

IBM Flex System x440 Compute Node

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At a glance



The IBM Flex System™ x440 Compute Node is an Intel-processor based server optimized for high-end virtualization, mainstream database deployments, and memory-intensive high performance environments.

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

Overview

The IBM Flex System x440 Compute Node is an Intel-processor based server optimized for high-end virtualization, mainstream database deployments, and memory-intensive high performance environments.

Versatile

- Designed to run a variety of workloads, including high-end virtualization and mainstream databases
- A great choice of processors, memory, internal storage, and I/O options, allowing for flexible configurations
- Supported in the IBM Flex System Enterprise Chassis

Easy to use

- Two hot-swapped storage bays that support SAS/SATA drives, enabling drives to be removed easily for replacement or upgrade
- An optional embedded hypervisor that helps enable "instant virtualization"
- Light path diagnostics and Predictive Failure Analysis to help enable quick serviceability and maintenance
- Real-time management of the system day one out of the box via the Flex System Management, with a preconfigured and preinstalled interface

Performance optimized

- Next-generation Intel Xeon™ E5-4600 family processors, up to four processors, 130 W each

- Memory capacity with 48 DDR3 DIMM slots supporting up to 1,536 GB using 32 GB LRDIMMs
- Support for running 2DPC at 1600 MHz
- High-speed I/O that supports up to a total of eight physical 10 Gb ports or up to 64 ports of Virtual Fabric

Power and cooling

- Low-power processors and low-power memory DIMMs
- Energy-efficient 1.35 V DIMM support
- Active Energy Manager to help monitor and cap power consumption
- Advanced management that supports limiting power consumption and real-time power and thermal management
- Innovative and robust design to help keep the compute node performing under demanding conditions

Key prerequisites

- IBM Flex System Enterprise Chassis
- IBM network switch
- Appropriate PDUs and main power distribution
- VGA monitor, USB keyboard, and USB mouse for setup

Planned availability date

August 24, 2012, for all except:

October 18, 2012

- 46C9031 A3DT ServeRAID M5100 Series IBM Flex System Flash Kit for x440

Description

IBM Flex System compute nodes

Compute nodes typically contain the number and type of microprocessors, memory modules, and hard disk drives that are needed to support a specific workload environment. These nodes use integrated network ports or optional network adapters to connect to external devices through the switches or modules that are installed in the chassis.

Note: The network adapters and ports in the nodes must be compatible with the network switches or modules in the chassis.

These compute nodes come with Intel Xeon microprocessors and provide the function, reliability, and performance in a small form factor design. They support a variety of Microsoft™ Windows™, Linux™, and VMware operating systems and are ideally suited for high-performance and virtualized environments such as memory-intensive computing, collaboration, general and mission-critical processing, and enterprise application workloads. All models come with an integrated management module (IMM2) that connects to the Chassis Management Module to provide the integrated systems-management functions for the node.

Flex System x440 Compute Node

The IBM Flex System x440 Compute Node is a high-density server optimized for high-end virtualization, mainstream database deployments, and memory-intensive high performance environments.

The Flex System x440 Compute Node provides support for optional devices, such as the following devices:

- Up to four multicore microprocessors
- Up to 48 low profile dual inline memory modules (DIMMs)
- Up to two hot-swap storage drives
- Up to four I/O expansion adapters (model dependent)
- Up to two internal bootable USB flash keys

The Flex System x440 Compute Node is supported in the IBM Flex System Enterprise Chassis only.

The IBM Flex System x440 Compute Node supports memory mirroring. Chipkill is supported in any mode when x4-based DIMM memory is used. Chipkill memory correction for up to four bits per DIMM helps to keep your server up and running.

Standard IBM Flex System x440 Compute Node configuration

Model information

Model	Intel Xeon name	CPU Cores	CPU speed	CPU GT/s	CPU power	Memory/ type	HDD interface
7917-F4x	E5-4650	8	2.7 GHz	8.0	130w	1x8 GB 1600 MHZ	H/S SFF
7917-F2x	E5-4650	8	2.7 GHz	8.0	130w	1x8 GB 1600 MHZ	H/S SFF
7917-D4x	E5-4620	8	2.2 GHz	7.2	95w	1x8 GB 1333 MHZ	H/S SFF
7917-D2x	E5-4620	8	2.2 GHz	7.2	95w	1x8 GB 1333 MHZ	H/S SFF
7917-C4x	E5-4610	6	2.4 GHz	7.2	95w	1x8 GB 1333 MHZ	H/S SFF
7917-C2x	E5-4610	6	2.4 GHz	7.2	95w	1x8 GB 1333 MHZ	H/S SFF
7917-B4x	E5-4607	6	2.2 GHz	6.4	95w	1x8 GB 1333 MHZ	H/S SFF
7917-B2x	E5-4607	6	2.2 GHz	6.4	95w	1x8 GB 1333 MHZ	H/S SFF
7917-A4x	E5-4603	4	2.0 GHz	6.4	95w	1x8 GB 1333 MHZ	H/S SFF
7917-A2x	E5-4603	4	2.0 GHz	6.4	95w	1x8 GB 1333 MHZ	H/S SFF

EMEA x = G

Additional features

- The IBM Flex System x440 Compute Node system board contains 48 DIMM connectors.
 - Each DIMM connector supports 4 GB, 8 GB, 16 GB, or 32 GB low-profile (LP) double data rate (DDR3) DRAM.
 - Chipkill is supported in x4 DIMM memory configurations only.
- Support is provided for up to two hot-swap, Small Form Factor (SFF) Serial Attached SCSI (SAS), Serial ATA (SATA), or Solid State (SSD) storage drives.
- Dual 10-Gigabit Ethernet connections are provided on select models.

IBM Flex System x440 Compute Node servers are designed for high throughput from processor to memory, and to bus I/O.

These features, combined with SMP capability and blade-thin density, make it an excellent choice for space- and power-constrained environments used for:

- Database

- Virtualization
- General enterprise applications such as ERP and SCM
- Simulations

High-availability and serviceability features

- Hot-swap capability
Hot-swap compute nodes enable easy access to each node server.
- Management module
The management module interfaces with each node server for single systems management control.
- Dynamic System Analysis (DSA)
IBM Dynamic System Analysis (DSA) collects and analyzes system information to aid in diagnosing compute node problems. DSA collects the following information about the compute node:
 - Drive health information
 - Event logs for ServeRAID controllers and service processors
 - Hardware inventory, including PCI and USB information
 - Installed applications and hot fixes
 - Kernel modules
 - Light path diagnostics status
 - Network interfaces and settings
 - Performance data and details about processes that are running
 - RAID and controller configuration
 - Integrated management module 2 status and configuration
 - System configuration
 - Vital product data and firmware information

DSA creates a DSA log, which is a chronologically ordered merge of the system-event log (as the IPMI event log), the IMM event log (as the ASM event log), and the operating-system event logs. You can send the DSA log as a file to a support representative or view the information as a text file or HTML file.
- Flexible network support
The compute node provides flexible network capabilities:
 - The integrated Emulex BE3 dual-port Gigabit Ethernet (select models) controller supports connections to a 1 Gbps or 10 Gbps network through an Ethernet-compatible switch module in the chassis. The controller also supports Wake on LAN technology.
 - The compute node has connectors on the system board for optional expansion adapters for adding network communication capabilities to the compute node. Depending on the model, you can install up to four I/O expansion adapters for network support. This provides the flexibility to install expansion adapters that support a variety of network communication technologies.
- Hard disk drive support
The compute node supports up to two hot-swap hard disk drives. You can implement RAID 0 or RAID 1 for the drives.
- IBM ServerGuide Setup and Installation CD
The ServerGuide Setup and Installation CD, which you can download from the web, provides programs to help you set up the compute node and install a Windows operating system. The ServerGuide program detects installed optional hardware devices and provides the correct configuration programs and device drivers.

- Integrated management module 2 (IMM2)

The integrated management module 2 (IMM2) combines systems-management function, video controller, the remote presence, and blue-screen capture features in a single chip. The IMM2 provides advanced systems-management control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM2 lights LEDs to help you diagnose the problem, records the error in the IMM event log, and alerts you to the problem.

Optionally, the IMM2 also provides a virtual presence capability for remote systems management capabilities. The IMM2 provides remote systems management through industry-standard interfaces:

- Common Information Model (CIM)
- Intelligent Platform Management Interface (IPMI) version 2.0
- Simple Network Management Protocol (SNMP) version 3.0
- Web browser

- Large system-memory capacity

The compute node supports up to 1,536 GB of system memory. The IBM Flex System x440 Compute Node provides support for up to 48 industry-standard registered or LRDIMM ECC DDR3 on low-profile (LP) DIMMs on the system board.

- Light path diagnostics

Light path diagnostics provides light-emitting diodes (LEDs) to help diagnose problems.

- Microprocessor technology

The compute node supports up to four multicore Intel Xeon microprocessors.

- Peripheral Component Interconnect Express® (PCIe)

PCIe is a computer expansion bus that is used for chip-to-chip interconnect and expansion adapter interconnect. You can add optional I/O and storage devices.

- Power throttling

By enforcing a configurable power policy known as power-domain oversubscription, the IBM Flex System chassis will allow for a larger overall chassis power budget depending on the number of power supplies installed. When a fault occurs in one or more power supplies, the power supplies can run oversubscribed for a short period of time. During this time period the compute nodes will throttle to safe power level in order to allow all components in the chassis to stay operational and survive the power supply failure. This policy is enforced by the Chassis Management Module in cooperation with every installed compute node in the IBM Flex System chassis. The policy is in effect when initial power is applied to the IBM Flex System chassis or when an administrator changes the policy.

The following settings for this policy are available:

- Basic power management
- Power module redundancy (N+N or N+1)
- Power module redundancy with compute node throttling allowed (N+N or N+1)

An administrator can configure the policy and monitor the overall chassis power environment by using the Chassis Management Module user interface.

- Systems-management support

The compute node supports the IBM Flex System Chassis Management Module (CMM) and IBM Flex System Manager management software.

- CMM is a hot-swap module that provides system-management functions for all components in an IBM Flex System chassis. It controls a serial port for remote connection and a 10/100 Mbps Ethernet remote-management connection.

- IBM Flex System Manager management software is a platform-management foundation that streamlines the way you manage physical and virtual systems in a heterogeneous environment. By using industry standards, IBM Flex System Manager management software supports multiple operating systems and virtualization technologies.

Flex System networking portfolio

Networking in datacenters today is undergoing a transition from a discrete traditional model to a more flexible, optimized model or the "smarter" model. Clients are looking to support more workloads with decreasing or flat IT budget. The network architecture on the Flex System platform has been designed to address the key challenges clients are facing today in their datacenters. The key attributes of the network architecture on this platform are:

- Integrated
 - Efficient integrated management as part of the management appliance
 - Move from physical network management to logical network management in a virtualized environment
- Automated
 - Seamless provisioning, management, and deployment of both physical and virtual network parameters using tools like Virtual Fabric Manager, IBM SoftSwitch (5000v), and VMready®
- Optimized
 - Creation of a flat logical network so there are fewer elements to manage
 - Reduced cost and complexity by leveraging IBM Virtual Fabric and I/O convergence
 - Reduced risk and cost by leveraging scalable switches that can provide both port and bandwidth flexibility

One of the key attributes of the products on this platform is scalability. When modules are marked "Scalable" this means that clients can buy the base product with a certain number of ports and when they need to scale up for more ports, they can just buy the license to enable the extra ports without having to provision any new hardware.

The Flex System networking portfolio includes:

- IBM Flex System EN2092 1Gb Ethernet Scalable Switch

This 1 Gb scalable switch is for clients looking to use the value of Flex System without moving to a 10 Gb environment. Key features of this switch module are:

 - The switch supports up to two logical partitions per physical switch.
 - It is a 52-port switch with 28 internal 1 Gb ports, 20 external 1 Gb ports, and 4 external 10 Gb ports.
 - The base switch provides 14 internal 1 Gb ports and 10 external 1 Gb RJ45 ports.
 - Upgrade 1 offers 14 additional internal 1 Gb ports and 10 additional external 1 Gb RJ45 ports.
 - Upgrade 2 enables the four 10 Gb uplink ports.
 - Upgrade 1 can be applied to the base switch or to Upgrade 2.
 - 10 Gb SFP+ ports can function at 1 Gb or 10 Gb.
 - The switch provides support for full L2/L3 Ethernet functionality.

The IBM Flex System EN2092 1Gb Ethernet Scalable Switch offers 14 internal 1 Gb ports to each compute node and ten external 1 Gb ports as uplinks. The external ports are RJ45.

- IBM Flex System EN2092 1 Gb Ethernet Scalable Switch (Upgrade 1)

Clients who require either more than two 1 Gb ports per server or more bandwidth can enable additional ports by using this switch upgrade. This option enables another 14 internal 1 Gb ports to each compute node and 10 additional external 1 Gb uplinks.

- IBM Flex System EN2092 1Gb Ethernet Scalable Switch (10 Gb Uplinks) (Upgrade 2)

This option enables the four 10 Gb uplinks on this switch module for clients who require higher performance and bandwidth to connect to 10 Gb Top-of-Rack (ToR) switch modules. Clients need to purchase at least the base switch before they can enable these uplinks. These uplinks can be enabled on either partition of the switch.

