IBM Power System S914 server helps deliver the entry offering into the POWER9 family of servers, offers industry-leading integrated security and reliability, and is cloud-enabled out of the box with PowerVM technology

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At a glance

The IBM(R) Power(R) System S914 (9009-41A) server easily integrates into your organization's cloud and cognitive strategy and delivers industry-leading price/performance for your mission-critical workloads.

- Deliver superior price/performance for your mission-critical applications with room to scale in IBM AIX(R), IBM i, and Linux(R) environments.
- Help guard against security threats because of the server's features, reliability, and performance.
- Harness the integrated virtualization capabilities of the server to rapidly deploy, optimize, and recover workloads.
- Migrate from previous IBM Power Systems™ servers with Live Partition Mobility capabilities. Every new Power S914 server comes with a temporary IBM PowerVM(R) license for your old server to support a seamless move to IBM POWER9™ technology-based servers.
- Use this cloud-enabled server to build an agile, containerized cloud on a server platform that is optimized for data and cognitive services.
- Extend IBM i, the integrated operating system, and connect to the cognitive capabilities of the IBM Cloud using secure APIs.

The Power S914 server is a powerful 1-socket server that ships with up to eight activated cores and I/O configuration flexibility to meet today's growth and tomorrow's processing needs. The server features:

- The following fully activated POWER9 processor module configurations in a 19-inch rack-mount, 4U (EIA units) form factor.
  - 4-core typical 2.3 to 3.8 GHz (max)
  - 6-core typical 2.3 to 3.8 GHz (max)
  - 8-core typical 2.8 to 3.8 GHz (max) (rack-mount configuration only)
- Up to 1024 GB of DDR4 memory
- Storage backplane options:
  - Eighteen SFF-3 Bays/Dual IOA with Write Cache.
  - Twelve SFF-3 Bays/RDX Bays.

  - Split feature to 6+6 SFF Bays: Add a second SAS Controller.
  - Twelve SFF-3 Bays/RDX Bay/2 EXT PT.
- Optional PCIe3 NVMe carrier card with two M.2 module slots
- Expansion capabilities for the EXP24SX SFF Gen2 bay Drawer
- Hot-swap PCIe Gen4 and Gen3 slots
- Integrated:
  - Service processor
  - EnergyScale™ technology
  - Hot-swap and redundant cooling
  - USB 3.0 ports
  - Two HMC ports
  - One system port with RJ45 connector
- Two hot-plug, redundant power supplies
- 19-inch rack-mounting hardware (4U) and tower option

Overview

The next generation of Power Systems servers with POWER9 technology is built with innovations that can help deliver security and reliability for the data-intensive workloads of today's enterprises. POWER9 technology is designed from the ground up for data-intensive workloads like databases and analytics.

Changes in the memory subsystem and the use of industry standard memory DIMMs take POWER9 technology to the next level by superseding a number of existing price/performance offerings. Designed to run commercial, cognitive, and database workloads, POWER9 technology provides a highly competitive server platform. Client references indicate POWER® servers help provide a robust and secure backbone for their IT infrastructure. More companies are using POWER technology in their IT infrastructure down from the shop level to large data center deployments.

The Power S914 server by default has its Power Management mode set to Dynamic Performance. This mode can dynamically optimizes the processor frequency at any given time based on CPU utilization and operating environmental conditions. For a description of this feature and other power management options available for this server, see the IBM EnergyScale for POWER9 Processor-Based Systems website.

The Power S914 server supports one-processor sockets, offering 4-core typical 2.3 to 3.8 GHz (max), or 6-core typical 2.3 to 3.8 GHz (max), or 8-core typical 2.8 to 3.8 GHz (max) POWER9 processor-based configurations in a 19-inch rack-mount, 4U (EIA units) drawer or desk-side configuration. All the cores are active.

The Power S914 server supports a maximum of 16 DDR4 DIMM slots. Memory features supported are 16 GB, 32 GB, and 64 GB, and run at speeds of 2133, 2400, and 2666 Mbps, allowing for a maximum system memory of 1024 GB.

- Rich I/O options in the system unit include:
  - One PCIe x16 Gen4, full-height, half-length slot (This slot can contain a CAPI-capable card or an I/O drawer interface card.)
  - Two PCIe x16 Gen3, full-height, half-length slots (not CAPI)
  - One PCIe x8 Gen4, full-height, half-length slot (with x16 connector) (CAPI)
  - Four PCIe x8 Gen3, full-height, half-length slots (One of these slots is used for the required base LAN adapter.)
  - Eighteen or twelve 2.5-in. SFF disk bays
  - RAID 0, 5, 6, 10, 5T2, 6T2, and 10T2 support
  - One RDX bay (only available with x12 disk bays, not available with x18 disk bays)

  - One PCIe G3 x8 slot for 1 GbE 4-port LAN controller integrated
  - PCIe3 NVMe carrier card with two M.2 module slots
- One front and two rear USB 3.0 ports
- Service processor
- 1+1 Redundant hot-swap AC power supplies in each enclosure
- 19-inch rack-mount 4U or desk-side configuration
- IBM PowerVM

Feature exchange

Not applicable.

Key prerequisites

An IBM i or AIX operating system. See the Software requirements section for details.

Planned availability date

March 20, 2018

Description

The POWER9 scale-out family is the first set of entry servers that comes completely cloud-enabled out of the box with integrated PowerVM Enterprise capabilities. Additionally, on-chip analytics and algorithms help clients run their workloads at an optimized processor frequency for performance and throughput. Live Partition Mobility capabilities are built in, to cloud-enable your POWER9 infrastructure and help you migrate from previous Power Systems. Every new S914 also has the option of a temporary PowerVM license for your old server to support a seamless move of workloads to POWER9. The new server has built-in security that can help you to be ready for current and future security threats.

The Power S914 server supports one-processor sockets, offering 4-core typical 2.3 to 3.8 GHz (max), or 6-core typical 2.3 to 3.8 GHz (max) or 8-core typical 2.8 to 3.8 GHz (max) POWER9 processor-based configurations in a 19-inch rack-mount, 4U (EIA units) drawer or desk-side configuration. All the cores are active. The server supports a maximum of 16 DDR4 DIMM slots. Memory features supported are 16 GB, 32 GB, and 64 GB and run at speeds of 2133, 2400, and 2666 Mbps, allowing for a maximum system memory of 1024 GB.

Summary of standard features for Power S914 server:

- POWER9 processor modules:
  - 4-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor (#EP10)
  - 6-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor (#EP11)
  - 8-core, typical 2.8 to 3.8 GHz (max) POWER9 Processor (#EP12) (rack-mount configuration only)
- High-performance Mbps DDR4 ECC memory
  - 16 GB (#EM62), 32 GB (#EM63), or 64 GB (#EM64) memory features
  - Up to 1024 GB of DDR4 memory with one Power Systems processor
- Storage feature:
  - 12 SFF-3 Bays/RDX Bays.

  - Optionally, split the above SFF-3 bays and add a second integrated SAS controller without cache.
  - 18 SFF-3 Bays/Dual IOA with Write Cache and External SAS port.
  - 12 SFF-3 Bays/RDX Bay/Dual IOA with Write Cache and External SAS port.
  - Optionally, attach an EXP12SX/EXP24SX SAS HDD/SSD Expansion Drawer to the dual IOA.
- Up to two PCIe3 NVMe carrier cards with two M.2 module slots (with up to four Mainstream 400 GB SSD NVMe M.2 modules)
  - A quantity of one PCIe3 NVMe carrier card can be ordered only with storage backplane. If a PCIe3 NVMe carrier card is ordered with a storage backplane, then the optional split feature is not supported.
- PCIe slots with single processor:
  - One x16 Gen4 full-height, half-length (CAPI)
  - One x8 Gen4 full-height, half-length (with x16 connector) (CAPI)
  - Two x8 Gen3 full-height, half-length (with x16 connectors)
  - Four x8 Gen3 full-height, half-length (One of these slots is used for the required base LAN adapter.)
- Integrated:
  - Service processor
  - EnergyScale technology
  - Hot-swap and redundant cooling
  - One front USB 3.0 ports
  - Two rear USB 3.0 ports
  - Two HMC 1 GbE RJ45 ports
  - One system port with RJ45 connector
  - Four hot-plug, redundant power supplies
  - 19-inch rack-mounting hardware (4U)

PowerVM

PowerVM, which delivers industrial-strength virtualization for AIX and Linux environments on POWER processor-based systems, has been enhanced with a virtualization-oriented performance monitor, and performance statistics are available through the HMC. These performance statistics can be used to understand the workload characteristics and to prepare for capacity planning.

S914 Capacity Backup (CBU) for IBM i

Power S914 (9009-41A) CBU Offering

For IBM i OS:

The Power S914 (9009-41A) CBU designation enables you to temporarily transfer IBM i processor license entitlements and IBM i user license entitlements purchased for a primary machine to a secondary CBU-designated system for HA/DR operations. Temporarily transferring these resources instead of purchasing them for your secondary system may result in significant savings. Processor activations cannot be transferred.

The CBU specify feature 0444 is available only as part of a new server purchase. Certain system prerequisites must be met, and system registration and approval are required before the CBU specify feature can be applied on a new server. Standard IBM i terms and conditions do not allow either IBM i processor license entitlements or IBM i user license entitlements to be transferred permanently or temporarily. These entitlements remain with the machine they were ordered for. When you register the association between your primary and on-order CBU system, you must agree to certain terms and conditions regarding the temporary transfer.

After a new CBU system is registered along with the proposed primary system and the configuration is approved, you can temporarily move your optional IBM i processor license entitlement and IBM i user license entitlements from the primary system to the CBU system when the primary system is down or while the primary system processors are inactive. The CBU system can then support failover and role swapping for a full range of test, disaster recovery, and high availability scenarios. Temporary entitlement transfer means that the entitlement is a property transferred from the primary system to the CBU system and may remain in use on the CBU system as long as the registered primary and CBU system are in deployment for the high availability or disaster recovery operation. The intent of the CBU offering is to enable regular role-swap operations. The primary machine must be in the same enterprise as the CBU system. The Solution Editions are not eligible for CBU status.

The Power S914 server is available with six or eight cores in the P10 software tier and four cores in the P05 software tier.

S914 SW tiers for IBM i on 9009-41A

- The 4-core processor (#EP10, QPFCFEAT EP10) is IBM i SW tier P05.
- The 6-core processor (#EP11, QPFCFEAT EP11) is IBM i SW tier P10.
- The 8-core processor (#EP12, QPFCFEAT EP12) is IBM i SW tier P10.

For the Power S914 CBU server in the P10 software tier

The primary systems for a Power S914 (9009-41A) CBU server with a IBM i P10 software tier can be a POWER8(R) or POWER9 server with a P10 or P20 software tier listed below:

- Power S824 (8286-42A)
- Power S814 6-core or 8-core (8286-41A)
- Power S822 (8284-22A)
- Power S924 (9009 42A)
- Power S914 6-core or 8-core (9009-41A)
- Power S922 (9009-22A)

Before you can temporarily transfer IBM i user entitlements, you must have more than the minimum number of IBM i user entitlements on a primary server. You can then transfer any IBM i user entitlements above the minimum, assuming the total IBM i users on the primary system do not require the IBM i entitlement you want to transfer during the time of the transfer. The Power S924 and S824 servers do not have IBM i user entitlements to transfer, only processor entitlements. For a P10 primary, the minimum number of IBM i user entitlements on the eligible P10 POWER9 and POWER8 servers are:

- Power S814 6-core or 8-core (8286-41A): 10 users
- Power S822 (8284-22A): 10 users
- Power S914 6-core or 8-core (9009-41A): 10 users
- Power S922 (9009-22A): 10 users

For the Power S914 CBU server in the P05 software tier

The primary systems for a Power S914 (9009-41A) CBU server with a IBM i P05 software tier can be a POWER8 or POWER9 server with a P05 or P10 software tier listed below:

- Power S814 (8286-41A) 4, 6, or 8 core
- Power S822 (8284-22A)
- Power S914 (9009-41A) 4, 6, or 8 core
- Power S922 (9009-22A)

Before you can temporarily transfer IBM i user entitlements, you must have more than the minimum number of IBM i user entitlements on a primary server. You can then transfer any IBM i user entitlements above the minimum, assuming the total IBM i users on the primary system do not require the IBM i entitlement you want to transfer during the time of the transfer. The minimum number of IBM i user entitlements on the P05 or P10 POWER9 and POWER8 with IBM i user entitlements are:

- Power S814 4 core (8286-41A): 5 users
- Power S814 6 core or 8 core (8286-41A): 10 users
- Power S822 (8284-22A): 10 users
- Power S914 4 core (9009-41A): 5 users
- Power S914 6 core or 8 core (9009-41A): 10 users
- Power S922 (9009-22A): 10 users

For example, if you have a 2-core server as your primary system with two IBM i processor license entitlements (one above the minimum) and 50 IBM i user entitlements (20 above the minimum), you can temporarily transfer up to one IBM i entitlement and up to 20 user entitlements. During this temporary transfer, the CBU system's internal records of its total number of IBM i processor and user license entitlements is not updated, and you may see IBM i license noncompliance warning messages from the CBU system.

If your primary or CBU machine is sold or discontinued from use, any temporary entitlement transfers must be returned to the machine on which they were originally acquired. For CBU registration, terms and conditions, and further information, see the IBM Power Systems: Capacity BackUp website.

4-core S914 processor feature

The 4-core Power S914 server offers entry clients running AIX, IBM i, or Linux a entry server based on POWER9 technology. It uses a typical 2.3 to 3.8 GHz (max) POWER9 Processor Card (#EP10) with processor core activation feature (#EP40). All four processor cores must be activated, but factory deconfiguration feature (#2319) is supported. The chargeable feature EP40 is used for these activations.

There is no upgrade to increase the cores on this feature. This server supports AIX, IBM i, and Linux, but is especially attractive to IBM i clients with its P05 software tier. The Capacity Backup option for IBM i (#0444) is supported. The 4-core S914 server supports the 16 GB memory feature (#EM62). A maximum of four of these features is supported for a system maximum of 64 GB. The 4-core S914 server supports a maximum of 10 disk drives or 10 SSDs or a combination of 10 disks and SSDs in the system unit. This is true with any of the storage backplane options selected. SAS drives located in feature code I/O drawers such as the EXP24SX (#ESLS) are not supported. Attachment to SANs is supported. The following SFF-3 SAS drives are supported in the SAS bays of the 4-core S914 system unit:

15k rpm disk drives

- 300 GB 15k rpm disk drive (#ESDB) 5xx byte blocks (AIX/Linux)
- 283 GB 15k rpm disk drive (#ESDA) 5xx byte blocks (IBM i)
- 300 GB 15k rpm disk drive (#ESFB) 4k byte blocks (AIX/Linux)
- 283 GB 15k rpm disk drive (#ESFA) 4k byte blocks (IBM i)
- 283 GB 15K rpm disk drive (#ESNJ) 4k byte blocks (IBM i)
- 300 GB 15K rpm disk drive (#ESNK) 4k byte blocks (AIX/Linux)

10k rpm disk drives

- 600 GB 10k rpm disk drive (#ESD5) 5xx byte blocks (AIX/Linux)
- 571 GB 10k rpm disk drive (#ESD4) 5xx byte blocks (IBM i)
- 600 GB 10k rpm disk drive (#ESF5) 4k byte blocks (AIX/Linux)

- 571 GB 10k rpm disk drive (#ESF4) 4k byte blocks (IBM i)

SSDs

- 387 GB SSD (#ES7K and #ES7L) 5xx byte blocks (eML4 technology)
- 387 GB SSD (#ES8N and #ES8P) 4k byte blocks (eML4 technology)
- 387 GB SSD (#ESG9 and #ESGA) 5xx byte blocks (Enterprise technology)
- 387 GB SSD (#ESGD and #ESGE) 4k byte blocks (Enterprise technology)
- 931 GB SSD (#ES83 and #ES84) 4k byte blocks (Mainstream technology)

Other SFF-3 drives are not supported. Note that 4k byte drives are generally cheaper than 5xx byte drives.

The 4-core S914 server has seven PCIe Gen3 slots. One slot is used by one 4-port 1 Gb Ethernet adapter. If the expanded function backplane is chosen, another PCIe port is used, leaving five ports.

The Capacity BackUp specify feature (#0444) is supported with the 4-core processor card (#EP10) in IBM i environments. With its P05 software, it can be paired with a POWER7(R), POWER7 +, or POWER8 server with P05 or P10 software tier.

The PCIe expansion drawer (#EMX0) and EXP24SX /EXP12SX SAS Storage Enclosures (#ESLS/ELLS or #ESLL/ELLL) do not apply to the 4-core configuration S914 server.

IBM i Solution Edition for S914

The IBM i Solution Editions are designed to help you take advantage of the combined experience and expertise of IBM and ISVs in building business value with your IT investments. A qualifying purchase of software, maintenance, services, or training for a participating ISV solution is required when purchasing an IBM i Solution Edition.

The Power S914 Solution Edition feature 4928 supports 4-core and feature 4927 supports 6-core configurations. For a list of participating ISVs, registration form, and additional details, see the IBM i Solution Editions website.

IBM i Express(R) Edition for S914

IBM i clients acquiring a new 4-core or 6-core Power S914 server can choose to use an IBM i Express Edition. Two new editions are similar to the editions provided with POWER8 Servers and offer specific licensing advantages that further improve the price/performance of the Power S914 server when running IBM i. Feature EU2C can be included with a new 4-core Power S914 server, and feature EU2D can be included with a new 6-core Power S914 server.

Power S914 system configuration

The minimum Power S914 initial order must include a processor module, two 16 GB DIMMs, four or two power supplies and line cords, an operating system indicator, a cover set indicator, and a Language Group Specify. Also, it must include one of the storage options and the network options below:

Storage options:

- For boot from NVMe: One NVMe carrier and one NVMe M.2 Module.
- For boot from local SFF-3 HDD/SDD: One storage backplane and one SFF-3 HDD or SDD.
- For boot from SAN: Internal HDD or SSD and RAID card are not required if feature 0837 (Boot from SAN) is selected. A Fibre Channel adapter must be ordered if feature 0837 is selected.

Network options:

- One PCIe2 4-port 1 Gb Ethernet adapter.
- One of the supported 10 Gb Ethernet adapters

AIX or Linux is the primary operating system. The minimum defined initial order configuration is as follows:

Feature number	Description	Quantity	Notes
EU0B	Operator Panel LCD Display	1	
Processors			
EP10	4-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP11	6-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP12	8-core, typical 2.8 to 3.8 GHz (max) POWER9 Processor	1	Rack-mount configuration only
Processor activations			
EP40	One Processor Core Activation for #EP10	4	
or			
EP41	One Processor Core Activation for #EP11	6	
or			
EP42	One Processor Core Activation for #EP12	8	
Memory DIMMs			
EM62	16 GB DDR4 Memory	2	
or			
EM63	32 GB DDR4 Memory	2	
or			
EM64	64 GB DDR4 Memory	2	
Storage Backplane			
EJ1C	Twelve SFF-3 Bays/RDX Bay	1	Optional split card EJ1E
or			
EJ1D	Eighteen SFF-3 Bays/RDX Bay/ Dual IOA with Write Cache	1	
or			
EJ1M	Twelve SFF-3 Bays/RDX Bay/2x EXT PT	1	
or			
EC59	PCIe3 NVMe carrier card w/2 M.2 module slots	1	Must order, at a minimum, one of feature ES14
Disk Drive			

Feature number	Description	Quantity	Notes
ESDB	300 GB 15K RPM SAS SFF-3 Disk Drive (AIX/Linux)	1	
LAN Adapter			
5899	PCIe2 LP 4-port 1 GbE Adapter	1	
Power supplies/ Power cord			
EB2L	AC Power Supply - 900 W for Server (200 - 240 V AC)	4	41A Tower: Qty 4 of #EB2L required
or			
EB2M	AC Power Supply - 1400 W for Server (200 - 240 V AC)	2	41A Rack: Qty 2 of #EB2M required
6458	Power Cord 4.3 m (14 ft), Drawer to IBM PDU (250V/10A)	4	41A Tower: Qty 4, or 41A Rack: Qty 2
9300/97xx	Language Group Specify	1	9300 - (default)
Front Bezel			
EJU2	Front IBM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJUF	Front IBM Bezel for 18-Bay Backplane	1	41A Rack: used with #EJ1D backplane
or			
EJU4	Front OEM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJUH	Front OEM Bezel for 18-Bay BackPlane	1	41A Rack: used with #EJ1D backplane
or			
EJU8	Front IBM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJU9	Front IBM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
or			
EJUA	Front OEM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJUB	Front OEM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
Primary operating system			

Feature number	Description	Quantity	Notes
2146	Primary Operating System Indicator - AIX	1	
or			
2147	Primary Operating System Indicator - Linux	1	

- The racking approach for the initial order must be either a 7014-T00, 7014-T42, 7965-S42, or 7953-94Y. If an additional rack is required for I/O expansion drawers as an MES to an existing system, either a feature 0551, 0553, or ER05 rack must be ordered.
- If NVMe carrier card feature EC59 is selected, no disk units are required to be ordered. If neither feature EC59 nor feature 0837 (SAN boot) is ordered, then at least one disk unit is required to be ordered. If no HDD/SSD/SAN boot (#0837) is ordered, then feature EC59 (with at least one of #ES14) is the load source.
- One PCIe2 4-port 1 GbE Adapter (#5899) is defaulted. Options for servers with AIX and Linux as the primary operating system are one of a 10 Gb Ethernet adapter, either feature EC2S, EC2U, EN0H, EN0K, EN0S, EN0U, EN0W, or EN15.
- Feature ES14 is not supported by IBM i virtualized through VIOS. If using IBM i (#2148), a storage option supported by IBM i with VIOS must be used with IBM i.

