

IBM XIV Storage System Model 214 for machine types 2810 and 2812 offers significantly higher iSCSI host throughput to enterprises running on IP SANs as compared to previous models

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At a glance



IBM® XIV® Storage Systems, a powerful, innovative enterprise-class storage from IBM, includes the following features for new model 214:

- Up to twelve 10 Gigabit Ethernet (GbE) ports for connecting to iSCSI-attached hosts or twenty-two 1Gb Ethernet ports
- Up to 15 CPUs providing ninety physical cores (180 logical cores using Intel™ Hyper-Threading technology)
- More energy-efficient hardware that can reduce power consumption by up to 16% compared to previous models
- Up to 24 x 8Gb Fibre Channel (FC) ports for host connectivity
- Up to 6 TB of SSD cache by using 400 GB drives
- Up to 243 TB of usable capacity
- Up to 360 GB of dynamic random-access memory (DRAM) cache

- IBM XIV Storage System Gen3 with software version 11.2.0 enables performance enhancements over previous models:
 - Up to 5 times performance increase in iSCSI throughput with new 10Gb Ethernet (GbE) ports
 - Up to 4.5 times performance boost for random database-like workloads with SSD read-caching (optional)
 - Sequential read performance as high as 13.7 GB/s
 - Support for Windows™ Server 2012, including space reclamation
 - Drive rebuild times as fast as 26 minutes for a fully utilized 2 TB hard disk drive under heavy load

IBM XIV Storage Systems require a corresponding software license (5639-YYB) for each entitled data or interface module.

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

Overview

Model 214 for IBM XIV Storage Systems 2810 and 2812 is designed to be a scalable enterprise storage system based upon a grid array of hardware components.

IBM 2812 XIV Storage System Model 214 and IBM 2810 XIV Storage System Model 214 offer a flexible warranty choice for XIV storage. 2812 XIV Model 214 supports a 3-year warranty to complement the 1-year warranty offered by the functionally equivalent, 2810 Model 214.

Model 214 offers:

- Up to twelve 10GbE ports for connecting to iSCSI-attached hosts or twenty-two 1GbE ports
- Up to 15 CPUs providing ninety physical cores (180 logical cores using Intel Hyper-Threading technology)
- More energy-efficient hardware that can reduce power consumption by up to 16% compared to previous models
- Up to 24 x 8Gb FC ports for host connectivity
- Up to 6 TB of SSD cache by using 400 GB drives
- Up to 243 TB of usable capacity
- Up to 360 GB of dynamic random-access memory (DRAM) cache

IBM XIV Storage System Gen3 with software version 11.2.0 delivers the following enhancements over previous models:

- Performance increases of up to 5 times for iSCSI throughput with new 10GbE ports
- Performance boosts of up to 4.5 times for random database-like workloads with SSD read-caching (optional)
- Sequential read performance as high as 13.7 GB/s
- Support for Windows Server 2012, including space reclamation
- Drive rebuild times as fast as 26 minutes for a fully utilized 2 TB hard disk drive under heavy load

Key prerequisites

Intermixing of port bandwidth between 10GbE and 1Gb within the same system is not supported (mutually exclusive).

Partially populated IBM XIV Storage Systems that are shipped from the factory with any of the raw capacity per drive options must continue to be populated with the same raw capacity per drive option.

Intermixing of any of these capacity points options in a single XIV Storage System frame is not allowed: 1 TB, 2 TB, or 3 TB.

All features and functions in this announcement are supported on the IBM XIV Storage System Model 214 with IBM XIV Storage System Software version 11.2.0, or later, installed.

If one module supports SSD caching, then all modules in the system must have SSD.

Planned availability date

March 7, 2013

Description

IBM XIV Storage System Gen3 Model 214 with IBM XIV software version 11.2.0 is designed to:

- Support customers requiring FC or iSCSI host connectivity
- Support up to twelve 10GbE ports for connecting to iSCSI-attached hosts or twenty-two 1GbE
- Support up to 15 CPUs providing ninety physical cores (180 logical cores using Intel Hyper-Threading technology)
- More energy-efficient hardware that can reduce power consumption by up to 16% compared to previous models
- Provide consistent performance by avoiding data hot-spots using a grid-based storage device
- Provide redundancy through the use of unique grid-based rebuild technology
- Support up to 24 x 8Gb FC ports for host connectivity
- Provide usable capacity from 28 TB to 243 TB
- Provide up to 6 TB of SSD cache by using 400 GB drives
- Provide up to 360 GB of dynamic random-access memory (DRAM) cache
- Offer one or three-year warranty

IBM XIV software version 11.2.0 for IBM XIV Storage System Gen3 can increase performance by up to 5 times in iSCSI throughput with new 10GbE ports, boost performance by up to 4.5 times for random database-like workloads with SSD read-caching (optional), and increase sequential read performance to as high as 13.7 GB/s as compared to previous models. IBM XIV software version 11.2.0 also offers support for Windows Server 2012, including space reclamation, and enables drive rebuild times as fast as 26 minutes for a fully utilized 2 TB hard disk drive under heavy load.