- IBM Flex System Fabric EN4093 10Gb Scalable Switch

This 10 Gb scalable switch offers uncompromised scalability, throughput, and performance. This switch can help clients migrate to 10 Gb infrastructure and offers virtualization features like Virtual Fabric and VMready . Clients should consider this switch if they:

- Are building a 10 Gb Ethernet infrastructure or migrating from 1 Gb to 10 Gb (mixed environment)
- Are deploying virtualization
- Want investment protection to upgrade to more ports and bandwidth (40 Gb)

Some of the key features of this switch are:

- This is a triple-density switch with the ability to scale based on your needs.
- It offers a total 64 ports with 42 internal 10 Gb ports and 22 external 10 Gb ports.
- The base switch provides 14 internal 10 Gb ports and 10 external SFP+ 10 Gb ports.
- Upgrade 1 provides 14 additional internal 10 Gb ports and enables two 40 Gb QSFP ports that can be used as four 10 Gb ports.
- Upgrade 2 offers 14 additional internal 10 Gb ports and enables 4 external SFP+ 10 Gb ports.
- Upgrade 1 is required to apply Upgrade 2.
- 10 Gb SFP+ ports can function at 1 Gb or 10 Gb.
- 40 Gb QSFP ports can function at 10 Gb or 40 Gb.
- The switch provides full Layer 2/3 Ethernet function.
- The switch offers Virtual Fabric support and management.

This base switch model will enable 14 internal 10 Gb ports, one to each compute node, and 10 external 10 Gb ports to connect to a ToR switch module. All external 10 Gb ports are SFP+ based connections.

- IBM Flex System Fabric EN4093 10Gb Scalable Switch (Upgrade 1)

This switch upgrade can be applied on the base switch when you require support for four ports of 10 Gb on the server or if you just want more uplink bandwidth on the base switch. The upgrade will enable 14 additional internal 10 Gb ports, one to each compute node, and two 40 Gb uplinks. These 40 Gb uplinks are QSFP connectors but can be converted to four 10 Gb uplinks using fan out cable. This upgrade can be applied if you already have the base switch model.

- IBM Flex System Fabric EN4093 10Gb Scalable Switch (Upgrade 2)

This switch upgrade can be applied on top of Upgrade 1 when you want to support six ports of 10 Gb on the server or if you just want more uplink bandwidth on the base switch. The upgrade will enable 14 additional internal 10 Gb ports, one to each compute node, and four 10 Gb uplinks. These uplinks are SFP+ ports.

- IBM Flex System EN4091 10Gb Ethernet Pass-thru

This module offers easy connectivity of the Flex System Chassis to an external network infrastructure. This is an unmanaged device enabling direct connectivity of a compute node in the chassis to an external Top-of-Rack switch. This module can function at both 1 Gb and 10 Gb speeds. It has 14 internal links and 14 external SFP+ uplinks.

- IBM Flex System EN2024 4-port 1Gb Ethernet Adapter

This four-port 1 Gb adapter can provide 1 Gb connectivity to clients. When it is combined with the IBM Flex System EN2092 1Gb Ethernet Scalable Switch, clients can leverage an end-to-end 1 Gb solution on Flex System Chassis. This adapter is based on Broadcom 5718 ASIC and supports a PCIe Gen2 x4 interface with MSI/MSI-X. It also supports I/O virtualization features like VMware NetQueue and Microsoft VMQ technologies.

- IBM Flex System CN4054 10Gb Virtual Fabric Adapter and IBM Flex System CN4054 Virtual Fabric Adapter (software upgrade)

This is a four-port 10 Gb adapter that can scale up to 16 virtual ports and support multiple protocols like Ethernet, iSCSI, and FCoE. This adapter uses the third generation of Emulex ASIC (BE3) that supports hardware offload and acceleration for network and storage protocols. By using a common infrastructure for Ethernet and storage networks, datacenters can reduce capital expenses (CAPEX) and operating expenses (OPEX). Key features of this adapter are:

- Each 10 Gb physical port can support up to four virtual ports (vNIC).
- Each vNIC appears as an individual adapter to the operating system.
- Each vNIC allocates bandwidth at increments of 100 Mb.
- Clients can run advanced protocols like HW iSCSI or FCoE on one of the vNICs per physical port via the software upgrade key.
- The adapter can connect at 1 Gb or 10 Gb speed.

This adapter will support the following modes of operations:

- Physical Mode (pNIC): In this mode the adapter will present four ports of 10 Gb and clients can upgrade to run either FCoE or HW iSCSI to connect to a storage target.
- IBM Virtual Fabric Mode: In this mode each of the physical 10 Gb ports can present up to four virtual ports to the operating system. Therefore on this card, users can get up to 16 virtual ports. Clients can set the bandwidth of each of these virtual ports at increments of 100 Mb. Additionally they can apply the software upgrade to run storage protocols (HW iSCSI or FCoE) on four of the 16 virtual ports. This mode works with the IBM 10Gb Virtual Fabric Switch to provide end-to-end I/O virtualization. This adapter ships by default in this mode.
- Switch Independent Mode: This functions like the IBM Virtual Fabric Mode except no setting or changes are required on the switch side. The adapter presents four virtual ports per physical port but on the switch side it is still a single 10 Gb port. This mode will enable clients to leverage the IBM Virtual Fabric capability with the 10Gb Pass-thru module also.

Key benefits of this adapter are:

- Ability to maximize I/O consolidation with high-performance 10 Gb ports
 - One adapter to run multiple protocols
 - Simplified setup and management options like CLI, Switch Interface, or Virtual Fabric Manager
- IBM Flex System EN4132 2-port 10Gb Ethernet Adapter

This two-port 10 Gb adapter is based on Mellanox Connect X3 ASIC. This is a PCIe Gen 3 adapter that supports next-generation technology like RDMA and RoCE. Other key features of this adapter are:

- Application acceleration

- Low latency for specialized apps

This adapter will work with the 10 Gb Flex System Fabric Switch and 10 Gb Pass-thru modules.

Fibre Channel Switch and Adapters

- IBM Flex System FC3171 8Gb SAN Switch and IBM Flex System FC3171 8Gb SAN Pass-thru

These SAN modules enable 8 Gb connectivity to storage from the Flex System Chassis. These SAN modules offer enhanced Fibre Channel functions like Port Aggregation, Auto-StreamGuard, Enhanced N_Port ID Virtualization (NPIV), and Automatic Failover.

Both of these modules run at high-performance 8 Gb speed. Two part numbers are offered to meet clients' requirements whether they need full switching function in the chassis or just a simple pass-thru solution.

- IBM Flex System FC5022 24-port 16Gb ESB SAN Scalable Switch, IBM Flex System FC5022 16Gb SAN Scalable Switch, and IBM Flex System FC5022 2-port 16Gb FC Adapter

These SAN switch modules and HBA deliver an embedded option for IBM Flex System users deploying storage area networks in their enterprise. They offer end-to-end 16 Gb and 8 Gb connectivity. These scalable switches enable Dynamic Ports on Demand (DPOD) and grow with the needs of the clients. The N-Port Virtualization mode streamlines the infrastructure by reducing the number of domains to manage while enabling the ability to add or move servers without impact to the SAN. Management is simplified via an integrated management appliance, or clients using end-to-end Brocade SAN can leverage the Brocade management tools.

Key features of this switch:

- Superior scalability to allow greater intrachassis connectivity
- Extension, encryption, and compression capable
- Diagnostic Port (D-Port) for superior validation and serviceability of network
- Total of 48 ports wired with 28 ports internal and 20 external
- Based on Brocade's seventh-generation Fibre Channel Switch ASIC

Two versions of this switch are available:

- IBM Flex System FC5022 16Gb SAN Scalable Switch

This switch comes with 12 Dynamic Ports on Demand (DPOD) licenses that can be applied to either internal or external links on this switch. Clients who do not fully populate the chassis can leverage this switch without having to pay for ports they are not using.

- IBM Flex System FC5022 24-port 16Gb Enterprise SAN Scalable Switch

This switch comes with 24 DPOD licenses that can be applied to either internal or external links on this switch. This switch will also include these enhanced software licenses installed:

- ISL Trunking (up to 128Gb ISL Trucks)
- Adaptive Networking
- Advanced Performance Monitoring
- Fabric Watch
- Extended Fabrics
- Server Application Optimization

To complement the 16Gb switches, we will offer a two-port 16 Gb adapter based on Brocade architecture to offer end-to-end 16 Gb connectivity to a

SAN. This adapter can autonegotiate and work at 8 Gb speed also. It offers enhanced features like storage Target Rate Limiting (TRL), VM aware Quality of Service (QoS) and 1M+ IOPS performance.

Clients can manage these devices via the integrated Flex System Manager or for advanced monitoring they can use the Brocade Network Advisor.

In summary, these SAN switches and adapter offer these key values:

- First 16 Gbps embedded switch with up to 640 Gb bandwidth
- Investment protection; growth in ports and bandwidth
- Superior scalability to allow greater intrachassis connectivity
- ISL Trunks up to 128 Gb for superior performance, resiliency, and management
- Extension, encryption, and compression capable
- Diagnostic Port (D-Port) for superior serviceability
- VM aware Quality of Service from adapter through entire network
- IBM Flex System FC3172 2-port 8Gb FC Adapter

The QLogic 8Gb Fibre Channel adapter enables high-speed access for Flex System compute nodes to connect to a Fibre Channel storage area network (SAN). This adapter is based on the proven QLogic 2532 8 Gb ASIC design and works with any of the 8 Gb or 16 Gb Flex System Fibre Channel switch modules. When compared to the previous-generation 4 Gb adapters, the new-generation 8 Gb adapters double the throughput speeds for Fibre Channel traffic. As a result, you can manage increased amounts of data and possibly benefit from a reduced hardware expense.

- IBM Flex System FC3052 2-port 8Gb FC Adapter

The Emulex 2-port 8Gb Fibre Channel adapter enables high-speed access for Flex System compute nodes to an external storage area network (SAN). This adapter is based on the proven Emulex Fibre Channel stack and works with any of the 8 Gb or 16 Gb Flex System Fibre Channel switch modules. When compared to the previous-generation 4 Gb adapters, the new-generation 8 Gb adapters double the throughput speeds for Fibre Channel traffic. As a result, you can manage increased amounts of data and possibly benefit from a reduced hardware expense.

InfiniBand switch and adapters

- IBM Flex System IB6131 InfiniBand Switch, IBM Flex System IB6132 2-port QDR InfiniBand Adapter, and IBM Flex System IB6132 2-port FDR InfiniBand Adapter

InfiniBand is a high-speed server-interconnect technology that is ideally suited as the interconnect technology for access layer and storage components specifically for application and back-end IPC applications, for connectivity between application and back-end layers, and from back-end to storage layers. Through use of host channel adapters (HCAs) and switches, InfiniBand technology is used to connect servers with remote storage and networking devices, and other servers. It can also be used inside servers for interprocessor communication (IPC) in parallel clusters.

The IBM Flex System IB6131 InfiniBand Switch is an upgradable device that can scale with your needs. The base switch enables 14 internal QDR links to each server and 18 QSFP uplink ports for interswitch links or to connect to external servers. Clients can upgrade to FDR speed (56 Gb) via the Feature On Demand (FOD) process.

The InfiniBand QDR and FDR switches based on Mellanox technology are unmanaged switches. A subnet manager is required to establish an InfiniBand fabric. This module supports switch-embedded subnet managers and host-based subnet managers.

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

IBM Flex System suits multiple delivery models, from highly customizable hardware platforms to a fully integrated and optimized system.