The minimum defined initial order configuration, if no choice is made, when IBM i is the primary operating system, is:

Feature number	Description	Quantity	Notes
EU0B	Operator Panel LCD Display	1	
Processors			
EP10	4-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP11	6-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP12	8-core, typical 2.8 to 3.8 GHz (max) POWER9 Processor	1	Rack-mount configuration only
Processor activations			
EP40	One Processor Core Activation for #EP10	4	
or			
EP41	One Processor Core Activation for #EP11	6	
or			
EP42	One Processor Core Activation for #EP12	8	
Memory DIMMs			
EM62	16 GB DDR4 Memory	2	
or			
EM63	32 GB DDR4 Memory	2	
or			

Feature number	Description	Quantity	Notes
EM64	64 GB DDR4 Memory	2	
Storage Backplane			
EJ1C	Twelve SFF-3 Bays/RDX Bay	1	Optional split card EJ1E
or			
EJ1D	Eighteen SFF-3 Bays/RDX Bay/ Dual IOA with Write Cache	1	
or			
EJ1M	Twelve SFF-3 Bays/RDX Bay/2x EXT PT	1	
Disk Drive			
ESNJ	283 GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (IBM i)	2	One system data protection specify code required
LAN Adapter			
5899	PCIe2 LP 4-port 1 GbE Adapter	1	
or			
EN15	PCIe3 4-port 10 GbE SR Adapter	1	
or			
EC2S	PCIe3 2-Port 10 Gb NIC&ROCE SR/Cu Adapter	1	
or			
EC2U	PCIe3 2-Port 25/10 Gb NIC&ROCE SR/ Cu Adapter	1	
Power supplies/ Power cord			
EB2L	AC Power Supply - 900 W for Server (200 - 240 V AC)	4	41A Tower: Qty 4 of #EB2L required
or			
EB2M	AC Power Supply - 1400 W for Server (200 - 240 V AC)	2	41A Rack: Qty 2 of #EB2M required
6458	Power Cord 4.3 m (14 ft), Drawer to IBM PDU (250V/10A)	4	41A Tower: Qty 4, or 41A Rack: Qty 2
9300/97xx	Language Group Specify	1	9300 - (default)
Front Bezel			
EJU2	Front IBM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes
or			
EJUF	Front IBM Bezel for 18-Bay Backplane	1	41A Rack: used with #EJ1D backplane
or			
EJU8	Front IBM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes

Feature number	Description	Quantity	Notes
or			
EJU9	Front IBM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
Primary operating system			
2145	Primary Operating System Indicator - IBM i	1	Feature EB72 or EB73 is required

- The racking approach for the initial order must be either a 7014-T00, 7014-T42, 7965-S42, or 7953-94Y. If an additional rack is required for I/O expansion drawers as an MES to an existing system, either a feature 0551, 0553, or ER05 rack must be ordered.
- IBM i operating system performance: Clients with write-sensitive disk/HDD workloads should upgrade from the feature EJ1C/EJ1E base storage backplane to the feature EJ1M/EJ1D expanded function storage backplanes to gain the performance advantage of write cache.

Processor modules

A maximum of one processor with four processor cores (#EP10), or one processor with six processor cores (#EP11), or one processor with eight processor cores (#EP12) is allowed. All processor cores must be activated. The following defines the allowed quantities of processor activation entitlements.

- One 4-core, typical 2.3 to 3.8 GHz (max) processor (#EP10) requires that four processor activation codes be ordered. A maximum of four processor activations (#EP40) is allowed.
- One 6-core, typical 2.3 to 3.8 GHz (max) processor (#EP11) requires that six processor activation codes be ordered. A maximum of six processor activation code features (#EP41) is allowed.
- One 8-core, typical 2.8 to 3.8 GHz (max) processor (#EP12) requires that eight processor activation codes be ordered. A maximum of eight processor activation code features (#EP42) is allowed.

System memory

- A minimum of 16 GB of memory is required on the Power S914 system.
- Memory upgrades require memory pairs. Base memory is two 16 GB DDR4 memory modules (#EM62).

Plans for future memory upgrades should be taken into account when deciding which memory feature size to use at the time of initial system order.

Feature description	Feature number	Minimum DIMM quantity	Maximum DIMM quantity
16 GB DDR4 Memory	EM62	0	16
32 GB DDR4 Memory	EM63	0	16
64 GB DDR4 Memory	EM64	0	16

Note: Different sizes/configurations run at different frequencies of 2133, 2400, and 2666 Mbps.

Power supply

- Four power supplies supporting a tower: 1+1 900 Watt 100 - 127 Volt or 200 - 240 Volt AC options (#EB2L)
- Two power supplies supporting a rack: 1+1 1400 Watt 200 - 240 Volt (#EB2M)

Redundant fans

Redundant fans are standard.

Power cords

Two power cords are required. A maximum of two feature 6458 cords is allowed on the system unless a valid I/O drawer or tower is attached to the system. The Power S814 server supports power cord 4.3 m (14 ft), Drawer to Wall/IBM PDU (250V/10A) in the base shipment group. See the feature listing for other options.

PCIe slots

The Power S914 server has up to eight PCIe hot-plug slots, providing excellent configuration flexibility and expandability. For more information about the PCIe slots, see the **Rack-integrated system with I/O expansion drawer** section below.

With one POWER9 processor single-chip module (SCM), eight PCIe slots are available: One is x16 Gen4 full-height, half-length slot (CAPI), one is x8 Gen4 full-height, half-length slot (with x16 connector) (CAPI), two are x8 Gen3 full-height, half-length slots (with x16 connectors), and four are x8 Gen3 full-height, half-length slots (one of these slots is used for the required base LAN adapter).

The x16 slots can provide up to twice the bandwidth of x8 slots because they offer twice as many PCIe lanes. PCIe Gen4 slots can support up to twice the bandwidth of a PCIe Gen3 slot, and PCIe Gen3 slots can support up to twice the bandwidth of a PCIe Gen2 slot, assuming an equivalent number of PCIe lanes.

At least one PCIe Ethernet adapter is required on the server by IBM to ensure proper manufacture, test, and support of the server. One of the x8 PCIe slots is used for this required adapter.

These servers are smarter about energy efficiency when cooling the PCIe adapter environment. They sense which IBM PCIe adapters are installed in their PCIe slots, and, if an adapter requires higher levels of cooling, they automatically speed up fans to increase airflow across the PCIe adapters. Note that faster fans increase the sound level of the server. Higher wattage PCIe adapters include the PCIe3 SAS adapters and SSD/flash PCIe adapters (#EJ10, #EJ14, and #EJ0J).

SAS bays and storage backplane options

- Base Storage Backplane 12 SFF-3 Bays/RDX Bay (#EJ1C)
- Feature EJ1E (6 +6 SFF-3 Bays split backplane for #EJ1C)
- Expanded function Storage Backplane 18 SFF-3 Bays/Dual IOA with Write Cache and optional external SAS port (#EJ1D)
- Expanded function Storage Backplane 12 SFF-3 Bays/RDX Bay/Dual IOA with Write Cache and optional external SAS port (#EJ1M)

The backplane options provide SFF-3 SAS bays in the system unit. These 2.5-inch or small form factor (SFF) SAS bays can contain SAS drives (HDD or SSD) mounted on a Gen3 tray or carrier. Thus the drives are designated SFF-3. SFF-1 or SFF-2 drives do not fit in an SFF-3 bay. All SFF-3 bays support concurrent maintenance or hot-plug capability.

These backplane options use leading-edge, integrated SAS RAID controller technology designed and patented by IBM. A custom-designed PowerPC(R) based ASIC chip is the basis of these SAS RAID controllers and provides RAID 5 and RAID 6 performance levels, especially for SSD. Internally, SAS ports are implemented and provide plenty of bandwidth. The integrated SAS controllers are placed in dedicated slots and do not reduce the number of available PCIe slots.

The feature EJ1C Base Storage Backplane option provides twelve SFF-3 bays and one SAS controller with zero write cache.

By optionally adding the feature EJ1E Split Backplane, a second integrated SAS controller with no write cache is provided, and the twelve SSF-3 bays are logically

divided into two sets of six bays. Each SAS controller independently runs one of the six-bay sets of drives.

This backplane option supports HDDs or SSDs or a mixture of HDDs and SSDs in the SFF-3 bays. "Mixing" HDDs and SSDs applies even within a single set of six bays of the split backplane option. Note, if mixing HDDs and SSDs, they must be in separate arrays.

This backplane option can offer different drive protection options: RAID 0, RAID 5, RAID 6, or RAID 10. RAID 5 requires a minimum of three drives of the same capacity. RAID 6 requires a minimum of four drives of the same capacity. RAID 10 requires a minimum of two drives. Hot spare capability is supported with RAID 5, RAID 6, or RAID 10.

Note that RAID 5 and RAID 6 result in more drive write activity than mirroring or than unprotected drives.

This backplane option is supported by AIX, Linux, VIOS, and IBM i. It is highly recommended but not required that the drives be protected. With IBM i, all drives are required to be protected by either RAID or mirroring.

If the client needs a change after the server is installed, the backplane option can be changed. For example, the feature EJ1E split backplane feature can be added to an existing feature EJ1C backplane.

Unlike the hot-plug PCIe slots and SAS bays, concurrent maintenance is not available for the integrated SAS controllers. Scheduled downtime is required if a service action is required for these integrated resources.

In addition to supporting HDDs and SSDs in the SFF-3 SAS bays, the Expanded Function Storage Backplanes (#EJ1D and #EJ1M) support the optional attachment of an EXP12SX/EXP24SX drawer in mode 1. For these expanded function backplanes, all bays are accessed by both of the integrated SAS controllers. The bays support concurrent maintenance (hot-plug).

Cable management arm

A folding arm is attached to the server's rails at the rear of the server. The server's power cords and the cables from the PCIe adapters or integrated ports run through the arm and into the rack. The arm enables the server to be pulled forward on its rails for service access to PCIe slots, memory, processors, and so on without disconnecting the cables from the server. Approximately 1 meter (3 feet) of cord/cable length is needed for the arm.

Integrated I/O ports

In addition to the integrated SAS controllers and SAS ports associated with the storage backplane, there are two HMC ports, one system port, and three USB ports. The two HMC ports are RJ45 supporting 1 Gb Ethernet connections.

The one system port is RJ45 and is supported by AIX and Linux for attaching serial devices such as an asynchronous device like a console. If the device does not have an RJ45 connection, a converter cable such as feature 3930 can provide a 9-pin D-shell connection. Note that serial devices can have very individual characteristics (different pin outs), and the feature 3930 may not be appropriate for all possible devices. In this case, the user should acquire an OEM converter cable appropriate for their device.

Three USB-3 ports are available for general client use; one is located in front and two in the rear. Additionally, there are two USB-2 ports in the service processor located in the rear of the system. These ports are for limited client use. A converter cable ECCF provides a USB-to-9-pin D-Shell connection for this function.

Rack-integrated system with I/O expansion drawer

Regardless of the rack-integrated system to which the PCIe Gen3 I/O Expansion Drawer is attached, if the expansion drawer is ordered as factory integrated, the PDUs in the rack will be defaulted to be placed horizontally to enhance cable management.

Expansion drawers complicate the access to vertical PDUs if located at the same height. IBM recommends accommodating PDUs horizontally on racks containing one or more PCIe Gen3 I/O Expansion Drawers.

After the rack with expansion drawers is delivered to the client, the client is allowed to rearrange the PDUs from horizontal to vertical. However, the configurator will continue to consider the PDUs as being placed horizontally for the matter of calculating the free space still available in the rack.

Vertical PDUs can be used only if CSRP (#0469) is on the order. When specifying CSRP, the client will provide the locations where the PCIe Gen3 I/O Expansion Drawers must be placed, avoiding locating those adjacent to vertical PDU locations, EIA 6 through 16 and 21 through 31.

RDX docking station

The RDX docking station EUA4 accommodates RDX removable disk cartridges of any capacity. The disk is in a protective rugged cartridge enclosure that plugs into the docking station. The docking station holds one removable rugged disk drive/cartridge at a time. The rugged removable disk cartridge and docking station performs saves, restores, and backups similar to a tape drive. This docking station can be an excellent entry capacity/performance option.

EXP24SX SAS Storage Enclosure (#ESLS/#ELLS)

The EXP24SX is a storage expansion enclosure with twenty-four 2.5-inch SFF SAS bays. It supports up to 24 hot-plug HDDs or SSDs in only 2 EIA of space in a 19-inch rack. The EXP24SX SFF bays use SFF Gen2 (SFF-2) carriers or trays.

The EXP24SX drawer feature ESLS is supported on the Power S914, S922, and S924 servers by AIX, IBM i, Linux, and VIOS. The EXP24SX drawer feature ELLS is supported on the Linux-only Power L922 server.

With AIX/Linux/VIOS, the EXP24SX can be ordered with four sets of six bays (mode 4), two sets of twelve bays (mode 2), or one set of twenty-four bays (mode 1). With IBM i, only one set of twenty-four bays (mode 1) is supported. It is possible to change the mode setting in the field using software commands along with a specifically documented procedure. The predecessor EXP24S did not support this mode change in the field.

Important: When changing modes, a skilled, technically qualified person should follow the special documented procedures. Improperly changing modes can potentially destroy existing RAID sets, prevent access to existing data, or allow other partitions to access another partition's existing data. Hire an expert to assist if you are not familiar with this type of reconfiguration work.

Four mini-SAS HD ports on the EXP24SX are attached to PCIe Gen3 SAS adapters or attached to an integrated SAS controller in a POWER9 scale-out server such as the Power S914, S922, or S924 servers. The following PCIe3 SAS adapters support the EXP24SX:

- PCIe3 RAID SAS Adapter Quad-port 6 Gb x8 (#EJ0J, #EJ0M, #EL3B, or #EL59)
- PCIe3 12 GB Cache RAID Plus SAS Adapter Quad-port 6 Gb x8 (#EJ14)

Earlier generation PCIe2 or PCIe1 SAS adapters are not supported with the EXP24SX.

The attachment between the EXP24SX and the PCIe3 SAS adapters or integrated SAS controllers is through SAS YO12 or X12 cables. X12 and YO12 cables are designed to support up to 12 Gb SAS. The PCIe Gen3 SAS adapters support up to 6

Gb throughput. The EXP24SX has been designed to support up to 12 Gb throughput if future SAS adapters support that capability. All ends of the YO12 and X12 cables have mini-SAS HD narrow connectors. Cable options are:

- X12 cable: 3-meter copper (#ECDJ)
- YO12 cables: 1.5-meter copper (#ECDT), 3-meter copper (#ECDU)
- 3M 100 GbE Optical Cable QSFP28 (AOC) (#EB5R)
- 5M 100 GbE Optical Cable QSFP28 (AOC) (#EB5S)
- 10M 100 GbE Optical Cable QSFP28 (AOC) (#EB5T)
- 15M 100 GbE Optical Cable QSFP28 (AOC) (#EB5U)
- 20M 100 GbE Optical Cable QSFP28 (AOC) (#EB5V)
- 30M 100 GbE Optical Cable QSFP28 (AOC) (#EB5W)
- 50M 100 GbE Optical Cable QSFP28 (AOC) (#EB5X)
- 100M 100 GbE Optical Cable QSFP28 (AOC) (#EB5Y)

An AA12 cable interconnecting a pair of PCIe3 12 GB cache adapters (two #EJ14) is not attached to the EXP24SX. These higher-bandwidth cables could support 12 Gb throughput if future adapters support that capability. Copper feature ECE0 is 0.6 meters long, ECE3 is 3 meters long, and optical AA12 feature ECE4 is 4.5-meter long.

One no-charge specify code is used with each EXP24SX I/O Drawer (#ESLS/#ELLS) to communicate to IBM configurator tools and IBM Manufacturing which mode setting, adapter, and SAS cable are needed. With this specify code, no hardware is shipped. The physical adapters, controllers, and cables must be ordered with their own chargeable feature numbers. There are more technically supported configurations than are represented by these specify codes. IBM Manufacturing and IBM configurator tools such as e-config only understand and support EXP24SX configurations represented by these specify codes.

Specify code	Mode	Adapter/ Controller	Cable to Drw	Environment
#EJW0	Mode 1	CEC SAS Ports	2 YO12 cables	AIX/IBM i/ Linux/VIOS
#EJW1	Mode 1	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 YO12 cable	AIX/IBM i/ Linux/VIOS
#EJW2	Mode 1	Two (one pair) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 YO12 cables	AIX/IBM i/ Linux/VIOS
#EJW3	Mode 2	Two (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJW4	Mode 2	Four (two pair) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJW5	Mode 4	Four (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJW6	Mode 2	One (unpaired)	2 YO12 cables	AIX/Linux/ VIOS

Specify code	Mode	Adapter/ Controller	Cable to Drw	Environment
		#EJ0J/ #EJ0M/ #EL3B/ #EL59		
#EJW7	Mode 2	Two (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 YO12 cables	AIX/Linux/ VIOS
#EJWF	Mode 1	Two (one pair) #EJ14	2 Y012 cables	AIX/IBM i/ Linux/VIOS
#EJWG	Mode 2	Two (one pair) #EJ14	2 X12 cables	AIX/Linux/ VIOS
#EJWJ	Mode 2	Four (two pair) #EJ14	2 X12 cables	AIX/Linux/ VIOS
#EJWU	Mode 1	Controller EJ1G/EL67	1 YO12 cables	Linux

All of the above EXP24SX specify codes assume a full set of adapters and cables able to run all the SAS bays configured. The following specify codes communicate to IBM Manufacturing a lower-cost partial configuration is to be configured where the ordered adapters and cables can run only a portion of the SAS bays. The future MES addition of adapters and cables can enable the remaining SAS bays for growth. The following specify codes are used:

Specify	Mode	Adapter/ Controller	Cable to Drw	Environment
#EJWA (1/2 of #EJW7)	Mode 2	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 YO12 cables	AIX/Linux/ VIOS
#EJWB (1/2 of #EJW4)	Mode 2	Two (one pair) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 X12 cable	AIX/Linux/ VIOS
#EJWC (1/4 of #EJW5)	Mode 4	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 X12 cable	AIX/Linux/ VIOS
#EJWD (1/2 of #EJW5)	Mode 4	Two (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 X12 cables	AIX/Linux/ VIOS
#EJWE (3/4 of #EJW5)	Mode 4	Three (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJWH (1/2 of #EJWJ)	Mode 2	Two (one pair) #EJ14	1 X12 cables	AIX/Linux/ VIOS

An EXP24SX drawer in mode 4 can be attached to two or four SAS controllers and provide a great deal of configuration flexibility. For example, if using unpaired feature EJ0J adapters, these EJ0J adapters could be in the same server in the same partition, same server in different partitions, or even different servers.

An EXP24SX drawer in mode 2 has similar flexibility. If the I/O drawer is in mode 2, then half of its SAS bays can be controlled by one pair of PCIe3 SAS adapters, such

as a 12 GB write cache adapter pair (#EJ14), and the other half can be controlled by a different PCIe3 SAS 12 GB write cache adapter pair or by zero-write-cache PCIe3 SAS adapters.

Note that for simplicity, IBM configurator tools such as e-config assume that the SAS bays of an individual I/O drawer are controlled by one type of SAS adapter. As a client, you have more flexibility than e-config understands.

A maximum of twenty-four 2.5-inch SSDs or 2.5-inch HDDs is supported in the EXP24SX 24 SAS bays. There can be no mixing of HDDs and SSDs in the same mode 1 drawer. HDDs and SSDs can be mixed in a mode 2 or mode 4 drawer, but they cannot be mixed within a logical split of the drawer. For example, in a mode 2 drawer with two sets of 12 bays, one set could hold SSDs and one set could hold HDDs, but you cannot mix SSDs and HDDs in the same set of 12 bays.

The indicator feature EHS2 helps IBM Manufacturing understand where SSDs are placed in a mode 2 or a mode 4 EXP24SX drawer. On one mode 2 drawer, use a quantity of one feature EHS2 to have SSDs placed in just half the bays, and use two EHS2 features to have SSDs placed in any of the bays. Similarly, on one mode 4 drawer, use a quantity of one, two, three, or four EHS2 features to indicate how many bays can have SSDs. With multiple EXP24SX orders, IBM Manufacturing will have to guess which quantity of feature ESH2 is associated with each EXP24SX. Consider using CSP (#0456) to reduce guessing.

Two-and-a-half inch small form factor (SFF) SAS HDDs and SSDs are supported in the EXP24SX. All drives are mounted on Gen2 carriers/trays and thus named SFF-2 drives.

The EXP24SX drawer has many high-reliability design points:

- SAS drive bays that support hot swap
- Redundant and hot-plug-capable power and fan assemblies
- Dual line cords
- Redundant and hot-plug enclosure service modules (ESMs)
- Redundant data paths to all drives
- LED indicators on drives, bays, ESMs, and power supplies that support problem identification
- Through the SAS adapters/controllers, drives that can be protected with RAID and mirroring and hot-spare capability

Order two ESLA features for AC power supplies. The enclosure is shipped with adjustable depth rails and can accommodate 19-inch rack depths from 59.5 - 75 cm (23.4 - 29.5 in.). Slot filler panels are provided for empty bays when initially shipped from IBM.

EXP12SX SAS Storage Enclosure (#ESLL/#ELLL)

The EXP12SX is a storage expansion enclosure with twelve 3.5-inch LFF SAS bays. It supports up to 12 hot-plug HDDs in only 2 EIA of space in a 19-inch rack. The EXP12SX SFF bays use LFF Gen1 (LFF-1) carriers/trays. The 4k byte sector drives (#4096 or #4224) are supported. SSDs are not supported.

The EXP12SX drawer feature ESLL is supported on the Power S914, S922, and S924 servers by AIX, Linux, and VIOS. The EXP24SX drawer feature ELLL is supported on the Linux-only Power L922 server.

With AIX/Linux/VIOS, the EXP12SX enclosure can be ordered with four sets of three bays (mode 4), two sets of six bays (mode 2), or one set of twelve bays (mode 1). The mode setting can be changed in the field using software commands along with a specifically documented procedure.

Important: When changing modes, it is very important that you follow the documented procedures. Improperly changing modes can potentially destroy existing RAID sets, prevent access to existing data, or allow other partitions to

access another partition's existing data. Hire an expert to assist if you are not familiar with this type of reconfiguration work.

Four mini-SAS HD ports on the EXP12SX are attached to PCIe Gen3 SAS adapters or attached to an integrated SAS controller in a POWER9 scale-out server such as the Power S914, S922, or S924 server. The following PCIe3 SAS adapters support the EXP12SX:

- PCIe3 RAID SAS Adapter Quad-port 6 Gb x8 (#EJ0J, #EJ0M, #EL3B, or #EL59)
- PCIe3 12 GB Cache RAID Plus SAS Adapter Quad-port 6 Gb x8 (#EJ14)

Earlier generation PCIe2 or PCIe1 SAS adapters are not supported with the EXP12SX drawer.

The EXP12SX drawer and the PCIe3 SAS adapters or integrated SAS controllers are attached through SAS YO12 or X12 cables. X12 and YO12 cables are designed to support up to 12 Gb. The PCIe Gen3 SAS adapters support up to 6 Gb throughput. The EXP12SX has been designed to support up to 12 Gb throughput if future SAS adapters support that capability. All ends of the YO12 and X12 cables have mini-SAS HD narrow connectors. Cable options are:

- X12 cable: 3-meter copper (#ECDJ)
- YO12 cables: 1.5-meter copper (#ECDT), 3-meter copper (#ECDU)
- 3M 100 GbE Optical Cable QSFP28 (AOC) (#EB5R)
- 5M 100 GbE Optical Cable QSFP28 (AOC) (#EB5S)
- 10M 100 GbE Optical Cable QSFP28 (AOC) (#EB5T)
- 15M 100 GbE Optical Cable QSFP28 (AOC) (#EB5U)
- 20M 100 GbE Optical Cable QSFP28 (AOC) (#EB5V)
- 30M 100 GbE Optical Cable QSFP28 (AOC) (#EB5W)
- 50M 100 GbE Optical Cable QSFP28 (AOC) (#EB5X)
- 100M 100 GbE Optical Cable QSFP28 (AOC) (#EB5Y)

An AA12 cable interconnecting a pair of PCIe3 12 GB cache adapters (two #EJ14) is not attached to the EXP12SX drawer. These higher-bandwidth cables could support 12 Gb throughput if future adapters support that capability. Copper feature ECE0 is 0.6-meter long, feature ECE3 is 3-meter long, and optical AA12 feature ECE4 is 4.5-meter long.