IBM 2812 XIV Storage System Gen3 Model 214 offers a flexible warranty choice for XIV Gen3 storage. 2812 Model 214 supports a 3-year warranty to complement the 1-year warranty offered by the functionally equivalent 2810 Model 214.

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

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. 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, scalability, and energy efficiency.

IBM XIV Storage System Gen3 is designed to leverage the proven architecture to provide 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 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 and massive caching, and CPU power combine to support high performance.

Enhanced connectivity: IBM XIV Gen3 offers multiple active/active IO interfaces with improved host connectivity with up to twenty-four 8Gbps FC ports, up to twelve 10GbE ports for connecting to iSCSI-attached hosts, or twenty-two 1Gbps Ethernet port.

Reliability: Designed to support 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-reclamation for virtualized environments, 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 3 TB drives, XIV Gen3 provides up to 243 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 is upgradeable to an SSD Caching option. The SSD read-caching option is designed to provide up to 6 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 with:

1 TB raw capacity per drive

| Total Modules | 6 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----------------------|----|----|----|----|----|----|----|----|
| Usable Capacity (TB) | 28 | 44 | 51 | 56 | 63 | 67 | 75 | 81 |

| | | | | | | | | |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Interface Modules (feature 2015) | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Data Modules (feature 2016) | 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 |
| 10GbE iSCSI Ports | 4 | 8 | 8 | 10 | 10 | 12 | 12 | 12 |
| 1GbE iSCSI Ports | 6 | 14 | 14 | 18 | 18 | 22 | 22 | 22 |
| Memory (GB) | 144 | 216 | 240 | 264 | 288 | 312 | 336 | 360 |

The following tables depict the configurations supported on the IBM XIV Storage System Gen3 Model 214:

2 TB raw capacity per drive

| | | | | | | | | |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total Modules | 6 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Usable Capacity (TB) | 55 | 88 | 102 | 111 | 125 | 134 | 149 | 161 |
| Interface Modules (feature 2025) | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Data Modules (feature 2026) | 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 |
| 10GbE iSCSI Ports | 4 | 8 | 8 | 10 | 10 | 12 | 12 | 12 |
| 1GbE iSCSI Ports | 6 | 14 | 14 | 18 | 18 | 22 | 22 | 22 |
| Memory (GB) | 144 | 216 | 240 | 264 | 288 | 312 | 336 | 360 |

The IBM XIV Storage System Gen3 Model 214 is now able to scale even higher in a single rack footprint.

The XIV line of storage products continues to provide great ease-of-management and reliability.

The unique XIV architecture supports the use of high-density drives even for high-performance enterprise environments. The support of 3 TB SAS drives allows more than 50% greater capacity than the 2 TB drives and greater storage density per rack, which can help lower per-terabyte costs.

The following tables depict the configurations supported on the IBM XIV Storage System Gen3 with 3 TB raw capacity per drive.

3 TB raw capacity per drive

| | | | | | | | | |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total Modules | 6 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Usable Capacity (TB) | 84.1 | 132.8 | 154.9 | 168.3 | 190 | 203.6 | 225.3 | 243 |
| Interface Modules | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

| | | | | | | | | |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| (feature 2035) | | | | | | | | |
| Data Modules (feature 2036) | 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 |
| 10GbE iSCSI Ports | 4 | 8 | 8 | 10 | 10 | 12 | 12 | 12 |
| 1GbE iSCSI Ports | 6 | 14 | 14 | 18 | 18 | 22 | 22 | 22 |
| Memory (GB) | 144 | 216 | 240 | 264 | 288 | 312 | 336 | 360 |

IBM XIV Storage System Gen3 with IBM XIV software version 11.2.0 Model 214 supports SSD as read cache.

The availability of SSD read caching brings an additional performance boost to IBM XIV Storage System Gen3. With SSD read caching, the Gen3 with software version 11.2.0 further strengthens its ability to provide consistent high performance and enterprise functionality for open system storage, along with low total cost of ownership and ease of use.

SSD read caching increases the effective amount of read cache available to the system, with an emphasis on a read cache for random I/O. Designated SSD drives on each module are intended to be up to 0.40 TB, providing increased performance with higher cache hits compared to disk drives.

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

- RAS, quality, and performance enhancements
- New Model 214:
 - 10GbE iSCSI interfaces
 - 6 core CPU
 - SSD performance improvements
 - More energy-efficient hardware

Reference information

For previous IBM XIV Storage System Gen3, refer to:

- Hardware Announcement [111-128](#), dated July 12, 2011 , IBM XIV Storage System Gen3 new models 2810-114 and 2812-114
- Hardware Announcement [111-203](#), dated October 11, 2011 , IBM XIV Storage System Gen3 new features 3 TB drives for 2810 and 2812 model 114,
- Hardware Announcement [112-031](#), dated February 07, 2012 , IBM XIV Storage System Gen3 with software release 11.1 and offers IBM XIV SSD caching for 2810 and 2812 model 114
- Hardware Announcement [112-134](#), dated July 24, 2012 , IBM XIV Storage System Gen3 with software release 11.1.1 offers optional 1 TB raw capacity per drive for 2810 and 2812 model 114