- IBM Flex System hardware 'building blocks' made up of individual components that can be mixed and matched, and are fully customizable with optional management
- IBM Flex System solutions made up of a chassis with an integrated management appliance, IBM networking, and storage standard
- IBM Flex System optimized offerings made up of preconfigured, highly customized systems - focused on selected workloads or single-purpose applications such as PureFlex™ or Cloudburst

Product number

The following are newly announced features on the specified models of the IBM xSeries® 7917 machine type:

Description	MT	Model	Feature
7917-AC1	7917	AC1	
7917-MC1	7917	MC1	
IBM 300GB 10K 6Gbps SAS 2.5" SFF Slim-HS SED	7917	AC1	5413
		MC1	
IBM 200GB SATA 1.8" MLC SSD	7917	AC1	5420
		MC1	
IBM 50GB SATA 1.8" MLC SSD	7917	AC1	5428
		MC1	
Integrated Solid State Mirroring	7917	AC1	7859
		MC1	
Integrated Solid State Striping	7917	AC1	7860
		MC1	
Preload by Hardware Feature Specify	7917	AC1	9220
		MC1	
IBM Flex System EN2024 4-port 1Gb Ethernet Adapter	7917	AC1	A10Y
		MC1	
IBM 900GB 10K 6Gbps SAS 2.5" SFF HS HDD	7917	AC1	A282
		MC1	
IBM 300GB 15K 6Gbps SAS 2.5" SFF HS HDD	7917	AC1	A283
		MC1	
4GB (1x4GB, 1Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHZ LP RDIMM	7917	AC1	A28Z
		MC1	
32GB (1x32GB, 4Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP LRDIMM	7917	AC1	A291
		MC1	
IBM Blank USB Memory Key for VMware ESXi Downloads	7917	AC1	A2G0
		MC1	
Primary Array - RAID 0	7917	AC1	A2K6
		MC1	
Primary Array - RAID 1	7917	AC1	A2K7
		MC1	
Primary Array - RAID 5	7917	AC1	A2K9
		MC1	
Primary Array - RAID 6	7917	AC1	A2KA
		MC1	
Primary Array - RAID 10	7917	AC1	A2KB

Secondary Array - RAID 0	7917	MC1 AC1	A2KF
Secondary Array - RAID 1	7917	MC1 AC1	A2KG
Secondary Array - RAID 5	7917	MC1 AC1	A2KJ
Secondary Array - RAID 6	7917	MC1 AC1	A2KK
Secondary Array - RAID 10	7917	MC1 AC1	A2KL
IBM Virtual Fabric Advanced Software Upgrade (LOM)	7917	MC1 AC1	A2TD
16GB (1x16GB, 2Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHZ LP RDIMM	7917	MC1 AC1	A2U5
IBM USB Memory Key for VMware ESXi 5.0	7917	MC1 AC1	A2VC
IBM 146GB 15K 6Gbps SAS 2.5" SFF G2HS HDD	7917	MC1 AC1	A2XB
IBM 300GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	7917	MC1 AC1	A2XC
IBM 600GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	7917	MC1 AC1	A2XD
IBM 500GB 7.2K 6Gbps NL SAS 2.5" SFF G2HS HDD	7917	MC1 AC1	A2XE
ServerRAID M5115 SAS/SATA Controller for IBM Flex System	7917	MC1 AC1	A2XW
ServerRAID M5100 Series RAID 6 Upgrade for IBM Flex System	7917	MC1 AC1	A2Y1
ServerRAID M5100 Series Performance Upgrade for IBM Flex System	7917	MC1 AC1	A2Y2
ServerRAID M5100 Series SSD Caching Enabler for IBM Flex System	7917	MC1 AC1	A36G
Primary Array 2 HDDs	7917	MC1 AC1	7008
Primary Array 3 HDDs	7917	MC1 AC1	7009
Primary Array 4 HDDs	7917	MC1 AC1	7010
Primary Array 5 HDDs	7917	MC1 AC1	7011
Primary Array 6 HDDs	7917	MC1 AC1	7012
Primary Array 7 HDDs	7917	MC1 AC1	7013
Primary Array 8 HDDs	7917	MC1 AC1	7014
Secondary Array 2 HDDs	7917	MC1 AC1	7015
Secondary Array 3 HDDs	7917	MC1 AC1	7016
Secondary Array 4 HDDs	7917	MC1 AC1	7017
Secondary Array 5 HDDs	7917	MC1 AC1	7057
Secondary Array 6 HDDs	7917	MC1 AC1	7058
IBM Flex System 1.8" SSD Filler	7917	MC1 AC1	A3EP
ServerRAID M5100 Series Left Side Air Baffle for IBM Flex System x440	7917	MC1 AC1	A3F6

The following are features already announced for the 7917 machine type:

Description	MT	Model	Feature
7917-AC1	7917	AC1	
7917-MC1	7917	MC1	

Integrated SATA Mirroring - 2 identical HDDs required	7917	AC1 MC1	0030
Integrated SATA Striping - 2 identical HDDs required	7917	AC1 MC1	0031
UID Asset Tag Label	7917	AC1 MC1	0747
EMEA Long Leadtime Configurations	7917	AC1 MC1	1763
Hungary CHW plant 9SH	7917	AC1 MC1	1764
Guad CHW plant 9KQ	7917	AC1 MC1	1765
ISTC CHW 9K2	7917	AC1 MC1	1766
RTP CHW 9NR	7917	AC1 MC1	1767
Offload Manufacturing to Guadalajara HVEC	7917	AC1 MC1	1768
Offload Manufacturing to RTP HVEC	7917	AC1 MC1	1769
Offload Manufacturing to ISTC	7917	AC1 MC1	1770
Routing for AP Foxconn	7917	AC1 MC1	1771
Capacity Scheduling Service	7917	AC1 MC1	1772
Custom SLA Scheduling Service	7917	AC1 MC1	1796
Custom Asset Tagging - Standard	7917	AC1 MC1	2200
Custom Asset Tagging - Enhanced	7917	AC1 MC1	2201
Custom Image Load - Server	7917	AC1 MC1	2204
Custom Media Shipgroup	7917	AC1 MC1	2206
Request for Global Trade Number (UPC or EAN)	7917	AC1 MC1	2207
Custom Software/Firmware Setting - Standard	7917	AC1 MC1	2208
Custom Software/Firmware Setting - Enhanced	7917	AC1 MC1	2209
Custom RAID Configuration	7917	AC1 MC1	2212
Custom Labeling	7917	AC1 MC1	2220
Custom Palletization	7917	AC1 MC1	2221
Request for a new Vendor Logo Hardware	7917	AC1 MC1	2247
Request for an existing IBM Feature	7917	AC1 MC1	2248
Request for an existing Public RPQ	7917	AC1 MC1	2249
RAID Configuration	7917	AC1 MC1	2302
Rack 01	7917	AC1 MC1	3101
Rack 02	7917	AC1 MC1	3102
Rack 03	7917	AC1 MC1	3103
Rack 04	7917	AC1 MC1	3104
Rack 05	7917	AC1 MC1	3105
Rack 06	7917	AC1 MC1	3106
Rack 07	7917	AC1 MC1	3107
Rack 08	7917	AC1 MC1	3108

Rack 09	7917	AC1	3109
		MC1	
Rack 10	7917	AC1	3110
		MC1	
Rack 11	7917	AC1	3111
		MC1	
Rack 12	7917	AC1	3112
		MC1	
Rack 13	7917	AC1	3113
		MC1	
Rack 14	7917	AC1	3114
		MC1	
Rack 15	7917	AC1	3115
		MC1	
Rack 16	7917	AC1	3116
		MC1	
Rack 17	7917	AC1	3117
		MC1	
Rack 18	7917	AC1	3118
		MC1	
Rack 19	7917	AC1	3119
		MC1	
Rack 20	7917	AC1	3120
		MC1	
Rack 21	7917	AC1	3121
		MC1	
Rack 22	7917	AC1	3122
		MC1	
Rack 23	7917	AC1	3123
		MC1	
Rack 24	7917	AC1	3124
		MC1	
Rack 25	7917	AC1	3125
		MC1	
Rack 26	7917	AC1	3126
		MC1	
Rack 27	7917	AC1	3127
		MC1	
Rack 28	7917	AC1	3128
		MC1	
Rack 29	7917	AC1	3129
		MC1	
Rack 30	7917	AC1	3130
		MC1	
Rack 31	7917	AC1	3131
		MC1	
Rack 32	7917	AC1	3132
		MC1	
Rack 33	7917	AC1	3133
		MC1	
Rack 34	7917	AC1	3134
		MC1	
Rack 35	7917	AC1	3135
		MC1	
Rack 36	7917	AC1	3136
		MC1	
Rack 37	7917	AC1	3137
		MC1	
Rack 38	7917	AC1	3138
		MC1	
Rack 39	7917	AC1	3139
		MC1	
Rack 40	7917	AC1	3140
		MC1	
Rack 41	7917	AC1	3141
		MC1	
Rack 42	7917	AC1	3142
		MC1	
Rack 43	7917	AC1	3143
		MC1	
Rack 44	7917	AC1	3144
		MC1	
Rack 45	7917	AC1	3145
		MC1	

Rack 46	7917	AC1	3146
		MC1	
Rack 47	7917	AC1	3147
		MC1	
Rack 48	7917	AC1	3148
		MC1	
Rack 49	7917	AC1	3149
		MC1	
Rack 50	7917	AC1	3150
		MC1	
Rack 51	7917	AC1	3151
		MC1	
Rack 52	7917	AC1	3152
		MC1	
Rack 53	7917	AC1	3153
		MC1	
Rack 54	7917	AC1	3154
		MC1	
Rack 55	7917	AC1	3155
		MC1	
Rack 56	7917	AC1	3156
		MC1	
Rack 57	7917	AC1	3157
		MC1	
Rack 58	7917	AC1	3158
		MC1	
Rack 59	7917	AC1	3159
		MC1	
Rack 60	7917	AC1	3160
		MC1	
Rack 61	7917	AC1	3161
		MC1	
Rack 62	7917	AC1	3162
		MC1	
Rack 63	7917	AC1	3163
		MC1	
Rack 64	7917	AC1	3164
		MC1	
BladeCenter 01	7917	AC1	3301
		MC1	
BladeCenter 02	7917	AC1	3302
		MC1	
BladeCenter 03	7917	AC1	3303
		MC1	
BladeCenter 04	7917	AC1	3304
		MC1	
BladeCenter 05	7917	AC1	3305
		MC1	
BladeCenter 06	7917	AC1	3306
		MC1	
BladeCenter 07	7917	AC1	3307
		MC1	
BladeCenter 08	7917	AC1	3308
		MC1	
BladeCenter 09	7917	AC1	3309
		MC1	
BladeCenter 10	7917	AC1	3310
		MC1	
BladeCenter 11	7917	AC1	3311
		MC1	
BladeCenter 12	7917	AC1	3312
		MC1	
BladeCenter 13	7917	AC1	3313
		MC1	
BladeCenter 14	7917	AC1	3314
		MC1	
BladeCenter 15	7917	AC1	3315
		MC1	
BladeCenter 16	7917	AC1	3316
		MC1	
BladeCenter 17	7917	AC1	3317
		MC1	
BladeCenter 18	7917	AC1	3318
		MC1	

BladeCenter 19	7917	AC1	3319
		MC1	
BladeCenter 20	7917	AC1	3320
		MC1	
BladeCenter 21	7917	AC1	3321
		MC1	
BladeCenter 22	7917	AC1	3322
		MC1	
BladeCenter 23	7917	AC1	3323
		MC1	
BladeCenter 24	7917	AC1	3324
		MC1	
BladeCenter 25	7917	AC1	3325
		MC1	
BladeCenter 26	7917	AC1	3326
		MC1	
BladeCenter 27	7917	AC1	3327
		MC1	
BladeCenter 28	7917	AC1	3328
		MC1	
BladeCenter 29	7917	AC1	3329
		MC1	
BladeCenter 30	7917	AC1	3330
		MC1	
BladeCenter 31	7917	AC1	3331
		MC1	
BladeCenter 32	7917	AC1	3332
		MC1	
BladeCenter 33	7917	AC1	3333
		MC1	
BladeCenter 34	7917	AC1	3334
		MC1	
BladeCenter 35	7917	AC1	3335
		MC1	
BladeCenter 36	7917	AC1	3336
		MC1	
BladeCenter 37	7917	AC1	3337
		MC1	
BladeCenter 38	7917	AC1	3338
		MC1	
BladeCenter 39	7917	AC1	3339
		MC1	
BladeCenter 40	7917	AC1	3340
		MC1	
BladeCenter location 01	7917	AC1	3401
		MC1	
BladeCenter location 02	7917	AC1	3402
		MC1	
BladeCenter location 03	7917	AC1	3403
		MC1	
BladeCenter location 04	7917	AC1	3404
		MC1	
BladeCenter location 05	7917	AC1	3405
		MC1	
BladeCenter location 06	7917	AC1	3406
		MC1	
BladeCenter location 07	7917	AC1	3407
		MC1	
BladeCenter location 08	7917	AC1	3408
		MC1	
BladeCenter location 09	7917	AC1	3409
		MC1	
BladeCenter location 10	7917	AC1	3410
		MC1	
BladeCenter location 11	7917	AC1	3411
		MC1	
BladeCenter location 12	7917	AC1	3412
		MC1	
BladeCenter location 13	7917	AC1	3413
		MC1	
BladeCenter location 14	7917	AC1	3414
		MC1	
Select Storage devices - no IBM-configured RAID required	7917	AC1	5977

Select Storage devices - IBM-configured RAID	7917	MC1 AC1	5978
SOFS Solution Code MFG Instruction	7917	MC1 AC1	6124
SAP-BWA Solution Code MFG Instruction	7917	MC1 AC1	6125
InfoSphere-BWA Solution Code MFG Instruction	7917	MC1 AC1	6126
GMAS Solution Code MFG Instruction	7917	MC1 AC1	6127
IBW-SSD Solution Code MFG Instruction	7917	MC1 AC1	6128
Cloudburst Solution Code MFG Instruction	7917	MC1 AC1	6129
SONAS Solution Code MFG Instruction	7917	MC1 AC1	6130
2.5" Gen2 HS HDD Filler	7917	MC1 AC1	6421
China Warranty	7917	MC1 AC1	7599
Customer Solution Center Services	7917	MC1 AC1	7831
e1350 Special Bid Solution Component	7917	MC1 AC1	7929
No HDD Selected	7917	MC1 AC1	8026
No Processor Selected	7917	MC1 AC1	8028
No Memory Selected	7917	MC1 AC1	8029
Consolidate Shipment	7917	MC1 AC1	8031
e1350 Solution Component	7917	MC1 AC1	8034
Compute Node	7917	MC1 AC1	8036
Management Node	7917	MC1 AC1	8037
Storage Node	7917	MC1 AC1	8038
Integrated SAS Mirroring - 2 identical HDDs required	7917	MC1 AC1	8039
Integrated SAS Striping - 2 identical HDDs required	7917	MC1 AC1	8040
TAA Compliant Order	7917	MC1 AC1	8067
General Racking Solution	7917	MC1 AC1	8072
Integrate BladeCenter® in Manufacturing	7917	MC1 AC1	8077
No 2.5" SAS HDD Selected	7917	MC1 AC1	8081
No Publications Selected	7917	MC1 AC1	8086
8GB (1x8GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7917	MC1 AC1	8923
4GB (1x4GB, 1Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7917	MC1 AC1	8941
4GB (1x4GB, 2Rx8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7917	MC1 AC1	8942
Memory Sparing	7917	MC1 AC1	9016
Enable Memory Mirroring	7917	MC1 AC1	9017
Storage Subsystem ID 01	7917	MC1 AC1	9170
Storage Subsystem ID 02	7917	MC1 AC1	9171

