IBM Power 520 and 550 Express offer faster processor options and popular, easy-to-order configurations

At a glance

New features and functions for the Power 520 and 550 Express include:

- 2-core and 4-core 4.7 GHz processors on the Power 520
- 2-core 5.0 GHz processor on the Power 550
- New Express Product Offerings
- Small Form Factor (SFF, 2.5-inch) DASD capability on the Power 520
- New SFF disk options on the Power 550
- SATA DVD-ROM and DVD-RAM
- 2.5-inch and 3.5-inch solid state disk drives
- New DASD/Media backplanes

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

Overview

The IBM Power 520 Express and Power 550 Express offer new IBM POWER6[tm] processor options. The Power 520 offers a new 2-core 4.7 GHz processor with four memory DIMM slots and a new 4-core 4.7 GHz processor with eight memory DIMM slots. The Power 550 offers a new 5.0 GHz processor with eight memory DIMM slots.

The 4.7 GHz Power 520 uses the POWER6+[tm] version of the POWER6 processor. The 5.0 GHz Power 550 uses the POWER6+ version of the POWER6 processor.

New Express Product Offerings and Express Editions are available on the Power 520 and Power 550, offering popular, easy-to-order configurations with attractive financial incentives.

In addition, several new features are now available on the Power 520 and Power 550:

- DVD-ROM (#5743) and DVD-RAM (#5762)
- 69 GB Solid State Drives, 2.5-inch (#1890 and #1909) and 3.5-inch (#3586 and #3587)
- New DASD backplanes for 3.5-inch DASD/SATA DVD/Tape, one without an external SAS port (#8308) and one with an external SAS port (#8310)
- New GX Dual-port 12X Channel Attach Adapter (#5609)

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- Either feature 5609 or 5616 is required to attach the 12 X I/O Drawer (#5802) to the Power 520 and Power 550.
- Feature 5609 replaces feature 5608 in several scenarios, including when attaching feature 5802 to the Power 520 and Power 550.

The Power 520 Express server also includes these new features and functions:

- Central Electronics Complex (CEC) enclosure that accommodates small form factor (SFF) 2.5-inch disks with the addition of a DASD backplane (#8346)
- Maximum of eight SFF SAS disk drives in carrier with a 69.7 GB 15K RPM drive (#1884) for the IBM i operating system, or a 73.4 GB 15K RPM (#1883) drive and a 146.8 GB 10K RPM drive (#1882) for the IBM AIX® or Linux® operating systems
- Two operator panel cables, one for a tower system with 2.5-inch DASD (#1856) and one for a rack-mount drawer with 2.5-inch DASD (#1878)

The Power 550 Express server also includes these new features:

- Two new SFF disk options -- a 69.7 GB 15K RPM drive (#1884) for the IBM i operating system and a 73.4 GB 15K RPM drive (#1883) for the AIX or Linux operating systems.

The following hardware platforms are now supported with IBM i and SUSE Linux Enterprise Server in the SDI channel:

- BladeCenter® JS12 (7998-60X) and BladeCenter JS22 (7998-61X) in a BladeCenter S chassis
- BladeCenter JS23 (7778-23X) in a BladeCenter S chassis
- BladeCenter JS43 (7778-23X with #8446) in a BladeCenter S chassis
- Power 520 (8203-E4A)
- Power 550 (8204-E8A)
- Power 560 (8234-EMA)
- Power 570 (9117-MMA)

Both i 5.4.5 and i 6.1 will be supported in the SDI channel. SUSE Linux Enterprise Server 10 will be supported in the SDI channel.

SDI is used for new systems only and is not available for MES/upgrade orders.

The planned availability date for SUSE Linux Enterprise Server support in the U.S. and EMEA is May 22, 2009. The planned availability date for IBM i support in the U.S. is May 22, 2009. The planned availability date for IBM i support in EMEA is August 14, 2009.

Key prerequisites

Refer to the Software requirements section and to the hardware requirements in the Description section.