Product number

| Description | Machine type | Model | Feature numbers |
|---|--------------|-------|-----------------|
| IBM XIV Storage System Model R3 | 2810 | 214 | |
| AAS SW order indicator | | | 0018 |
| Base unit indicator | | | 0030 |
| Retail unit indicator | | | 0035 |
| OEM unit indicator | | | 0036 |
| Ruggedized Rack | | | 0080 |
| Rear Water-Cooled Door | | | 0082 |
| UNIX host attachment | | | 0100 |
| Linux host attachment | | | 0101 |
| Windows host attachment | | | 0102 |
| Vmware host attachment | | | 0103 |
| Height / Weight Reduction | | | 0200 |
| Israel MoD Indicator | | | 0202 |
| RFID Labeling | | | 0203 |
| CoD 1 year agreement | | | 0301 |
| CoD 2 years agreement | | | 0302 |
| CoD 3 years agreement | | | 0303 |
| 6 module initial capacity | | | 0806 |
| 9 module initial capacity | | | 0809 |
| 10 module initial capacity | | | 0810 |
| 11 module initial capacity | | | 0811 |
| 12 module initial capacity | | | 0812 |
| 13 module initial capacity | | | 0813 |
| 14 module initial capacity | | | 0814 |
| 15 module initial capacity | | | 0815 |
| 1TB Interface Module 1GbE | | | 2015 |
| 1TB Data Module | | | 2016 |
| 2TB Interface Module 1GbE | | | 2025 |
| 2TB Data Module | | | 2026 |
| 2TB CoD Interface Module 1GbE | | | 2027 |
| 2TB CoD Data module | | | 2028 |
| 2TB HDD CoD Activation 1GbE | | | 2029 |
| 3TB Interface Module 1GbE | | | 2035 |
| 3TB Data Module | | | 2036 |
| 3TB CoD Interface Module 1GbE | | | 2037 |
| 3TB CoD Data module | | | 2038 |
| 3TB HDD CoD Activation 1GbE | | | 2039 |
| 1TB Interface Module 10GbE | | | 2115 |
| 2TB Interface Module 10GbE | | | 2125 |
| 2TB CoD Interface Module 10GbE | | | 2127 |
| 2TB HDD CoD Activation 10GbE | | | 2128 |
| 3TB Interface Module 10GbE | | | 2135 |
| 3TB CoD Interface Module 10GbE | | | 2137 |
| 3TB HDD CoD Activation 10GbE | | | 2138 |
| IBM XIV SSD Caching option | | | 2255 |
| Ethernet cable | | | 3900 |
| Fibre cable (LC) | | | 3910 |
| Fibre cable (LC/SC) | | | 3920 |
| Modem | | | 9101 |
| US/CA/LA/AP 60A pin cord | | | 9811 |
| EMEA/Aus/NZ 60A hard wired | | | 9813 |
| 3ph non-EMEA 60A pin cord | | | 9820 |
| 3ph EMEA and A/NZ 30A hard wired | | | 9822 |
| 3ph 30A non-EMEA pin cord | | | 9824 |
| Single phase power | | | 9890 |
| Three phase 60A non-EMEA delta power | | | 9891 |
| Three phase 30A EMEA and A/NZ wye power | | | 9892 |
| Three phase 30A non-EMEA delta power | | | 9894 |

| Description | Machine type | Model | Feature numbers |
|--|--------------|-------|-----------------|
| IBM XIV Storage System Model R3 | 2812 | 214 | |
| AAS SW order indicator | | | 0018 |
| Base unit indicator | | | 0030 |
| Retail unit indicator | | | 0035 |
| OEM unit indicator | | | 0036 |
| Ruggedized Rack | | | 0080 |
| Rear Water-Cooled Door | | | 0082 |
| UNIX host attachment | | | 0100 |
| Linux host attachment | | | 0101 |
| Windows host attachment | | | 0102 |
| Vmware host attachment | | | 0103 |
| Height / weight Reduction | | | 0200 |
| Israel MOD Indicator | | | 0202 |
| RFID Labeling | | | 0203 |
| CoD 1 year agreement | | | 0301 |
| CoD 2 years agreement | | | 0302 |
| CoD 3 years agreement | | | 0303 |
| 6 module initial capacity | | | 0806 |
| 9 module initial capacity | | | 0809 |
| 10 module initial capacity | | | 0810 |
| 11 module initial capacity | | | 0811 |
| 12 module initial capacity | | | 0812 |
| 13 module initial capacity | | | 0813 |
| 14 module initial capacity | | | 0814 |
| 15 module initial capacity | | | 0815 |
| 1TB Interface Module 1GbE | | | 2015 |
| 1TB Data Module | | | 2016 |
| 2TB Interface Module 1GbE | | | 2025 |
| 2TB Data Module | | | 2026 |
| 2TB CoD Interface Module 1GbE | | | 2027 |
| 2TB CoD Data module | | | 2028 |
| 2TB HDD CoD Activation 1GbE | | | 2029 |
| 3TB Interface Module 1GbE | | | 2035 |
| 3TB Data Module | | | 2036 |
| 3TB CoD Interface Module 1GbE | | | 2037 |
| 3TB CoD Data module | | | 2038 |
| 3TB HDD CoD Activation 1GbE | | | 2039 |
| 1TB Interface Module 10GbE | | | 2115 |
| 2TB Interface Module 10GbE | | | 2125 |
| 2TB CoD Interface Module 10GbE | | | 2127 |
| 2TB HDD CoD Activation 10GbE | | | 2128 |
| 3TB Interface Module 10GbE | | | 2135 |
| 3TB CoD Interface Module 10GbE | | | 2137 |
| 3TB HDD CoD Activation 10GbE | | | 2138 |
| IBM XIV SSD Caching option | | | 2255 |
| Ethernet cable | | | 3900 |
| Fibre cable (LC) | | | 3910 |
| Fibre cable (LC/SC) | | | 3920 |
| Modem | | | 9101 |
| US/CA/LA/AP 60A pin cord | | | 9811 |
| EMEA/Aus/NZ 60A hard wired | | | 9813 |
| 3ph non-EMEA 60A pin cord | | | 9820 |
| 3ph EMEA and A/NZ 30A hard wired | | | 9822 |
| 3ph 30A non-EMEA pin cord | | | 9824 |
| Single phase power | | | 9890 |
| Three phase 60A non-EMEA delta power | | | 9891 |
| Three phase 30A EMEA and A/NZ wye power | | | 9892 |
| Three phase 30A non-EMEA delta power | | | 9894 |