Storage Subsystem ID 03	7917	AC1	9172
		MC1	
Storage Subsystem ID 04	7917	AC1	9173
		MC1	
Storage Subsystem ID 05	7917	AC1	9174
		MC1	
Storage Subsystem ID 06	7917	AC1	9175
		MC1	
Storage Subsystem ID 07	7917	AC1	9176
		MC1	
Storage Subsystem ID 08	7917	AC1	9177
		MC1	
Storage Subsystem ID 09	7917	AC1	9178
		MC1	
Storage Subsystem ID 10	7917	AC1	9179
		MC1	
Storage Subsystem ID 11	7917	AC1	9180
		MC1	
Storage Subsystem ID 12	7917	AC1	9181
		MC1	
Storage Subsystem ID 13	7917	AC1	9182
		MC1	
Storage Subsystem ID 14	7917	AC1	9183
		MC1	
Storage Subsystem ID 15	7917	AC1	9184
		MC1	
Storage Subsystem ID 16	7917	AC1	9185
		MC1	
Storage Subsystem ID 17	7917	AC1	9186
		MC1	
Storage Subsystem ID 18	7917	AC1	9187
		MC1	
Storage Subsystem ID 19	7917	AC1	9188
		MC1	
Storage Subsystem ID 20	7917	AC1	9189
		MC1	
Preload Specify	7917	AC1	9200
		MC1	
Windows Specify	7917	MC1	9201
Red Hat Specify	7917	AC1	9202
SuSE Specify	7917	AC1	9203
AIX Specify	7917	AC1	9204
Drop-in-the-Box Specify	7917	AC1	9205
		MC1	
No Preload Specify	7917	AC1	9206
		MC1	
VMWare Specify	7917	AC1	9207
		MC1	
Solaris Specify	7917	AC1	9208
System x Cluster Upgrade	7917	AC1	A103
		MC1	
IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	7917	AC1	A1AV
		MC1	
IBM Flex System FC3172 2-port 8Gb FC Adapter	7917	AC1	A1BM
		MC1	
IBM Flex System FC5022 2-port 16Gb FC Adapter	7917	AC1	A1BP
		MC1	
IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	7917	AC1	A1NX
		MC1	
IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	7917	AC1	A1NZ
		MC1	
IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD	7917	AC1	A1P3
		MC1	
16GB (1x16GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	7917	AC1	A1QT
		MC1	
IBM Flex System EN4132 2-port 10Gb Ethernet Adapter	7917	AC1	A1QY
		MC1	
IBM Flex System IB6132 2-port FDR Infiniband Adapter	7917	AC1	A1QZ
		MC1	
IBM Flex System CN4054 Virtual Fabric Adapter (SW Upgrade)	7917	AC1	A1R0

IBM Flex System CN4054 10Gb Virtual Fabric Adapter	7917	MC1 AC1	A1R1
IBM Flex System x240 Compute Node Air Baffle	7917	MC1 AC1	A248
IBM Flex System Compute Node Fabric Connector	7917	MC1 AC1	A26R
16GB (1x16GB, 4Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP LRDIMM	7917	MC1 AC1	A290
8GB (1x8GB, 2Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHz LP RDIMM	7917	MC1 AC1	A292
IBM Flex System x440 Compute Node with embedded 10Gb Virtual Fabric	7917	MC1 AC1	A2BC
IBM Flex System x440 Compute Node	7917	MC1 AC1	A2BD
IBM Flex System x440 Compute Node Label	7917	MC1 AC1	A2BE
IBM Flex System x440 Compute Node Cover	7917	MC1 AC1	A2BF
IBM Flex System x440 Compute Node Front Bezel	7917	MC1 AC1	A2BG
System Documentation and Software-US English	7917	MC1 AC1	A2BJ
SAS HDD 1 x 2.5" Backplane	7917	MC1 AC1	A2BY
Intel Xeon Processor E5-4603 4C 2.0GHz 10M Cache 1066MHz 95W	7917	MC1 AC1	A2C0
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W	7917	MC1 AC1	A2C1
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W	7917	MC1 AC1	A2C2
Intel Xeon Processor E5-4607 6C 2.2GHz 12M Cache 1066MHz 95W	7917	MC1 AC1	A2C3
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W	7917	MC1 AC1	A2C4
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W	7917	MC1 AC1	A2C5
Intel Xeon Processor E5-4610 6C 2.4GHz 15M Cache 1333MHz 95W	7917	MC1 AC1	A2C6
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W	7917	MC1 AC1	A2C7
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W	7917	MC1 AC1	A2C8
Intel Xeon Processor E5-4617 6C 2.9GHz 15M Cache 1600MHz 130W	7917	MC1 AC1	A2C9
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W	7917	MC1 AC1	A2CA
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W	7917	MC1 AC1	A2CB
Intel Xeon Processor E5-4640 8C 2.4GHz 20M Cache 1600MHz 95W	7917	MC1 AC1	A2CC
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W	7917	MC1 AC1	A2CD

		MC1	
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W	7917	AC1 MC1	A2CE
Intel Xeon Processor E5-4620 8C 2.2GHz 16M Cache 1333MHz 95W	7917	AC1 MC1	A2CF
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W	7917	AC1 MC1	A2CG
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W	7917	AC1 MC1	A2CH
Intel Xeon Processor E5-4650 8C 2.7GHz 20M Cache 1600MHz 130W	7917	AC1 MC1	A2CJ
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W	7917	AC1 MC1	A2CK
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W	7917	AC1 MC1	A2CL
IBM Flex System Compute Node Full-wide WW packaging	7917	AC1 MC1	A2CN
RFID Tag, AG/AP: 902-928Mhz	7917	AC1 MC1	A2EV
IBM 200GB SATA 2.5" MLC HS SSD	7917	AC1 MC1	A2FN
IBM Flex System FC3052 2-port 8Gb FC Adapter	7917	AC1 MC1	A2N5
IBM Flex System x440 Compute Node Center Air Baffle	7917	AC1 MC1	A2QQ
Intel Xeon Processor E5-4650L 8C 2.6GHz 20M Cache 1600MHz 115W	7917	AC1 MC1	A2QU
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W	7917	AC1 MC1	A2QV
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W	7917	AC1 MC1	A2QW
IBM 256GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1 MC1	A2U3
IBM 128GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1 MC1	A2U4
IBM Flex System x440 Compute Node CPU Filler	7917	AC1 MC1	A2ZM
ServerAID M5100 Series Enablement Kit for IBM Flex System x440	7917	AC1 MC1	A3DS
ServerAID M5100 Series IBM Flex System Flash kit for x440	7917	AC1 MC1	A3DT
ServerAID M5100 Series SSD Expansion Kit for IBM Flex System x440	7917	AC1 MC1	A3DU

The following are features already announced for the 3331 machine type:

Description	MT	Model	Feature
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W	3331	HC1	A2C1
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W	3331	HC1	A2C2
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W	3331	HC1	A2C4
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W	3331	HC1	A2C5
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB			

Cache 1333MHz 95W	3331	HC1	A2C7
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB			
Cache 1333MHz 95W	3331	HC1	A2C8
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB			
Cache 1600MHz 130W	3331	HC1	A2CA
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB			
Cache 1600MHz 130W	3331	HC1	A2CB
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB			
Cache 1600MHz 95W	3331	HC1	A2CD
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB			
Cache 1600MHz 95W	3331	HC1	A2CE
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB			
Cache 1333MHz 95W	3331	HC1	A2CG
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB			
Cache 1333MHz 95W	3331	HC1	A2CH
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB			
Cache 1600MHz 130W	3331	HC1	A2CK
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB			
Cache 1600MHz 130W	3331	HC1	A2CL
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB			
Cache 1600MHz 115W	3331	HC1	A2QV
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB			
Cache 1600MHz 115W	3331	HC1	A2QW
ServerRAID M5100 Series Enablement Kit for IBM Flex System x440	3331	HC1	A3DS
ServerRAID M5100 Series IBM Flex System Flash Kit for x440	3331	HC1	A3DT
ServerRAID M5100 Series SSD Expansion Kit for IBM Flex System x440	3331	HC1	A3DU

Single Entity Offerings (SEO)

Description	SEO number
IBM Flex System x440 Compute Node	7917F4U 7917F2U 7917D4U 7917D2U 7917C4U 7917C2U 7917B4U 7917B2U 7917A4U 7917A2U

Option SEOs

The following are new unique option part numbers for IBM Flex System x440 Compute Node.

SEO number	Description
88Y6263	Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W
90Y9060	Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W
69Y3100	Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W
90Y9062	Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W
69Y3106	Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W
90Y9064	Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W
90Y9049	Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W
90Y9066	Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W
90Y9055	Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W
90Y9068	Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W
69Y3112	Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W
90Y9070	Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W
69Y3118	Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W
90Y9072	Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W
90Y9185	Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W
90Y9186	Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W
46C9030	ServerRAID M5100 Series Enablement Kit for IBM Flex System x440
46C9031	ServerRAID M5100 Series IBM Flex System Flash Kit for x440

The following feature numbers are automatically added to the 5372-SWX HIPO order whenever one of the hardware system units is configured in an order.

HIPO feature number	Description
4284	7917-AC1 Routing Code
4285	7917-MC1 Routing Code

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=112-099>

Publications

The *Installation and Service Guide* for IBM Flex System x440 Compute Node solutions, in US English, is available from

<https://www-304.ibm.com/systems/support/>

Under "Product Support," select " System x® ," and under "Choose your page" select "Documentation."

IBM Systems Information Centers provide you with a single site 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 Centers are at

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

Services

Global Technology Services

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

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

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

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

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

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

For details on education offerings related to specific products, visit

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

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

System x , BladeCenter , and Flex System Support Services

Recommended Core Technical Support

When you consider IBM Flex System technology, include the support services you need to help keep both your hardware and software working day after day, at peak performance. It's your first step toward helping to protect your investment and sustain high levels of system availability. We offer service-level and response-time options to fit your business. For these IBM systems, we have created a tiered structure of offerings that will help you get started with a core support package of options. The tiered support structure of offerings for IBM systems builds upon the base hardware warranty service through enhanced service levels to the minimum recommended level of Essential Support elements covering 24x7 Hardware and Software Support which should include the following:

Continuous System Monitoring

Electronic monitoring through IBM Electronic Service Agent™ that helps speed up problem-solving with automated, early detection of potential problems and system errors. IBM Electronic Service Agent provides proactive reporting of hardware events and enhances the ability to avoid problems with its call home abilities.

Hardware Maintenance

We recommend as part of an Essential Support element to every IBM system, IBM's world-class remote and on-site hardware problem determination and repair services enhanced with the call home abilities of IBM Electronic Service Agent . IBM Technical Support Services provide a tiered range of Warranty Service Upgrade and Maintenance offerings over and above base warranty to ensure high levels of availability and consistency of service. Our Essential Support tier including Warranty Service Upgrade is the recommended entry level for all our clients.

Software Technical Support

We recommend as part of an Essential Support element with every IBM system, Software Support Services from IBM Technical Support Services providing access to help line calls for fast, accurate answers to your questions during installation and throughout ongoing operations. Support packages are available on IBM operating systems and third-party operating systems as well as for IBM and third-party virtualization products. IBM Technical Support Services provided a tiered range of Software Support offerings to ensure high levels of availability and consistency of service. Our Essential Support tier is the recommended entry level for all our clients.

Base / Basic and Essential Support options are available across all geographies with High Availability and Premium services having availability tailored to geographic market needs.