Planned availability date

May 22, 2009

Description

System enhancements

New solid state drives provide for storage and retrieval of data that is significantly faster than spinning disk drives. These 69.7 GB drives allow you to leap over bottlenecks in disk drive technology. The root cause for disk's slower performance is waiting for the movement of the disk platter and the disk arm. SSD random reads/writes can occur in microseconds, not the

milliseconds that it takes for spinning drives (also called *hard disk drives* or *HDD*). The size of the I/O performance increase and resulting overall system performance increase will depend upon your configuration and applications.

SSD has more than just performance advantages. SSD has no moving parts increasing its reliability. SSD has no motor and needs far less electrical power or cooling than disk drives. And unlike HDDs that are often run at 50% or less of their storage capacity to help maintain consistent performance, SSDs can be run much closer to 100% storage capacity and still provide excellent performance.

The 69.7 GB SSD plugs into a standard SAS disk bay slot and is controlled by a SAS controller with write cache. SSD is offered in two form factors, a 3.5-inch (#3856/3587) and an SFF (#1890/1909). The 3.5-inch SSD is used in the feature 5886 EXP 12S Disk Drawer and is controlled by the PCI-X 1.5 GB Cache RAID adapter or the PCIe 380 MB Cache RAID adapter. The SFF SSD is used in Power 520/550 CEC SFF slots and is controlled by the imbedded controller optionally augmented with the 175 MB write cache (#5679).

Power 520 can be ordered with either the new eight 2.5-inch SFF SAS slots or the previously announced six 3.5-inch SAS disk slots. Split backplane options are supported with either SFF or 3.5-inch slots. The SFF slots can support either SFF disk drives or SSDs. System unit SFF capability is now consistent between both the Power 520 and 550.

Three SFF disks are available for the Power 520 and 550 system units and for the new 12X I/O drawers with SFF disk slots: 10K RPM 146 GB (#1882) and 15K RPM 73.4 GB (#1883) with AIX/ Linux, and 15K RPM 69.7 GB (#1884).

The Power 520 and 550 system units have refreshed DVD options using a SATA interface. You can select from two DVDs: the SATA Slimline DVD-ROM Drive (#5743) and the SATA Slimline DVD-RAM Drive (#5762).

HMC machine code

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.

To determine the HMC machine code level required for the firmware level on any server, go to the following URL to access the Fix Level Recommendation Tool (FLRT) on or after the planned availability date of this product announcement. FLRT will identify the correct HMC machine code for the selected system firmware level.

   http://www14.software.ibm.com/webapp/set2/flrt/home

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

Hardware requirements

Power Systems 520 minimum system configuration

The Power 520 Express can be configured to incorporate a 1-, 2-, or 4-core processor, up to 64 GB of system memory, five PCI adapters, and multiple media devices, as desired. This flexibility is made available through the many optional features for the Power 520 Express.

Each Power 520 Express must include a minimum of the following items:

• One system CEC enclosure with the following items:
  – One power cord (#13xx, #14xx, #64xx, or #66xx)
  – One Language Group, Specify (#9300 or #97xx)
• One processor card:
  – 1-core 4.2 GHz POWER6 processor (#5633)
  – 2-core 4.2 GHz POWER6 processor (#5634)
  – 4-core 4.2 GHz POWER6 processor (#5635)

- 2-core 4.7 GHz POWER6 processor (#5577)
- 4-core 4.7 GHz POWER6 processor (#5587)
- One, two, or four processor activations:
  - 1 x #5651, or 1 x #5676 with processor #5633
  - 2 x #5654, or 1 x #5677 and 1 x #5654 with processor #5634
  - 4 x #5655, or 2 x #5678 and 2 x #5655 with processor #5635
  - 2 x #5578, or 1 x #5578 and 1 x #5579 with processor #5577
  - 4 x #5588, or 2 x #5588 and 2 x #5589 with processor #5587

  Notes:

  - Features 5676, 5677, 5678, 5579, and 5589 are part of Express Product Offerings.
  - Processor activations are only available to Solution Delivery Integration (SDIs) as MES orders.
- Choose 1 GB minimum memory from:
  - 1024 MB PC2-5300 Memory (2 x 512 MB RDIMMs) (#4520)
  - 2048 MB PC2-5300 Memory (2 x 1024 MB RDIMMs) (#4521)
  - 4096 MB PC2-5300 Memory (2 x 2048 MB RDIMMs) (#4522)
  - 4096 MB PC2-5300 Memory (2 x 2048 MB RDIMMs) (#4532)
  - 8192 MB PC2-5300 Memory (2 x 4096 MB RDIMMs) (#4523)
  - 16384 MB PC2-3200 Memory (2 x 8192 MB RDIMMs) (#4524)
- Choose a DASD Backplane from:
  - DASD Backplane without external SAS port, 6 x 3.5-inch DASD (#8341)
  - DASD Backplane with external SAS port, 6 x 3.5-inch DASD (#8345)
  - DASD Backplane without external SAS port, 6 x 3.5-inch DASD (#8308)
  - DASD Backplane with external SAS port, 6 x 3.5-inch DASD (#8310)
  - DASD Backplane with external SAS port, 8 x 2.5-inch DASD (#8346)

  Note: Features 8308 and 8341 are not available with the IBM i operating system (#2145).

- Choose a Ethernet daughter card from:
  - Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
  - 4-port 1 Gb Integrated Ethernet Daughter Card (#5624)
  - Dual-port 10 Gb Integrated Ethernet Daughter Card (#5613)
- Choose disk drives from:
  - 73.4 GB SAS 3.5-inch 15,000 RPM (#3646) (AIX, Linux, VIOS)
  - 146.8 GB SAS 3.5-inch 15,000 RPM (#3647) (AIX, Linux, VIOS)
  - 300 GB SAS 3.5-inch 15,000 RPM (#3648) (AIX, Linux, VIOS)
  - 450 GB SAS 3.5-inch 15,000 RPM (#3649) (AIX, Linux, VIOS)
  - 428 GB SAS 3.5-inch 15,000 RPM (#3658) (IBM i)
  - 139.5 GB SAS 3.5-inch 15,000 RPM (#3677) (IBM i)
  - 283.7 GB SAS 3.5-inch 15,000 RPM (#3678) (IBM i)
  - 73.4 GB SAS 2.5-inch 15,000 RPM (#1883) (AIX, Linux, VIOS)
  - 146.8 GB SAS 2.5-inch 10,000 RPM (#1882) (AIX, Linux, VIOS)
  - 69.7 GB SAS 2.5-inch 15,000 RPM (#1884) (IBM i)
  - 69 GB Solid State 2.5-inch (#1890)(AIX, Linux, VIOS)
  - 69 GB Solid State 2.5-inch (#1909)(IBM i)

  Note: If using a Fibre Channel attached SAN (indicated by #0837), a disk drive is not required.
- Choose Op Panel cable from:

- – Cable for deskside with 3.5-inch DASD Backplane (#1843)
- – Cable for rack-mount drawer with 3.5-inch DASD Backplane (#1877)
- – Cable for deskside with 2.5-inch DASD Backplane (#1856)
- – Cable for rack-mount drawer with 2.5-inch DASD Backplane (#1878)
- One power supply:
  - – 950 watt AC, Hot-swap, Base (#7703)
- Configuration indicator
  - – Feature 7112 for deskside system with IBM cover set with door
  - – Feature 7113 for deskside system with OEM cover set with door
  - – Feature 7200 for rack-mount system with IBM bezel
  - – Feature 7201 for rack-mount system with OEM bezel

Note: OEM cover set (#7113) and OEM bezel (#7201) are not available with the IBM i operating system.

Power 550 minimum system configuration

The Power 550 has four processor slots, each of which can contain a 2-core processor. The system can contain up to 256 GB of system memory (64 GB maximum per processor card), five PCI adapters, and multiple media devices, as desired. This flexibility is made available through the many optional features for the Power 550 Express.