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=113-013>

Publications

The following publications are shipped with this product:

| Title | Order number |
|--|--------------|
| International Program License Agreement additional copies | Z125-3301 |
| IBM Safety Notices (standard - 29 languages) available | G229-9054 |
| 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>

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.

XIV Gen 3 products include Disk Drive Module Enhanced Sparing which reduces service touches. With DDM (Disk Drive Module) Enhanced Sparing, machines configured to call home will open a Problem Management Record (PMR) for DDM replacement only upon failure of the third DDM. If a PMR is opened for any other problem and there are one or more failed DDMs the PMR will include notification to the Service Support Representative (SSR) that there are DDM(s) requiring maintenance, and failed DDMs will be handled on the same site visit. A service offering is available via RPQ #8S1193 to disable Enhanced Sparing for a fee.

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 2810-214

- Width: 660 mm (26 in)
- Depth: 1200 mm (47.2 in)
- Height: 2020 mm (79.5 in)
- Weight: 1044.5 kg (2303.1 lb)

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

IBM XIV Storage System Model 2812-214

- Width: 660 mm (26 in)
- Depth: 1200 mm (47.2 in)
- Height: 2020 mm (79.5 in)
- Weight: 1044.5 kg (2303.1 lb)

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

Standards

XIV Gen 3 products include Disk Drive Module (DDM) Enhanced Sparing which reduces service touches. With DDM Enhanced Sparing, machines configured to call home will open a Problem Management Record (PMR) for DDM replacement only upon failure of the third DDM. If a PMR is opened for any other problem and there are one or more failed DDMs, the PMR will include notification to the Service Support Representative (SSR) that there are DDM(s) requiring maintenance, and failed DDMs will be handled on the same site visit. A service offering is available via RPQ #8S1193 to disable Enhanced Sparing for a fee.

Operating environment

IBM XIV Storage System Model 2810-214

- 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:
 - 2 TB HDD - 6.7 kVA max consumption
 - 3 TB HDD - 7.0 kVA max consumption
- Noise level: 56 dBa

IBM XIV Storage System Model 2812-214

- 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:
 - 2 TB HDD - 6.7 kVA max consumption
 - 3 TB HDD - 7.0 kVA max consumption
- Noise level: 56 dBa

Homologation

This product is certified only in the following countries for connection to interfaces of public telecommunications networks.

(#9101) Modem

This feature provides a modem that is installed in the XIV Storage System rack. The modem is used for remote support activities and is a required feature where available. The modem is available in the following countries:

Acores, Albania, Algeria, Andorra, Angola, Anguilla, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, Bahamas (The), Bahrain, Bangladesh, Barbados, Belarus, Belize, Belgium, Bulgaria, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, British Virgin Islands, Brunei, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Canaries, Cape Verde, Cayman Islands, Central African Republic, Chad, Chile, China, Colombia, Congo, Democratic Republic of the, Costa Rica, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Polynesia, Gabon, Gambia (The), Georgia, Germany, Ghana, Gibraltar, Greece, Greenland, Grenada, Guadeloupe, Guam, Guatemala, Guernsey, Guiana, Guinea-Bissau, Guinea Conakry, Guyana, Honduras, Hong Kong (Territory of China), Hungary, Iceland, India, Indonesia, Ireland, Isle of Man, Israel, Italy, Ivory Coast, Jamaica, Japan, Jersey, Jordan, Kazakhstan, Kenya, Korea, South, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liechtenstein, Lithuania, Luxembourg, Macau (China), Macedonia, Madagascar, Madeira, Malawi, Malaysia, Maldives, Mali, Malta, Martinique, Mauritania, Mauritius, Mexico, Moldavia, Montenegro, Monaco, Montserrat, Morocco / Western Sahara, Mozambique, Namibia, Nepal, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Nicaragua, Niger, Nigeria, Northern Mariana, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Reunion, Republic of Djibouti, Romania, Russia, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Pierre and Miquelon, Saint Vincent and the Grenadines, Saudi Arabia, Serbia, Senegal, Seychelles, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Turks and Caicos Islands, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, US Virgin Islands, Uzbekistan, Venezuela, Vietnam, Zambia, and Zimbabwe