For more information, visit

<http://www-935.ibm.com/services/us/en/it-services/tech-support-and-maintenance-services.html>

Technical information

Specified operating environment

Physical specifications

IBM Flex System x440 Compute Node

7917-F4x

Processor	Intel Xeon E5-4650
	8 core 130w
Internal speed	2.7 GHz
Maximum memory speed	1600 MHz
CPU interconnect speed	8.0 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	20 MB
Memory (LP ECC DDR3)	8 GB (1.5v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	2
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	2 x Dual 10Gb
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-F2x

Processor	Intel Xeon E5-4650
	8 core 130w
Internal speed	2.7 GHz
Maximum memory speed	1600 MHz
CPU interconnect speed	8.0 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	20 MB
Memory (LP ECC DDR3)	8 GB (1.5v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	4
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	0
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-D4x

Processor	Intel Xeon E5-4620
	8 core 95w
Internal speed	2.2 GHz
Maximum memory speed	1333 MHz
CPU interconnect speed	7.2 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	16 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	2
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	2 x Dual 10Gb
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-D2x

Processor	Intel Xeon E5-4620
	8 core 95w
Internal speed	2.2 GHz
Maximum memory speed	1333 MHz
CPU interconnect speed	7.2 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	16 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	4
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	0
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-C4x

Processor	Intel Xeon E5-4610
	6 core 95w
Internal speed	2.4 GHz
Maximum memory speed	1333 MHz
CPU interconnect speed	7.2 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	15 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	2
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	2 x Dual 10Gb
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-C2x

Processor	Intel Xeon E5-4610
	6 core 95w
Internal speed	2.4 GHz
Maximum memory speed	1333 MHz
CPU interconnect speed	7.2 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	15 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	4
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	0
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-B4x

Processor	Intel Xeon E5-4607
	6 core 95w
Internal speed	2.2 GHz
Maximum memory speed	1066 MHz
CPU interconnect speed	6.4 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	12 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	2
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	2 x Dual 10Gb
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-B2x

Processor	Intel Xeon E5-4607
	6 core 95w
Internal speed	2.2 GHz
Maximum memory speed	1066 MHz
CPU interconnect speed	6.4 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	12 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	4
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	0
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-A4x

Processor	Intel Xeon E5-4603
	4 core 95w
Internal speed	2.0 GHz
Maximum memory speed	1066 MHz
CPU interconnect speed	6.4 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	10 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	2
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	2 x Dual 10Gb
Front access connectors	
KVM connector	1 (3)
USB connector	1

7917-A2x

Processor	Intel Xeon E5-4603
	4 core 95w
Internal speed	2.0 GHz
Maximum memory speed	1066 MHz
CPU interconnect speed	6.4 GT/s
Number standard	1
Maximum	4
L3 cache (full speed)	10 MB
Memory (LP ECC DDR3)	8 GB (1.35v)
DIMMs (Standard)	1 x 8 GB
DIMM sockets	48
Capacity	1,536 GB (1)
Mezzanine Card	Optional
Standard	0
Maximum	4
Video	SVGA
Memory	16 MB
Disk controller	SAS
Channels	4
Connector internal	2
Connector external	0
RAID	Standard integrated 0, 1
Internal capacity	2 TB (2)
Total HDD or SSD bays	Up to 2
Management processor	Standard
Ethernet controller	0
Front access connectors	
KVM connector	1 (3)
USB connector	1

(1) Total system memory capacity is based on using 32 GB memory

DIMMs.

- (2) Capacities are based on installation of two 1 TB drives.
- (3) Use of the IBM Flex System Console Breakout Cable provided with each chassis and sold separately allows connection of standard KVM options.

For latest information on supported HDD options, visit

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

IBM Flex System x440 Compute Node specifications

Video subsystem

- 16 MB DDR3
- Integrated on the IMM2

Supported IBM Flex System x440 Compute Node video resolutions

Resolution	Maximum Refresh Rate Supported	Bpp
640 x 400	60, 72, 75, 85	8, 16, 24
800 x 600	60, 72, 75, 85	8, 16, 24
1024 x 768	60, 72, 75, 85	8, 16, 24
1280 x 1024	60, 75	8, 16, 24
1440 x 900	60, 60 RB	8, 16, 24
1600 x 1200	60, 75	8, 16, 24
1680 x 1050	60, 60 RB	8, 16, 24

Note: 24 Bpp (16.7 million colors) aligned on a 32-bit boundary for performance

Note: Each resolution supports both CRT and flat panel monitors. For CRT monitors, each resolution complies with CRT ISO 9241.3.

- 1440 x 900 and 1680 x 1050 are typically wide screen flat panel (non-CRT) settings so they are only available at 60 Hz.
- 1440 x 900 and 1680 x 1050 are available at 60 Hz with support for 60 Hz Reduced Blanking Mode.
- For the resolutions supported by different operating systems, refer the operating system documentation.

Dimensions - IBM Flex System x440 Compute Node

- Height: 55.5 mm (2.19 in)
- Depth: 492.7 mm (19.4 in)
- Width: 453.3 mm (17.4 in)
- Maximum weight: 12.25 kg (27 lb) (depending on the configuration when options are added)

Electrical

IBM Flex System x440 Compute Node: 12.2 (nominal) V dc

Note: All weights and measurements are approximate.

Standards

Equipment approvals and safety

- FCC - Verified to comply with Part 15 of the FCC Rules Class A
- Canada ICES-004, issue 3 Class A
- UL/IEC 60950-1
- CSA C22.2 No. 60950-1
- NOM-019

- Argentina IEC 60950-1

Operating environment

The IBM Flex System x440 Compute Node complies with ASHRAE Class A3 specifications.

- Power on:
 - Temperature: 5° - 40°C (41° - 104°F)
 - Humidity, noncondensing: -12°C dew point (10.4°F) and 8% - 85% relative humidity
 - Maximum dew point: 24°C (75°F)
 - Maximum altitude: 3048 m (10,000 ft)
 - Maximum rate of temperature change: 5°C/hr (41°F/hr)
- Power off:
 - Temperature: 5°C to 45°C (41°F - 113°F)
 - Relative humidity: 8% - 85%
 - Maximum dew point: 27°C (80.6°F)
- Storage (nonoperating):
 - Temperature: 1°C to 60°C (33.8°F - 140°F)
 - Altitude: 3050 m (10,006 ft)
 - Relative humidity: 5% - 80%
 - Maximum dew point: 29°C (84.2°F)
- Shipment (nonoperating):
 - Temperature: -40°C to 60°C (-40°F - 140°F)
 - Altitude: 10,700 m (35,105 ft)
 - Relative humidity: 5% - 100%
 - Maximum dew point: 29°C (84.2°F)
 - Particulate contamination

Hardware requirements

For service, the IBM Flex System x440 Compute Node requires a compatible:

- Monitor
- Combination USB keyboard and pointing device such as IBM part number 40K5372
- USB CD-RW/DVD drive such as the IBM and Lenovo part number 73P4515 or 73P4516

Software requirements

The following network operating systems are supported in the IBM Flex System x440 Compute Node.

- Microsoft :
 - Microsoft Windows Server 2008 R2 with Service Pack 1
 - Microsoft Windows Server 2008, Datacenter x64 Edition with Service Pack 2
 - Microsoft Windows Server 2008, Enterprise x64 Edition with RA Service Pack 2
 - Microsoft Windows Server 2008, Standard x64 Edition with RA Service Pack 2
 - Microsoft Windows Server 2008, Web x64 Edition with RA Service Pack 2
- Linux :
 - SUSE Linux Enterprise Server 10 for AMD64/EM64T, Service Pack 4
 - SUSE Linux Enterprise Server 11 for AMD64/EM64T, Service Pack 2
 - SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T, Service Pack 2

- Red Hat Enterprise Linux 5 Server x64 Edition, U8
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition, U8
- Red Hat Enterprise Linux 6 Server x64 Edition, U3
- VMware:
 - VMware ESX 4.1, U2
 - VMware ESXi 4.1, U2
 - VMware vSphere 5, U1

Note: For additional support, certification, and version information on network operating systems, visit

<http://www-03.ibm.com/systems/info/x86servers/serverproven/compat/us>

Compatibility

The IBM Flex System x440 Compute Node contains licensed system programs that include set configuration, set features, and test programs. IBM system BIOS is loaded from a "flash" EEPROM into system memory. This BIOS provides instructions and interfaces designed to support the standard features of the x440 Compute Node and to maintain compatibility with many current software programs.

Contact your IBM representative or IBM Business Partner, or refer to the IBM *Sales Manual* for information on the compatibility of hardware and software for System x servers. The *Sales Manual* is updated periodically as new features and options are announced that support these servers.

Limitations

- The Flex System x440 Compute Nodes contain 48 DIMM sockets. A maximum of 1,536 TB of system memory is supported by using a 32 GB DIMM of ECC DDR3 memory in each of the DIMM sockets. A minimum of one memory feature must be installed. All memory installed must be of the same type (RDIMM or LRDIMM).
- Processor modules must be of the same type, power level, and clock speed on each Flex System x440 Compute Node. Mixing processor modules of different speeds, power levels, or cache sizes or upgrading the base processors is not supported. Mixing processor speeds and memory speeds will result in the system running at the lower of rated speeds.
- The Flex System x440 Compute Node is supported only in the IBM Flex System Enterprise Chassis.
- Four mezzanine expansion cards may be installed on the Flex System x440 Compute Node.
- Mezzanine expansion cards installed in the Flex System x440 Compute Node require a switch module in the Flex System Enterprise Chassis of the same connectivity type.
- Regarding the use of solid state disk drives, solid-state memory cells have an intrinsic, finite number of write cycles that each cell can incur. As a result, each solid-state device has a maximum amount of write cycles to which it can be subjected, documented as TBW (Total Bytes Written). IBM is not responsible for replacement of hardware that has reached the maximum guaranteed number of write cycles. This limit may be revealed as the device failing to respond to system-generated commands or becoming incapable of being written to. Additional information is available at

<http://www-03.ibm.com/systems/x/options/storage/solidstate/index.html>

Planning information

Customer responsibilities

The IBM Flex System x440 Compute Node server is designated as customer setup. Customer setup instructions are shipped with each system.

Supported memory options

Option number	Description
90Y3105	32GB (4Gb, 4Rx4, 1.35V) PC3L-10600 DDR3-1333 LP LR-DIMM
49Y1567	16GB (2Gb, 2Rx4, 1.35V) (LR from 4Rx4) PC3L-10600 DDR3-1333 LP LR-DIMM
00D4968	16GB (4Gb, 2Rx4, 1.5V) PC3_12800 DDR3-1600 LP RDIMM
49Y1563	16GB (4Gb, 2Rx4, 1.35V) PC3-10600 DDR3-1333 LP RDIMM
49Y1559	4GB (2Gb, 1Rx4, 1.5V) PC3-12800 ECC LP RDIMM
49Y1406	4GB (2Gb, 1Rx4, 1.35V) PC3L-10600R ECC LP RDIMM
49Y1407	4GB (2Gb, 2Rx8, 1.35V) PC3L-10600R ECC LP RDIMM
90Y3109	8GB (2Gb, 2Rx4, 1.5V) PC3-12800 DDR3-1600 LP RDIMM
49Y1397	8GB 2Rx4 2Gb PC3L-10600R LP RDIMM 1.35V Capable

Cable orders

All cables are supplied with the IBM Flex System x440 Compute Node. Depending on the applications, the cables may be fully installed, partially installed (plugged at one end and packaged for shipping), or included as part of a shipment group.

Packaging

Ship group

The system carton contains the system unit and a ship-group kit containing the following documents and CDs:

- Important Notices booklet
- IBM Warranty Information booklet
- Product Documentation CD that includes the following documents:
 - Installation and Service Guide
 - IBM Safety Information
 - Product machine code license and other licenses and notices
- Environmental Notice and User Guide Documentation CD

The *Installation and Service Guide* on the Product Documentation CD contains the installation, use, and troubleshooting information necessary to use and service the product.

Supplies

None

Security, auditability, and control

Three of the most important features in compute node design are reliability, availability, and serviceability (RAS). These RAS features help to ensure the integrity of the data that is stored in the compute node, the availability of the compute node when you need it, and the ease with which you can diagnose and correct problems.

The compute node has the following RAS features:

- Advanced Configuration and Power Interface (ACPI)
- Automatic server restart (ASR)
- Built-in diagnostics using DSA Preboot, which is stored NAND Flash memory
- Built-in monitoring for temperature, voltage, and hard disk drives
- Customer support center 24 hours per day, 7 days a week
- Customer upgrade of flash ROM-resident code and diagnostics

- Customer-upgradeable Unified Extensible Firmware Interface (UEFI) code and diagnostics
- ECC protected DDR3 memory
- ECC protection on the L2 cache
- Error codes and messages
- Integrated management module II (IMM2) that communicates with the Chassis Management Module to enable remote systems management
- Light path diagnostics
- Memory parity testing
- Microprocessor built-in self-test (BIST) during power-on self-test (POST)
- Microprocessor serial number access
- PCI Express 2.0 and PCI Express 3.0
- PCI PMI 2.2
- POST
- Power policy 24-hour support center
- Processor presence detection
- ROM-resident diagnostics
- System-error logging
- Vital product data (VPD) on memory
- Wake on LAN capability
- Wake on PCI (PME) capability
- Wake on USB 2.0 capability
- Processor failover upon failure of primary (boot) processor (requires two processors to support)

This offering uses the security and auditability features from standard IBM offerings and supported Linux distributions.

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

Terms and conditions

IBM Global Financing

Yes

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM .

In the United States, call 800-IBM-SERV (426-7378), or write to:

Warranty Information
P.O. Box 12195
Research Triangle Park, NC 27709
Attn: Dept JDJA/B203

Warranty period

- Three years
- Optional features - One year

Note: For configurations that support the RAID Battery, the RAID battery will be warranted for one year effective on its "Date of Installation." All other product warranty terms for the machine remain unchanged.

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 are the same as those for the machine in which it is installed.

The following have been designated as consumables, supply items, or structural parts and therefore not covered by this warranty:

- Baffles and fillers
- Miscellaneous parts kit
- Mezzanine retention kit
- Top cover assembly
- Cam handle kit
- HDD cage
- Rear bulkhead

Warranty service

If required, IBM provides repair or exchange service, depending on the type of warranty service specified below for the machine. 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. 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.

The type of service is Customer Replaceable Unit (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

Customer Replaceable Unit (CRU) Service

IBM provides a replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request. A CRU is designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) 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. You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service designated for your machine.