Each Power 550 Express must include a minimum of the following items:

- One System CEC enclosure with the following items:
  - – One power cord (#13xx, #14xx, #64xx, or #66xx)
  - – One Language Group, Specify (#9300 or #97xx)
- One processor card:
  - – 2-core 3.5 GHz POWER6 processor with 32 MB L3 cache (#4965)
  - – 2-core 4.2 GHz POWER6 processor with 32 MB L3 cache (#4966)
  - – 2-core 5.0 GHz POWER6 processor with 32 MB L3 cache (#4967)
- Two processor activations:
  - – 2 x #4985, or 1 x #4985 and 1 x #4945 with processor #4965
  - – 2 x #4986, or 1 x #4986 and 1 x #4946 with processor #4966
  - – 2 x #4987, or 1 x #4987 and 1 x #4947 with processor #4967

  Notes:

  - – Features 4945, 4946, and 4947 are part of Express Product Offerings.
  - – Processor activations are only available to Solution Delivery Integration (SDIs) as MES orders.
- Choose 1 GB minimum memory from:
  - – 1024 MB PC2-5300 Memory (2 x 512 MB RDIMMs) (#4520)
  - – 2048 MB PC2-5300 Memory (2 x 1024 MB RDIMMs) (#4521)
  - – 4096 MB PC2-5300 Memory (2 x 2048 MB RDIMMs) (#4522)
  - – 4096 MB PC2-5300 Memory (2 x 2048 MB RDIMMs) (#4532)
  - – 8192 MB PC2-5300 Memory (2 x 4096 MB RDIMMs) (#4523)
  - – 16384 MB PC2-3200 Memory (2 x 8192 MB RDIMMs) (#4524)
- Choose a DASD Backplane from:
  - – DASD Backplane without external SAS port, 6 x 3.5-inch DASD (#8341)
  - – DASD Backplane with external SAS port, 6 x 3.5-inch DASD (#8345)
  - – DASD Backplane without external SAS port, 6 x 3.5-inch DASD (#8308)

- DASD Backplane with external SAS port, 6 x 3.5-inch DASD (#8310)
- DASD Backplane with external SAS port, 8 x 2.5-inch DASD (#8346)

Note: Features 8308 and 8341 are not available with the IBM i operating system (#2145)

- Choose an Ethernet daughter card from:
  - Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
  - 4-port 1 Gb Integrated Ethernet Daughter Card (#5624)
  - Dual-port 10 Gb Integrated Ethernet Daughter Card (#5613)
- Choose a disk drive from:
  - 73.4 GB SAS 3.5-inch 15,000 RPM (#3646) (AIX, Linux, VIOS)
  - 146.8 GB SAS 3.5-inch 15,000 RPM (#3647) (AIX, Linux, VIOS)
  - 300 GB SAS 3.5-inch 15,000 RPM (#3648) (AIX, Linux, VIOS)
  - 450 GB SAS 3.5-inch 15,000 RPM (#3649)(AIX, Linux, VIOS)
  - 428 GB SAS 3.5-inch 15,000 RPM (#3658)(IBM i)
  - 139.5 GB SAS 3.5-inch 15,000 RPM (#3677)(IBM i)
  - 283.7 GB SAS 3.5-inch 15,000 RPM (#3678)(IBM i)
  - 73.4 GB SAS 3.5-inch 10,000 RPM (#1881) (AIX/Linux)
  - 73.4 GB SAS 2.5-inch 15,000 RPM (#1883)(AIX/Linux)
  - 146.8 GB SAS 2.5-inch 15,000 RPM (#1882)(AIX/Linux
  - 69.7 GB SAS 2.5-inch 15,000 RPM (#1884) (IBM i)
  - 69 GB Solid State Drive 2.5-inch (#1890)(AIX, Linux, VIOS)
  - 69 GB Solid State Drive 2.5-inch (#1909)(IBM i)

Note: If using a Fibre Channel-attached SAN (indicated by #0837), a disk drive is not required.

- Choose Op Panel cable from:
  - Cable for deskside with 3.5-inch DASD Backplane (#1843)
  - Cable for rack-mount drawer with 3.5-inch DASD Backplane (#1877)
  - Cable for deskside with 2.5-inch DASD Backplane (#1856)
  - Cable for rack-mount drawer with 2.5-inch DASD Backplane (#1878)
- Choose media device from:
  - DVD-ROM (#5756)
  - DVD-RAM (#5757)
  - SATA DVD-ROM (#5743)
  - SATA DVD-RAM (#5762)
- One power supply from:
  - 1700 watt AC, Hot-swap, Base (#7707)
  - 1700 watt DC, Hot-swap, Base (#7708)
- Configuration indicator
  - Feature 7292 for deskside system with IBM cover set with door
  - Feature 7217 for deskside system with OEM cover set with door
  - Feature 7360 for rack-mount system with IBM bezel
  - Feature 7359 for rack-mount system with OEM bezel

Note: OEM cover set (#7217) and OEM bezel (#7359) are not available with the IBM i operating system.