One no-charge specify code is used with each EXP12SX I/O Drawer (#ELLL/#ESLL) to communicate to IBM configurator tools and IBM Manufacturing which mode setting, adapter, and SAS cable are needed. With this specify code, no hardware is shipped. The physical adapters, controllers, and cables must be ordered with their own chargeable feature numbers. There are more technically supported configurations than are represented by these specify codes. IBM Manufacturing and IBM configurator tools such as e-config only understand and support EXP12SX configurations represented by these specify codes.

Specify	Mode	Adapter/ Controller	Cable to Drw	Environment
#EJV0	Mode 1	CEC SAS Ports	2 YO12 cables	AIX/Linux/ VIOS
#EJV1	Mode 1	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 YO12 cable	AIX/Linux/ VIOS
#EJV2	Mode 1	Two (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 YO12 cables	AIX/Linux/ VIOS

Specify	Mode	Adapter/ Controller	Cable to Drw	Environment
#EJV3	Mode 2	Two (one pair) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJV4	Mode 2	Four (two pair) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJV5	Mode 4	Four (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS
#EJV6	Mode 2	One(unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 YO12 cables	AIX/Linux/ VIOS
#EJV7	Mode 2	Two (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 YO12 cables	AIX/Linux/ VIOS
#EJVF	Mode 1	Two #EJ14 (one pair)	2 YO12 cables	AIX/Linux/ VIOS
#EJVG	Mode 2	Two #EJ14 (one pair)	2 X12 cables	AIX/Linux/ VIOS
#EJVJ	Mode 2	Four #EJ14 (two pair)	2 X12 cable	AIX/Linux/ VIOS
#EJVU	Mode 1	Controller EJ1G/EL67	1 YO12 cables	Linux

All of the above EXP12SX specify codes assume a full set of adapters and cables able to run all the SAS bays configured. The following specify codes communicate to IBM Manufacturing a lower cost, partial configuration is to be configured where the ordered adapters and cables can run only a portion of the SAS bays. The future MES addition of adapters and cables can enable the remaining SAS bays for growth. The following specify codes are used:

Specify	Mode	Adapter/ Controller	Cable to Drw	Environment
#EJVA (1/2 of #EJV7)	Mode 2	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 YO12 cables	AIX/Linux/ VIOS
#EJVB (1/2 of #EJV4)	Mode 2	One pair #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 X12 cable	AIX/Linux/ VIOS
#EJVC (1/4 of #EJV5)	Mode 4	One (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	1 X12 cable	AIX/Linux/ VIOS
#EJVD (2/4 of #EJV5)	Mode 4	Two (unpaired) #EJ0J/ #EJ0M/	1 X12 cables	AIX/Linux/ VIOS

Specify	Mode	Adapter/ Controller	Cable to Drw	Environment
		#EL3B/ #EL59		
#EJVE (3/4 of #EJV5)	Mode 4	Three (unpaired) #EJ0J/ #EJ0M/ #EL3B/ #EL59	2 X12 cables	AIX/Linux/ VIOS

An EXP12SX drawer in mode 4 can be attached to two or four SAS controllers and provide a great deal of configuration flexibility. For example, if using unpaired feature EJ0J adapters, these EJ0J adapters could be in the same server in the same partition, same server in different partitions, or even different servers.

An EXP12SX drawer in mode 2 has similar flexibility. If the I/O drawer is in mode 2, then half of its SAS bays can be controlled by one pair of PCIe3 SAS adapters, such as a 12 GB write cache adapter pair (#EJ14), and the other half can be controlled by a different PCIe3 SAS 12 GB write cache adapter pair or by zero-write-cache PCIe3 SAS adapters.

Note that for simplicity, IBM configurator tools such as e-config assume that the SAS bays of an individual I/O drawer are controlled by one type of SAS adapter. As a client, you have more flexibility than e-config understands.

The 3.5-inch large form factor (LFF) SAS HDDs are supported in the EXP24SX. All drives are mounted on Gen1 carriers/trays and thus named LFF-1 drives. Only 4k byte sector drives are supported in the EXP24SX drawer. The 5xx byte sector drives are not announced or planned. Drives are 7200 rpm and sometimes referred to as *nearline*. These drives provide excellent cost per gigabyte. Note that formatting or rebuilding arrays on large disk drives can take hours. If higher performance is required, consider higher rpm disks or SSDs in the EXP24SX drawer.

EXP12SX drives for feature ESLL (multi-OS) are the 3.86 TB/4.0 TB 4k 7200 RPM (#ES62) and 7.72 TB/8.0 TB 4k 7200 RPM (#ES64) drives. Drives for feature ELLL (Linux-only) are the 3.86 TB/4.0 TB 4k 7200 RPM (#EL62) and the 7.72 TB/8.0 TB 4k 7200 RPM (#EL64) drives.

The EXP12SX drawer has many high-reliability design points:

- SAS bays that support hot swap
- Redundant and hot-plug power and fan assemblies
- Dual line cords
- Redundant and hot-plug ESMs
- Redundant data paths to all drives
- LED indicators on drives, bays, ESMs, and power supplies that support problem identification
- Through the SAS adapters/controllers, drives that can be protected with RAID and mirroring and hot-spare capability

Order two ESLA features for AC power supplies. The enclosure is shipped with adjustable depth rails and can accommodate 19-inch rack depths from 59.5 - 75 cm (23.4 - 29.5 in.). Slot filler panels are provided for empty bays when initially shipped from IBM.

EXP24SX and EXP12SX enclosures can be mixed on the same server. EXP24SX and EXP12SX enclosures can be mixed on the same PCIe3 adapter.

PCIe Gen3 I/O Drawer Cabling Option

A copper cabling option (#ECCS) is available for the scale-out servers. The cable option offers a much lower-cost connection between the server and the PCIe Gen3 I/O drawer fanout modules. The currently available Active Optical Cable (AOC) offers much longer length cables, providing rack placement flexibility. Plus AOC cables are

much thinner and have tighter bend radius and thus are much easier to cable in the rack.

The 3M Copper CXP Cable Pair (#ECCS) has the same performance and same reliability, availability, and serviceability (RAS) characteristics as the AOC cables. One copper cable length of 3 m is offered. Note that the cable management arm of the scale-out servers requires about 1 m of cable.

Like the AOC cable pair, the copper pair is cabled in the same manner. One cable attaches to the top CXP port in the PCIe adapter in the x16 PCIe slot in the server system unit and then attaches to the top CXP port in the fanout module in the I/O drawer. Its cable pair attaches to the bottom CXP port of the same PCIe adapter and to the bottom CXP port of the same fanout module. Note that the PCIe adapter providing the CXP ports on the server was named a PCIe3 "Optical" Cable Adapter. In hindsight, this naming was unfortunate as the adapter's CXP ports are not unique to optical. But at the time, optical cables were the only connection option planned.

Copper and AOC cabling can be mixed on the same server. However, they cannot be mixed on the same PCIe Gen3 I/O drawer or mixed on the same fanout module.

Copper cables have the same operating system software prerequisites as AOC cables.

High-function (switched and monitored) PDUs

The high-function PDUs (power distribution units) provide switching, better monitoring, and 50% more C19 receptacles than previous Power System PDUs. Depending on country wiring standards, either two or four full-price features are orderable.

	208 V 3-phase delta	**200 V - 240 V 1-phase or 3-phase wye**
12 x C13	#EPTQ	#EPTN
9 x C19	#EPTL	#EPTJ

These PDUs can be mounted vertically in rack-side pockets or they can be mounted horizontally. If mounted horizontally, they each use 1 EIA (1U) of rack space. See feature EPTH for horizontal mounting hardware, which is used when IBM Manufacturing doesn't automatically factory-install the PDU. Two RJ45 ports on the front of the PDU enable the client to monitor each receptacle's electrical power usage and to remotely switch any receptacle on or off. The PDU is shipped with a generic PDU password, and IBM strongly urges clients to change it upon installation. These PDUs do provide the same low price as the low-function 12xC13 PDU feature (#7188).

Reliability, Availability, and Serviceability

Reliability, fault tolerance, and data correction

The reliability of systems starts with components, devices, and subsystems that are designed to be highly reliable. During the design and development process, subsystems go through rigorous verification and integration testing processes. During system manufacturing, systems go through a thorough testing process to help ensure the highest level of product quality.

Memory subsystem RAS

The memory has error detection and correction circuitry designed such that the failure of any one specific memory module within an ECC word by itself can be corrected absent any other fault.

Mutual surveillance

The service processor monitors the operation of the firmware during the boot process and also monitors the hypervisor for termination. The hypervisor monitors the service processor and reports a service reference code when it detects

surveillance loss. In the PowerVM environment, it will perform a reset/reload if it detects the loss of the service processor.

Environmental monitoring functions

The Power Systems family does ambient and over temperature monitoring and reporting.

POWER9 processor functions

As in POWER8, the POWER9 processor has the ability to do processor instruction retry for some transient errors.

Cache availability

The L2 and L3 caches in the POWER9 processor in the memory buffer chip are protected with double-bit detect, single-bit correct error detection code (ECC). In addition, a threshold of correctable errors detected on cache lines can result in the data in the cache lines being purged and the cache lines removed from further operation without requiring a reboot in the PowerVM environment.

Modified data would be handled through Special Uncorrectable Error handling. L1 data and instruction caches also have a retry capability for intermittent errors and a cache set delete mechanism for handling solid failures.

Special Uncorrectable Error handling

Special Uncorrectable Error (SUE) handling prevents an uncorrectable error in memory or cache from immediately causing the system to terminate. Rather, the system tags the data and determines whether it will ever be used again. If the error is irrelevant, it will not force a check stop. If the data is used, termination may be limited to the program/kernel or hypervisor owning the data; or the I/O adapters controlled by an I/O hub controller would freeze if data were transferred to an I/O device.

PCI extended error handling

PCI extended error handling (EEH)-enabled adapters respond to a special data packet generated from the affected PCI slot hardware by calling system firmware, which will examine the affected bus, allow the device driver to reset it, and continue without a system reboot. For Linux, EEH support extends to the majority of frequently used devices, although some third-party PCI devices may not provide native EEH support.

Uncorrectable error recovery

When the auto-restart option is enabled, the system can automatically restart following an unrecoverable software error, hardware failure, or environmentally induced (AC power) failure.

Serviceability

The purpose of serviceability is to efficiently repair the system while attempting to minimize or eliminate impact to system operation. Serviceability includes system installation, MES (system upgrades/downgrades), and system maintenance/repair. Depending upon the system and warranty contract, service may be performed by the client, an IBM representative, or an authorized warranty service provider.

The serviceability features delivered in this system help provide a highly efficient service environment by incorporating the following attributes:

- Design for Customer Set Up (CSU), Customer Installed Features (CIF), and Customer Replaceable Units (CRU)
- Error Detection and Fault Isolation (ED/FI)
- First Failure Data Capture (FFDC)
- Lightpath service indicators

- Service labels and service diagrams available on the system and delivered through IBM Knowledge Center
- Step-by-step service procedures documented in IBM Knowledge Center or available through the Hardware Management Console
- Automatic reporting of serviceable events to IBM through the Electronic Service Agent™ Call Home application
- CRU videos planned to be available on the web at general availability
- Mobile access to important customer service functions available by scanning a QR label

Service environment

In the PowerVM environment, the HMC is a dedicated server that provides functions for configuring and managing servers for either partitioned or full-system partition using a GUI or command-line interface (CLI) or REST API. An HMC attached to the system allows support personnel (with client authorization) to remotely, or locally to the physical HMC that is in proximity of the server being serviced, log in to review error logs and perform remote maintenance if required.

The POWER9 processor-based platforms support several service environments:

- Attachment to one or more HMCs or vHMCs is a supported option by the system with PowerVM. This is the default configuration for servers supporting logical partitions with dedicated or virtual I/O. In this case, all servers have at least one logical partition.
- For non-HMC systems.
  - Full-system partition with PowerVM: A single partition owns all the server resources and only one operating system may be installed. The primary service interface is through the operating system and the service processor.

Service interface

Support personnel can use the service interface to communicate with the service support applications in a server using an operator console, a graphical user interface on the management console or service processor, or an operating system terminal. The service interface helps to deliver a clear, concise view of available service applications, helping the support team to manage system resources and service information in an efficient and effective way. Applications available through the service interface are carefully configured and placed to give service providers access to important service functions.

Different service interfaces are used, depending on the state of the system, hypervisor, and operating environment. The primary service interfaces are:

- LEDs
- Operator Panel
- Service Processor menu
- Operating system service menu
- Service Focal Point on the HMC or vHMC with PowerVM

In the light path LED implementation, the system can clearly identify components for replacement by using specific component-level LEDs, and can also guide the servicer directly to the component by signaling (turning on solid) the amber system fault LED, enclosure fault LED, and component FRU fault LED. The servicer can also use the identify function to blink the FRU-level LED. When this function is activated, a roll-up to the blue enclosure locate and system locate LEDs will occur. These enclosure LEDs will turn on solid and can be used to follow the light path from the system to the enclosure and down to the specific FRU in the PowerVM environment.

First Failure Data Capture and error data analysis

First Failure Data Capture (FFDC) is a technique that helps ensure that when a fault is detected in a system, the root cause of the fault will be captured without the need to re-create the problem or run any sort of extending tracing or diagnostics program. For the vast majority of faults, a good FFDC design means that the root cause can also be detected automatically without servicer intervention.

FFDC information, error data analysis, and fault isolation are necessary to implement the advanced serviceability techniques that enable efficient service of the systems and to help determine the failing items.

In the rare absence of FFDC and Error Data Analysis, diagnostics are required to re-create the failure and determine the failing items.

Diagnostics

General diagnostic objectives are to detect and identify problems so they can be resolved quickly. Elements of IBM's diagnostics strategy include:

- Provide a common error code format equivalent to a system reference code with PowerVM, system reference number, checkpoint, or firmware error code.
- Provide fault detection and problem isolation procedures. Support remote connection ability to be used by the IBM Remote Support Center or IBM Designated Service.
- Provide interactive intelligence within the diagnostics with detailed online failure information while connected to IBM's back-end system.

Automatic diagnostics

Because of the FFDC technology designed into IBM servers, it is not necessary to perform re-create diagnostics for failures or require user intervention. Solid and intermittent errors are designed to be correctly detected and isolated at the time the failure occurs. Runtime and boot-time diagnostics fall into this category.

Stand-alone diagnostics with PowerVM

As the name implies, stand-alone or user-initiated diagnostics requires user intervention. The user must perform manual steps, including:

- Booting from the diagnostics CD, DVD, USB, or network
- Interactively selecting steps from a list of choices

Concurrent maintenance

The determination of whether a firmware release can be updated concurrently is identified in the readme information file that is released with the firmware. An HMC is required for the concurrent firmware update with PowerVM. In addition, concurrent maintenance of PCIe adapters is supported with PowerVM. Concurrent maintenance of the Operator Panel is supported through ASMI. Additional concurrent maintenance includes power supplies, fans, and HDD/SSD drives.

Service labels

Service providers use these labels to assist them in performing maintenance actions. Service labels are found in various formats and positions and are intended to transmit readily available information to the servicer during the repair process. Following are some of these service labels and their purpose:

- Location diagrams: Location diagrams are located on the system hardware, relating information regarding the placement of hardware components. Location diagrams may include location codes, drawings of physical locations, concurrent maintenance status, or other data pertinent to a repair. Location diagrams are especially useful when multiple components such as DIMMs, CPUs, processor books, fans, adapter cards, LEDs, and power supplies are installed.
- Remove/replace procedures: Service labels that contain remove/replace procedures are often found on a cover of the system or in other spots accessible

to the servicer. These labels provide systematic procedures, including diagrams detailing how to remove or replace certain serviceable hardware components.
- Arrows: Numbered arrows are used to indicate the order of operation and the serviceability direction of components. Some serviceable parts such as latches, levers, and touch points need to be pulled or pushed in a certain direction and in a certain order for the mechanical mechanisms to engage or disengage. Arrows generally improve the ease of serviceability.

QR labels

QR labels are placed on the system to provide access to key service functions through a mobile device. Once the QR label is scanned, it will go to a landing page specific to that server which contains many of the service functions of interest while physically located at the server. These include things such as installation and repair instructions, service diagrams, reference code look up, and so on.

Packaging for service

The following service enhancements are included in the physical packaging of the systems to facilitate service:

- Color coding (touch points): Blue-colored touch points delineate touchpoints on service components where the component can be safely handled for service actions such as removal or installation.
- Tool-less design: Selected IBM systems support tool-less or simple tool designs. These designs require no tools or simple tools such as flathead screw drivers to service the hardware components.
- Positive retention: Positive retention mechanisms help to assure proper connections between hardware components such as cables to connectors, and between two cards that attach to each other. Without positive retention, hardware components run the risk of becoming loose during shipping or installation, preventing a good electrical connection. Positive retention mechanisms like latches, levers, thumb-screws, pop Nylatches (U-clips), and cables are included to help prevent loose connections and aid in installing (seating) parts correctly. These positive retention items do not require tools.

Error handling and reporting

In the event of system hardware or environmentally induced failure, the system runtime error capture capability systematically analyzes the hardware error signature to determine the cause of failure. The analysis result will be stored in system NVRAM. When the system can be successfully restarted either manually or automatically, or if the system continues to operate, the error will be reported to the operating system. Hardware and software failures are recorded in the system log. When an HMC is attached in the PowerVM environment, an ELA routine analyzes the error, forwards the event to the Service Focal Point (SFP) application running on the HMC, and notifies the system administrator that it has isolated a likely cause of the system problem. The service processor event log also records unrecoverable checkstop conditions, forwards them to the SFP application, and notifies the system administrator.

The system has the ability to call home through the operating system to report platform-recoverable errors and errors associated with PCI adapters/devices.

In the HMC-managed environment, a call home service request will be initiated from the HMC and the pertinent failure data with service parts information and part locations will be sent to an IBM service organization. Customer contact information and specific system-related data such as the machine type, model, and serial number, along with error log data related to the failure, are sent to IBM Service.

Live Partition Mobility

With Live Partition Mobility, users can migrate an AIX or IBM i partition running on one POWER partition system to another POWER system without disrupting services. The migration transfers the entire system environment, including processor state,

memory, attached virtual devices, and connected users. It provides continuous operating system and application availability during planned partition outages for repair of hardware and firmware faults.

Service processor

The service processor provides the capability to diagnose, check the status of, and sense the operational conditions of a system. It runs on its own power boundary and does not require resources from a system processor to be operational to perform its tasks.

Under PowerVM, the service processor supports surveillance of the connection to the HMC and to the system firmware (hypervisor). It also provides several remote power control options, environmental monitoring, reset, restart, remote maintenance, and diagnostic functions, including console mirroring. The service processors menus (ASMI) can be accessed concurrently with system operation, allowing nondisruptive abilities to change system default parameters.

Call home

Call home refers to an automatic or manual call from a client location to the IBM support structure with error log data, server status, or other service-related information. Call home invokes the service organization in order for the appropriate service action to begin. Call home can be done through HMC or most non-HMC-managed systems through Electronic Service Agent running on top of the operating system. While configuring call home is optional, clients are encouraged to implement this feature in order to obtain service enhancements such as reduced problem determination and faster and potentially more accurate transmittal of error information. In general, using the call home feature can result in increased system availability. The Electronic Service Agent application can be configured for automated call home. See the next section for specific details on this application.

IBM Electronic Services

Electronic Service Agent and the IBM Electronic Services web portal comprise the IBM Electronic Services solution, which is dedicated to providing fast, exceptional support to IBM clients. IBM Electronic Service Agent is a no-charge tool that proactively monitors and reports hardware events such as system errors, performance issues, and inventory. Electronic Service Agent can help focus on the client's company business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues.

System configuration and inventory information collected by Electronic Service Agent also can be viewed on the secure Electronic Services web portal and used to improve problem determination and resolution between the client and the IBM support team. As part of an increased focus to provide even better service to IBM clients, Electronic Service Agent tool configuration and activation comes standard with the system. In support of this effort, a new HMC External Connectivity security whitepaper has been published, which describes data exchanges between the HMC and the IBM Service Delivery Center (SDC) and the methods and protocols for this exchange. To read the whitepaper and prepare for Electronic Service Agent installation, see the "Security" section at the IBM Electronic Service Agent website.

Select your country. Click "IBM Electronic Service Agent Connectivity Guide."

Benefits: increased uptime

Electronic Service Agent is designed to enhance the warranty and maintenance service by potentially providing faster hardware error reporting and uploading system information to IBM Support. This can optimize the time monitoring the symptoms, diagnosing the error, and manually calling IBM Support to open a problem record. And 24x7 monitoring and reporting means no more dependency on human intervention or off-hours client personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to help secure the monitoring, reporting, and storing of the data at IBM. The Electronic Service Agent tool is designed to help securely transmit either through the internet (HTTPS or VPN) or modem to provide clients a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a client's system.

For additional information, see the IBM Electronic Service Agent website.

More accurate reporting

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

Customized support

By using the IBMid entered during activation, clients can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Services website.

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

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

For more information on how to utilize the power of IBM Electronic Services, see the following website or contact an IBM Systems Services Representative.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be found on the Product accessibility information website.

Section 508 of the US Rehabilitation Act

The Power S914 server (9009-41A) is capable as of March 20, 2018, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A US Section 508 Voluntary Product Accessibility Template (VPAT) can be found on the Product accessibility information website.

Product positioning

IBM is leading the cognitive and cloud space. Integrated cloud capabilities in POWER9 go in line with IBM's cloud strategy and enable you to connect current

enterprise data with cloud-based AI or analytics offerings like Watson™. IBM gives you best-in-class on-premises cloud deployment possibilities with this announcement in addition to the off-premises portfolio already maintained. And IBM applies that innovation to cognitive infrastructure, helping you on your journey to AI.

IBM aligns cutting-edge innovation with enterprise dependability: IBM has over 105 years of aligning continuous innovation with clients' business needs.

The POWER9 scale-out family delivers a set of entry servers that comes cloud enabled out of the box with integrated PowerVM Enterprise capabilities. Additionally, on-chip analytics and algorithms help clients run their workloads at an optimized processor frequency for performance and throughput. Live Partition Mobility capabilities are built in, to cloud-enable your POWER9 infrastructure and help you migrate from previous Power Systems. Every new S914 also has the option of a temporary PowerVM license for your old server to support a seamless move of workloads to POWER9. The Power System S914 server has built-in security that can help you to be ready for current and future security threats.