Based upon availability, a CRU 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, and 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 or features have been designated as Tier 1 CRUs:

- System service label
- Cables
- HDDs

- HDD backplane
- Memory DIMMs
- Storage drives
- 3x8 double ended periscope receptacle
- Indicator panel
- RAID battery (one year warranty)
- RFID label tag assembly
- 2 GB USB memory flash key
- Mezzanine adapters and cards
- Front bezel with power button
- KVM dongle cable

On-site Service

At IBM's discretion you will receive CRU service or IBM or your reseller will repair the failing machine at your location and verify its operation. If required, On-site Repair is provided, 9 hours per day, Monday through Friday excluding holidays, NBD response. 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. On-site Service is not available in all countries, and some countries have kilometer or mileage limitations from an IBM service center. In those locations where On-site Service is not available, the normal in-country service delivery is used.

Call IBM at 1-800-IBM-SERV (426-7378) to assist with problem isolation for hardware to determine if warranty service is required. Telephone support may be subject to additional charges, even during the limited warranty period.

Calls must be received by 5:00 p.m. local time in order to qualify for NBD service.

International Warranty Service

International Warranty Service (IWS) is available in selected countries or regions.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased.

Under IWS, warranty service will be provided with the prevailing warranty service type and service level available for the IWS-eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

To determine the eligibility of your machine and to view a list of countries where service is available, visit

<http://www-947.ibm.com/support/entry/portal/docdisplay?Indocid=GCOR-3FBJK2>

For more information on IWS, refer to Services Announcement 601-034, dated September 25, 2001 .

Licensing

Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

Maintenance services

ServicePac , ServiceSuite , ServiceElect, and ServiceElite

ServicePac® , ServiceSuite® , ServiceElect, and ServiceElite provide hardware warranty service upgrades, maintenance, and selected support services in one agreement.

Warranty service upgrade

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

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.

CRUs will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 2 CRU yourself or request IBM installation, at no additional charge, under one of the On-site Service levels specified below.

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.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. 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. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

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, and 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.

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.

Maintenance service (ICA)

Maintenance services are available for ICA legacy contracts.

Alternative service (warranty service upgrades)

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

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.

A CRU will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 1 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service designated for your machine.

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.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. 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. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

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, and 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.

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.

Non-IBM parts support

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 its customers, and normal warranty service procedures for the IBM machine apply.

Warranty service upgrades and maintenance services

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

IBM Service provides hardware problem determination on non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, or memory) installed within IBM machines covered under warranty service upgrades or maintenance services 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

IBM hourly service rate classification

One

Field-installable features

Yes

Model conversions

No

Machine installation

Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

Graduated program license charges apply

No

Licensed Machine Code

IBM Machine Code is licensed for use by a customer on the IBM machine for which it was provided by IBM under the terms and conditions of the IBM License Agreement for Machine Code, to enable the machine to function in accordance with its specifications, and only for the capacity authorized by IBM and acquired by the customer. You can obtain the agreement by contacting your IBM representative or visiting

http://www-304.ibm.com/servers/support/machine_warranties/machine_code.html

IBM may release changes to the Machine Code. IBM plans to make the Machine Code changes available for download from the IBM System x technical support website

<http://www-304.ibm.com/systems/support/>

If the machine does not function as warranted and your problem can be resolved through your application of downloadable Machine Code, you are responsible for downloading and installing these designated Machine Code changes as IBM specifies.

If you would prefer, you may request IBM to install downloadable Machine Code changes; however, you may be charged for that service.

Access to IBM Flex System fix downloads will be granted upon entitlement validation. The terms and conditions for fixes will be covered under the License Agreement for Machine Code, International Program License Agreement, International License Agreement for Non-Warranted Programs and/or other terms provided with the fix, as applicable.

Educational allowance

None

Pricing

For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

<http://www-03.ibm.com/systems/x/>

The following are features already announced for the 3331 machine type:

Description	Model number	Feature number	Initial/	
			Both support	RP CSU MES
Addl Intel Xeon Processor Cache 1066MHz 95W	E5-4603	4C 2.0GHZ 10MB		
	HC1	A2C1	MES	
Addl Intel Xeon Processor Cache 1066MHz 95W	E5-4603	4C 2.0GHZ 10MB		
	HC1	A2C2	MES	
Addl Intel Xeon Processor Cache 1066MHz 95W	E5-4607	6C 2.2GHZ 12MB		
	HC1	A2C4	MES	
Addl Intel Xeon Processor Cache 1066MHz 95W	E5-4607	6C 2.2GHZ 12MB		
	HC1	A2C5	MES	
Addl Intel Xeon Processor Cache 1333MHz 95W	E5-4610	6C 2.4GHZ 15MB		
	HC1	A2C7	MES	
Addl Intel Xeon Processor Cache 1333MHz 95W	E5-4610	6C 2.4GHZ 15MB		
	HC1	A2C8	MES	
Addl Intel Xeon Processor Cache 1600MHz 130W	E5-4617	6C 2.9GHZ 15MB		
	HC1	A2CA	MES	
Addl Intel Xeon Processor Cache 1600MHz 130W	E5-4617	6C 2.9GHZ 15MB		
	HC1	A2CB	MES	
Addl Intel Xeon Processor Cache 1600MHz 95W	E5-4640	8C 2.4GHZ 20MB		
	HC1	A2CD	MES	
Addl Intel Xeon Processor Cache 1600MHz 95W	E5-4640	8C 2.4GHZ 20MB		
	HC1	A2CE	MES	
Addl Intel Xeon Processor Cache 1333MHz 95W	E5-4620	8C 2.2GHZ 16MB		
	HC1	A2CG	MES	
Addl Intel Xeon Processor Cache 1333MHz 95W	E5-4620	8C 2.2GHZ 16MB		
	HC1	A2CH	MES	
Addl Intel Xeon Processor Cache 1600MHz 130W	E5-4650	8C 2.7GHZ 20MB		
	HC1	A2CK	MES	
Addl Intel Xeon Processor Cache 1600MHz 130W	E5-4650	8C 2.7GHZ 20MB		
	HC1	A2CL	MES	
Addl Intel Xeon Processor	E5-4650L	8C 2.6GHZ 20MB		

Cache 1600MHz 115W	HC1	A2QV	MES
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB			
Cache 1600MHz 115W	HC1	A2QW	MES
ServerRAID M5100 Series Enablement Kit for IBM Flex System x440			
ServerRAID M5100 Series IBM Flex System Flash Kit for x440	HC1	A3DS	MES
ServerRAID M5100 Series SSD Expansion Kit for IBM Flex System x440	HC1	A3DT	MES
	HC1	A3DU	MES

The following are newly announced features on the specified models of the IBM xSeries 7917 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
IBM Flex System x440 Compute Node	AC1			N/A
IBM Flex System x440 Compute Node	MC1			N/A
IBM 300GB 10K 6Gbps SAS 2.5" SFF Slim-HS SED	AC1	5413	Initial	
	MC1		Initial	
IBM 200GB SATA 1.8" MLC SSD	AC1	5420	Initial	
	MC1		Initial	
IBM 50GB SATA 1.8" MLC SSD	AC1	5428	Initial	
	MC1		Initial	
Integrated Solid State Mirroring	AC1	7859	Initial	
	MC1		Initial	
Integrated Solid State Striping	AC1	7860	Initial	
	MC1		Initial	
Preload by Hardware Feature Specify	AC1	9220	Initial	
	MC1		Initial	
IBM Flex System EN2024 4-port 1Gb Ethernet Adapter	AC1	A10Y	Initial	
	MC1		Initial	
IBM 900GB 10K 6Gbps SAS 2.5" SFF HS HDD	AC1	A282	Initial	
	MC1		Initial	
IBM 300GB 15K 6Gbps SAS 2.5" SFF HS HDD	AC1	A283	Initial	
	MC1		Initial	
4GB (1x4GB, 1Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHz LP RDIMM	AC1	A28Z	Initial	
	MC1		Initial	
32GB (1x32GB, 4Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP LRDIMM	AC1	A291	Initial	
	MC1		Initial	
IBM Blank USB Memory Key for VMware ESXi Downloads	AC1	A2G0	Initial	
	MC1		Initial	
Primary Array - RAID 0	AC1	A2K6	Initial	
	MC1		Initial	
Primary Array - RAID 1	AC1	A2K7	Initial	
	MC1		Initial	
Primary Array - RAID 5	AC1	A2K9	Initial	

	MC1		Initial
Primary Array - RAID 6	AC1	A2KA	Initial
	MC1		Initial
Primary Array - RAID 10	AC1	A2KB	Initial
	MC1		Initial
Secondary Array - RAID 0	AC1	A2KF	Initial
	MC1		Initial
Secondary Array - RAID 1	AC1	A2KG	Initial
	MC1		Initial
Secondary Array - RAID 5	AC1	A2KJ	Initial
	MC1		Initial
Secondary Array - RAID 6	AC1	A2KK	Initial
	MC1		Initial
Secondary Array - RAID 10	AC1	A2KL	Initial
	MC1		Initial
IBM Virtual Fabric Advanced Software Upgrade (LOM)	AC1	A2TD	Initial
	MC1		Initial
16GB (1x16GB, 2Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHZ LP RDIMM	AC1	A2U5	Initial
	MC1		Initial
IBM USB Memory Key for VMware ESXi 5.0	AC1	A2VC	Initial
	MC1		Initial
IBM 146GB 15K 6Gbps SAS 2.5" SFF G2HS HDD	AC1	A2XB	Initial
	MC1		Initial
IBM 300GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	AC1	A2XC	Initial
	MC1		Initial
IBM 600GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	AC1	A2XD	Initial
	MC1		Initial
IBM 500GB 7.2K 6Gbps NL SAS 2.5" SFF G2HS HDD	AC1	A2XE	Initial
	MC1		Initial
ServerRAID M5115 SAS/SATA Controller for IBM Flex System	AC1	A2XW	Initial
	MC1		Initial
ServerRAID M5100 Series RAID 6 Upgrade for IBM Flex System	AC1	A2Y1	Initial
	MC1		Initial
ServerRAID M5100 Series Performance Upgrade for IBM Flex System	AC1	A2Y2	Initial
	MC1		Initial
ServerRAID M5100 Series SSD Caching Enabler for IBM Flex System	AC1	A36G	Initial
	MC1		Initial

The following are features already announced for the 7917 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
AC1				
MC1	AC1			N/A
	MC1			N/A
Integrated SATA Mirroring - 2 identical HDDs				

required	AC1	0030	Initial
	MC1		Initial
Integrated SATA Striping - 2 identical HDDs required	AC1	0031	Initial
	MC1		Initial
UID Asset Tag Label	AC1	0747	Initial
	MC1		Initial
EMEA Long Leadtime Configurations	AC1	1763	Initial
	MC1		Initial
Hungary CHW plant 9SH	AC1	1764	Initial
	MC1		Initial
Guad CHW plant 9KQ	AC1	1765	Initial
	MC1		Initial
ISTC CHW 9K2	AC1	1766	Initial
	MC1		Initial
RTP CHW 9NR	AC1	1767	Initial
	MC1		Initial
Offload Manufacturing to Guadalajara HVEC	AC1	1768	Initial
	MC1		Initial
Offload Manufacturing to RTP HVEC	AC1	1769	Initial
	MC1		Initial
Offload Manufacturing to ISTC	AC1	1770	Initial
	MC1		Initial
Routing for AP Foxconn	AC1	1771	Initial
	MC1		Initial
Capacity Scheduling Service	AC1	1772	Initial
	MC1		Initial
Custom SLA Scheduling Service	AC1	1796	Initial
	MC1		Initial
Custom Asset Tagging - Standard	AC1	2200	Initial
	MC1		Initial
Custom Asset Tagging - Enhanced	AC1	2201	Initial
	MC1		Initial
Custom Image Load - Server	AC1	2204	Initial
	MC1		Initial
Custom Media Shipgroup	AC1	2206	Initial
	MC1		Initial
Request for Global Trade Number (UPC or EAN)	AC1	2207	Initial
	MC1		Initial
Custom Software/Firmware Setting - Standard	AC1	2208	Initial
	MC1		Initial
Custom Software/Firmware Setting - Enhanced	AC1	2209	Initial
	MC1		Initial
Custom RAID Configuration	AC1	2212	Initial
	MC1		Initial
Custom Labeling	AC1	2220	Initial
	MC1		Initial
Custom Palletization	AC1	2221	Initial
	MC1		Initial
Request for a new Vendor Logo Hardware			

	AC1	2247	Initial
	MC1		Initial
Request for an existing IBM Feature	AC1	2248	Initial
	MC1		Initial
Request for an existing Public RPQ	AC1	2249	Initial
	MC1		Initial
RAID Configuration			
	AC1	2302	Initial
	MC1		Initial
Rack 01			
	AC1	3101	Initial
	MC1		Initial
Rack 02			
	AC1	3102	Initial
	MC1		Initial
Rack 03			
	AC1	3103	Initial
	MC1		Initial
Rack 04			
	AC1	3104	Initial
	MC1		Initial
Rack 05			
	AC1	3105	Initial
	MC1		Initial
Rack 06			
	AC1	3106	Initial
	MC1		Initial
Rack 07			
	AC1	3107	Initial
	MC1		Initial
Rack 08			
	AC1	3108	Initial
	MC1		Initial
Rack 09			
	AC1	3109	Initial
	MC1		Initial
Rack 10			
	AC1	3110	Initial
	MC1		Initial
Rack 11			
	AC1	3111	Initial
	MC1		Initial
Rack 12			
	AC1	3112	Initial
	MC1		Initial
Rack 13			
	AC1	3113	Initial
	MC1		Initial
Rack 14			
	AC1	3114	Initial
	MC1		Initial
Rack 15			
	AC1	3115	Initial
	MC1		Initial
Rack 16			
	AC1	3116	Initial
	MC1		Initial
Rack 17			
	AC1	3117	Initial
	MC1		Initial
Rack 18			
	AC1	3118	Initial
	MC1		Initial
Rack 19			
	AC1	3119	Initial
	MC1		Initial
Rack 20			
	AC1	3120	Initial
	MC1		Initial
Rack 21			
	AC1	3121	Initial
	MC1		Initial