New Express Editions and Solution Editions with the IBM i operating system

Express Editions enable initial ease of ordering and feature a lower price than if you ordered them "a la carte" or build-to-order. Taking advantage of the edition is the only way you can use no-charge features for processor activations and IBM i user license entitlements. The Express editions are available only during the initial system order and cannot be ordered after your system is shipped.

The IBM configurator offers these easy-to-order Express Editions that include no-charge activations or no-charge IBM i user entitlements. You can modify the Express Edition configurations to match your exact requirements for your initial shipment -- increasing or decreasing the configuration. If you create a configuration that falls below any of the defined minimums, the IBM configurator replaces the no-charge features with equivalent function regular charge features.

Solution Editions help meet the needs of SAP application users. Users of SAP's mySAP, ERP, BI, CRM, PLM, and SCM can qualify to use these editions.

The Power 520 and Power 550 Solution Editions require proof of a minimum purchase before the system is shipped from IBM. For details, visit the Solution Edition Web site at

  http://www-03.ibm.com/systems/power/hardware/editions/solutions.html

For the validation form and entitlement requirements, visit

  http://www.ibm.com/systems/power/hardware/vouchers/index.html

Express Editions/Solution Editions for the Power 520

The suggested starting configurations for the 1-core Entry Edition (#9633), the 1-core Growth Edition (#9634), the 2-core (#9636/#9637/#9638) and 4-core (#9639/#9640/#9643) Express Editions, and the Power 520 Solution Edition (#9635) will now include an SATA DVD-ROM (#5743) in place of an IDE DVD-ROM (#5756), and will include the DASD Backplane supporting an SATA DVD device (#8310) in place of the DASD Backplane supporting an IDE DVD device (#8345).

2-core/4-core Power 520 Express Editions: 30-user, 50-user, 150-user, and unlimited user

30-User/50-User Express Edition (#9636 (2-core) or #9639 (4-core))

To receive a no-charge feature on the initial order, you must order a minimum of:

- One IBM i processor license
- Thirty unlimited IBM i user entitlements for the 2-core or 50 entitlements for the 4-core 8203
- 4 GB memory
- Four SAS or SCSI IBM i disk drives (any size)
- One SAS RAID Enablement (#5679) for the system unit or one 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908)
- Two power supplies (2 x #7703)
- PowerVM^{tm} Standard Edition (#8506), or higher

The no-charge feature is two no-charge processor activations. Depending on IBM country-specific definitions, a services voucher may also be available to you.

150-User Express Edition (#9637 (2-core) or #9640 (4-core))

To receive a no-charge feature on the initial order, you must order a minimum of:

- One IBM i processor license
- One hundred fifty IBM i user entitlements
- 4 GB memory
- Four SAS or SCSI IBM i disk drives (any size)

- One SAS RAID Enablement (#5679) for the system unit or one 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908)
- Two power supplies (2 x #7703)
- PowerVM Standard Edition (#8506), or higher

The no-charge feature is two no-charge processor activations and 10 no-charge IBM i user license entitlements. Depending on IBM country-specific definitions, a services voucher may also be available to you.

Unlimited-User Express Edition (#9638 (2-core) or #9643 (4-core))

To receive a no-charge feature on the initial order, you must order a minimum of:

- One IBM i processor license
- Unlimited IBM i user entitlements
- 4 GB memory
- Four SAS or SCSI IBM i disk drives (any size)
- One SAS RAID Enablement (#5679) for the system unit or one 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908)
- Two power supplies (2 x #7703)
- PowerVM Standard Edition (#8506), or higher

The no-charge feature is two no-charge processor activations. Depending on IBM country-specific definitions, a services voucher may also be available to you.

