

## 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).

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## Overview

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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.

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## Key prerequisites

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

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## Planned availability date

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September 8, 2011

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## Description

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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

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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](http://www.ibm.com/able/product_accessibility/index.html)

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### Product positioning

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- 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

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### Statement of general direction

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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.

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### Product number

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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

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No model conversions.

## Feature conversions

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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

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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>

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## 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>

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### **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.

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## **Services**

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### **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.

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## **Technical information**

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### **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**

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### ***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**

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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.

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## **IBM Electronic Services**

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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>

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## Terms and conditions

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### **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**

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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**

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#### ***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	2810	114	0082	N	N
Water-Cooled Door	2810	114	0100	N	N
UNIX host attachment	2810	114	0101	N	N
Linux host attachment	2810	114	0102	N	N
Windows host attachment	2810	114	0103	N	N
Vmware host attachment	2810	114	0200	N	Y
Height / Weight Reduction	2810	114	0202	N	N
Israel MoD Indicator	2810	114	0203	N	N
RFID Labeling	2810	114	0301	N	Y
CoD 1 year agreement	2810	114	0302	N	Y
CoD 2 years agreement	2810	114	0303	N	Y
CoD 3 years agreement	2810	114	0806	N	Y
6 module initial capacity	2810	114	0809	N	Y
9 module initial capacity	2810	114	0810	N	Y
10 module initial capacity	2810	114	0811	N	Y
11 module initial capacity	2810	114	0812	N	Y
12 module initial capacity	2810	114	0813	N	Y
13 module initial capacity	2810	114	0814	N	Y
14 module initial capacity	2810	114	0815	N	Y
15 module initial capacity	2810	114	1125	N	N
2TB Interface Module	2810	114	1126	N	N
2TB Data Module	2810	114	1145	N	N
2TB COD Interface Module	2810	114	1146	N	N
2TB COD Data module	2810	114	1149	N	N
2TB HDD CoD Activation	2810	114	3900	N	N
Ethernet cable	2810	114	3910	N	N
Fibre cable	2810	114			

(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 Storage System R3	2812	114			
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	2812	114	0100	N	N
UNIX host attachment	2812	114	0101	N	N
Linux host attachment	2812	114	0102	N	N
Windows host attachment	2812	114	0103	N	N
Vmware host attachment	2812	114	0200	N	Y
Height / weight Reduction	2812	114	0202	N	N
Israel MOD Indicator	2812	114	0203	N	N
RFID Labeling	2812	114	0301	N	Y
CoD 1 year agreement	2812	114	0302	N	Y
CoD 2 years agreement	2812	114	0303	N	Y
CoD 3 years agreement	2812	114	0806	N	Y
6 module initial capacity	2812	114	0809	N	Y
9 module initial capacity	2812	114	0810	N	Y
10 module initial capacity	2812	114	0811	N	Y
11 module initial capacity	2812	114	0812	N	Y
12 module initial capacity	2812	114	0813	N	Y
13 module initial capacity	2812	114			

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

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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](#)

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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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