Rack 22	AC1 MC1	3122	Initial Initial
Rack 23	AC1 MC1	3123	Initial Initial
Rack 24	AC1 MC1	3124	Initial Initial
Rack 25	AC1 MC1	3125	Initial Initial
Rack 26	AC1 MC1	3126	Initial Initial
Rack 27	AC1 MC1	3127	Initial Initial
Rack 28	AC1 MC1	3128	Initial Initial
Rack 29	AC1 MC1	3129	Initial Initial
Rack 30	AC1 MC1	3130	Initial Initial
Rack 31	AC1 MC1	3131	Initial Initial
Rack 32	AC1 MC1	3132	Initial Initial
Rack 33	AC1 MC1	3133	Initial Initial
Rack 34	AC1 MC1	3134	Initial Initial
Rack 35	AC1 MC1	3135	Initial Initial
Rack 36	AC1 MC1	3136	Initial Initial
Rack 37	AC1 MC1	3137	Initial Initial
Rack 38	AC1 MC1	3138	Initial Initial
Rack 39	AC1 MC1	3139	Initial Initial
Rack 40	AC1 MC1	3140	Initial Initial
Rack 41	AC1 MC1	3141	Initial Initial
Rack 42	AC1 MC1	3142	Initial Initial
Rack 43	AC1 MC1	3143	Initial Initial
Rack 44	AC1 MC1	3144	Initial Initial
Rack 45	AC1 MC1	3145	Initial Initial
Rack 46	AC1	3146	Initial

	MC1		Initial
Rack 47	AC1 MC1	3147	Initial Initial
Rack 48	AC1 MC1	3148	Initial Initial
Rack 49	AC1 MC1	3149	Initial Initial
Rack 50	AC1 MC1	3150	Initial Initial
Rack 51	AC1 MC1	3151	Initial Initial
Rack 52	AC1 MC1	3152	Initial Initial
Rack 53	AC1 MC1	3153	Initial Initial
Rack 54	AC1 MC1	3154	Initial Initial
Rack 55	AC1 MC1	3155	Initial Initial
Rack 56	AC1 MC1	3156	Initial Initial
Rack 57	AC1 MC1	3157	Initial Initial
Rack 58	AC1 MC1	3158	Initial Initial
Rack 59	AC1 MC1	3159	Initial Initial
Rack 60	AC1 MC1	3160	Initial Initial
Rack 61	AC1 MC1	3161	Initial Initial
Rack 62	AC1 MC1	3162	Initial Initial
Rack 63	AC1 MC1	3163	Initial Initial
Rack 64	AC1 MC1	3164	Initial Initial
BladeCenter 01	AC1 MC1	3301	Initial Initial
BladeCenter 02	AC1 MC1	3302	Initial Initial
BladeCenter 03	AC1 MC1	3303	Initial Initial
BladeCenter 04	AC1 MC1	3304	Initial Initial
BladeCenter 05	AC1 MC1	3305	Initial Initial
BladeCenter 06	AC1 MC1	3306	Initial Initial
BladeCenter 07			

	AC1 MC1	3307	Initial Initial
BladeCenter 08			
	AC1 MC1	3308	Initial Initial
BladeCenter 09			
	AC1 MC1	3309	Initial Initial
BladeCenter 10			
	AC1 MC1	3310	Initial Initial
BladeCenter 11			
	AC1 MC1	3311	Initial Initial
BladeCenter 12			
	AC1 MC1	3312	Initial Initial
BladeCenter 13			
	AC1 MC1	3313	Initial Initial
BladeCenter 14			
	AC1 MC1	3314	Initial Initial
BladeCenter 15			
	AC1 MC1	3315	Initial Initial
BladeCenter 16			
	AC1 MC1	3316	Initial Initial
BladeCenter 17			
	AC1 MC1	3317	Initial Initial
BladeCenter 18			
	AC1 MC1	3318	Initial Initial
BladeCenter 19			
	AC1 MC1	3319	Initial Initial
BladeCenter 20			
	AC1 MC1	3320	Initial Initial
BladeCenter 21			
	AC1 MC1	3321	Initial Initial
BladeCenter 22			
	AC1 MC1	3322	Initial Initial
BladeCenter 23			
	AC1 MC1	3323	Initial Initial
BladeCenter 24			
	AC1 MC1	3324	Initial Initial
BladeCenter 25			
	AC1 MC1	3325	Initial Initial
BladeCenter 26			
	AC1 MC1	3326	Initial Initial
BladeCenter 27			
	AC1 MC1	3327	Initial Initial
BladeCenter 28			
	AC1 MC1	3328	Initial Initial
BladeCenter 29			
	AC1 MC1	3329	Initial Initial
BladeCenter 30			
	AC1 MC1	3330	Initial Initial
BladeCenter 31			
	AC1 MC1	3331	Initial Initial

BladeCenter 32	AC1 MC1	3332	Initial Initial
BladeCenter 33	AC1 MC1	3333	Initial Initial
BladeCenter 34	AC1 MC1	3334	Initial Initial
BladeCenter 35	AC1 MC1	3335	Initial Initial
BladeCenter 36	AC1 MC1	3336	Initial Initial
BladeCenter 37	AC1 MC1	3337	Initial Initial
BladeCenter 38	AC1 MC1	3338	Initial Initial
BladeCenter 39	AC1 MC1	3339	Initial Initial
BladeCenter 40	AC1 MC1	3340	Initial Initial
BladeCenter location 01	AC1 MC1	3401	Initial Initial
BladeCenter location 02	AC1 MC1	3402	Initial Initial
BladeCenter location 03	AC1 MC1	3403	Initial Initial
BladeCenter location 04	AC1 MC1	3404	Initial Initial
BladeCenter location 05	AC1 MC1	3405	Initial Initial
BladeCenter location 06	AC1 MC1	3406	Initial Initial
BladeCenter location 07	AC1 MC1	3407	Initial Initial
BladeCenter location 08	AC1 MC1	3408	Initial Initial
BladeCenter location 09	AC1 MC1	3409	Initial Initial
BladeCenter location 10	AC1 MC1	3410	Initial Initial
BladeCenter location 11	AC1 MC1	3411	Initial Initial
BladeCenter location 12	AC1 MC1	3412	Initial Initial
BladeCenter location 13	AC1 MC1	3413	Initial Initial
BladeCenter location 14	AC1 MC1	3414	Initial Initial
Select Storage devices - no IBM-configured RAID required	AC1 MC1	5977	Initial Initial
Select Storage devices - IBM-configured RAID			

	AC1	5978	Initial
	MC1		Initial
SOFS Solution Code MFG Instruction			
	AC1	6124	Initial
	MC1		Initial
SAP-BWA Solution Code MFG Instruction			
	AC1	6125	Initial
	MC1		Initial
InfoSphere-BWA Solution Code MFG Instruction			
	AC1	6126	Initial
	MC1		Initial
GMAS Solution Code MFG Instruction			
	AC1	6127	Initial
	MC1		Initial
IBW-SSD Solution Code MFG Instruction			
	AC1	6128	Initial
	MC1		Initial
Cloudburst Solution Code MFG Instruction			
	AC1	6129	Initial
	MC1		Initial
SONAS Solution Code MFG Instruction			
	AC1	6130	Initial
	MC1		Initial
2.5" Gen2 HS HDD Filler			
	AC1	6421	Initial
	MC1		Initial
Primary Array 2 HDDs			
	AC1	7008	Initial
	MC1		Initial
Primary Array 3 HDDs			
	AC1	7009	Initial
	MC1		Initial
Primary Array 4 HDDs			
	AC1	7010	Initial
	MC1		Initial
Primary Array 5 HDDs			
	AC1	7011	Initial
	MC1		Initial
Primary Array 6 HDDs			
	AC1	7012	Initial
	MC1		Initial
Primary Array 7 HDDs			
	AC1	7013	Initial
	MC1		Initial
Primary Array 8 HDDs			
	AC1	7014	Initial
	MC1		Initial
Secondary Array 2 HDDs			
	AC1	7015	Initial
	MC1		Initial
Secondary Array 3 HDDs			
	AC1	7016	Initial
	MC1		Initial
Secondary Array 4 HDDs			
	AC1	7017	Initial
	MC1		Initial
Secondary Array 5 HDDs			
	AC1	7057	Initial
	MC1		Initial
Secondary Array 6 HDDs			
	AC1	7058	Initial
	MC1		Initial
IBM Flex System 1.8" SSD Filler			
	AC1	A3EP	Initial
	MC1		Initial
ServerRAID M5100 Series Left Side Air Baffle for IBM Flex System x440			
	AC1	A3F6	Initial
	MC1		Initial
China Warranty			
	AC1	7599	Initial
	MC1		Initial

Customer Solution Center Services			
	AC1	7831	Initial
	MC1		Initial
e1350 Special Bid Solution Component			
	AC1	7929	Initial
	MC1		Initial
No HDD Selected			
	AC1	8026	Initial
	MC1		Initial
No Processor Selected			
	AC1	8028	Initial
	MC1		Initial
No Memory Selected			
	AC1	8029	Initial
	MC1		Initial
Consolidate Shipment			
	AC1	8031	Initial
	MC1		Initial
e1350 Solution Component			
	AC1	8034	Initial
	MC1		Initial
Compute Node			
	AC1	8036	Initial
	MC1		Initial
Management Node			
	AC1	8037	Initial
	MC1		Initial
Storage Node			
	AC1	8038	Initial
	MC1		Initial
Integrated SAS Mirroring - 2 identical HDDs required			
	AC1	8039	Initial
	MC1		Initial
Integrated SAS Striping - 2 identical HDDs required			
	AC1	8040	Initial
	MC1		Initial
TAA Compliant Order			
	AC1	8067	Initial
	MC1		Initial
General Racking Solution			
	AC1	8072	Initial
	MC1		Initial
Integrate BladeCenter in Manufacturing			
	AC1	8077	Initial
	MC1		Initial
No 2.5" SAS HDD Selected			
	AC1	8081	Initial
	MC1		Initial
No Publications Selected			
	AC1	8086	Initial
	MC1		Initial
8GB (1x8GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	8923	Initial
	MC1		Initial
4GB (1x4GB, 1Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	8941	Initial
	MC1		Initial
4GB (1x4GB, 2Rx8, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	8942	Initial
	MC1		Initial
Memory Sparing			
	AC1	9016	Initial
	MC1		Initial
Enable Memory Mirroring			
	AC1	9017	Initial
	MC1		Initial
Storage Subsystem ID 01			
	AC1	9170	Initial
	MC1		Initial
Storage Subsystem ID 02			

	AC1 MC1	9171	Initial Initial
Storage Subsystem ID 03			
	AC1 MC1	9172	Initial Initial
Storage Subsystem ID 04			
	AC1 MC1	9173	Initial Initial
Storage Subsystem ID 05			
	AC1 MC1	9174	Initial Initial
Storage Subsystem ID 06			
	AC1 MC1	9175	Initial Initial
Storage Subsystem ID 07			
	AC1 MC1	9176	Initial Initial
Storage Subsystem ID 08			
	AC1 MC1	9177	Initial Initial
Storage Subsystem ID 09			
	AC1 MC1	9178	Initial Initial
Storage Subsystem ID 10			
	AC1 MC1	9179	Initial Initial
Storage Subsystem ID 11			
	AC1 MC1	9180	Initial Initial
Storage Subsystem ID 12			
	AC1 MC1	9181	Initial Initial
Storage Subsystem ID 13			
	AC1 MC1	9182	Initial Initial
Storage Subsystem ID 14			
	AC1 MC1	9183	Initial Initial
Storage Subsystem ID 15			
	AC1 MC1	9184	Initial Initial
Storage Subsystem ID 16			
	AC1 MC1	9185	Initial Initial
Storage Subsystem ID 17			
	AC1 MC1	9186	Initial Initial
Storage Subsystem ID 18			
	AC1 MC1	9187	Initial Initial
Storage Subsystem ID 19			
	AC1 MC1	9188	Initial Initial
Storage Subsystem ID 20			
	AC1 MC1	9189	Initial Initial
Preload Specify			
	AC1 MC1	9200	Initial Initial
Windows Specify			
	MC1	9201	Initial
Red Hat Specify			
	AC1	9202	Initial
SuSE Specify			
	AC1	9203	Initial
AIX Specify			
	AC1	9204	Initial
Drop-in-the-Box Specify			
	AC1 MC1	9205	Initial Initial
No Preload Specify			
	AC1 MC1	9206	Initial Initial
VMware Specify			