The suggested starting configuration for the 2-core Entry Express Editions (#9636, #9637, #9638) includes:

- One 2-core 4.7 GHz processor card (#5577)
- Two processor activations feature 5579 at no charge
- 30, 50, 150, or unlimited IBM i user entitlements, depending on the edition
- One 8 GB memory feature (#4523)
- Six 139.5 GB 15K RPM SAS disk drives (#3677)
- One SAS RAID Enablement (#5679)
- One Quad-port 1 Gb Integrated Ethernet adapter (#5624)
- Two power supplies, 950 watt (#7703)
- One PCIe WAN IOA (#2893 or 2894) (country dependent)
- One SATA DVD-ROM (#5743)
- One DASD/media backplane with external SAS port (#8310)
- One 80/160 GB DAT160 SAS tape drive (#5619)
- Two power cords (#6xxx)
- One GX adapter for 12X I/O loop
- One 9910 UPS
- One UPS communication cable (#1827)
- One IBM i processor entitlement (chargeable) (57xx--SSA)
- PowerVM Standard Edition (#8506), or higher
- System i® Access unlimited users (57xx-XW1)
- WebSphere® Development Studio and Rational® development software (V5R4: 5722-WDS, V6R1: 5761-WDS and 5733-SOA)
- DB2® Web Query (5733-QU2)
- One year of software maintenance

The suggested starting configuration for the 4-core Entry Express Editions (#9639, #9640, #9643) includes:

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- One 4-core 4.7 GHz processor card (#5587)
- Two processor activations feature 5589 at no charge
- One 8 GB memory feature (#4523)
- Six 139.5 GB 15K RPM SAS disk drives (#3677)
- One SAS RAID Enablement (#5679)
- One Quad-port 1 Gb Integrated Ethernet adapter (#5624)
- Two power supplies, 950 watt (#7703)
- One PCIe WAN IOA (#2893 or #2894) (country dependent)
- One SATA DVD-ROM (#5743)
- One DASD/media backplane with external SAS port (#8310)
- One 80/60 GB DAT160 SAS tape drive (#5619)
- Two power cords (#6xxx)
- One GX adapter for 12X I/O loop
- One 9910 UPS
- One UPS communication cable (#1827)
- One IBM i processor entitlement (chargeable) (57xx--SSA)
- PowerVM Standard Edition, (#8506), or higher
- System i Access unlimited users (57xx-XW1)
- WebSphere Development Studio and Rational development software (V5R4: 5722-WDS, V6R1: 5761-WDS and 5733-SOA)
- DB2 Web Query (5733-QU2)
- One year of software maintenance

Power 520 Solution Edition

Power 520 Solution Edition (#9635) includes additional no-charge IBM i user license entitlements than the regular Express editions, resulting in a lower initial list price for qualifying clients.

To receive no-charge features on your initial Solution Edition order, your initial order must include a minimum of:

- One IBM i processor license
- Thirty IBM i user entitlements
- 4 GB memory
- Four SAS or SCSI IBM i disk drives (any size)
- SAS RAID Enablement (#5679) for the system unit or a 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908)
- Two power supplies (#7703)
- PowerVM Standard Edition (#8506), or higher

The no-charge features are two no-charge processor activations and one no-charge IBM i processor entitlement.

The 2-core Solution Edition (#9635) suggested starting configuration is the same as the 2-core Express configuration.

Vouchers

When you purchase a new 2-core Power 520 system with a 30, 50, 150, or unlimited i Edition, you may be entitled to receive one or two service vouchers at no additional charge, depending upon IBM country-specific definitions. Systems ordered without an edition feature are not eligible. Upgrades from a 9406-520/525 keeping the same serial number do not use an edition feature and therefore are not eligible. Solution Editions are not eligible. Service vouchers deliver the technical leadership and consulting resources that can help you more fully understand and use the latest features and capabilities of the IBM i operating system. The experts will join your

team and help get you started on the road to success with your new operating environment. For more information about vouchers, visit

http://www.ibm.com/systems/power/hardware/vouchers/index.html

Express Editions/Solution Editions for the Power 550

The suggested starting configurations for the Power 550 Express Edition (#9642) and the Power 550 Solution Editions (#9645/#9646) will now include an SATA DVD-ROM (#5743) in place of an IDE DVD-ROM (#5756) and will include the DASD Backplane supporting an SATA DVD device (#8310) in place of the DASD Backplane supporting an IDE DVD device (#8345).