In other countries, further certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions. In some countries, the availability of the product may depend on the availability of the relevant national regulatory certificates.

Hardware requirements

The 2810-214 and 2812-214 must have the 5639-YYB IBM XIV Storage Software for operation.

Limitations

Intermixing of port bandwidth between 10GbE and 1Gb within the same system is not supported (mutually exclusive).

Partially populated IBM XIV Storage Systems that are shipped from the factory with any of the raw capacity per drive options must continue to be populated with the same raw capacity per drive option.

Intermixing any of the following capacity point options in a single XIV Storage System frame is not allowed: 1 TB, 2 TB, or 3 TB.

All features and functions in this announcement are supported on the IBM XIV Storage System Model 214 with IBM XIV Storage System software version 11.2.0, or later, installed.

If one module supports SSD caching, then all modules in the system must have SSD.

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. Additional services are also available. Refer to 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 FC 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.

Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support all at no additional cost to you.

Now integrated into the base operating system of AIX® 5.3, AIX 6.1, and AIX 7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type "smitty esa_main", and select "Configure Electronic Service Agent." In addition, ESA now includes a powerful Web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

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

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

Benefits

Increased uptime: The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the "symptoms," diagnosing the error, and manually calling IBM Support to open a problem record. Its 24 x 7 monitoring and reporting mean no more dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool securely transmits either via the Internet (HTTPS or VPN) or modem, and can be configured to communicate securely through gateways to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system. System inventory information is stored in a secure database, which is protected behind IBM firewalls. It is viewable only by the customer and IBM. The customer's business applications or business data is never transmitted to IBM.

More accurate reporting: Since system information and error logs are automatically uploaded to the IBM Support center in conjunction with the service request, customers are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

Customized support: Using the IBM ID entered during activation, customers can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Support website at

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

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent . Reports are available for any system associated with the customer's IBM ID. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledge base. Using Premium Search and the Electronic Service Agent information that has been collected from your system, customers are able to see search results that apply specifically to their systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or visit

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

Terms and conditions

Volume orders: Contact your IBM representative.

IBM Global Financing

Yes

Warranty period

One year or 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

Machine type 2810 is provided with one year of standard warranty. For your convenience, on the 2812 IBM has provided two 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 Web site. 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. 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 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 Web site. 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, under the CRU and 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 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 machines 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

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

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 | 214 | | | |
| AAS SW order indicator | 2810 | 214 | 0018 | N | Y |
| Base unit indicator | 2810 | 214 | 0030 | N | Y |
| Retail unit indicator | 2810 | 214 | 0035 | N | Y |
| OEM unit indicator | 2810 | 214 | 0036 | N | Y |
| Ruggedized Rack | 2810 | 214 | 0080 | N | N |
| Rear Water-Cooled Door | 2810 | 214 | 0082 | N | N |
| UNIX host attachment | 2810 | 214 | 0100 | N | N |
| Linux host attachment | 2810 | 214 | 0101 | N | N |
| Windows host attachment | 2810 | 214 | 0102 | N | N |
| Vmware host attachment | 2810 | 214 | 0103 | N | N |
| Height / weight Reduction | 2810 | 214 | 0200 | N | Y |
| Israel MoD Indicator | 2810 | 214 | 0202 | N | N |
| RFID Labeling | 2810 | 214 | 0203 | N | N |
| CoD 1 year agreement | 2810 | 214 | 0301 | N | Y |
| CoD 2 years agreement | 2810 | 214 | 0302 | N | Y |
| CoD 3 years agreement | 2810 | 214 | 0303 | N | Y |
| 6 module initial capacity | 2810 | 214 | 0806 | N | Y |
| 9 module initial capacity | 2810 | 214 | 0809 | N | Y |
| 10 module initial capacity | 2810 | 214 | 0810 | N | Y |
| 11 module initial capacity | 2810 | 214 | 0811 | N | Y |
| 12 module initial capacity | 2810 | 214 | 0812 | N | Y |
| 13 module initial capacity | 2810 | 214 | 0813 | N | Y |
| 14 module initial capacity | 2810 | 214 | 0814 | N | Y |
| 15 module initial capacity | 2810 | 214 | 0815 | N | Y |
| 1TB Interface Module 1GbE | 2810 | 214 | 2015 | N | N |
| 1TB Data Module | 2810 | 214 | 2016 | N | N |
| 2TB Interface Module 1GbE | 2810 | 214 | 2025 | N | N |
| 2TB Data | 2810 | 214 | 2026 | N | N |