Product number

The following are newly announced features on the specific models of the IBM Power Systems 9009 machine type:

Description	Machine type	Model	Feature number
IBM Power System S914	9009	41A	
One CSC Billing Unit	9009	41A	0010
Ten CSC Billing Units	9009	41A	0011
Mirrored System Disk Level, Specify Code	9009	41A	0040
Device Parity Protection-All, Specify Code	9009	41A	0041
Mirrored System Bus Level, Specify Code	9009	41A	0043
Device Parity RAID-6 All, Specify Code	9009	41A	0047
RISC-to-RISC Data Migration	9009	41A	0205
AIX Partition Specify	9009	41A	0265
Linux Partition Specify	9009	41A	0266
IBM i Operating System Partition Specify	9009	41A	0267
Specify Custom Data Protection	9009	41A	0296
Mirrored Level System Specify Code	9009	41A	0308
RAID Hot Spare Specify	9009	41A	0347
V.24/EIA232 6.1m (20-Ft) PCI Cable	9009	41A	0348
V.35 6.1m (20-Ft) PCI Cable	9009	41A	0353
X.21 6.1m (20-Ft) PCI Cable	9009	41A	0359
CBU Specify	9009	41A	0444
Customer Specified Placement	9009	41A	0456
19 inch, 1.8 meter high rack	9009	41A	0551
19 inch, 2.0 meter high rack	9009	41A	0553
Rack Filler Panel Kit	9009	41A	0599
Load Source Not in CEC	9009	41A	0719
SAN Load Source Specify	9009	41A	0837
US TAA Compliance Indicator	9009	41A	0983
Product assembled in USA manufacturing plant	9009	41A	0984
Modem Cable - US/Canada and General Use	9009	41A	1025
USB 500 GB Removable Disk Drive	9009	41A	1107
Custom Service Specify, Rochester Minn, USA	9009	41A	1140
Quantity 150 of #1964	9009	41A	1818
Quantity 150 of #1953	9009	41A	1929
300GB 15k RPM SAS SFF-2 Disk Drive (AIX/Linux)	9009	41A	1953
600GB 10k RPM SAS SFF-2 Disk Drive (AIX/Linux)	9009	41A	1964
Primary OS - IBM i	9009	41A	2145
Primary OS - AIX	9009	41A	2146
Primary OS - Linux	9009	41A	2147

Factory Deconfiguration of 1-core	9009	41A	2319
2M LC-SC 50 Micron Fiber Converter Cable	9009	41A	2456
2M LC-SC 62.5 Micron Fiber Converter Cable	9009	41A	2459
3M Asynchronous Terminal/Printer Cable EIA-232	9009	41A	2934
Asynchronous Cable EIA-232/V.24 3M	9009	41A	2936
Serial-to-Serial Port Cable for Drawer/Drawer-3.7M	9009	41A	3124
Serial-to-Serial Port Cable for Rack/Rack- 8M	9009	41A	3125
Widescreen LCD Monitor	9009	41A	3632
0.3M Serial Port Converter Cable, 9-Pin to 25-Pin	9009	41A	3925
Serial Port Null Modem Cable, 9-pin to 9-pin, 3.7M	9009	41A	3927
Serial Port Null Modem Cable, 9-pin to 9-pin, 10M	9009	41A	3928
System Serial Port Converter Cable	9009	41A	3930
1.8 M (6-ft) Extender Cable for Displays (15-pin D-shell to 15-pin D-shell)	9009	41A	4242
Extender Cable - USB Keyboards, 1.8M	9009	41A	4256
VGA to DVI Connection Converter	9009	41A	4276
Rack Integration Services: BP only	9009	41A	4648
Rack Integration Services	9009	41A	4649
Rack Indicator- Not Factory Integrated	9009	41A	4650
Rack Indicator, Rack #1	9009	41A	4651
Rack Indicator, Rack #2	9009	41A	4652
Rack Indicator, Rack #3	9009	41A	4653
Rack Indicator, Rack #4	9009	41A	4654
Rack Indicator, Rack #5	9009	41A	4655
Rack Indicator, Rack #6	9009	41A	4656
Rack Indicator, Rack #7	9009	41A	4657
Rack Indicator, Rack #8	9009	41A	4658
Rack Indicator, Rack #9	9009	41A	4659
Rack Indicator, Rack #10	9009	41A	4660
Rack Indicator, Rack #11	9009	41A	4661
Rack Indicator, Rack #12	9009	41A	4662
Rack Indicator, Rack #13	9009	41A	4663
Rack Indicator, Rack #14	9009	41A	4664
Rack Indicator, Rack #15	9009	41A	4665
Rack Indicator, Rack #16	9009	41A	4666
Power Active Memory Expansion Enablement	9009	41A	4794
Solution Edition for IBM i (6-core)	9009	41A	4927
Solution Edition for IBM i (4-core)	9009	41A	4928
Software Preload Required	9009	41A	5000
PowerVM Enterprise Edition	9009	41A	5228
Sys Console On HMC	9009	41A	5550
System Console-Ethernet LAN adapter	9009	41A	5557
PCIe2 8Gb 4-port Fibre Channel Adapter	9009	41A	5729
8 Gigabit PCI Express Dual Port Fibre Channel Adapter	9009	41A	5735
POWER GXT145 PCI Express Graphics Accelerator	9009	41A	5748
4 Port Async EIA-232 PCIe Adapter	9009	41A	5785
PCIe2 4-port 1GbE Adapter	9009	41A	5899
Opt Front Door for 1.8m Rack	9009	41A	6068
Opt Front Door for 2.0m Rack	9009	41A	6069
1.8m Rack Acoustic Doors	9009	41A	6248
2.0m Rack Acoustic Doors	9009	41A	6249
1.8m Rack Trim Kit	9009	41A	6263
2.0m Rack Trim Kit	9009	41A	6272
Power Cord 4.3m (14-ft), Drawer to IBM PDU (250V/10A)	9009	41A	6458
Power Cord 4.3m (14-ft), Drawer To OEM PDU (125V, 15A)	9009	41A	6460
Power Cord 4.3m (14-ft), Drawer to Wall/OEM PDU (250V/15A) U. S.	9009	41A	6469
Power Cord 1.8m (6-ft), Drawer to Wall (125V/15A)	9009	41A	6470
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU (250V/10A)	9009	41A	6471
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU (250V/16A)	9009	41A	6472
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU (250V/10A)	9009	41A	6473
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/13A)	9009	41A	6474
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/16A)	9009	41A	6475

Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/10A)	9009	41A	6476
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/16A)	9009	41A	6477
Power Cord 2.7 M(9-foot), To Wall/OEM PDU, (250V, 16A)	9009	41A	6478
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (125V/15A or 250V/10A)	9009	41A	6488
4.3m (14-Ft) 3PH/24A 380-415V Power Cord	9009	41A	6489
4.3m (14-Ft) 1PH/63A 200-240V Power Cord	9009	41A	6491
4.3m (14-Ft) 1PH/48-60A 200-240V Power Cord	9009	41A	6492
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/10A)	9009	41A	6493
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/10A)	9009	41A	6494
Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 10A)	9009	41A	6496
Power Cable - Drawer to IBM PDU, 200-240V/10A	9009	41A	6577
Optional Rack Security Kit	9009	41A	6580
Power Cord 2.7M (9-foot), To Wall/OEM PDU, (125V, 15A)	9009	41A	6651
4.3m (14-Ft) 3PH/16A 380-415V Power Cord	9009	41A	6653
4.3m (14-Ft) 1PH/24-30A Pwr Cord	9009	41A	6654
4.3m (14-Ft) 1PH/24-30A WR Pwr Cord	9009	41A	6655
4.3m (14-Ft) 1PH/24A Power Cord	9009	41A	6656
4.3m (14-Ft) 1PH/32A Power Cord	9009	41A	6657
4.3m (14-Ft) 1PH/24A Pwr Cd-Korea	9009	41A	6658
Power Cord 2.7M (9-foot), To Wall/OEM PDU, (250V, 15A)	9009	41A	6659
Power Cord 4.3m (14-ft), Drawer to Wall/OEM PDU (125V/15A)	9009	41A	6660
Power Cord 2.8m (9.2-ft), Drawer to IBM PDU, (250V/10A)	9009	41A	6665
4.3m (14-Ft) 3PH/32A 380-415V Power Cord-Australia	9009	41A	6667
Power Cord 4.3M (14-foot), Drawer to OEM PDU, (250V, 15A)	9009	41A	6669
Power Cord 2.7M (9-foot), Drawer to IBM PDU, 250V/10A	9009	41A	6671
Power Cord 2M (6.5-foot), Drawer to IBM PDU, 250V/10A	9009	41A	6672
Power Cord 2.7m (9-ft), Drawer to Wall/OEM PDU, (250V/10A)	9009	41A	6680
Intelligent PDU+, 1 EIA Unit, Universal UTG0247 Connector	9009	41A	7109
Environmental Monitoring Probe	9009	41A	7118
Power Distribution Unit	9009	41A	7188
Power Distribution Unit (US) - 1 EIA Unit, Universal, Fixed Power Cord	9009	41A	7196
Ethernet Cable, 15m, Hardware Management Console to System Unit	9009	41A	7802
Linux Software Preinstall	9009	41A	8143
Linux Software Preinstall (Business Partners)	9009	41A	8144
USB Mouse	9009	41A	8845
Order Routing Indicator- System Plant	9009	41A	9169
Language Group Specify - US English	9009	41A	9300
New AIX License Core Counter	9009	41A	9440
New IBM i License Core Counter	9009	41A	9441
New Red Hat License Core Counter	9009	41A	9442
New SUSE License Core Counter	9009	41A	9443
Other AIX License Core Counter	9009	41A	9444
Other Linux License Core Counter	9009	41A	9445
3rd Party Linux License Core Counter	9009	41A	9446
VIOS Core Counter	9009	41A	9447
Other IBM i License Core Counter	9009	41A	9448
Other License Core Counter	9009	41A	9449
Ubuntu Linux License Core Counter	9009	41A	9450
Month Indicator	9009	41A	9461
Day Indicator	9009	41A	9462
Hour Indicator	9009	41A	9463
Minute Indicator	9009	41A	9464
Qty Indicator	9009	41A	9465
Countable Member Indicator	9009	41A	9466
Language Group Specify - Dutch	9009	41A	9700

Language Group Specify - French	9009	41A	9703
Language Group Specify - German	9009	41A	9704
Language Group Specify - Polish	9009	41A	9705
Language Group Specify - Norwegian	9009	41A	9706
Language Group Specify - Portuguese	9009	41A	9707
Language Group Specify - Spanish	9009	41A	9708
Language Group Specify - Italian	9009	41A	9711
Language Group Specify - Canadian French	9009	41A	9712
Language Group Specify - Japanese	9009	41A	9714
Language Group Specify - Traditional Chinese (Taiwan)	9009	41A	9715
Language Group Specify - Korean	9009	41A	9716
Language Group Specify - Turkish	9009	41A	9718
Language Group Specify - Hungarian	9009	41A	9719
Language Group Specify - Slovakian	9009	41A	9720
Language Group Specify - Russian	9009	41A	9721
Language Group Specify - Simplified Chinese (PRC)	9009	41A	9722
Language Group Specify - Czech	9009	41A	9724
Language Group Specify - Romanian	9009	41A	9725
Language Group Specify - Croatian	9009	41A	9726
Language Group Specify - Slovenian	9009	41A	9727
Language Group Specify - Brazilian Portuguese	9009	41A	9728
Language Group Specify - Thai	9009	41A	9729
Customer Install MES	9009	41A	9742
Notify CSO After Install	9009	41A	9743
Product Renovated by IBM Indicator	9009	41A	9993
10m (30.3-ft), IBM Passive QSFP+ MTP Optical Cable	9009	41A	EB2J
30m (90.3-ft), IBM Passive QSFP+ MTP Optical Cable	9009	41A	EB2K
AC Power Supply - 900W	9009	41A	EB2L
AC Power Supply - 1400W for Server (200-240 VAC)	9009	41A	EB2M
Lift tool based on GenieLift GL-8 (standard)	9009	41A	EB3Z
10Gb Optical Transceiver SFP+	9009	41A	EB46
25Gb Optical Transceiver SFP28	9009	41A	EB47
0.5m SFP28/25GbE copper Cable	9009	41A	EB4J
1.0m SFP28/25GbE copper Cable	9009	41A	EB4K
1.5m SFP28/25GbE copper Cable	9009	41A	EB4L
2.0m SFP28/25GbE copper Cable	9009	41A	EB4M
2.0m QSFP28/100GbE copper split Cable to SFP28 4x25GbE	9009	41A	EB4P
Service wedge shelf tool kit for EB3Z	9009	41A	EB4Z
0.5m EDR IB Copper Cable QSFP28	9009	41A	EB50
1.0m EDR IB Copper Cable QSFP28	9009	41A	EB51
2.0M EDR IB Copper Cable QSFP28	9009	41A	EB52
1.5M EDR IB Copper Cable QSFP28	9009	41A	EB54
100Gb Optical Transceiver QSFP28	9009	41A	EB59
3M EDR IB Optical Cable QSFP28	9009	41A	EB5A
5M EDR IB Optical Cable QSFP28	9009	41A	EB5B
10M EDR IB Optical Cable QSFP28	9009	41A	EB5C
15M EDR IB Optical Cable QSFP28	9009	41A	EB5D
20M EDR IB Optical Cable QSFP28	9009	41A	EB5E
30M EDR IB Optical Cable QSFP28	9009	41A	EB5F
50M EDR IB Optical Cable QSFP28	9009	41A	EB5G
100M EDR IB Optical Cable QSFP28	9009	41A	EB5H
0.5M 100GbE Copper Cable QSFP28	9009	41A	EB5J
1.0M 100GbE Copper Cable QSFP28	9009	41A	EB5K
1.5M 100GbE Copper Cable QSFP28	9009	41A	EB5L
2.0M 100GbE Copper Cable QSFP28	9009	41A	EB5M
25M EDR IB Optical Cable QSFP28	9009	41A	EB5N
3M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5R
5M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5S
10M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5T
15M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5U
20M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5V
30M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5W
50M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5X
100M 100GbE Optical Cable QSFP28 (AOC)	9009	41A	EB5Y
IBM i 7.2 Indicator	9009	41A	EB72
IBM i 7.3 Indicator	9009	41A	EB73
Rack Front Door (Black)	9009	41A	EC01
Rack Rear Door	9009	41A	EC02
Rack Side Cover	9009	41A	EC03

Rack Suite Attachment Kit	9009	41A	EC04
Slim Rear Acoustic Door	9009	41A	EC07
Slim Front Acoustic Door	9009	41A	EC08
Rear Door Heat Exchanger for 2.0 Meter Slim Rack	9009	41A	EC15
PCIe3 2-Port 10Gb NIC&ROCE SR/Cu Adapter	9009	41A	EC2S
PCIe3 2-Port 25/10Gb NIC&ROCE SR/Cu Adapter	9009	41A	EC2U
PCIe3 2-port 100GbE (NIC&RoCE) QSFP28 Adapter x16	9009	41A	EC3M
PCIe3 NVMe carrier card w/2 M.2 module slots	9009	41A	EC59
PCIe4 1-port 100Gb EDR IB CAPI adapter	9009	41A	EC63
PCIe4 2-port 100Gb EDR IB CAPI adapter	9009	41A	EC65
SAS X Cable 3m - HD Narrow 6Gb 2-Adapters to Enclosure	9009	41A	ECBJ
SAS X Cable 6m - HD Narrow 6Gb 2-Adapters to Enclosure	9009	41A	ECBK
SAS X Cable 10m - HD Narrow 6Gb 2-Adapters to Enclosure	9009	41A	ECBL
SAS X Cable 15m - HD Narrow 3Gb 2-Adapters to Enclosure	9009	41A	ECBM
SAS YO Cable 1.5m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBT
SAS YO Cable 3m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBU
SAS YO Cable 6m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBV
SAS YO Cable 10m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBW
SAS YO Cable 15m - HD Narrow 3Gb Adapter to Enclosure	9009	41A	ECBX
SAS AE1 Cable 4m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBY
SAS YE1 Cable 3m - HD Narrow 6Gb Adapter to Enclosure	9009	41A	ECBZ
SAS AA Cable 0.6m - HD Narrow 6Gb Adapter to Adapter	9009	41A	ECC0
SAS AA Cable 1.5m - HD Narrow 6Gb Adapter to Adapter	9009	41A	ECC2
SAS AA Cable 3m - HD Narrow 6Gb Adapter to Adapter	9009	41A	ECC3
SAS AA Cable 6m - HD Narrow 6Gb Adapter to Adapter	9009	41A	ECC4
3M Optical Cable Pair for PCIe3 Expansion Drawer	9009	41A	ECC7
10M Optical Cable Pair for PCIe3 Expansion Drawer	9009	41A	ECC8
System Port Converter Cable for UPS	9009	41A	ECCF
3M Copper CXP Cable Pair for PCIe3 Expansion Drawer	9009	41A	ECCS
3.0M SAS X12 Cable (Two Adapter to Enclosure)	9009	41A	ECDJ
4.5M SAS X12 Active Optical Cable (Two Adapter to Enclosure)	9009	41A	ECDK
10M SAS X12 Active Optical Cable (Two Adapter to Enclosure)	9009	41A	ECDL
1.5M SAS YO12 Cable (Adapter to Enclosure)	9009	41A	ECDT
3.0M SAS YO12 Cable (Adapter to Enclosure)	9009	41A	ECDU
4.5M SAS YO12 Active Optical Cable (Adapter to Enclosure)	9009	41A	ECDV
10M SAS YO12 Active Optical Cable (Adapter to Enclosure)	9009	41A	ECDW
0.6M SAS AA12 Cable (Adapter to Adapter)	9009	41A	ECE0
3.0M SAS AA12 Cable	9009	41A	ECE3
4.5M SAS AA12 Active Optical Cable (Adapter to Adapter)	9009	41A	ECE4
2.0 Meter Slim Rack	9009	41A	ECR0
Rack Front Door High-End appearance	9009	41A	ECRF
Rack Rear Door Black	9009	41A	ECRG
Rack Side Cover	9009	41A	ECRJ
Rack Rear Extension 5-In	9009	41A	ECRK
Rack Front Door for Rack (Black/Flat)	9009	41A	ECRM
Indicator Assembled and Tested in China	9009	41A	ECS0
Custom Service Specify, Montpellier, France	9009	41A	ECSF
NeuCloud Indicator/Specify	9009	41A	ECSJ
Custom Service Specify, Mexico	9009	41A	ECSM
Custom Service Specify, Poughkeepsie, USA	9009	41A	ECSP
Integrated Solution Packing	9009	41A	ECSS
Optical Wrap Plug	9009	41A	ECW0
Boot Drive / Load Source in EXP12SX Specify (in			

#ESLL or #ELLL)	9009	41A	EHR1
Boot Drive / Load Source in EXP24SX Specify (in #ESLS or #ELLS)	9009	41A	EHR2
SSD Placement Indicator - #ESLS/#ELLS	9009	41A	EHS2
PCIe3 Optical Cable Adapter for PCIe3 Expansion Drawer	9009	41A	EJ08
PCIe3 RAID SAS Adapter Quad-port 6Gb x8	9009	41A	EJ0J
SAS Ports/Cabling for Dual IOA BackPlane	9009	41A	EJ0W
PCIe3 SAS Tape/DVD Adapter Quad-port 6Gb x8	9009	41A	EJ10
PCIe3 12GB Cache RAID PLUS SAS Adapter Quad-port 6Gb x8	9009	41A	EJ14
Base Storage Backplane 12 SFF-3 Bays/RDX Bay	9009	41A	EJ1C
Expanded Function Storage Backplane 18 SFF-3 Bays/Dual IOA with Write Cache/Opt Ext SAS port	9009	41A	EJ1D
Split #EJ1C to 6+6 SFF-3 Bays: Add 2nd SAS Controller	9009	41A	EJ1E
Expanded Function Storage Backplane 12 SFF-3 Bays/RDX Bay/Opt Ext SAS port	9009	41A	EJ1M
PCIe3 Crypto Coprocessor BSC-Gen3 4767	9009	41A	EJ33
Non-paired Indicator EJ14 PCIe SAS RAID+ Adapter	9009	41A	EJRL
Rack-mount Rail Kit	9009	41A	EJTZ
Front IBM Bezel for 12-Bay BackPlane	9009	41A	EJU2
Front OEM Bezel for 12-Bay BackPlane	9009	41A	EJU4
Front IBM Bezel for 12-Bay BackPlane	9009	41A	EJU8
Front IBM Bezel for 18-Bay BackPlane	9009	41A	EJU9
Front OEM Bezel for 12-Bay BackPlane	9009	41A	EJUA
Front OEM Bezel for 18-Bay BackPlane	9009	41A	EJUB
Front IBM Bezel 18-Bay Backplane	9009	41A	EJUF
Front OEM Bezel for 18-Bay BackPlane	9009	41A	EJUH
Specify Mode-1 & CEC SAS Ports & (2)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJV0
Specify Mode-1 & (1)EJ0J/EJ0M/EL3B/EL59 & (1)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJV1
Specify Mode-1 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJV2
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJV3
Specify Mode-2 & (4)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJV4
Specify Mode-4 & (4)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJV5
Specify Mode-2 & (1)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJV6
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJV7
Specify Mode-2 & (1)EJ0J/EJ0M/EL3B/EL59 & (1)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJVA
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJVB
Specify Mode-4 & (1)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJVC
Specify Mode-4 & (2)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJVD
Specify Mode-4 & (3)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP12SX #ESLL/ELLL	9009	41A	EJVE
Specify Mode-1 & (2)EJ14 & (2)YO12 for EXP12SX #ESLL/ELLL	9009	41A	EJVF
Specify Mode-1 & CEC SAS Ports & (2)YO12 for EXP24SX #ESLS/ELS	9009	41A	EJW0
Specify Mode-1 & (1)EJ0J/EJ0M/EL3B/EL59 & (1)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJW1
Specify Mode-1 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJW2
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJW3
Specify Mode-2 & (4)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJW4
Specify Mode-4 & (4)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJW5
Specify Mode-2 & (1)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJW6
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (2)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJW7
Specify Mode-2 & (1)EJ0J/EJ0M/EL3B/EL59 &			