	AC1	9207	Initial
	MC1		Initial
Solaris Specify			
	AC1	9208	Initial
System x Cluster Upgrade			
	AC1	A103	Initial
	MC1		Initial
IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD			
	AC1	A1AV	Initial
	MC1		Initial
IBM Flex System FC3172 2-port 8Gb FC Adapter			
	AC1	A1BM	Initial
	MC1		Initial
IBM Flex System FC5022 2-port 16Gb FC Adapter			
	AC1	A1BP	Initial
	MC1		Initial
IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD			
	AC1	A1NX	Initial
	MC1		Initial
IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD			
	AC1	A1NZ	Initial
	MC1		Initial
IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD			
	AC1	A1P3	Initial
	MC1		Initial
16GB (1x16GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP RDIMM			
	AC1	A1QT	Initial
	MC1		Initial
IBM Flex System EN4132 2-port 10Gb Ethernet Adapter			
	AC1	A1QY	Initial
	MC1		Initial
IBM Flex System IB6132 2-port FDR Infiniband Adapter			
	AC1	A1QZ	Initial
	MC1		Initial
IBM Flex System CN4054 Virtual Fabric Adapter (SW Upgrade)			
	AC1	A1R0	Initial
	MC1		Initial
IBM Flex System CN4054 10Gb Virtual Fabric Adapter			
	AC1	A1R1	Initial
	MC1		Initial
IBM Flex System x240 Compute Node Air Baffle			
	AC1	A248	Initial
	MC1		Initial
IBM Flex System Compute Node Fabric Connector			
	AC1	A26R	Initial
	MC1		Initial
16GB (1x16GB, 4Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHZ LP LRDIMM			
	AC1	A290	Initial
	MC1		Initial
8GB (1x8GB, 2Rx4, 1.5V) PC3-12800 CL11 ECC DDR3 1600MHZ LP RDIMM			
	AC1	A292	Initial
	MC1		Initial
IBM Flex System x440 Compute Node with embedded 10Gb Virtual Fabric			
	AC1	A2BC	Initial
	MC1		Initial
IBM Flex System x440 Compute Node			
	AC1	A2BD	Initial
	MC1		Initial
IBM Flex System x440 Compute Node Label			
	AC1	A2BE	Initial
	MC1		Initial
IBM Flex System x440 Compute Node Cover			
	AC1	A2BF	Initial
	MC1		Initial
IBM Flex System x440 Compute Node Front Bezel			
	AC1	A2BG	Initial
	MC1		Initial
System Documentation and Software-US English			

	AC1 MC1	A2BJ	Initial Initial
SAS HDD 1 x 2.5" Backplane			
	AC1 MC1	A2BY	Initial Initial
Intel Xeon Processor E5-4603 4C 2.0GHz 10M Cache 1066MHz 95W			
	AC1 MC1	A2C0	Initial Initial
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W			
	AC1 MC1	A2C1	Initial Initial
Addl Intel Xeon Processor E5-4603 4C 2.0GHz 10MB Cache 1066MHz 95W			
	AC1 MC1	A2C2	Initial Initial
Intel Xeon Processor E5-4607 6C 2.2GHz 12M Cache 1066MHz 95W			
	AC1 MC1	A2C3	Initial Initial
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W			
	AC1 MC1	A2C4	Initial Initial
Addl Intel Xeon Processor E5-4607 6C 2.2GHz 12MB Cache 1066MHz 95W			
	AC1 MC1	A2C5	Initial Initial
Intel Xeon Processor E5-4610 6C 2.4GHz 15M Cache 1333MHz 95W			
	AC1 MC1	A2C6	Initial Initial
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W			
	AC1 MC1	A2C7	Initial Initial
Addl Intel Xeon Processor E5-4610 6C 2.4GHz 15MB Cache 1333MHz 95W			
	AC1 MC1	A2C8	Initial Initial
Intel Xeon Processor E5-4617 6C 2.9GHz 15M Cache 1600MHz 130W			
	AC1 MC1	A2C9	Initial Initial
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W			
	AC1 MC1	A2CA	Initial Initial
Addl Intel Xeon Processor E5-4617 6C 2.9GHz 15MB Cache 1600MHz 130W			
	AC1 MC1	A2CB	Initial Initial
Intel Xeon Processor E5-4640 8C 2.4GHz 20M Cache 1600MHz 95W			
	AC1 MC1	A2CC	Initial Initial
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W			
	AC1 MC1	A2CD	Initial Initial
Addl Intel Xeon Processor E5-4640 8C 2.4GHz 20MB Cache 1600MHz 95W			
	AC1 MC1	A2CE	Initial Initial
Intel Xeon Processor E5-4620 8C 2.2GHz 16M Cache 1333MHz 95W			
	AC1 MC1	A2CF	Initial Initial
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W			
	AC1	A2CG	Initial

	MC1		Initial
Addl Intel Xeon Processor E5-4620 8C 2.2GHz 16MB Cache 1333MHz 95W	AC1	A2CH	Initial
	MC1		Initial
Intel Xeon Processor E5-4650 8C 2.7GHz 20M Cache 1600MHz 130W	AC1	A2CJ	Initial
	MC1		Initial
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W	AC1	A2CK	Initial
	MC1		Initial
Addl Intel Xeon Processor E5-4650 8C 2.7GHz 20MB Cache 1600MHz 130W	AC1	A2CL	Initial
	MC1		Initial
IBM Flex System Compute Node Full-wide WW packaging	AC1	A2CN	Initial
	MC1		Initial
RFID Tag, AG/AP: 902-928Mhz	AC1	A2EV	Initial
	MC1		Initial
IBM 200GB SATA 2.5" MLC HS SSD	AC1	A2FN	Initial
	MC1		Initial
IBM Flex System FC3052 2-port 8Gb FC Adapter	AC1	A2N5	Initial
	MC1		Initial
IBM Flex System x440 Compute Node Center Air Baffle	AC1	A2QQ	Initial
	MC1		Initial
Intel Xeon Processor E5-4650L 8C 2.6GHz 20M Cache 1600MHz 115W	AC1	A2QU	Initial
	MC1		Initial
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W	AC1	A2QV	Initial
	MC1		Initial
Addl Intel Xeon Processor E5-4650L 8C 2.6GHz 20MB Cache 1600MHz 115W	AC1	A2QW	Initial
	MC1		Initial
IBM 256GB SATA 2.5" MLC HS Enterprise Value SSD	AC1	A2U3	Initial
	MC1		Initial
IBM 128GB SATA 2.5" MLC HS Enterprise Value SSD	AC1	A2U4	Initial
	MC1		Initial
IBM Flex System x440 Compute Node CPU Filler	AC1	A2ZM	Initial
	MC1		Initial
Server RAID M5100 Series Enablement Kit for IBM Flex System x440	AC1	A3DS	Initial
	MC1		Initial
Server RAID M5100 Series IBM Flex System Flash kit for x440	AC1	A3DT	Initial
	MC1		Initial
Server RAID M5100 Series SSD Expansion Kit for IBM Flex System x440	AC1	A3DU	Initial
	MC1		Initial
IBM Flex System x440 Compute Node			Initial/
			MES/
			Both
			RP
			support
			CSU
			MES
Description	SEO number		
E5-4650, 2.7 GHz 8C, 130w, 8GB	7917F4U	Both	Yes

E5-4650, 2.7 GHz	8C, 130w, 8GB	7917F2U	Both	Yes
E5-4620, 2.2 GHz	8C, 95w, 8GB	7917D4U	Both	Yes
E5-4620, 2.2 GHz	8C, 95w, 8GB	7917D2U	Both	Yes
E5-4610, 2.4 GHz	6C, 95w, 8GB	7917C4U	Both	Yes
E5-4610, 2.4 GHz	6C, 95w, 8GB	7917C2x	Both	Yes
E5-4607, 2.2 GHz	6C, 95w, 8GB	7917B4x	Both	Yes
E5-4607, 2.2 GHz	6C, 95w, 8GB	7917B2x	Both	Yes
E5-4603, 2.0 GHz	4C, 95w, 8GB	7917A4x	Both	Yes
E5-4603, 2.0 GHz	4C, 95w, 8GB	7917A2x	Both	Yes

SEO Options

Description	SEO number	Initial/	
		MES/Both/support	RP CSU MES
Intel Xeon E5-4650 8C 2.7GHz 20MB 130W	69Y3118	Both	Yes
Intel Xeon E5-4620 8C 2.2GHz 16MB 95W	69Y3112	Both	Yes
Intel Xeon E5-4610 6C 2.4GHz 15MB 95W	69Y3106	Both	Yes
Intel Xeon E5-4607 6C 2.2GHz 12MB 95W	69Y3100	Both	Yes
Intel Xeon E5-4640 8C 2.4GHz 20MB 95W	90Y9055	Both	Yes
Intel Xeon E5-4617 6C 2.9GHz 15MB 95W	90Y9049	Both	Yes
Intel Xeon E5-4603 4C 2.0GHz 10MB 95W	88Y6263	Both	Yes
Intel Xeon E5-4650L 8C 2.6GHz 20MB 115W	90Y9185	Both	Yes
Intel Xeon E5-4650 8C 2.7GHz 20MB 130W	90Y9072	Both	Yes
Intel Xeon E5-4620 8C 2.2GHz 16MB 95W	90Y9070	Both	Yes
Intel Xeon E5-4610 6C 2.4GHz 15MB 95W	90Y9064	Both	Yes
Intel Xeon E5-4607 6C 2.2GHz 12MB 95W	90Y9062	Both	Yes
Intel Xeon E5-4640 8C 2.4GHz 20MB 95W	90Y9068	Both	Yes
Intel Xeon E5-4617 6C 2.9GHz 15MB 130W	90Y9066	Both	Yes
Intel Xeon E5-4603 4C 2.0GHz 10MB 95W	90Y9060	Both	Yes
Intel Xeon E5-4650L 8C 2.6GHz 20MB 115W	90Y9186	Both	Yes
Server RAID M5100 Series Enablement Kit for IBM Flex System x440	46C9030	Both	Yes
Server RAID M5100 Series IBM Flex System Flash Kit for x440	46C9031	Both	Yes
Server RAID M5100 Series SSD Expansion Kit for IBM Flex System x440	46C9032	Both	Yes

ServicePac for Warranty and Maintenance

ServicePac offerings are valid for models announced in the United States.

ServicePac for Warranty And Maintenance

Machine type	Service description	ServicePac	
		SEO	MTM
7917	3 Year Onsite Repair 9x5 4 Hour Response	46Y0458	6756836
7917	3 Year Onsite Repair 24x7 4 Hour Response	46Y0459	6756837
7917	3 Year Onsite Repair 24x7 2 Hour Response	46Y0460	6756838
7917	4 Year Onsite Repair 9x5 Next Business Day	46Y0461	6756839
7917	4 Year Onsite Repair 9x5 4 Hour Response	46Y0462	675683A
7917	4 Year Onsite Repair 24x7 4 Hour Response	46Y0463	675683B
7917	4 Year Onsite Repair 24x7 2 Hour Response	46Y0464	675683C
7917	5 Year Onsite Repair 9x5 Next Business Day	46Y0465	675683D
7917	5 Year Onsite Repair 9x5 4 Hour Response	46Y0466	675683F
7917	5 Year Onsite Repair 24x7 4 Hour Response	46Y0467	675683G
7917	5 Year Onsite Repair 24x7 2 Hour Response	46Y0468	675683H
7917	3 Year Onsite Repair 24x7 4 Hour Response with HDDR	46Y0469	675683J
7917	4 Year Onsite Repair 24x7 4 Hour Response with HDDR	46Y0470	675683K
7917	4 Year Onsite Repair 9x5 Next Business Day Response with HDDR	46Y0471	675683M
7917	5 Year Onsite Repair 24x7 4 Hour Response with HDDR	46Y0472	675683N
7917	5 Year Onsite Repair 9x5 Next Business Day Response with HDDR	46Y0473	675683P

ServicePac for Maintenance Agreement

Machine type	Service description	ServicePac	
		SEO	MTM
7917	1 Year Onsite Repair 9x5 Next Business Day	46Y0474	6756F0B
7917	1 Year Onsite Repair 9x5 4 Hour Response	46Y0491	6756F0F
7917	1 Year Onsite Repair 24x7 4 Hour Response	46Y0492	6756F0J
7917	1 Year Onsite Repair 24x7 2 Hour Response	46Y0493	6756F0G
7917	2 Year Onsite Repair 9x5 Next Business Day	46Y0494	6756F0H
7917	2 Year Onsite Repair 9x5 4 Hour Response	46Y0495	6756F0K
7917	2 Year Onsite Repair 24x7 4 Hour Response	46Y0551	6756F0M
7917	2 Year Onsite Repair 24x7 2 Hour Response	46Y0552	6756F0N
7917	1 Year Onsite Repair 24x7 4 Hour Response with HDDR	46Y0553	6756F0P
7917	2 Year Onsite Repair 24x7 4 Hour Response with HDDR	46Y0554	6756F0Q
7917	1 Year Onsite Repair 9x5 Next Business Day Response with HDDR	46Y0555	6756F0R
7917	2 Year Onsite Repair 9x5 Next Business Day with HDDR	46Y0556	6756F0S

ServicePac for Essential Support: Warranty and Maintenance Option plus Remote Technical Support

Machine type	Service description	ServicePac	
		SEO	MTM
7917	3 Year Essential Support 24x7 4 Hour Response	46Y0557	N/A

ServicePac for Essential Support: Maintenance plus Remote Technical Support

Machine type	Service description	ServicePac	
		SEO	MTM
7917	1 Year Essential Support 24x7 4 Hour Response	46Y0558	N/A
7917	1 Year Essential Support 9x5 Next Business Day Response	46Y0559	N/A

Visit the following web link for ServicePac information

http://www-935.ibm.com/services/us/its/html/servicepac_americas.html

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