| | | | | | |
|-----------------------------|-------|-----|------|---|---|
| Module | | | | | |
| 2TB COD | 2810 | 214 | 2027 | N | N |
| Interface Module | 1GbE | | | | |
| 2TB COD Data | 2810 | 214 | 2028 | N | N |
| module | | | | | |
| 2TB HDD CoD | 2810 | 214 | 2029 | N | N |
| Activation | 1GbE | | | | |
| 3TB | 2810 | 214 | 2035 | N | N |
| Interface Module | 1GbE | | | | |
| 3TB Data | 2810 | 214 | 2036 | N | N |
| Module | | | | | |
| 3TB COD | 2810 | 214 | 2037 | N | N |
| Interface Module | 1GbE | | | | |
| 3TB COD | 2810 | 214 | 2038 | N | N |
| Data module | | | | | |
| 3TB HDD | 2810 | 214 | 2039 | N | N |
| CoD Activation | 1GbE | | | | |
| 1TB | 2810 | 214 | 2115 | N | N |
| Interface Module | 10GbE | | | | |
| 2TB | 2810 | 214 | 2125 | N | N |
| Interface Module | 10GbE | | | | |
| 2TB COD | 2810 | 214 | 2127 | N | N |
| Interface Module | 10GbE | | | | |
| 2TB HDD CoD | 2810 | 214 | 2128 | N | N |
| Activation | 10GbE | | | | |
| 3TB | 2810 | 214 | 2135 | N | N |
| Interface Module | 10GbE | | | | |
| 3TB COD | 2810 | 214 | 2137 | N | N |
| Interface Module | 10GbE | | | | |
| 3TB HDD CoD | 2810 | 214 | 2138 | N | N |
| Activation | 10GbE | | | | |
| IBM XIV SSD | 2810 | 214 | 2255 | N | N |
| Caching option | | | | | |
| Ethernet | 2810 | 214 | 3900 | N | N |
| cable | | | | | |
| Fibre cable | 2810 | 214 | 3910 | N | N |
| (LC) | | | | | |
| Fibre cable | 2810 | 214 | 3920 | N | N |
| (LC/SC) | | | | | |
| Modem | 2810 | 214 | 9101 | N | N |
| US/CA/LA/AP | 2810 | 214 | 9811 | N | N |
| 60A pin cord | | | | | |
| EMEA/Aus/NZ | 2810 | 214 | 9813 | N | N |
| 60A hard wired | | | | | |
| 3ph non-EMEA | 2810 | 214 | 9820 | N | N |
| 60A pin cord | | | | | |
| 3ph EMEA and | 2810 | 214 | 9822 | N | N |
| A/NZ 30A hard wired | | | | | |
| 3ph 30A | 2810 | 214 | 9824 | N | N |
| non-EMEA pin cord | | | | | |
| Single phase | 2810 | 214 | 9890 | N | Y |
| power | | | | | |
| Three phase | 2810 | 214 | 9891 | N | Y |
| 60A non-EMEA delta power | | | | | |
| Three phase | 2810 | 214 | 9892 | N | Y |
| 30A EMEA and A/NZ wye power | | | | | |
| Three phase | 2810 | 214 | 9894 | N | Y |
| 30A non-EMEA delta power | | | | | |

| Description | Machine Type | Machine Model | Feature Number | Field install only | Plant install only |
|---------------------------|--------------|---------------|----------------|--------------------|--------------------|
| IBM XIV Storage System R3 | 2812 | 214 | | | |
| AAS SW order indicator | 2812 | 214 | 0018 | N | Y |
| Base unit indicator | 2812 | 214 | 0030 | N | Y |
| Retail unit indicator | 2812 | 214 | 0035 | N | Y |
| OEM unit | 2812 | 214 | 0036 | N | Y |