(1)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJWA
Specify Mode-2 & (2)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWB
Specify Mode-4 & (1)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWC
Specify Mode-4 & (2)EJ0J/EJ0M/EL3B/EL59 & (1)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWD
Specify Mode-4 & (3)EJ0J/EJ0M/EL3B/EL59 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWE
Specify Mode-1 & (2)EJ14 & (2)YO12 for EXP24SX #ESLS/ELLS	9009	41A	EJWF
Specify Mode-2 & (2)EJ14 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWG
Specify Mode-2 & (2)EJ14 & (1)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWH
Specify Mode-2 & (4)EJ14 & (2)X12 for EXP24SX #ESLS/ELLS	9009	41A	EJWJ
PDU Access Cord 0.38m	9009	41A	ELC0
#ESD4 Load Source Specify (571GB 10K RPM SAS SFF-3 for IBM i)	9009	41A	ELS4
#ESDA Load Source Specify (283GB 15K RPM SAS SFF-3 for IBM i)	9009	41A	ELSA
#ESFU Load Source Specify (1.7TB HDD SFF-3)	9009	41A	ELT0
#ES81 Load Source Specify (1.9TB SFF-2 SSD)	9009	41A	ELT1
#ESF2 Load Source Specify (1.1TB HDD SFF-2)	9009	41A	ELT2
#ESF4 Load Source Specify (571GB HDD SFF-3)	9009	41A	ELT4
#ES86 Load Source Specify (387GB SFF-2 SSD 4k for IBM i)	9009	41A	ELT6
#ESF8 Load Source Specify (1.1TB HDD SFF-3)	9009	41A	ELT8
#ESFA Load Source Specify (283GB 15K RPM SAS SFF-3 4K Block - 4224)	9009	41A	ELTA
#ES8D Load Source Specify (775GB SFF-2 SSD 4k for IBM i)	9009	41A	ELTD
#ESFE Load Source Specify (571GB 15K RPM SAS SFF-3 4K Block - 4224)	9009	41A	ELTE
#ES8G Load Source Specify (1.55TB SFF-2 SSD 4k for IBM i)	9009	41A	ELTG
#ES8K Load Source Specify (1.9TB SFF-3 SSD)	9009	41A	ELTK
#ES7L Load Source Specify (387GB SFF-3 SSD 5xx for IBM i)	9009	41A	ELTL
#ESFN Load Source Specify (571GB 15K RPM SAS SFF-2 4K Block - 4224)	9009	41A	ELTN
#ES8P Load Source Specify (387GB SFF-3 SSD 4k for IBM i)	9009	41A	ELTP
#ES7Q Load Source Specify (775GB SFF-3 SSD 5xx for IBM i)	9009	41A	ELTQ
#ES8R Load Source Specify (775GB SFF-3 SSD 4k for IBM i)	9009	41A	ELTR
#ESFS Load Source Specify (1.7TB HDD SFF-2)	9009	41A	ELTS
#ESEU Load Source Specify (571GB HDD SFF-2)	9009	41A	ELTU
#ES8W Load Source Specify (1.55TB SFF-3 SSD 4k for IBM i)	9009	41A	ELTW
#ESEY Load Source Specify (283GB 15K RPM SAS SFF-2 4K Block - 4224)	9009	41A	ELTY
#ESNJ Load Source Specify (283GB HDD SFF-3)	9009	41A	ELUJ
#ESNL Load Source Specify (283GB HDD SFF-2)	9009	41A	ELUL
#ESNN Load Source Specify (571GB HDD SFF-3)	9009	41A	ELUN
#ESNQ Load Source Specify (571GB HDD SFF-2)	9009	41A	ELUQ
#ESE2 Load Source Specify (3.72TB SSD SFF-3)	9009	41A	ELZ2
#ES93 Load Source Specify (1.86TB SSD SFF-3)	9009	41A	ELZ3
#ES84 Load Source Specify (931GB SSD SFF-3)	9009	41A	ELZ4
#ES97 Load Source Specify (1.86TB SSD SFF-2)	9009	41A	ELZ7
#ESE8 Load Source Specify (3.72TB SSD SFF-2)	9009	41A	ELZ8
#ESGA Load Source Specify (387GB SSD SFF-3)	9009	41A	ELZA
#ESGC Load Source Specify (387GB SSD SFF-2)	9009	41A	ELZC
#ESGE Load Source Specify (387GB SSD SFF-3)	9009	41A	ELZE
#ESGJ Load Source Specify (775GB SSD SFF-3)	9009	41A	ELZJ
#ESGL Load Source Specify (775GB SSD SFF-2)	9009	41A	ELZL
#ESGN Load Source Specify (775GB SSD SFF-3)	9009	41A	ELZN
#ESGQ Load Source Specify (1.55TB SSD SFF-2)	9009	41A	ELZQ
#ESGS Load Source Specify (1.55TB SSD SFF-3)	9009	41A	ELZS
#ES8Z Load Source Specify (931GB SSD SFF-2)	9009	41A	ELZZ
16 GB DDR4 Memory	9009	41A	EM62
32 GB DDR4 Memory	9009	41A	EM63

64 GB DDR4 Memory	9009	41A	EM64
PCIe Gen3 I/O Expansion Drawer	9009	41A	EMX0
AC Power Supply Conduit for PCIe3 Expansion Drawer	9009	41A	EMXA
PCIe3 6-Slot Fanout Module for PCIe3 Expansion Drawer	9009	41A	EMXF
PCIe3 6-Slot Fanout Module for PCIe3 Expansion Drawer	9009	41A	EMXG
1m (3.3-ft), 10Gb E'Net Cable SFP+ Act Twinax Copper	9009	41A	EN01
3m (9.8-ft), 10Gb E'Net Cable SFP+ Act Twinax Copper	9009	41A	EN02
5m (16.4-ft), 10Gb E'Net Cable SFP+ Act Twinax Copper	9009	41A	EN03
PCIe3 16Gb 2-port Fibre Channel Adapter	9009	41A	EN0A
PCIe3 4-port (10Gb FCoE & 1GbE) SR&RJ45	9009	41A	EN0H
PCIe3 4-port (10Gb FCoE & 1GbE) SFP+Copper&RJ45	9009	41A	EN0K
PCIe2 4-Port (10Gb+1GbE) SR+RJ45 Adapter	9009	41A	EN0S
PCIe2 4-port (10Gb+1GbE) Copper SFP+RJ45 Adapter	9009	41A	EN0U
PCIe2 2-port 10/1GbE BaseT RJ45 Adapter	9009	41A	EN0W
PCIe 1-port Bisync Adapter	9009	41A	EN13
PCIe3 4-port 10GbE SR Adapter	9009	41A	EN15
PCIe3 32Gb 2-port Fibre Channel Adapter	9009	41A	EN1A
PCIe3 16Gb 4-port Fibre Channel Adapter	9009	41A	EN1C
4-core Typical 2.3 to 3.8 GHz (max) POWER9 Processor	9009	41A	EP10
6-core Typical 2.3 to 3.8 GHz (max) POWER9 Processor	9009	41A	EP11
8-core Typical 2.8 to 3.8 GHz (max) POWER9 Processor	9009	41A	EP12
One Processor Core Activation for #EP10	9009	41A	EP40
One Processor Core Activation for #EP11	9009	41A	EP41
One Processor Core Activation for #EP12	9009	41A	EP42
Horizontal PDU Mounting Hardware	9009	41A	EPTH
High Function 9xC19 PDU: Switched, Monitoring	9009	41A	EPTJ
High Function 9xC19 PDU 3-Phase: Switched, Monitoring	9009	41A	EPTL
High Function 12xC13 PDU: Switched, Monitoring	9009	41A	EPTN
High Function 12xC13 PDU 3-Phase: Switched, Monitoring	9009	41A	EPTQ
One Zero-Priced Processor Core Activation for #EP10	9009	41A	EPZL
One Zero-Priced Processor Core Activation for #EP11	9009	41A	EPZM
Quantity 150 of #ES62 3.86-4.0 TB 7200 rpm 4k LFF-1 Disk	9009	41A	EQ62
Quantity 150 of #ES64 7.72-8.0 TB 7200 rpm 4k LFF-1 Disk	9009	41A	EQ64
Quantity 150 of #ES78 387GB SFF-2 SSD 5xx	9009	41A	EQ78
Quantity 150 of #ES7E 775GB SFF-2 SSD 5xx	9009	41A	EQ7E
Quantity 150 of #ES80 1.9TB SFF-2 SSD 4k	9009	41A	EQ80
Quantity 150 of ES81 1.9TB SFF-2 SSD 4k	9009	41A	EQ81
Quantity 150 of #ES85 387GB SFF-2 SSD 4k	9009	41A	EQ85
Quantity 150 of #ES86 387GB SFF-2 SSD 4k	9009	41A	EQ86
Quantity 150 of #ES8C 775GB SFF-2 SSD 4k	9009	41A	EQ8C
Quantity 150 of #ES8D 775GB SFF-2 SSD 4k	9009	41A	EQ8D
Quantity 150 of #ES8F 1.55TB SFF-2 SSD 4k	9009	41A	EQ8F
Quantity 150 of #ES8G 1.55TB SFF-2 SSD 4k	9009	41A	EQ8G
Quantity 150 of #ES8Y 931GB SFF-2 SSD 4k	9009	41A	EQ8Y
Quantity 150 of ES8Z 931GB SFF-2 SSD 4k	9009	41A	EQ8Z
Quantity 150 of ES96 1.86TB SFF-2 SSD 4k	9009	41A	EQ96
Quantity 150 of ES97 1.86TB SFF-2 SSD 4k	9009	41A	EQ97
Quantity 150 of #ESE7 3.72TB SFF-2 SSD 4k	9009	41A	EQE7
Quantity 150 of ESE8 3.72TB SFF-2 SSD 4k	9009	41A	EQE8
Quantity 150 of #ESEU (571GB 10k SFF-2)	9009	41A	EQEU
Quantity 150 of #ESEV (600GB 10k SFF-2)	9009	41A	EQEV
Quantity 150 of #ESEY (283 GB SFF-2)	9009	41A	EQEY
Quantity 150 of #ESEZ (300GB SFF-2)	9009	41A	EQEZ
Quantity 150 of #ESF2 (1.1TB 10k SFF-2)	9009	41A	EQF2
Quantity 150 of #ESF3 (1.2TB 10k SFF-2)	9009	41A	EQF3
Quantity 150 of #ESFN (571GB SFF-2)	9009	41A	EQFN
Quantity 150 of #ESFP (600GB SFF-2)	9009	41A	EQFP
Quantity 150 of #ESFS (1.7TB 10k SFF-2)	9009	41A	EQFS

Quantity 150 of #ESFT (1.8TB 10k SFF-2)	9009	41A	EQFT
Quantity 150 of #ESG5 (387GB SAS 5xx)	9009	41A	EQG5
Quantity 150 of #ESGB (387GB SAS 4k)	9009	41A	EQGB
Quantity 150 of #ESGC (387GB SAS 4k)	9009	41A	EQGC
Quantity 150 of #ESGF (775GB SAS 5xx)	9009	41A	EQGF
Quantity 150 of #ESGK (775GB SAS 4k)	9009	41A	EQGK
Quantity 150 of #ESGL (775GB SAS 4k)	9009	41A	EQGL
Quantity 150 of #ESGP (1.55TB SAS 4k)	9009	41A	EQGP
Quantity 150 of #ESGQ (1.55TB SAS 4k)	9009	41A	EQGQ
42U Slim Rack	9009	41A	ER05
RFID Tags for Servers, Compute Nodes, Chassis, Racks, and HMCs	9009	41A	ERF1
Rear rack extension	9009	41A	ERG0
Mainstream 400GB SSD NVMe M.2 module	9009	41A	ES14
3.86-4.0 TB 7200 RPM 4K SAS LFF-1 Nearline Disk Drive (AIX/Linux)	9009	41A	ES62
7.72-8.0 TB 7200 RPM 4K SAS LFF-1 Nearline Disk Drive (AIX/Linux)	9009	41A	ES64
387GB SFF-2 SSD 5xx eMLC4 for AIX/Linux	9009	41A	ES78
775GB SFF-2 SSD 5xx eMLC4 for AIX/Linux	9009	41A	ES7E
387GB SFF-3 SSD 5xx eMLC4 for AIX/Linux	9009	41A	ES7K
387GB SFF-3 SSD 5xx eMLC4 for IBM i	9009	41A	ES7L
775GB SFF-3 SSD 5xx eMLC4 for AIX/Linux	9009	41A	ES7P
775GB SFF-3 SSD 5xx eMLC4 for IBM i	9009	41A	ES7Q
1.9TB Read Intensive SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ES80
1.9TB Read Intensive SAS 4k SFF-2 SSD for IBM i	9009	41A	ES81
931GB Mainstream SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ES83
931GB Mainstream SAS 4k SFF-3 SSD for IBM i	9009	41A	ES84
387GB SFF-2 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES85
387GB SFF-2 SSD 4k eMLC4 for IBM i	9009	41A	ES86
775GB SFF-2 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES8C
775GB SFF-2 SSD 4k eMLC4 for IBM i	9009	41A	ES8D
1.55TB SFF-2 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES8F
1.55TB SFF-2 SSD 4k eMLC4 for IBM i	9009	41A	ES8G
1.9TB Read Intensive SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ES8J
1.9TB Read Intensive SAS 4k SFF-3 SSD for IBM i	9009	41A	ES8K
387GB SFF-3 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES8N
387GB SFF-3 SSD 4k eMLC4 for IBM i	9009	41A	ES8P
775GB SFF-3 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES8Q
775GB SFF-3 SSD 4k eMLC4 for IBM i	9009	41A	ES8R
1.55TB SFF-3 SSD 4k eMLC4 for AIX/Linux	9009	41A	ES8V
1.55TB SFF-3 SSD 4k eMLC4 for IBM i	9009	41A	ES8W
931GB Mainstream SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ES8Y
931GB Mainstream SAS 4k SFF-2 SSD for IBM i	9009	41A	ES8Z
1.86TB Mainstream SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ES92
1.86TB Mainstream SAS 4k SFF-3 SSD for IBM i	9009	41A	ES93
1.86TB Mainstream SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ES96
1.86TB Mainstream SAS 4k SFF-2 SSD for IBM i	9009	41A	ES97
S&H - No Charge	9009	41A	ESC0
S&H-b	9009	41A	ESC6
571GB 10K RPM SAS SFF-3 Disk Drive (IBM i)	9009	41A	ESD4
600GB 10K RPM SAS SFF-3 Disk Drive (AIX/Linux)	9009	41A	ESD5
283GB 15K RPM SAS SFF-3 Disk Drive (IBM i)	9009	41A	ESDA
300GB 15K RPM SAS SFF-3 Disk Drive (AIX/Linux)	9009	41A	ESDB
3.72TB Mainstream SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ESE1
3.72TB Mainstream SAS 4k SFF-3 SSD for IBM i	9009	41A	ESE2
3.72TB Mainstream SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ESE7
3.72TB Mainstream SAS 4k SFF-2 SSD for IBM i	9009	41A	ESE8
571GB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4224	9009	41A	ESEU
600GB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4096	9009	41A	ESEV
283GB 15K RPM SAS SFF-2 4K Block - 4224 Disk Drive	9009	41A	ESEY
300GB 15K RPM SAS SFF-2 4K Block - 4096 Disk Drive	9009	41A	ESEZ
1.1TB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4224	9009	41A	ESF2
1.2TB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4096	9009	41A	ESF3
571GB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4224	9009	41A	ESF4

600GB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4096	9009	41A	ESF5
1.1TB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4224	9009	41A	ESF8
1.2TB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4096	9009	41A	ESF9
283GB 15K RPM SAS SFF-3 4K Block - 4224 Disk Drive	9009	41A	ESFA
300GB 15K RPM SAS SFF-3 4K Block - 4096 Disk Drive	9009	41A	ESFB
571GB 15K RPM SAS SFF-3 4K Block - 4224 Disk Drive	9009	41A	ESFE
600GB 15K RPM SAS SFF-3 4K Block - 4096 Disk Drive	9009	41A	ESFF
283GB 15K RPM SAS SFF-3 Disk 4K Block	9009	41A	ESFG
571GB 15K RPM SAS SFF-2 4K Block - 4224 Disk Drive	9009	41A	ESFN
600GB 15K RPM SAS SFF-2 4K Block - 4096 Disk Drive	9009	41A	ESFP
1.7TB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4224	9009	41A	ESFS
1.8TB 10K RPM SAS SFF-2 Disk Drive 4K Block - 4096	9009	41A	ESFT
1.7TB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4224	9009	41A	ESFU
1.8TB 10K RPM SAS SFF-3 Disk Drive 4K Block - 4096	9009	41A	ESFV
387GB Enterprise SAS 5xx SFF-2 SSD for AIX/Linux	9009	41A	ESG5
387GB Enterprise SAS 5xx SFF-3 SSD for AIX/Linux	9009	41A	ESG9
387GB Enterprise SAS 5xx SFF-3 SSD for IBM i	9009	41A	ESGA
387GB Enterprise SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ESGB
387GB Enterprise SAS 4k SFF-2 SSD for IBM i	9009	41A	ESGC
387GB Enterprise SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ESGD
387GB Enterprise SAS 4k SFF-3 SSD for IBM i	9009	41A	ESGE
775GB Enterprise SAS 5xx SFF-2 SSD for AIX/Linux	9009	41A	ESGF
775GB Enterprise SAS 5xx SFF-3 SSD for AIX/Linux	9009	41A	ESGH
775GB Enterprise SAS 5xx SFF-3 SSD for IBM i	9009	41A	ESGJ
775GB Enterprise SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ESGK
775GB Enterprise SAS 4k SFF-2 SSD for IBM i	9009	41A	ESGL
775GB Enterprise SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ESGM
775GB Enterprise SAS 4k SFF-3 SSD for IBM i	9009	41A	ESGN
1.55TB Enterprise SAS 4k SFF-2 SSD for AIX/Linux	9009	41A	ESGP
1.55TB Enterprise SAS 4k SFF-2 SSD for IBM i	9009	41A	ESGQ
1.55TB Enterprise SAS 4k SFF-3 SSD for AIX/Linux	9009	41A	ESGR
1.55TB Enterprise SAS 4k SFF-3 SSD for IBM i	9009	41A	ESGS
Specify AC Power Supply for EXP12SX/EXP24SX Storage Enclosure	9009	41A	ESLA
EXP12SX SAS Storage Enclosure	9009	41A	ESLL
EXP24SX SAS Storage Enclosure	9009	41A	ESLS
283GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (IBM i)	9009	41A	ESNJ
300GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (AIX/Linux)	9009	41A	ESNK
283GB 15K RPM SAS SFF-2 4k Block Cached Disk Drive (IBM i)	9009	41A	ESNL
300GB 15K RPM SAS SFF-2 4k Block Cached Disk Drive (AIX/Linux)	9009	41A	ESNM
571GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (IBM i)	9009	41A	ESNN
600GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (AIX/Linux)	9009	41A	ESNP
571GB 15K RPM SAS SFF-2 4k Block Cached Disk Drive (IBM i)	9009	41A	ESNQ
600GB 15K RPM SAS SFF-2 4k Block Cached Disk Drive (AIX/Linux)	9009	41A	ESNR
Quantity 150 of #ESNL (283GB 15k SFF-2)	9009	41A	ESPL
Quantity 150 of #ESNM (300GB 15k SFF-2)	9009	41A	ESPM
Quantity 150 of #ESNQ (571GB 15k SFF-2)	9009	41A	ESPQ
Quantity 150 of #ESNR (600GB 15k SFF-2)	9009	41A	ESPR
RDX USB Internal Docking Station for Removable Disk Cartridge	9009	41A	EU00
1TB Removable Disk Drive Cartridge	9009	41A	EU01
RDX USB External Docking Station for Removable Disk Cartridge	9009	41A	EU04

RDX 320 GB Removable Disk Drive	9009	41A	EU08
Operator Panel LCD Display	9009	41A	EU0B
1.5TB Removable Disk Drive Cartridge	9009	41A	EU15
Cable Ties & Labels	9009	41A	EU19
Express Edition 4 core (IBM i)	9009	41A	EU2C
Express Edition 6-core (IBM i)	9009	41A	EU2D
2TB Removable Disk Drive Cartridge (RDX)	9009	41A	EU2T
RDX USB External Docking Station	9009	41A	EUA4
Standalone USB DVD drive w/cable	9009	41A	EUA5
Core Use HW Feature	9009	41A	EUC6
Core Use HW Feature 10X	9009	41A	EUC7

The following is a newly announced feature on the specific models of the IBM Power Systems 7014 and 7965 machine type:

New feature available March 20, 2018

Description	Machine type	Model	Feature number
Rack Content Specify: 9009-41A - 4EIA	7014	T00	ER2X
	7014	T42	
	7965	94Y	
	7965	S42	

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 IBMid).

BP Attachment for Announcement Letter 118-023

Publications

Power Systems hardware documentation provides clients with the following topical information:

- Licenses, notices, safety, and warranty information
- Planning for the system
- Installing and configuring the system
- Troubleshooting, service, and support
- Installing, configuring, and managing consoles, terminals, and interfaces
- Installing operating systems
- Creating a virtual computing environment
- Enclosures and expansion units
- Glossary

You can access the product documentation at IBM Knowledge Center.

Product documentation is also available on DVD (SK5T-7087).

The following information is shipped with the 9009-41A:

- Power Hardware Information DVD SK5T-7087
- Installing the 9009-41A
- Important Notices

- Warranty Information
- License Agreement for Machine Code

Hardware documentation such as installation instructions, user's information, and service information is available to download or view at the IBM Support website.

You can access IBM i documentation at the IBM i website.

You can access AIX documentation at the AIX website.

You can access documentation about Linux on IBM systems at the Linux information for IBM systems website.

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

IBM Knowledge Center provides you with a single point of reference 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 by going to IBM Knowledge Center for all your product information needs.

To access the IBM Publications Center Portal, go to the IBM Publications Center website.

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. A large number of publications are available online in various file formats, which can currently be downloaded.

Services

IBM Systems Lab Services

IBM Systems Lab Services offers a wide array of services available for your enterprise. It brings expertise on the latest technologies from the IBM development community and can help with your most difficult technical challenges.

IBM Systems Lab Services exists to help you successfully implement emerging technologies so as to accelerate your return on investment and improve your satisfaction with your IBM systems and solutions. Services examples include initial implementation, integration, migration, and skills transfer on IBM systems solution capabilities and recommended practices. IBM Systems Lab Services is one of the service organizations of IBM's world-renowned IBM Systems Group development labs.

For details on available services, contact your IBM representative or go to the IBM Systems Lab Services website.

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 go to the IBM Global Technology Services(R) website.

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or go to the Resiliency Services website.

Details on education offerings related to specific products can be found on the IBM authorized training website.

Technical information

Specified operating environment

Physical specifications

- 19-inch rack-mount hardware
  - Width: 482 mm (18.97 in.)
  - Depth: 769.6 mm (30.3 in.)
  - Height: 173.3 mm (6.8 in.)
  - Weight: 36.3 kg (80 lb)
- Tower hardware
  - Width: 182.4 mm (7.18 in.)
  - Width with stand: 328.5 mm (12.93 in.)
  - Depth: 751.7 mm (29.59 in.)
  - Depth with front-rotatable door: 814.7 mm (32.07 in.)
  - Height: 486.1 mm (19.14 in.)
  - Height with handle: 522 mm (20.55 in.)
  - Weight: 46.94 kg (103.5 lb)

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

Operating environment

- Temperature: (nonoperating) 5°C - 45°C (41°F - 113°F); recommended temperature (operating) 18°C - 27°C (64°F - 80°F); allowable operating temperature 5°C - 40°C (41°F - 104°F)
- Relative humidity: Nonoperating 8% - 80%; recommended 5.5°C (42°F) dew point to 60% RH and 15°C (59°F) dew point
- Maximum dew point: 21°C (70°F)(allowable operating)
- Operating voltage:
  - 900 W PSU: 100 - 127 V AC or 200 - 240 V AC
  - 1400 W PSU: 200 - 240 V AC
- Operating frequency: 47/63 Hz
- Maximum power consumption: 1600 watts (maximum)
- Power factor: 0.98
- Thermal output: 5,461 Btu/hour (maximum)
- Power-source loading
  - 1.65 kVa (maximum configuration)
  - Maximum altitude: 3,050 m (10,000 ft)

Note: The maximum measured value is the worst case power consumption expected from a fully populated server under an intensive workload. The maximum measured value also accounts for component tolerance and non-ideal

operating conditions. Power consumption and heat load vary greatly by server configuration and utilization. The IBM Systems Energy Estimator should be used to obtain a heat output estimate based on a specific configuration.

