | |
| Fibre cable | 2810 | 114 | 3920 | N | N |
| (LC/SC) | | | | | |
| Modem | 2810 | 114 | 9101 | N | N |
| US/CA/LA/AP | 2810 | 114 | 9811 | N | N |
| 60A pin cord | | | | | |
| EMEA/Aus/NZ | 2810 | 114 | 9813 | N | N |
| 60A hard wired | | | | | |
| 3ph non-EMEA | 2810 | 114 | 9820 | N | N |
| 60A pin cord | | | | | |
| 3ph EMEA 30A | 2810 | 114 | 9822 | N | N |
| hard wired | | | | | |
| 3ph 30A | 2810 | 114 | 9824 | N | N |
| non-EMEA pin cord | | | | | |
| Single phase | 2810 | 114 | 9890 | N | Y |
| power | | | | | |
| Three phase | 2810 | 114 | 9891 | N | Y |
| 60A non-EMEA delta power | | | | | |
| Three phase | 2810 | 114 | 9892 | N | Y |
| 30A EMEA wye power | | | | | |
| Three phase | 2810 | 114 | 9894 | N | Y |
| 30A non-EMEA delta power | | | | | |

| Description | Machine type | Model | Feature number | Field install only | Plant install only |
|----------------------------|--------------|-------|----------------|--------------------|--------------------|
| IBM XIV | 2812 | 114 | | | |
| Storage System R3 | | | | | |
| AAS SW order indicator | 2812 | 114 | 0018 | N | Y |
| Base unit indicator | 2812 | 114 | 0030 | N | Y |
| Retail unit indicator | 2812 | 114 | 0035 | N | Y |
| OEM unit indicator | 2812 | 114 | 0036 | N | Y |
| Ruggedized Rack | 2812 | 114 | 0080 | N | N |
| Rear | 2812 | 114 | 0082 | N | N |
| Water-Cooled Door | | | | | |
| UNIX host attachment | 2812 | 114 | 0100 | N | N |
| Linux host attachment | 2812 | 114 | 0101 | N | N |
| Windows host attachment | 2812 | 114 | 0102 | N | N |
| Vmware host attachment | 2812 | 114 | 0103 | N | N |
| Height / weight Reduction | 2812 | 114 | 0200 | N | Y |
| Israel MOD Indicator | 2812 | 114 | 0202 | N | N |
| RFID Labeling | 2812 | 114 | 0203 | N | N |
| CoD 1 year agreement | 2812 | 114 | 0301 | N | Y |
| CoD 2 years agreement | 2812 | 114 | 0302 | N | Y |
| CoD 3 years agreement | 2812 | 114 | 0303 | N | Y |
| 6 module initial capacity | 2812 | 114 | 0806 | N | Y |
| 9 module initial capacity | 2812 | 114 | 0809 | N | Y |
| 10 module initial capacity | 2812 | 114 | 0810 | N | Y |
| 11 module initial capacity | 2812 | 114 | 0811 | N | Y |
| 12 module initial capacity | 2812 | 114 | 0812 | N | Y |
| 13 module initial capacity | 2812 | 114 | 0813 | N | Y |

| | | | | | |
|--------------------------------------|------|-----|------|---|---|
| 14 module initial capacity | 2812 | 114 | 0814 | N | Y |
| 15 module initial capacity | 2812 | 114 | 0815 | N | Y |
| 2TB Interface Module | 2812 | 114 | 1125 | N | N |
| 2TB Data Module | 2812 | 114 | 1126 | N | N |
| 2TB COD Interface Module | 2812 | 114 | 1145 | N | N |
| 2TB COD Data module | 2812 | 114 | 1146 | N | N |
| 2TB HDD CoD Activation | 2812 | 114 | 1149 | N | N |
| Ethernet cable | 2812 | 114 | 3900 | N | N |
| Fibre cable (LC) | 2812 | 114 | 3910 | N | N |
| Fibre cable (LC/SC) | 2812 | 114 | 3920 | N | N |
| Modem | 2812 | 114 | 9101 | N | N |
| US/CA/LA/AP 60A pin cord | 2812 | 114 | 9811 | N | N |
| EMEA/Aus/NZ 60A hard wired | 2812 | 114 | 9813 | N | N |
| 3ph non-EMEA 60A pin cord | 2812 | 114 | 9820 | N | N |
| 3ph EMEA 30A hard wired | 2812 | 114 | 9822 | N | N |
| 3ph 30A non-EMEA pin cord | 2812 | 114 | 9824 | N | N |
| Single phase power | 2812 | 114 | 9890 | N | Y |
| Three phase 60A non-EMEA delta power | 2812 | 114 | 9891 | N | Y |
| Three phase 30A EMEA wye power | 2812 | 114 | 9892 | N | Y |
| Three phase 30A non-EMEA delta power | 2812 | 114 | 9894 | N | Y |