| | | | | | |
|----------------------------|------|-----|------|---|---|
| indicator | | | | | |
| Ruggedized Rack | 2812 | 214 | 0080 | N | N |
| Rear Water-Cooled Door | 2812 | 214 | 0082 | N | N |
| UNIX host attachment | 2812 | 214 | 0100 | N | N |
| Linux host attachment | 2812 | 214 | 0101 | N | N |
| Windows host attachment | 2812 | 214 | 0102 | N | N |
| Vmware host attachment | 2812 | 214 | 0103 | N | N |
| Height / Weight Reduction | 2812 | 214 | 0200 | N | Y |
| Israel MoD Indicator | 2812 | 214 | 0202 | N | N |
| RFID Labeling | 2812 | 214 | 0203 | N | N |
| CoD 1 year agreement | 2812 | 214 | 0301 | N | Y |
| CoD 2 years agreement | 2812 | 214 | 0302 | N | Y |
| CoD 3 years agreement | 2812 | 214 | 0303 | N | Y |
| 6 module initial capacity | 2812 | 214 | 0806 | N | Y |
| 9 module initial capacity | 2812 | 214 | 0809 | N | Y |
| 10 module initial capacity | 2812 | 214 | 0810 | N | Y |
| 11 module initial capacity | 2812 | 214 | 0811 | N | Y |
| 12 module initial capacity | 2812 | 214 | 0812 | N | Y |
| 13 module initial capacity | 2812 | 214 | 0813 | N | Y |
| 14 module initial capacity | 2812 | 214 | 0814 | N | Y |
| 15 module initial capacity | 2812 | 214 | 0815 | N | Y |
| 1TB Interface Module | 2812 | 214 | 2015 | N | N |
| 1TB Data Module | 2812 | 214 | 2016 | N | N |
| 2TB Interface Module | 2812 | 214 | 2025 | N | N |
| 2TB Data Module | 2812 | 214 | 2026 | N | N |
| 2TB COD Interface Module | 2812 | 214 | 2027 | N | N |
| 2TB COD Data module | 2812 | 214 | 2028 | N | N |
| 2TB HDD CoD Activation | 2812 | 214 | 2029 | N | N |
| 3TB Interface Module | 2812 | 214 | 2035 | N | N |
| 3TB Data Module | 2812 | 214 | 2036 | N | N |
| 3TB COD Interface Module | 2812 | 214 | 2037 | N | N |
| 3TB COD Data module | 2812 | 214 | 2038 | N | N |
| 3TB HDD CoD Activation | 2812 | 214 | 2039 | N | N |
| 1TB Interface Module | 2812 | 214 | 2115 | N | N |
| 2TB Interface Module | 2812 | 214 | 2125 | N | N |
| 2TB COD Interface Module | 2812 | 214 | 2127 | N | N |
| 2TB HDD CoD Activation | 2812 | 214 | 2128 | N | N |
| 3TB | 2812 | 214 | 2135 | N | N |

| | | | | | |
|---|------|-----|------|---|---|
| Interface Module 10GbE | | | | | |
| 3TB COD | 2812 | 214 | 2137 | N | N |
| Interface Module 10GbE | | | | | |
| 3TB HDD CoD | 2812 | 214 | 2138 | N | N |
| Activation 10GbE | | | | | |
| IBM XIV SSD | 2812 | 214 | 2255 | N | N |
| Caching option | | | | | |
| Ethernet cable | 2812 | 214 | 3900 | N | N |
| Fibre cable (LC) | 2812 | 214 | 3910 | N | N |
| Fibre cable (LC/SC) | 2812 | 214 | 3920 | N | N |
| Modem | 2812 | 214 | 9101 | N | N |
| US/CA/LA/AP 60A pin cord | 2812 | 214 | 9811 | N | N |
| EMEA/Aus/NZ 60A hard wired | 2812 | 214 | 9813 | N | N |
| 3ph non-EMEA 60A pin cord | 2812 | 214 | 9820 | N | N |
| 3ph EMEA and A/NZ 30A hard wired | 2812 | 214 | 9822 | N | N |
| 3ph 30A non-EMEA pin cord | 2812 | 214 | 9824 | N | N |
| Single phase power | 2812 | 214 | 9890 | N | Y |
| Three phase 60A non-EMEA delta power | 2812 | 214 | 9891 | N | Y |
| Three phase 30A EMEA and A/NZ wye power | 2812 | 214 | 9892 | N | Y |
| Three phase 30A non-EMEA delta power | 2812 | 214 | 9894 | N | Y |

Feature Change Options for 2810 model 214

| 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 |
| 1TB Interface Module 1GbE | 2015 | Both | No | No | No |
| 1TB Data Module | 2016 | Both | No | No | No |
| 2TB Interface Module 1GbE | 2025 | Both | No | No | No |
| 2TB Data Module | 2026 | Both | No | No | No |
| 2TB COD Interface Module 1GbE | 2027 | Both | No | No | No |
| 2TB COD Data Module | 2028 | Both | No | No | No |
| 2TB HDD CoD Activation 1GbE | 2029 | Both | No | No | No |
| 3TB Interface Module 1GbE | 2035 | Both | No | No | No |
| 3TB Data Module | 2036 | Both | No | No | No |
| 3TB COD Interface Module 1GbE | 2037 | Both | No | No | No |
| 3TB COD Data module | 2038 | Both | No | No | No |
| 3TB HDD CoD Activation 1GbE | 2039 | Both | No | No | No |
| 1TB Interface Module 10GbE | 2115 | Both | No | No | No |
| 2TB Interface Module 10GbE | 2125 | Both | No | No | No |
| 2TB COD Interface Module 10GbE | 2127 | Both | No | No | No |
| 2TB HDD CoD Activation 10GbE | 2128 | Both | No | No | No |
| 3TB Interface Module | 2135 | Both | No | No | No |