Noise levels and declared A-weighted sound power level

- Tower system: 5.8 bels operating; 5.3 bels idling
- Rack-mount system: 5.9 bels operating; 5.3 bels idling

See the *Installation Planning Guide* in IBM Knowledge Center for additional detail.

For example, the actual power noise level is impacted by multiple factors, including:

- Enablement of the Turbo mode increases fan speed, which increases power noise levels.
- Usage of the Turbo mode further increases fan speed, which further increases power noise levels.
- Using higher wattage PCIe adapters increases fan speed, which increases power noise levels.
- Placing multiple servers in a rack increases the total power noise level.
- Placing servers in racks with acoustic doors reduces the power noise levels.

EMC conformance classification

This equipment is subject to FCC rules and shall comply with the appropriate FCC rules before final delivery to the buyer or centers of distribution.

- US: FCC Class A
- Europe: CISPR 22 Class A
- Japan: VCCI-A
- Korea: Korean Requirement Class A
- China: People's Republic of China commodity inspection law Class A

Homologation -- Telecom environmental testing (Safety and EMC):

Homologation approval for specific countries has been initiated with the IBM Homologation and Type Approval (HT&A) organization in LaGaude, France. This Power Systems model and applicable features meet the environmental testing requirements of the country telecom and have been designed and tested in compliance with the Full Quality Assurance Approval (FQAA) process as delivered by the British Approval Board for Telecom (BABT), the UK Telecom regulatory authority.

This product is not certified for connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Product safety/Country testing/Certification

- UL 60950-1:2007 Underwriters Laboratory, Safety Information
- CSA C22.2 No. 60950-1-07, Canadian Standards Association
- EN60950 European Norm
- IEC 60950, Edition 1, International Electrotechnical Commission, Safety Information
- Nordic deviations to IEC 60950-1 1st Edition

General requirements

The product is in compliance with IBM Corporate Bulletin C-B 0-2594-000 Statement of Conformity of IBM Product to External Standard (Suppliers Declaration).

Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Hardware requirements

Power S914 system configuration

The minimum Power S914 initial order must include a processor module, two 16 GB DIMMs, four or two power supplies and line cords, an operating system indicator, a cover set indicator, and a Language Group Specify. Also, it must include one of the storage options and the network options below:

Storage options:

- For boot from NVMe: One NVMe carrier and one NVMe M.2 Module.
- For boot from local SFF-3 HDD/SDD: One storage backplane and one SFF-3 HDD or SDD.
- For boot from SAN: Internal HDD or SSD and RAID card are not required if feature 0837 (Boot from SAN) is selected. A Fibre Channel adapter must be ordered if feature 0837 is selected.

Network options:

- One PCIe2 4-port 1 Gb Ethernet adapter.
- One of the supported 10 Gb Ethernet adapters

AIX or Linux is the primary operating system. The minimum defined initial order configuration is as follows:

Feature number	Description	Quantity	Notes
EU0B	Operator Panel LCD Display	1	
Processors			
EP10	4-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP11	6-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP12	8-core, typical 2.8 to 3.8 GHz (max) POWER9 Processor	1	Rack-mount configuration only
Processor activations			
EP40	One Processor Core Activation for #EP10	4	
or			
EP41	One Processor Core Activation for #EP11	6	
or			
EP42	One Processor Core Activation for #EP12	8	
Memory DIMMs			

Feature number	Description	Quantity	Notes
EM62	16 GB DDR4 Memory	2	
or			
EM63	32 GB DDR4 Memory	2	
or			
EM64	64 GB DDR4 Memory	2	
Storage Backplane			
EJ1C	Twelve SFF-3 Bays/RDX Bay	1	Optional split card EJ1E
or			
EJ1D	Eighteen SFF-3 Bays/RDX Bay/ Dual IOA with Write Cache	1	
or			
EJ1M	Twelve SFF-3 Bays/RDX Bay/2x EXT PT	1	
or			
EC59	PCIe3 NVMe carrier card w/2 M.2 module slots	1	Must order, at a minimum, one of feature ES14
Disk Drive			
ESDB	300 GB 15K RPM SAS SFF-3 Disk Drive (AIX/Linux)	1	
LAN Adapter			
5899	PCIe2 LP 4-port 1 GbE Adapter	1	
Power supplies/ Power cord			
EB2L	AC Power Supply - 900 W for Server (200 - 240 V AC)	4	41A Tower: Qty 4 of #EB2L required
or			
EB2M	AC Power Supply - 1400 W for Server (200 - 240 V AC)	2	41A Rack: Qty 2 of #EB2M required
6458	Power Cord 4.3 m (14 ft), Drawer to IBM PDU (250V/10A)	4	41A Tower: Qty 4, or 41A Rack: Qty 2
9300/97xx	Language Group Specify	1	9300 - (default)
Front Bezel			
EJU2	Front IBM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJUF	Front IBM Bezel for 18-Bay Backplane	1	41A Rack: used with #EJ1D backplane
or			
EJU4	Front OEM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes or with #EC59

Feature number	Description	Quantity	Notes
or			
EJUH	Front OEM Bezel for 18-Bay BackPlane	1	41A Rack: used with #EJ1D backplane
or			
EJU8	Front IBM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJU9	Front IBM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
or			
EJUA	Front OEM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes or with #EC59
or			
EJUB	Front OEM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
Primary operating system			
2146	Primary Operating System Indicator - AIX	1	
or			
2147	Primary Operating System Indicator - Linux	1	

- The racking approach for the initial order must be either a 7014-T00, 7014-T42, 7965-S42, or 7953-94Y. If an additional rack is required for I/O expansion drawers as an MES to an existing system, either a feature 0551, 0553, or ER05 rack must be ordered.
- If NVMe carrier card feature EC59 is selected, no disk units are required to be ordered. If neither feature EC59 nor feature 0837 (SAN boot) is ordered, then at least one disk unit is required to be ordered. If no HDD/SSD/SAN boot (#0837) is ordered, then feature EC59 (with at least one of #ES14) is the load source.
- One PCIe2 4-port 1 GbE Adapter (#5899) is defaulted. Options for servers with AIX and Linux as the primary operating system are one of a 10 Gb Ethernet adapter, either feature EC2S, EC2U, EN0H, EN0K, EN0S, EN0U, EN0W, or EN15.
- Feature ES14 is not supported by IBM i virtualized through VIOS. If using IBM i (#2148), a storage option supported by IBM i with VIOS must be used with IBM i.

The minimum defined initial order configuration, if no choice is made, when IBM i is the primary operating system, is:

Feature number	Description	Quantity	Notes
EU0B	Operator Panel LCD Display	1	
Processors			
EP10	4-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			
EP11	6-core, typical 2.3 to 3.8 GHz (max) POWER9 Processor	1	
or			

Feature number	Description	Quantity	Notes
EP12	8-core, typical 2.8 to 3.8 GHz (max) POWER9 Processor	1	Rack-mount configuration only
Processor activations			
EP40	One Processor Core Activation for #EP10	4	
or			
EP41	One Processor Core Activation for #EP11	6	
or			
EP42	One Processor Core Activation for #EP12	8	
Memory DIMMs			
EM62	16 GB DDR4 Memory	2	
or			
EM63	32 GB DDR4 Memory	2	
or			
EM64	64 GB DDR4 Memory	2	
Storage Backplane			
EJ1C	Twelve SFF-3 Bays/RDX Bay	1	Optional split card EJ1E
or			
EJ1D	Eighteen SFF-3 Bays/RDX Bay/ Dual IOA with Write Cache	1	
or			
EJ1M	Twelve SFF-3 Bays/RDX Bay/2x EXT PT	1	
Disk Drive			
ESNJ	283 GB 15K RPM SAS SFF-3 4k Block Cached Disk Drive (IBM i)	2	One system data protection specify code required
LAN Adapter			
5899	PCIe2 LP 4-port 1 GbE Adapter	1	
or			
EN15	PCIe3 4-port 10 GbE SR Adapter	1	
or			
EC2S	PCIe3 2-Port 10 Gb NIC&ROCE SR/Cu Adapter	1	
or			
EC2U	PCIe3 2-Port 25/10 Gb NIC&ROCE SR/ Cu Adapter	1	
Power supplies/ Power cord			

Feature number	Description	Quantity	Notes
EB2L	AC Power Supply - 900 W for Server (200 - 240 V AC)	4	41A Tower: Qty 4 of #EB2L required
or			
EB2M	AC Power Supply - 1400 W for Server (200 - 240 V AC)	2	41A Rack: Qty 2 of #EB2M required
6458	Power Cord 4.3 m (14 ft), Drawer to IBM PDU (250V/10A)	4	41A Tower: Qty 4, or 41A Rack: Qty 2
9300/97xx	Language Group Specify	1	9300 - (default)
Front Bezel			
EJU2	Front IBM Bezel for 12-Bay BackPlane	1	41A Rack: used with #EJ1C or #EJ1M backplanes
or			
EJUF	Front IBM Bezel for 18-Bay Backplane	1	41A Rack: used with #EJ1D backplane
or			
EJU8	Front IBM Bezel for 12-Bay BackPlane	1	41A Tower: used with #EJ1C or #EJ1M backplanes
or			
EJU9	Front IBM Bezel for 18-Bay BackPlane	1	41A Tower: used with #EJ1D backplane
Primary operating system			
2145	Primary Operating System Indicator - IBM i	1	Feature EB72 or EB73 is required

- The racking approach for the initial order must be either a 7014-T00, 7014-T42, 7965-S42, or 7953-94Y. If an additional rack is required for I/O expansion drawers as an MES to an existing system, either a feature 0551, 0553, or ER05 rack must be ordered.
- IBM i operating system performance: Clients with write-sensitive disk/HDD workloads should upgrade from the #EJ1C/#EJ1E base storage backplane to the #EJ1M/#EJ1D expanded function storage backplanes to gain the performance advantage of write cache.

Hardware Management Console (HMC) machine code

An HMC is required to manage the Power S914 server (9009-41A) implementing partitioning. Multiple POWER7(R), POWER8(R), and POWER9 processor-based servers can be supported by a single HMC. Planned HMC hardware and software support:

- X86 based - 7042-CR7, 7042-CR8, 7042-CR9
  - vHMC x86
- POWER8 based Open Power: 7063-CR1
  - vHMC PowerVM based LPAR

If you are attaching an HMC to a new server or adding function to an existing server that requires a firmware update, the HMC machine code may need to be updated because HMC code must always be equal to or higher than the managed server's firmware. Access to firmware and machine code updates is conditioned on entitlement and license validation in accordance with IBM policy and practice.

IBM may verify entitlement through customer number, serial number, electronic restrictions, or any other means or methods employed by IBM at its discretion.

To determine the HMC machine code level required for the firmware level on any server, go to the following web page to access the Fix Level Recommendation Tool (FLRT) on or after the planned availability date for this product. FLRT will identify the correct HMC machine code for the selected system firmware level; see the IBM Support: Fix Central website.

If a single HMC is attached to multiple servers, the HMC machine code level must be updated to be at or higher than the server with the most recent firmware level. All prior levels of server firmware are supported with the latest HMC machine code level.

The HMC code latest level contains the following:

- Support for managing IBM Power System S922, S924, S914, and L922 systems.
- Support for the new HMC model 7063-CR1.
- Support for PowerVM functions such as the new HMC GUI interface for VIOS management.
- GUI for HMC's Performance and Capacity Monitoring function.
- An HMC command to initiate a remote restart operation. This removes the requirement of VMControl for the PowerVM Remote Restart function.
- For PowerVM GUI functions, VIOS is recommended.

For clients installing systems higher than the EIA 29 position (location of the rail that supports the rack-mounted server) in any IBM or non-IBM rack, acquire approved tools outlined in the server specifications section at IBM Knowledge Center. In situations where IBM service is required and the recommended tools are not available, there could be delays in repair actions.

Software requirements

If installing the Linux operating system LPAR:

- Red Hat Enterprise Linux 7 for Power LE, version 7.4, or later
- SUSE Linux Enterprise Server 12 Service Pack 3, or later
- Ubuntu Server 16.04.4, or later

If installing IBM i, the IBM i operating system levels supported are:

- IBM i 7.3 TR4
- IBM i 7.2 TR8

If installing the AIX operating system LPAR with any I/O configuration (one of these):

- AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-02-1810, or later
- AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-02-1810, or later
- AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-11-1810, or later (AIX 6.1 service extension required)
- AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-04-1806, or later (planned availability May 4, 2018)
- AIX Version 7.2 with the 7200-00 Technology Level and Service Pack 7200-00-06-1806, or later (planned availability May 4, 2018)
- AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-06-1806, or later (planned availability May 4, 2018)

If installing the AIX operating system Virtual I/O only LPAR (one of these):

- AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-01-1732, or later
- AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-01-1642, or later
- AIX Version 7.2 with the 7200-00 Technology Level and Service Pack 7200-00-01-1543, or later
- AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-01-1731, or later
- AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-01-1543, or later
- AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-06-1543, or later (AIX 6.1 service extension required)

If installing VIOS:

- VIOS 2.2.6.21 or later

Limitations

- Integrated system port is not supported under AIX or Linux when the HMC ports are connected to an HMC. Either the HMC ports or the integrated system ports can be used, but not both. The FSP2 USB 2.0 port is used for communication to a UPS.
- The integrated system port is supported for modem and TTY terminal connections by AIX or Linux. Any other application using serial ports requires a serial port adapter to be installed in a PCI slot. The integrated system port does not support HACMP™ configurations.

Boot requirements

- If IBM i (#2145) is selected as the primary operating system and SAN boot is not selected (#0837), one of the load source specify codes must be specified.
- If IBM i (#2145) is selected and the load source disk unit is not in the CEC (system unit), one of the following specify codes must also be selected:
  - #0719 Load Source Not in CEC and are to be placed in I/O drawers or in external SAN-attached disk
  - #EHR2 Load Source Specifies DASD are placed in an EXP24SX SFF Gen 2 bay Drawer (#ESLS or #ELLS)
  - #0837 SAN Operating System Load Source Specify
- If IBM i (#2145) is selected, one of the following system console specify codes must be selected:
  - #5550 - System Console on HMC
  - #5557 - System Console - Internal LAN

4-core S914 processor feature

The PCIe expansion drawer (#EMX0) and EXP24SX /EXP12SX SAS Storage Enclosures (#ESLS/ELLS or #ESLL/ELLL) do not apply to the 4-core configuration S914 server.

Planning information

Cable orders

No additional cables are required.

Security, auditability, and control

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

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

IBM Systems Lab Services

For details on available services, contact your IBM representative or go to the IBM Systems Lab Services website.

IBM Electronic Services

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

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

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

To learn how Electronic Services can work for you, go to the IBM Electronic Support website.

Terms and conditions

Volume orders

Contact your IBM representative.

IBM Global Financing

Yes

Products - terms and conditions

Warranty period

Warranty and additional coverage options:	**Coverage summary[1]:**
Warranty Period:	3 years
Service Level:	IBM On-Site Limited, 9x5 Next Business Day
Service Upgrade Options :	

Warranty and additional coverage options:	Coverage summary[1]:
Warranty Service Upgrade	IBM On-Site Repair, 9x5 Same Day[2] and 24x7 Same Day options
Maintenance Services (Post-Warranty):	IBM On-Site Repair, Next Business Day and Same Day options
IBM Hardware Maintenance Services - committed maintenance[3]:	Y

[1] See complete coverage details below.

[2] Offered in US and EMEA only.

[3] Not offered in the US.

Three years.

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

An IBM part or feature installed during the initial installation of an IBM machine is subject to the full warranty period specified by IBM. An IBM part or feature that 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. 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.

Any IBM Mainstream devices (previously called *read intensive device*) identified in this document have a maximum number of write cycles. IBM Mainstream device failures will be replaced during standard warranty and maintenance period for devices that have not reached the maximum number of write cycles. Devices that reach this limit may fail to operate according to specifications and must be replaced at the client's expense. Individual service life may vary and can be monitored using an operating system command.

The IBM warranty covers feature number EB4Z. For warranty terms associated with feature number EB3Z and the Lift tool based on GenieLift GL-8, see the separate warranty terms provided by Genie found in the Genie Operator's Manual at the Genie website.

For clients installing systems higher than the EIA 29 position (location of the rail that supports the rack-mounted server) in any IBM or non-IBM rack, acquire approved tools outlined in the server specifications section at IBM Knowledge Center. In situations where IBM service is required and the recommended tools are not available, there could be delays in repair actions.

Warranty services

If required, IBM provides repair or exchange service depending on the types of warranty service specified for the machine. IBM will attempt to resolve your problem over the telephone, or electronically through 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. If applicable to your product, parts considered Customer Replaceable Units (CRUs) will be provided as part of the machine's standard warranty service.

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

CRU Service

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

Tier 1 (mandatory) CRU

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

The following parts have been designated as Tier 1 CRUs:

- DASD SFF Drive
- DASD SSD Drive
- RDX Drive
- Enclosure
- Power Cable
- NVMe M.2 Carrier card and Flash Modules
- SAS Card
- Op Panel - Base
- Op Panel - LCD
- Memory DIMM
- All PCI Adapters
- FAN
- Upper Fan cable
- TPM Card
- Power Supplies
- Service Processor Card/FSP
- TOD Battery
- Air Baffle
- Bezel
- SAS Cable
- Front Heatsink
- Service Cover
- DASD Backplane Power Cable
- DASD Backplane Signal Cable

Tier 2 (optional) CRU

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

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

CRU and On-site Service

At IBM's discretion, you will receive specified CRU service, or IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Service level is:

- 9 hours per day, Monday through Friday, excluding holidays, next-business-day response. Calls must be received by 3:00 PM local time in order to qualify for next-business-day response.

Warranty service

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

International Warranty Service

International Warranty Service allows you to relocate any machine that is eligible for International Warranty Service and receive continued warranty service in any country where the IBM machine is serviced. If you move your machine to a different country, you are required to report the machine information to your Business Partner or IBM representative.

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

The following types of information can be found on the International Warranty Service website

- Machine warranty entitlement and eligibility
- Directory of contacts by country with technical support contact information
- Announcement Letters

Warranty service upgrades

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

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

Maintenance service options

CRU and On-site Service

At IBM's discretion, you will receive CRU service or IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. The following on-site response-time objectives are available as warranty service upgrades for your machine. Available offerings are:

- On-Site Repair, Monday through Friday (excluding holidays), 8 AM to 5 PM, 4-hour on-site response objective. Response times are objectives and are not guaranteed
- On-Site Repair, 7 days a week, 24hrs/day.

- On-Site Repair, 7 days a week, 24hrs/day, 2-hour response objective. Response times are objectives and are not guaranteed.

Customer Replaceable Units (CRUs) may be provided as part of the machine's standard warranty CRU Service except that you may install a CRU yourself or request IBM installation, at no additional charge, under the CRU and On-site Service level specified above. For additional information on the CRU Service, see the warranty information.

Maintenance services

If required, IBM provides repair or exchange service depending on the types of maintenance service specified for the machine. IBM will attempt to resolve your problem over the telephone or electronically, through an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed. The specified level of maintenance service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country-specific and location-specific information.

The following service selections are available as maintenance options, at additional cost, for your machine type.

- On-Site Repair, Monday through Friday (excluding holidays), 8 AM to 5 PM, next business day.
- On-Site Repair, Monday through Friday (excluding holidays), 8 AM to 5 PM, 4-hour response objective. Response times are objectives and are not guaranteed.
- On-Site Repair, 7 days a week, 24hrs/day.
- On-Site Repair, 7 days a week, 24hrs/day, 2-hour response objective. Response times are objectives and are not guaranteed.

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.

Customer Replaceable Unit (CRU) Service

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

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

CRUs are designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU.

Tier 1 (mandatory) CRUs: 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.

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

The following parts have been designated as Tier 1 CRUs:

- DASD SFF Drive
- DASD SSD Drive
- RDX Drive
- Enclosure
- Power Cable
- NVMe M.2 Carrier card and Flash Modules
- SAS Card
- Op Panel - Base
- Op Panel - LCD
- Memory DIMM
- All PCI Adapters
- FAN
- Upper Fan cable
- TPM Card
- Power Supplies
- Service Processor Card/FSP
- TOD Battery
- Air Baffle
- Bezel
- SAS Cable Front
- Heatsink
- Service Cover
- DASD Backplane Power Cable
- DASD Backplane Signal Cable

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

Non-IBM parts service

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

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

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

Usage plan machine

No

IBM hourly service rate classification

Two

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

General terms and conditions

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

Yes

The applicable processor group is: Small

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. It can also be found on the License Agreement for Machine Code and Licensed Internal Code website.

Machine using LMC Type Model 9009-41A

Access to Machine Code updates is conditioned on entitlement and license validation in accordance with IBM policy and practice. IBM may verify entitlement through customer number, serial number, electronic restrictions, or any other means or methods employed by IBM in its discretion.

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.

Machine Code License Acceptance Requirement

B.) Acceptance-By-Use Machine: No, the Machine Code license requires signed acceptance by the machine's end user directly with IBM, applicable to orders for a new machine, machine type conversion MES, and to machines transferred to another user.

Educational allowance

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

The educational allowance is 8% for the products in this announcement.

Prices

For additional information and current prices, contact your local IBM representative.