Feature Change Options for 2810 and 2812 Models 114

| Description | Feature number | Install type* | Feature conversion | Feature exchange | Feature remove |
|-----------------------------|----------------|---------------|--------------------|------------------|----------------|
| CoD 1 year agreement | 0301 | Plant | No | No | No |
| CoD 2 years agreement | 0302 | Plant | No | No | No |
| CoD 3 years agreement | 0303 | Plant | No | No | No |
| Modules (2 TB disk drives): | | | | | |
| 2TB Interface | 1125 | Both | No | No | No |
| 2TB Data | 1126 | Both | No | No | No |
| 2TB COD Interface | 1145 | Both | No | No | No |
| 2TB COD Data | 1146 | Both | No | No | No |
| 2TB HDD CoD Activation | 1149 | Both | No | No | No |
| Ethernet cable | 3900 | Both | No | No | No |
| Fibre cable (LC) | 3910 | Both | No | No | No |
| Fibre cable (LC/SC) | 3920 | Both | No | No | No |
| Modem | 9101 | Both | No | No | No |
| Line cords: | | | | | |
| US/CA/LA/AP 60A pin cord | 9811 | Both | No | No | No |
| EMEA/Aus/NZ 60A hard wired | 9813 | Both | No | No | No |
| 3ph non-EMEA 60A pin cord | 9820 | Both | No | No | No |

| | | | | | |
|---|------|-------|-----|----|----|
| 3ph EMEA 30A hard wired | 9822 | Both | No | No | No |
| 3ph 30A non-EMEA pin cord | 9824 | Both | No | No | No |
| Single phase power | 9890 | Plant | Yes | No | No |
| Three phase 60A non-EMEA delta power | 9891 | Plant | Yes | No | No |
| Three phase 30A EMEA wye power | 9892 | Plant | Yes | No | No |
| Three phase 30A non-EMEA delta power | 9894 | Plant | Yes | No | No |

* If field installed on a purchased machine, parts removed or replaced become the property of IBM and must be returned.

Pricing terms

Prices in the following PDF prices link are suggested list prices on day of announcement for the U.S. only. They are provided for your information only. Dealer prices may vary, and prices may also vary by country. IBM list price does not include tax or shipping and is subject to change without notice.

[ENUS-111-128-List_prices_2011_07_12.PDF](#)

For ServiceElect (ESA) maintenance service charges, contact IBM Global Services at 888-IBM-4343 (426-4343).

Feature conversion purchase price

| Feature From To | Description | Returned parts** | Continuous maintenance |
|--------------------|--|---------------------|---------------------------|
| 9890 9891 | Single-phase to 3ph 60A power conversion | No | Yes |
| 9890 9892 | Single-phase to 3ph 30A power conversion | No | Yes |
| 9890 9894 | Single-phase to three-phase 30A non-EMEA | No | Yes |
| 9891 9890 | 3ph 60A to single-phase power conversion | No | Yes |
| 9891 9892 | 3ph 60A to 3ph 30A power conversion | No | Yes |
| 9891 9894 | 3ph 60A to three-phase 30A non-EMEA | No | Yes |
| 9892 9890 | 3ph 30A to single-phase power conversion | No | Yes |
| 9892 9891 | 3ph 30A to 3ph 60A power conversion | No | Yes |
| 9892 9894 | 3ph 30A to three-phase 30A non-EMEA | No | Yes |
| 9894 9890 | Three-phase 30A non-EMEA to single-phase power conversion | No | Yes |
| 9894 9892 | Three-phase 30A non-EMEA to 3ph 30A power conversion | No | Yes |
| 9894 9891 | Three-phase 30A non-EMEA to 3ph 60A power conversion | No | Yes |

** Parts removed or replaced become the property of IBM and must be returned.

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