| | | | | | | |
|---|------|------|-----|-----|-----|-----|
| 10GbE | | | | | | |
| 3TB CoD Interface Module 10GbE | 2137 | Both | No | No | No | No |
| 3TB HDD CoD Activation 10GbE | 2138 | Both | No | No | No | No |
| IBM XIV SSD Caching | 2255 | Both | No | No | No | No |
| Ethernet cable | 3900 | Both | No | No | No | No |
| Fibre cable (LC) | 3910 | Both | No | No | No | No |
| Fibre cable (LC/SC) | 3920 | Both | No | No | No | No |
| Modem | 9101 | Both | No | No | No | No |
| Line cords: | | | | | | |
| US/CA/LA/AP 60A pin cord | 9811 | Both | No | No | No | No |
| EMEA/Aus/NZ 60A hard wired | 9813 | Both | No | No | No | No |
| 3ph non-EMEA 60A pin cord | 9820 | Both | No | No | No | No |
| 3ph EMEA and A/NZ 30A hard wired | 9822 | Both | No | No | No | No |
| 3ph 30A non-EMEA pin cord | 9824 | Both | No | No | No | No |
| Single phase power | 9890 | Both | Yes | Yes | Yes | Yes |
| Three phase 60A non-EMEA delta power | 9891 | Both | Yes | Yes | Yes | Yes |
| Three phase 30A EMEA and A/NZ wye power | 9892 | Both | Yes | Yes | Yes | Yes |
| Three phase 30A non-EMEA delta power | 9894 | Both | Yes | Yes | Yes | Yes |

Feature Change Options for 2812 model 214

| 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 |
| 1TB Interface Module 1GbE | 2015 | Both | No | No | No |
| 1TB Data Module | 2016 | Both | No | No | No |
| 2TB Interface Module 1GbE | 2025 | Both | No | No | No |
| 2TB Data Module | 2026 | Both | No | No | No |
| 2TB CoD Interface Module 1GbE | 2027 | Both | No | No | No |
| 2TB CoD Data Module | 2028 | Both | No | No | No |
| 2TB HDD CoD Activation 1GbE | 2029 | Both | No | No | No |
| 3TB Interface Module 1GbE | 2035 | Both | No | No | No |
| 3TB Data Module | 2036 | Both | No | No | No |
| 3TB CoD Interface Module 1GbE | 2037 | Both | No | No | No |
| 3TB CoD Data module | 2038 | Both | No | No | No |
| 3TB HDD CoD Activation 1GbE | 2039 | Both | No | No | No |
| 1TB Interface Module 10GbE | 2115 | Both | No | No | No |
| 2TB Interface Module 10GbE | 2125 | Both | No | No | No |
| 2TB CoD Interface Module 10GbE | 2127 | Both | No | No | No |
| 2TB HDD CoD Activation 10GbE | 2128 | Both | No | No | No |
| 3TB Interface Module 10GbE | 2135 | Both | No | No | No |
| 3TB CoD Interface Module 10GbE | 2137 | Both | No | No | No |

| | | | | | |
|---|------|------|-----|-----|-----|
| 3TB HDD CoD Activation 10GbE | 2138 | Both | No | No | No |
| IBM XIV SSD Caching | 2255 | 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 and A/NZ 30A hard wired | 9822 | Both | No | No | No |
| 3ph 30A non-EMEA pin cord | 9824 | Both | No | No | No |
| Single phase power | 9890 | Both | Yes | Yes | Yes |
| Three phase 60A non-EMEA delta power | 9891 | Both | Yes | Yes | Yes |
| Three phase 30A EMEA and A/NZ wye power | 9892 | Both | Yes | Yes | Yes |
| Three phase 30A non-EMEA delta power | 9894 | Both | Yes | Yes | Yes |

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

Alternative service

ICA Maintenance:

| Machine Type-Model-Feature | IOR | I08 |
|-------------------------------|--|--|
| | IBM same day on-site repair (IOR 24 x 7) | IBM next day on-site repair (IOR, NBD 9x5) |
| 2810-214 | | |
| 2812-214 | | |
| 2810-214 2015 | | |
| 2812-214 2015 | | |
| 2810-214 2016 | | |
| 2812-214 2016 | | |
| 2810-214 2025 | | |
| 2812-214 2025 | | |
| 2810-214 2026 | | |
| 2812-214 2026 | | |
| 2810-214 2027 | | |
| 2812-214 2027 | | |
| 2810-214 2028 | | |
| 2812-214 2028 | | |
| 2810-214 2035 | | |
| 2812-214 2035 | | |
| 2810-214 2036 | | |
| 2812-214 2036 | | |
| 2810-214 2037 | | |
| 2812-214 2037 | | |
| 2810-214 2038 | | |
| 2812-214 2038 | | |
| 2810-214 2115 | | |
| 2812-214 2115 | | |
| 2810-214 2125 | | |
| 2812-214 2125 | | |
| 2810-214 2127 | | |
| 2812-214 2127 | | |
| 2810-214 2135 | | |
| 2812-214 2135 | | |
| 2810-214 2137 | | |
| 2812-214 2137 | | |
| 2810-214 2255 | | |
| 2812-214 2255 | | |

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Corrections

(Corrected on May 6, 2013)

The Product number and Pricing sections have been updated.

(Corrected on February 21, 2013)

The Product number and Pricing sections have been updated to clarify features 20xx and 21xx.