Product charges

The following are newly announced features on the specific models of the IBM Power Systems 9009 machine type:

Description	Model number	Feature number	Purchase price	Minimum Monthly Maint. Charge	Initial/ MES/ Both/ Support	CSU	RP MES
IBM Power System S914							
	41A					Yes	
One CSC Billing Unit							
	41A	0010			Both	Yes	No
Ten CSC Billing Units							
	41A	0011			Both	Yes	No
Mirrored System Disk Level, Sp							
	41A	0040			Both	Yes	No
Device Parity Protection All							
	41A	0041			Both	Yes	No
Mirrored System Bus Level							
	41A	0043			Both	Yes	No
Device Parity RAID 6 All							
	41A	0047			Both	Yes	No
RISC to RISC Data Migration							
	41A	0205			Initial	N/A	No
AIX Partition Specify							
	41A	0265			Both	Yes	No
Linux Partition Specify							
	41A	0266			Both	Yes	No
IBM i Partition Specify							
	41A	0267			Both	Yes	No
Specify Custom Data Protection							
	41A	0296			Both	Yes	No
Mirrored Level System Specify							
	41A	0308			Both	Yes	No
RAID Hot Spare Specify							
	41A	0347			Both	Yes	No
V.24/EIA232 6.1m (20 Ft) PCI C							
	41A	0348			Both	Yes	No
V.35 6.1m (20 Ft) PCI Cable							
	41A	0353			Both	Yes	No
X.21 6.1m (20 Ft) PCI Cable							
	41A	0359			Both	Yes	No
CBU Specify							
	41A	0444			Initial	N/A	No
Customer Specified Placement							
	41A	0456			Initial	N/A	No
19 inch, 1.8 meter high rack							
	41A	0551			MES	Yes	No
19 inch, 2.0 meter high rack							
	41A	0553			MES	Yes	No
Rack Filler Panel Kit							
	41A	0599			Both	Yes	No
Load Source Not in CEC							
	41A	0719			Both	Yes	No
SAN Load Source Specify							
	41A	0837			Both	Yes	No
US TAA Compliance Indicator							
	41A	0983			Both	Yes	No
Asm in USA manufacturing plant							
	41A	0984			Both	N/A	No
Modem Cable US/Canada and GU							
	41A	1025			Both	Yes	No
USB 500 GB Removable Disk Dr							
	41A	1107			Both	Yes	No
Custom Serv. Specify, Roch							

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                        41A     1140                    Both     Yes No
Quantity 150 of #1964
                        41A     1818                    Both     Yes No
Quantity 150 of #1953
                        41A     1929                    Both     Yes No
300GB 15k RPM SAS SFF-2 Disk
                        41A     1953                    Both     Yes No
600GB 10k RPM SAS SFF-2 Disk
                        41A     1964                    Both     Yes No
Primary OS - IBM i
                        41A     2145                    Both     Yes No
Primary OS AIX
                        41A     2146                    Both     Yes No
Primary OS Linux
                        41A     2147                    Both     Yes No
Factory Deconfiguration of 1 c
                        41A     2319                    Initial  N/A No
LC-SC 50 Micron Fiber Conv Cab
                        41A     2456                    Both     Yes No
LC-SC 62.5 Mic.Fib.Conv.Cable
                        41A     2459                    Both     Yes No

Asynch.Termin/Print.Cbl EIA232
                        41A     2934                    Both     Yes No
Asynchronous Cable EIA 232/V
                        41A     2936                    Both     Yes No
Ser to Ser Port Cab Draw/Draw
                        41A     3124                    Both     Yes No
Serial to Se.Port Cbl Rack 8M
                        41A     3125                    Both     Yes No
Widescreen LCD Monitor
                        41A     3632                    Support  Yes No
0.3M Serial Prt Converter Cbl
                        41A     3925                    Both     Yes No
Serial Port Null Mod Cab 3.7M
                        41A     3927                    Both     Yes No
Ser.Port Null Modem Cable,10M
                        41A     3928                    Both     Yes No
System Serial Port Converter C
                        41A     3930                    Both     Yes No
6Foot Extend.Cbl for Displays
                        41A     4242                    Support  Yes No
Extender Cable USB Keybo 1.8M
                        41A     4256                    Both     Yes No
VGA to DVI Connection Converte
                        41A     4276                    Both     Yes No
Rack Integration Services: BP
                        41A     4648                    Initial  N/A No
Rack Integration Services
                        41A     4649                    Initial  N/A No
 One and only one rack indicator feature is
required on all orders (#4650 to #4666).
No Factory Integration Ind.
                        41A     4650                    Initial  N/A No
Rack Indicator, Rack 1
                        41A     4651                    Initial  N/A No
Rack Indicator, Rack 2
                        41A     4652                    Initial  N/A No
Rack Indicator, Rack 3
                        41A     4653                    Initial  N/A No
Rack Indicator, Rack 4
                        41A     4654                    Initial  N/A No
Rack Indicator, Rack 5
                        41A     4655                    Initial  N/A No
Rack Indicator, Rack 6
                        41A     4656                    Initial  N/A No
Rack Indicator, Rack 7
                        41A     4657                    Initial  N/A No
Rack Indicator, Rack 8
                        41A     4658                    Initial  N/A No
Rack Indicator, Rack 9
                        41A     4659                    Initial  N/A No
Rack Indicator, Rack 10
                        41A     4660                    Initial  N/A No
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Rack Indicator, Rack 11					
	41A	4661	Initial	N/A	No
Rack Indicator, Rack 12					
	41A	4662	Initial	N/A	No
Rack Indicator, Rack 13					
	41A	4663	Initial	N/A	No
Rack Indicator, Rack 14					
	41A	4664	Initial	N/A	No
Rack Indicator, Rack 15					
	41A	4665	Initial	N/A	No
Rack Indicator, Rack 16					
	41A	4666	Initial	N/A	No
Power Active Memory Expansion					
	41A	4794	Both	Yes	No
IBM i Solution Edition IBM i					
	41A	4927	Initial	N/A	No
Solution Edition for IBM i					
	41A	4928	Initial	N/A	No
Software Preload Required					
	41A	5000	Initial	N/A	No
PowerVM Enterprise Edition					
	41A	5228	Both	Yes	No
Sys Console On HMC					
	41A	5550	Both	Yes	No
Sys Console-Ethernet LAN					
	41A	5557	Initial	N/A	No
PCIe2 8Gb 4-port Fibre Channel					
	41A	5729	Both	Yes	No
8 Gigabit PCI Express Dual Por					
	41A	5735	Both	Yes	No
POWER GXT145 PCI Express Graph					
	41A	5748	Both	Yes	No
4 Port Async EIA 232 PCIe Adap					
	41A	5785	Both	Yes	No
PCIe2 4-port 1GbE Adapter					
	41A	5899	Both	Yes	No
Opt Front Door for 1.8m Rack					
	41A	6068	MES	Yes	No
Opt Front Door for 2.0m Rack					
	41A	6069	MES	Yes	No
1.8m Rack Acoustic Doors					
	41A	6248	MES	Yes	No
2.0m Rack Acoustic Doors					
	41A	6249	MES	Yes	No
1.8m Rack Trim Kit					
	41A	6263	MES	Yes	No
2.0m Rack Trim Kit					
	41A	6272	MES	Yes	No
Pwr Crd 4.3m 14ft to IBM PDU					
	41A	6458	Both	Yes	No
Pwr Crd (14FT), Drwr - OEM PDU					
	41A	6460	Both	Yes	No
Pwr Crd 4.3m 14ft Wall OEM PDU					
	41A	6469	Both	Yes	No
Pwr Crd 1.8m 6ft Wall 125V/15A					
	41A	6470	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6471	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6472	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6473	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6474	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6475	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6476	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6477	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6478	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6488	Both	Yes	No

4.3m (14 Ft) 3PH/24A Power Cor					
	41A	6489	MES	Yes	No
4.3m (14 Ft) 1PH/63A Pwr Cord					
	41A	6491	MES	Yes	No
4.3m (14 Ft) 1PH/48 60A Pwr Co					
	41A	6492	MES	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6493	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6494	Both	Yes	No
Pwr Crd 2.7m 9ft Wall 250V,10A					
	41A	6496	Both	Yes	No
Power Cable Drawer to IBM PD					
	41A	6577	Both	Yes	No
Optional Rack Security Kit					
	41A	6580	MES	Yes	No
Pwr Crd 2.7m 9ft Wall 125V,15A					
	41A	6651	Both	Yes	No
4.3m 3PH/16A Power Cord					
	41A	6653	MES	Yes	No
4.3m 1PH/24-30A Pwr Cord					
	41A	6654	MES	Yes	No
4.3m 14Ft 1PH/24 30A WR Pwr					
	41A	6655	MES	Yes	No
4.3m 14Ft 1PH/24A Power Cord					
	41A	6656	MES	Yes	No
4.3m 14Ft 1PH/32A Power Cord					
	41A	6657	MES	Yes	No
4.3m 14Ft 1PH/24A Pwr Cd Kor					
	41A	6658	MES	Yes	No
Pwr.Cord(9ft),To Wall/OEM PDU					
	41A	6659	Both	Yes	No
Pwr Crd 14ft 4.3m WallOEM PDU					
	41A	6660	Both	Yes	No
Pwr Crd 2.8m 9.2ft PDU					
	41A	6665	Both	Yes	No
4.3m 14Ft 3PH/32A Pwr Cd Aus					
	41A	6667	MES	Yes	No
Pwr Crd 4.3M, Drwr - OEM PDU					
	41A	6669	Both	Yes	No
Pwr Crd 2.7m, Drwr - IBM PDU					
	41A	6671	Both	Yes	No
Pwr Crd 2M, Drwr - IBM PDU					
	41A	6672	Both	Yes	No
Pwr Crd 2.7m 9ft Wall OEM PDU					
	41A	6680	Both	Yes	No
IIntelligent PDU+ 1 EIA Unit					
	41A	7109	MES	Yes	No
Environmental Monitoring Probe					
	41A	7118	Both	Yes	No
Power Distribution Unit					
	41A	7188	MES	Yes	No
PowDistribUnit(US)Fixed PowCrd					
	41A	7196	Both	Yes	No
Eth Cbl 15M HW Management					
	41A	7802	Both	Yes	No
Linux Software Preinstall					
	41A	8143	Initial	N/A	No
Linux Software Preinstall BP					
	41A	8144	Initial	N/A	No
USB Mouse					
	41A	8845	Support	Yes	No
Order Routing Indicator Syste					
	41A	9169	Initial	N/A	No
Language Group Spcf-US Eng					
	41A	9300	Initial	N/A	No
New AIX License Core Counter					
	41A	9440	Initial	N/A	No
New IBM i Lic Core Counter					
	41A	9441	Initial	N/A	No
New Red Hat Lic Core Counter					
	41A	9442	Initial	N/A	No
New SUSE Lic Core Counter					
	41A	9443	Initial	N/A	No

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Other AIX Lic Core Counter
                      41A     9444                  Initial  N/A No
Other Linux Lic Core Counter
                      41A     9445                  Initial  N/A No
3rd Party Linux Lic Core Cnt
                      41A     9446                  Initial  N/A No
VIOS Core Counter
                      41A     9447                  Initial  N/A No
Other License Core Counter
                      41A     9449                  Initial  N/A No
Ubuntu Linux License Core Cntr
                      41A     9450                  Initial  N/A No
Month Indicator
                      41A     9461                  Initial  N/A No
Day Indicator
                      41A     9462                  Initial  N/A No
Hour Indicator
                      41A     9463                  Initial  N/A No
Minute Indicator
                      41A     9464                  Initial  N/A No
Qty Indicator
                      41A     9465                  Initial  N/A No
Countable Member Indicator
                      41A     9466                  Initial  N/A No
Language Group Spcf-Dutch
                      41A     9700                  Initial  N/A No
Language Group Spcf-French
                      41A     9703                  Initial  N/A No
Language Group Spcf-German
                      41A     9704                  Initial  N/A No
Language Group Spcf-Polish
                      41A     9705                  Initial  N/A No
Lang Group Specify - Norwegian
                      41A     9706                  Initial  N/A No
Lang.Group Spcf-Portuguese
                      41A     9707                  Initial  N/A No
Language Group Spcf-Spanish
                      41A     9708                  Initial  N/A No
Language Group Spcf-Italian
                      41A     9711                  Initial  N/A No
Langua Gr Speci Canadian Frenc
                      41A     9712                  Initial  N/A No
Language Group Spcf-Japanese
                      41A     9714                  Initial  N/A No
Language Group Specify Tr Chin
                      41A     9715                  Initial  N/A No
Language Group Spcf-Korean
                      41A     9716                  Initial  N/A No
Language Group Spcf-Turkish
                      41A     9718                  Initial  N/A No
Language Group Spcf-Hungarian
                      41A     9719                  Initial  N/A No
Language Group Spcf-Slovakian
                      41A     9720                  Initial  N/A No
Language Group Spcf-Russian
                      41A     9721                  Initial  N/A No
Lang Group Spcf Simpl Chinese
                      41A     9722                  Initial  N/A No
Language Group Spcf-Czech
                      41A     9724                  Initial  N/A No
Language Group Spcf-Romanian
                      41A     9725                  Initial  N/A No
Lang Group Specify - Croatian
                      41A     9726                  Initial  N/A No
Language Group Spcf-Slovenian
                      41A     9727                  Initial  N/A No
Lang Group Specify - Braz Port
                      41A     9728                  Initial  N/A No
Lang Group Specify - Thai
                      41A     9729                  Initial  N/A No

10m QSFP+ MTP Optical Cable
                      41A     EB2J                  Both     Yes No
30m QSFP+ MTP Optical Cable
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                        41A     EB2K                    Both     Yes No
AC Power Supply - 900W
                        41A     EB2L                    Both     Yes No
Power Supply 1400W 200-240 VAC
                        41A     EB2M                    Both     Yes No
Lift tool GenieLift GL-8
                        41A     EB3Z                    Both     Yes No
10Gb Optical TransceiverSFP+
                        41A     EB46                    Both     Yes No
25Gb Opt Transceiver SFP28
                        41A     EB47                    Both     Yes No
0.5 SFP/25GbE CU Cable
                        41A     EB4J                    Both     Yes No
1.0 SFP/25GbE CU Cable
                        41A     EB4K                    Both     Yes No
1.5 SFP/25GbE CU Cable
                        41A     EB4L                    Both     Yes No
2.0 SFP/25GbE CU Cable
                        41A     EB4M                    Both     Yes No
2.5 QSFP28/100GbE CU Cable
                        41A     EB4P                    Both     Yes No
Service wedge shelf for EB3Z
                        41A     EB4Z                    Both     No  No
0.5m EDR IB Copper Cable
                        41A     EB50                    Both     Yes No
1.0m EDR IB Copper Cable
                        41A     EB51                    Both     Yes No
2.0M EDR IB Copper Cable
                        41A     EB52                    Both     Yes No
1.5M EDR IB Copper Cable
                        41A     EB54                    Both     Yes No
100Gb Optic Transceiver QSFP28
                        41A     EB59                    Both     Yes No
3M EDR IB Optical Cable
                        41A     EB5A                    Both     Yes No
5M EDR IB Optical Cable
                        41A     EB5B                    Both     Yes No
10M EDR IB Optical Cable
                        41A     EB5C                    Both     Yes No
15M EDR IB Optical Cable
                        41A     EB5D                    Both     Yes No
20M EDR IB Optical Cable
                        41A     EB5E                    Both     Yes No
30M EDR IB Optical Cable
                        41A     EB5F                    Both     Yes No
50M EDR IB Optical Cable
                        41A     EB5G                    Both     Yes No
100M EDR IB Optical Cable
                        41A     EB5H                    Both     Yes No
0.5M 100GbE Cu Cable QSFP28
                        41A     EB5J                    Both     Yes No
1.0M 100GbE Cu Cable QSFP28
                        41A     EB5K                    Both     Yes No
1.5M 100GbE Cu Cable QSFP28
                        41A     EB5L                    Both     Yes No
2.0M 100GbE Cu Cable QSFP28
                        41A     EB5M                    Both     Yes No
25M EDR IB Optical Cable
                        41A     EB5N                    Both     Yes No
3M 100GbE Optic Cable QSFP28
                        41A     EB5R                    Both     Yes No
5M 100GbE Optic Cable QSFP28
                        41A     EB5S                    Both     Yes No
10M 100GbE Optic Cable QSFP28
                        41A     EB5T                    Both     Yes No
15M 100GbE Optic Cable QSFP28
                        41A     EB5U                    Both     Yes No
20M 100GbE Optic Cable QSFP28
                        41A     EB5V                    Both     Yes No
30M 100GbE Optic Cable QSFP28
                        41A     EB5W                    Both     Yes No
50M 100GbE Optic Cable QSFP28
                        41A     EB5X                    Both     Yes No
100M 100GbE Optic Cable QSFP28
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41A	EB5Y	Both	Yes	No
IBM i 7.2 Indicator				
41A	EB72	Both	Yes	No
IBM i 7.3 Indicator				
41A	EB73	Both	Yes	No
Rack Front Door (Black)				
41A	EC01	MES	Yes	No
Rack Rear Door				
41A	EC02	MES	Yes	No
Rack Side Cover				
41A	EC03	MES	Yes	No
Rack Suite Attachment Kit				
41A	EC04	MES	Yes	No
Slim Rear Acoustic Door				
41A	EC07	MES	Yes	No
Slim Front Acoustic Door				
41A	EC08	MES	Yes	No
Rear Door Heat Exchanger				
41A	EC15	MES	Yes	No
PCIe3 2-Port 10Gb NIC&ROCE				
41A	EC2S	Both	Yes	No
PCIe3 2-Port 25/10Gb NIC&Ro				
41A	EC2U	Both	Yes	No
PCIe3 2-port 100GbE Adapterx16				
41A	EC3M	Both	Yes	No
PCIe3 NVMe carrier card				
41A	EC59	Both	Yes	No
PCIe4 1-port 100Gb EDR IB				
41A	EC63	Both	Yes	No
PCIe4 2-port 100Gb EDR IB				
41A	EC65	Both	Yes	No
SAS X Cable 3m - HD Narrow				
41A	ECBJ	Both	Yes	No
SAS X Cable 6m - HD Narrow				
41A	ECBK	Both	Yes	No
SAS X Cable 10m - HD Narrow				
41A	ECBL	Both	Yes	No
SAS X Cable 15m -HD Narrow 3Gb				
41A	ECBM	Both	Yes	No
SAS YO Cable 1.5m - HD Narrow				
41A	ECBT	Both	Yes	No
SAS YO Cable 3m - HD Narrow				
41A	ECBU	Both	Yes	No
SAS YO Cable 6m - HD Narrow				
41A	ECBV	Both	Yes	No
SAS YO Cable 10m - HD Narrow				
41A	ECBW	Both	Yes	No
SAS YO Cable 15m-HD Narrow 3Gb				
41A	ECBX	Both	Yes	No
SAS AE1 Cable 4m - HD Narrow				
41A	ECBY	Both	Yes	No
SAS YE1 Cable 3m - HD Narrow				
41A	ECBZ	Both	Yes	No
SAS AA Cable 0.6m - HD Narrow				
41A	ECC0	Both	Yes	No
SAS AA Cable 1.5m - HD Narrow				
41A	ECC2	Both	Yes	No
SAS AA Cable 3m - HD Narrow				
41A	ECC3	Both	Yes	No
SAS AA Cable 6m - HD Narrow				
41A	ECC4	Both	Yes	No
3M Optical Cable Pair				
41A	ECC7	Both	Yes	No
10M Optical Cable Pair				
41A	ECC8	Both	Yes	No
Port Converter Cable for UPS				
41A	ECCF	Both	Yes	No
3M Copper CXP Cable Pair				
41A	ECCS	Both	Yes	No
3.0M SAS X12 Cable				
41A	ECDJ	Both	Yes	No
4.5M SAS X12 Cable				
41A	ECDK	Both	Yes	No
10M SAS X12 Cable				

	41A	ECDL	Both	Yes	No
1.5M SAS YO12 Cable					
	41A	ECDT	Both	Yes	No
3.0M SAS YO12 Cable					
	41A	ECDU	Both	Yes	No
4.5M SAS YO12 Cable					
	41A	ECDV	Both	Yes	No
10M SAS YO12 Cable					
	41A	ECDW	Both	Yes	No
0.6M SAS AA12 Cable					
	41A	ECE0	Both	Yes	No
3.0M SAS AA12 Cable					
	41A	ECE3	Both	Yes	No
4.5M SAS AA12 Cable					
	41A	ECE4	Both	Yes	No
2.0 M Slim Rack					
	41A	ECR0	MES	Yes	No
Rack Front Door					
	41A	ECRF	MES	Yes	No
Rack Rear Door Black					
	41A	ECRG	MES	Yes	No
Rack Side Cover					
	41A	ECRJ	MES	Yes	No
Rack Rear Extension 5-In					
	41A	ECRK	MES	Yes	No
Rack Front Door (Black/Flat)					
	41A	ECRM	MES	Yes	No
Assembled and Tested in China					
	41A	ECS0	Both	Yes	No
Custom Serv. Specify, France					
	41A	ECSF	Both	Yes	No
NeuCloud Indicator/Specify					
	41A	ECSJ	Both	Yes	No
Custom Serv. Specify, Mexico					
	41A	ECSM	Both	Yes	No
Custom Serv. Spec Poughkeepsie					
	41A	ECSP	Both	Yes	No
Integrated Solution Packing					
	41A	ECSS	Initial	N/A	No
Optical Wrap Plug					
	41A	ECW0	Both	Yes	No
Boot Drive in EXP12SX Specify					
	41A	EHR1	Both	Yes	No
Boot / Load in EXP24SX Specify					
	41A	EHR2	Both	Yes	No
SSD Placement Ind- #ESLS/#ELLS					
	41A	EHS2	Both	Yes	No
PCIe3 Optical Cable Adapter					
	41A	EJ08	Both	Yes	No
PCIe3 RAID SAS Adapter 4-port					
	41A	EJ0J	Both	Yes	No
SAS Ports: Dual IOA Backplane					
	41A	EJ0W	Both	Yes	No
PCIe3 SAS Tape/DVD Adapter					
	41A	EJ10	Both	Yes	No
PCIe3 12GB Cache RAID+ SAS Ada					
	41A	EJ14	Both	Yes	No
Backplane 12 SFF & RDX Bay					
	41A	EJ1C	Both	No	No
Backplane 18 SFF & Dual IOA					
	41A	EJ1D	Both	No	No
Split#EJ1C Add 2nd Controlle					
	41A	EJ1E	Both	No	No
Backplane 12 SFF & RDX Bay					
	41A	EJ1M	Both	No	No
PCIe3 Crypto Coproc BSC-3 4767					
	41A	EJ33	Both	Yes	No
Non-paired Indicator EJ0L PCIe					
	41A	EJRL	Both	Yes	No
Rack-mount Rail Kit					
	41A	EJTZ	Both	Yes	No
Front IBM Bezel 12-Bay BackP					
	41A	EJU2	Both	Yes	No
Front OEM Bezel 12-Bay BackP					

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                        41A     EJU4                    Both     Yes No
Front IBM Bezel 12-Bay BackP
                        41A     EJU8                    Both     Yes No
Front IBM Bezel 18-Bay BackP
                        41A     EJU9                    Both     Yes No
Front OEM Bezel 12-Bay BackP
                        41A     EJUA                    Both     Yes No
Front OEM Bezel 18-Bay BackP
                        41A     EJUB                    Both     Yes No
Front IBM Bezel 18-Bay BackP
                        41A     EJUF                    Both     Yes No
Front OEM Bezel 18-Bay BackP
                        41A     EJUH                    Both     Yes No
Specify Mode-1 & CEC Ports 2YO
                        41A     EJV0                    Both     Yes No
Specify Mode-1 for EXP12SX 1&1
                        41A     EJV1                    Both     Yes No
Specify Mode-1 for EXP12SX 2&2
                        41A     EJV2                    Both     Yes No
Specify Mode-2 for EXP12SX 2&2
                        41A     EJV3                    Both     Yes No
Specify Mode-2 for EXP12SX 4&2
                        41A     EJV4                    Both     Yes No
Specify Mode-4 for EXP12SX 4&2
                        41A     EJV5                    Both     Yes No
Specify Mode-2 for EXP12SX 1&2
                        41A     EJV6                    Both     Yes No
Specify Mode-2 for EXP12SX 2&2
                        41A     EJV7                    Both     Yes No
Specify Mode-2 for EXP12SX 1&1
                        41A     EJVA                    Both     Yes No
Specify Mode-2 for EXP12SX 2&1
                        41A     EJVB                    Both     Yes No
Specify Mode-4 for EXP12SX 1&1
                        41A     EJVC                    Both     Yes No
Specify Mode-4 for EXP12SX 2&1
                        41A     EJVD                    Both     Yes No
Specify Mode-4 for EXP12SX 3&2
                        41A     EJVE                    Both     Yes No
Specify Mode-1 for EXP12SX 2&2
                        41A     EJVF                    Both     Yes No
Specify Mode-1 & CEC Ports 2YO
                        41A     EJW0                    Both     Yes No
Specify Mode-1 for EXP24SX 1&1
                        41A     EJW1                    Both     Yes No
Specify Mode-1 for EXP24SX 2&2
                        41A     EJW2                    Both     Yes No
Specify Mode-2 for EXP24SX 2&2
                        41A     EJW3                    Both     Yes No
Specify Mode-2 for EXP24SX 4&2
                        41A     EJW4                    Both     Yes No
Specify Mode-4 for EXP24SX 4&2
                        41A     EJW5                    Both     Yes No
Specify Mode-2 for EXP24SX 1&2
                        41A     EJW6                    Both     Yes No
Specify Mode-2 for EXP24SX 2&2
                        41A     EJW7                    Both     Yes No
Specify Mode-2 for EXP24SX 1&1
                        41A     EJWA                    Both     Yes No
Specify Mode-2 for EXP24SX 2&1
                        41A     EJWB                    Both     Yes No
Specify Mode-4 for EXP24SX 1&1
                        41A     EJWC                    Both     Yes No
Specify Mode-4 for EXP24SX 2&1
                        41A     EJWD                    Both     Yes No
Specify Mode-4 for EXP24SX 3&2
                        41A     EJWE                    Both     Yes No
Specify Mode-1 for EXP24SX 2&2
                        41A     EJWF                    Both     Yes No
Specify Mode-2 for EXP24SX 2&2
                        41A     EJWG                    Both     Yes No
Specify Mode-2 for EXP24SX 2&1
                        41A     EJWH                    Both     Yes No
Specify Mode-2 for EXP24SX 4&2
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                        41A     EJWJ                    Both     Yes No
PDU Access Cord 0.38m
                        41A     ELC0                    MES      Yes No
#ESD4 Load Source Specify
                        41A     ELS4                    MES      Yes No
#ESDA Load Source Specify
                        41A     ELSA                    MES      Yes No
#ESFU Load Source Specify
                        41A     ELT0                    Both     Yes No
#ES81 Load Source Specify
                        41A     ELT1                    MES      Yes No
#ESF2 Load Source Specify
                        41A     ELT2                    Both     Yes No
#ESF4 Load Source Specify
                        41A     ELT4                    Both     Yes No
#ES86 Load Source Specify
                        41A     ELT6                    Both     Yes No
#ESF8 Load Source Specify
                        41A     ELT8                    Both     Yes No
#ESFA Load Source Specify
                        41A     ELTA                    Both     Yes No
#ES8D Load Source Specify
                        41A     ELTD                    Both     Yes No
#ESFE Load Source Specify
                        41A     ELTE                    Both     Yes No
#ES8G Load Source Specify
                        41A     ELTG                    Both     Yes No
#ES8K Load Source Specify
                        41A     ELTK                    MES      Yes No
#ES7L Load Source Specify
                        41A     ELTL                    MES      Yes No
#ESFN Load Source Specify 571G
                        41A     ELTN                    Both     Yes No
#ES8P Load Source Specify
                        41A     ELTP                    Both     Yes No
#ES7Q Load Source Specify
                        41A     ELTQ                    MES      Yes No
#ES8R Load Source Specify
                        41A     ELTR                    Both     Yes No
#ESFS Load Source Specify
                        41A     ELTS                    Both     Yes No
#ESEU Load Source Specify
                        41A     ELTU                    Both     Yes No
#ES8W Load Source Specify
                        41A     ELTW                    Both     Yes No
#ESEY Load Source Specify 283G
                        41A     ELTY                    Both     Yes No
#ESNJ Load Source Specify
                        41A     ELUJ                    Both     Yes No
#ESNL Load Source Specify
                        41A     ELUL                    Both     Yes No
#ESNN Load Source Specify
                        41A     ELUN                    Both     Yes No
#ESNQ Load Source Specify
                        41A     ELUQ                    Both     Yes No
#ESE2 Load Source Specify
                        41A     ELZ2                    Both     Yes No
#ES93 Load Source Specify
                        41A     ELZ3                    Both     Yes No
#ES84 Load Source Specify
                        41A     ELZ4                    Both     Yes No
#ES97 Load Source Specify
                        41A     ELZ7                    Both     Yes No
#ESE8 Load Source Specify
                        41A     ELZ8                    Both     Yes No
#ESGA Load Source Specify
                        41A     ELZA                    MES      Yes No
#ESGC Load Source Specify
                        41A     ELZC                    Both     Yes No
#ESGE Load Source Specify
                        41A     ELZE                    Both     Yes No
#ESGJ Load Source Specify
                        41A     ELZJ                    MES      Yes No
#ESGL Load Source Specify
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                        41A     ELZL                    Both     Yes No
#ESGN Load Source Specify
                        41A     ELZN                    Both     Yes No
#ESGQ Load Source Specify
                        41A     ELZQ                    Both     Yes No
#ESGS Load Source Specify
                        41A     ELZS                    Both     Yes No
#ES8Z Load Source Specify
                        41A     ELZZ                    Both     Yes No
16 GB DDR4 Memory
                        41A     EM62                    Both     Yes No
32 GB DDR4 Memory
                        41A     EM63                    Both     Yes No
64 GB DDR4 Memory
                        41A     EM64                    Both     Yes No
PCIe Gen3 I/O Expansion Drawer
                        41A     EMX0                    Both     Yes No
AC Power Supply Conduit
                        41A     EMXA                    Both     Yes No
PCIe3 6-Slot Fanout Module
                        41A     EMXF                    Support  Yes No
PCIe3 6-Slot Fanout Module
                        41A     EMXG                    Both     Yes No
1m 10GbE Cable SFP+ Act Twinax
                        41A     EN01                    Both     Yes No
3m 10GbE Cable SFP+ Act Twinax
                        41A     EN02                    Both     Yes No
5m 10GbE Cable SFP+ Act Twinax
                        41A     EN03                    Both     Yes No
PCIe3 16Gb 2-port Fibre Channe
                        41A     EN0A                    Both     Yes No
PICe3 4-port 10Gb FCoE & 1GbE
                        41A     EN0H                    Both     Yes No
PCIe3 4-port 10GB FCoE & 1GbE
                        41A     EN0K                    Both     Yes No
PCIe2 4-pt(10+1 GbE)SR+RJ45
                        41A     EN0S                    Both     Yes No
PCIe2 4-pt(10+1GbE)CRSR+RJ45
                        41A     EN0U                    Both     Yes No
PCIe2 2-pt 10/1GbE BaseT RJ45
                        41A     EN0W                    Both     Yes No
PCIe 1-port Bisync Adapter
                        41A     EN13                    Support  Yes No

PCIe3 4-port 10GbE SR Adapter
                        41A     EN15                    Both     Yes No
PCIe3 32Gb 2-port FC Adapter
                        41A     EN1A                    Both     Yes No
PCIe3 16Gb 4-port FC Adapter
                        41A     EN1C                    Both     Yes No
4-core 2.3/3.8 GHz POWER9
                        41A     EP10                    Both     No  No
6-core 2.3/3.8 GHz POWER9
                        41A     EP11                    Both     No  No
8-core 2.8/3.8 GHz POWER9
                        41A     EP12                    Both     No  No
One Proc Activation for #EP10
                        41A     EP40                    Both     Yes No
One Proc Activation for #EP11
                        41A     EP41                    Both     Yes No
One Proc Activation for #EP12
                        41A     EP42                    Both     Yes No
Horizontal PDU Mounting Hardwr
                        41A     EPTH                    Both     Yes No
High Function 9xC19 PDU
                        41A     EPTJ                    Both     Yes No
High Function 9xC19 PDU 3Phase
                        41A     EPTL                    Both     Yes No
High Function 12xC13 PDU
                        41A     EPTN                    Both     Yes No
High Function 12xC13 PDU 3-Phs
                        41A     EPTQ                    Both     Yes No
 Feature #EPZL is not available in People's Republic of China,
Hong Kong S.A.R. of the PRC, Marco S.A.R. of the PRC and Taiwan.
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One 0 Proc Activate for EP10
                      41A     EPZL                    Initial  Yes No
 Feature #EPZM is not available in People's Republic of China,
Hong Kong S.A.R. of the PRC, Marco S.A.R. of the PRC and Taiwan.
One 0 Proc Activate for EP11
                      41A     EPZM                    Initial  Yes No
Qty 150 #ES62 3.86TB LFF Dsk
                      41A     EQ62                    Both     Yes No
Qty 150 #ES64 7.72TB LFF Dsk
                      41A     EQ64                    Both     Yes No
Qty 150 #ES78 SSD 387GB 5xx
                      41A     EQ78                    Both     Yes No
Qty 150 #ES7E SSD 775GB 5xx
                      41A     EQ7E                    Both     Yes No
Quantity 150 of ES80 1.9TB SSD
                      41A     EQ80                    Support  Yes No
Quantity 150 of ES81 1.9TB SSD
                      41A     EQ81                    Support  Yes No
Qty 150 #ES85 SSD 387GB 4k
                      41A     EQ85                    Both     Yes No
Qty 150 #ES86 SSD 387GB 4k
                      41A     EQ86                    Both     Yes No
Qty 150 #ES8C SSD 775GB 4k
                      41A     EQ8C                    Both     Yes No
Qty 150 #ES8D SSD 775GB 4k
                      41A     EQ8D                    Both     Yes No
Qty 150 #ES8F SSD 1.55TB 4k
                      41A     EQ8F                    Both     Yes No
Qty 150 #ES8G SSD 1.55TB 4k
                      41A     EQ8G                    Both     Yes No
Quantity 150 of ES8Y 931GB
                      41A     EQ8Y                    Both     Yes No
Quantity 150 of ES8Z 931GB
                      41A     EQ8Z                    Both     Yes No
Quantity 150 of ES96 1.86TB
                      41A     EQ96                    Both     Yes No
Quantity 150 of ES97 1.86TB
                      41A     EQ97                    Both     Yes No
Quantity 150 of #ESE7 3.72TB
                      41A     EQE7                    Both     Yes No
Quantity 150 of ESE8 3.72TB
                      41A     EQE8                    Both     Yes No
Quantity 150 of #ESEU 571GB
                      41A     EQEU                    Both     Yes No
Quantity 150 of #ESEV 600GB
                      41A     EQEV                    Both     Yes No
Quantity 150 of #ESEY 283 GB S
                      41A     EQEY                    Both     Yes No
Quantity 150 of #ESEZ 300GB
                      41A     EQEZ                    Both     Yes No
Quantity 150 of #ESF2 1.2TB
                      41A     EQF2                    Both     Yes No
Quantity 150 of #ESF3 1.2TB
                      41A     EQF3                    Both     Yes No
Quantity 150 of #ESFN 571GB
                      41A     EQFN                    Both     Yes No
Quantity 150 of #ESFP 600GB
                      41A     EQFP                    Both     Yes No
Quantity 150 of #ESFS 1.7TB
                      41A     EQFS                    Both     Yes No
Quantity 150 of #ESFT 1.8TB
                      41A     EQFT                    Both     Yes No
Quantity 150 of #ESG5
                      41A     EQG5                    Both     Yes No
Quantity 150 of #ESGB
                      41A     EQGB                    Both     Yes No
Quantity 150 of #ESGC
                      41A     EQGC                    Both     Yes No
Quantity 150 of #ESGF
                      41A     EQGF                    Both     Yes No
Quantity 150 of #ESGK
                      41A     EQGK                    Both     Yes No
Quantity 150 of #ESGL
                      41A     EQGL                    Both     Yes No
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Quantity 150 of #ESGP					
	41A	EQGP		Both	Yes No
Quantity 150 of #ESGQ					
	41A	EQGQ		Both	Yes No
42U Slim Rack					
	41A	ER05		MES	Yes No
RFID Tags for Compute Nodes					
	41A	ERF1		Initial	N/A No
Rear rack extension					
	41A	ERG0		MES	Yes No
Mainstream 400GB SSD NVMe					
	41A	ES14		Both	Yes No
3.86TB 7200 RPM SAS LFF Disk					
	41A	ES62		Both	Yes No
7.72TB 7200 RPM SAS LFF Disk					
	41A	ES64		Both	Yes No
387GB SFF-2 SSD 5xx for AIX/L					
	41A	ES78		Both	Yes No
775GB SFF-2 SSD 5xx for AIX/L					
	41A	ES7E		Both	Yes No
387GB SFF-3 SSD 5xx for AIX/L					
	41A	ES7K		Both	Yes No
387GB SFF-3 SSD 5xx for IBM i					
	41A	ES7L		Support	Yes No
775GB SFF-3 SSD 5xx for AIX/L					
	41A	ES7P		Both	Yes No
775GB SFF-3 SSD 5xx for IBM i					
	41A	ES7Q		Support	Yes No
1.9TB RI SAS 4k SFF-2 SSD AIX					
	41A	ES80		Support	Yes No
1.9TB RI SAS 4k SFF-2 SSD IBM					
	41A	ES81		Support	Yes No
931GB Mainstream SAS 4k SSD					
	41A	ES83		Both	Yes No
931GB Mainstream SAS 4k SSD					
	41A	ES84		Both	Yes No
387GB SFF-2 SSD 4k for AIX/Li					
	41A	ES85		Both	Yes No
387GB SFF-2 SSD 4k for IBM i					
	41A	ES86		Both	Yes No
775GB SFF-2 SSD 4k for AIX/Li					
	41A	ES8C		Both	Yes No
775GB SFF-2 SSD 4k for IBM i					
	41A	ES8D		Both	Yes No
1.55TB SFF-2 SSD 4k for AIX/L					
	41A	ES8F		Both	Yes No
1.55TB SFF-2 SSD 4k for IBM i					
	41A	ES8G		Both	Yes No
1.9TB RI SAS 4k SFF-3 SSD AIX					
	41A	ES8J		Support	Yes No
1.9TB RI SAS 4k SFF-3 SSD IBM					
	41A	ES8K		Support	Yes No
387GB SFF-3 SSD 4k for AIX/Li					
	41A	ES8N		Both	Yes No
387GB SFF-3 SSD 4k for IBM i					
	41A	ES8P		Both	Yes No
775GB SFF-3 SSD 4k for AIX/Li					
	41A	ES8Q		Both	Yes No
775GB SFF-3 SSD 4k for IBM i					
	41A	ES8R		Both	Yes No
1.55TB SFF-3 SSD 4k for AIX/L					
	41A	ES8V		Both	Yes No
1.55TB SFF-3 SSD 4k for IBM i					
	41A	ES8W		Both	Yes No
931GB Mainstream SAS 4k SSD					
	41A	ES8Y		Both	Yes No
931GB Mainstream SAS 4k SSD					
	41A	ES8Z		Both	Yes No
1.86TB Mainstream SAS 4k SSD					
	41A	ES92		Both	Yes No
1.86TB Mainstream SAS 4k SSD					
	41A	ES93		Both	Yes No
1.86TB Mainstream SAS 4k SSD					
	41A	ES96		Both	Yes No

1.86TB Mainstream SAS 4k SSD
41A ES97 Both Yes No
S&H - No Charge
41A ESC0 Both Yes No
S&H-b
41A ESC6 Initial N/A No
571GB 10K RPM SAS SFF-3 Disk
41A ESD4 Support Yes No
600GB 10K RPM SAS SFF3 Disk
41A ESD5 Both Yes No
283GB 15K RPM SAS SFF-3 Disk
41A ESDA Support Yes No
300GB 15K RPM SAS SFF-3 Disk
41A ESDB Both Yes No
3.72TB Mainstream SAS 4k SSD
41A ESE1 Both Yes No
3.72TB Mainstream SAS 4k SSD
41A ESE2 Both Yes No
3.72TB Mainstream SAS 4k SSD
41A ESE7 Both Yes No
3.72TB Mainstream SAS 4k SSD
41A ESE8 Both Yes No
571GB 10K RPM SFF-2 Disk 4K
41A ESEU Both Yes No
600GB 10K RPM SFF-2 Disk 4K
41A ESEV Both Yes No
283GB 15K SAS SFF-2 4K BLK HDD
41A ESEY Both Yes No
300GB 15K SAS SFF-2 4K BLK HDD
41A ESEZ Both Yes No
1.1TB 10K RPM SFF-2 Disk 4K
41A ESF2 Both Yes No
1.2TB 10K RPM SFF-2 Disk 4K
41A ESF3 Both Yes No
571GB 10K RPM SFF-3 Disk 4K
41A ESF4 Both Yes No
600GB 10K RPM SFF-3 Disk 4K
41A ESF5 Both Yes No
1.1TB 10K RPM SFF-3 Disk 4K
41A ESF8 Both Yes No
1.2TB 10K RPM SFF-3 Disk 4K
41A ESF9 Both Yes No
283GB 15K SAS SFF-3 4K BLK HDD
41A ESFA Both Yes No
300GB 15K SAS SFF-3 4K BLK HDD
41A ESFB Both Yes No
571GB 15K SAS SFF-3 4K BLK HDD
41A ESFE Both Yes No
600GB 15K SAS SFF-3 4K BLK HDD
41A ESFF Both Yes No
283GB 15k SAS SFF-3 Disk 4k
41A ESFG Initial N/A No
571GB 15K SAS SFF-2 4K BLK HDD
41A ESFN Both Yes No
600GB 15K SAS SFF-2 4K BLK HDD
41A ESFP Both Yes No
1.7TB 10K RPM SFF-2 Disk 4K
41A ESFS Both Yes No
1.8TB 10K RPM SFF-2 Disk 4K
41A ESFT Both Yes No
1.7TB 10K RPM SFF-3 Disk 4K
41A ESFU Both Yes No
1.8TB 10K RPM SFF-3 Disk 4K
41A ESFV Both Yes No
387GB Enterprise SAS 5xx SSD
41A ESG5 Both Yes No
387GB Enterprise SAS 5xx SSD
41A ESG9 Both Yes No
387GB Enterprise SAS 5xx SSD
41A ESGA Support Yes No
387GB Enterprise SAS 4k SSD
41A ESGB Both Yes No
387GB Enterprise SAS 4k SSD
41A ESGC Both Yes No

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387GB Enterprise SAS 4k SSD
                        41A     ESGD                    Both     Yes No
387GB Enterprise SAS 4k SSD
                        41A     ESGE                    Both     Yes No
775GB Enterprise SAS 5xx SSD
                        41A     ESGF                    Both     Yes No
775GB Enterprise SAS 5xx SSD
                        41A     ESGH                    Both     Yes No
775GB Enterprise SAS 5xx SSD
                        41A     ESGJ                    Support  Yes No
775GB Enterprise SAS 4k SSD
                        41A     ESGK                    Both     Yes No
775GB Enterprise SAS 4k SSD
                        41A     ESGL                    Both     Yes No
775GB Enterprise SAS 4k SSD
                        41A     ESGM                    Both     Yes No
775GB Enterprise SAS 4k SSD
                        41A     ESGN                    Both     Yes No
1.55TB Enterprise SAS 4k SSD
                        41A     ESGP                    Both     Yes No
1.55TB Enterprise SAS 4k SSD
                        41A     ESGQ                    Both     Yes No
1.55TB Enterprise SAS 4k SSD
                        41A     ESGR                    Both     Yes No
1.55TB Enterprise SAS 4k SSD
                        41A     ESGS                    Both     Yes No
Specify AC Power Supply
                        41A     ESLA                    Both     Yes No
EXP12SX SAS Storage Enclosure
                        41A     ESLL                    Both     Yes No
EXP24SX SAS Storage Enclosure
                        41A     ESLS                    Both     Yes No
283GB 15K SAS SFF-3 4k HDD
                        41A     ESNJ                    Both     Yes No
300GB 15K SAS SFF-3 4k HDD
                        41A     ESNK                    Both     Yes No
283GB 15K SAS SFF-2 4K HDD
                        41A     ESNL                    Both     Yes No
300GB 15K SAS SFF-2 4k HDD
                        41A     ESNM                    Both     Yes No
571GB 15K SAS SFF-3 4K HDD
                        41A     ESNN                    Both     Yes No
600GB 15K SAS SFF-3 4k HDD
                        41A     ESNP                    Both     Yes No
571GB 15K SAS SFF-2 4K HDD
                        41A     ESNQ                    Both     Yes No
600GB 15K SAS SFF-2 4k HDD
                        41A     ESNR                    Both     Yes No
Quantity 150 of #ESNL 283GB
                        41A     ESPL                    Both     Yes No
Quantity 150 of #ESNM 300GB
                        41A     ESPM                    Both     Yes No
Quantity 150 of #ESNQ 571GB
                        41A     ESPQ                    Both     Yes No
Quantity 150 of #ESNR 600GB
                        41A     ESPR                    Both     Yes No
RDX USB Internal Docking
                        41A     EU00                    Both     Yes No
1TB Removable Disk Cartridge
                        41A     EU01                    Both     Yes No
RDX USB External Docking
                        41A     EU04                    Support  Yes No
RDX 320 GB Removable Disk Driv
                        41A     EU08                    Support  Yes No
Operator Panel LCD Display
                        41A     EU0B                    Both     Yes No
1.5TB Removable Disk Cartridge
                        41A     EU15                    Support  Yes No
Cable Ties & Labels
                        41A     EU19                    Both     Yes No

Express Edition 4 core IBM i
                        41A     EU2C                    Initial  N/A Yes No
Express Edition 6-core IBM i
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	41A	EU2D	Initial	N/A	No
2TB Removable Disk Cartrdg-RDX					
	41A	EU2T	Both	Yes	No
RDX USB External Docking Sta					
	41A	EUA4	Both	Yes	No
Standalone USB DVD drive w/c					
	41A	EUA5	Both	Yes	No
Core Use HW Feature					
	41A	EUC6	MES	Yes	No
Core Use HW Feature 10					
	41A	EUC7	MES	Yes	No

The following are newly announced features on the specific models of the IBM Power Systems 7014 and 7965 machine type:

Description Machine type 7014	Model number	Feature number	Purchase price	Minimum Monthly Maint. Charge	Initial/ MES/ Both/ Support	CSU	RP MES
Rack Specify 9009-41A -4EIA							
	T00	ER2X			Initial	N/A	No
	T42				Initial	N/A	No

Description Machine type 7965	Model number	Feature number	Purchase price	Minimum Monthly Maint. Charge	Initial/ MES/ Both/ Support	CSU	RP MES
Rack Specify 9009-41A -4EIA							
	94Y	ER2X			Initial	N/A	No
	S42				Initial	N/A	No

CSU = Customer setup

RP MES = Return parts, miscellaneous equipment specifications

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Not applicable

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Corrections

(Corrected on February 23, 2018)

The Description and Hardware requirements sections were revised.