2-core/4-core/6-core/8-core Power 550 Express Edition (#9642)

To receive one no-charge processor activation feature for each 2-core processor card (activation feature 4947 for 5.0 GHz), your initial order must include a minimum of:

- One IBM i processor license
- One processor activation (#4987) for each processor card (#4967) ordered
- 4 GB memory per processor card
- Eight SAS or SCSI IBM i disk drives (any size) or at least two Fibre Channel adapters
- One SAS RAID Enablement (#5679), or at least one 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908), or at least two Fibre Channel adapters
- Two power supplies (#7707)
- One GX loop adapter (HSL/RIO #5614 or 12X #5616, #5608, or #5609)
- PowerVM Standard Edition (#7982), or higher

Power 550 Express Edition (#9642) suggested starting configuration:

- One, two, three, or four 2-core 5.0 GHz processor cards (#4967)
- Two 4 GB memory features (#4532) per processor card
- One 1.5 GB write cache disk controller either feature 5778 for EXP24 or feature 5904 for EXP 12S
- Eight 15k rpm disk drives, either SCSI 141 GB (#4328) or SAS 139 GB (#3677)
- One disk drawer, either SCSI EXP24 (#5786) or EXP 12S SAS (#5886)
- One quad-port 1 Gb Integrated Ethernet adapter (#5624)
- Two power supplies, 1700 watt (#7707)
- One PCIe WAN IOA (#2893 or #2894)(country dependent) -- can deselect
- One SATA DVD-ROM (#5743)
- One DASD/media backplane with external SAS port (#8310)
- One 800 GB/1.6 TB LTO4 SAS tape drive (#5746)
- Two power cords (#6xxx)
- One, two, three, or four processor activations (#4987) (one per processor #4967 ordered)
- One, two, three, or four processor activations (#4947) at no charge (one per processor #4967 ordered)
- One IBM i processor entitlement
- System i Access unlimited users (57xx-XW1)
- PowerVM Standard Edition (#7982)
- One-year software maintenance

Solution Editions:

Power 550 Solution Editions for 4-core systems offer no-charge IBM i processor license entitlements, resulting in a lower initial list price for qualifying clients.

4-core Solution Editions:

To receive no-charge features on your initial 4-core Solution Edition (#9645 and #9646) order, your order must include a minimum of:

- Four 5.0 GHz processor activations (2 x #4987 and 2 x #4947)
- Two (for #9645) or four (for #9646) IBM i processor licenses. Feature 9646 requires one chargeable IBM i license, which must be a regular IBM i license and cannot be the specialized Application Server license.
- 8 GB memory (4 GB per processor card)
- Eight SAS or SCSI IBM i disk drives (any size) or at least two Fibre Channel adapters
- One SAS RAID Enablement (#5679), or at least one 1.5 GB write cache disk controller (#5583, #5782, #5778, #5904, or #5908), or at least two Fibre Channel adapters
- Two power supplies (#7707)
- One GX loop adapter (HSL/RIO #5614 or 12X #5616, #5608, or #5609)
- PowerVM Standard Edition (#7982), or higher

The no-charge features included are two no-charge processor activations (#4947) and either two no-charge IBM i license entitlements (#9645) or three no-charge IBM i processor entitlements (#9646).

Suggested starting configurations for the 4-core IBM i processor license (#9645) and 4-core IBM i processor license (#9646) Solution Editions are the same as the Express Edition (#9642) configurations except for the number of IBM i processor licenses.

Vouchers

When you purchase a new Power 550 system with an i Edition, you may be entitled to receive a service voucher at no additional charge, depending upon IBM country-specific definitions. Systems ordered without an edition feature are not eligible. Upgrades from a 9406-550 keeping the same serial number do not use an edition feature and therefore are not eligible. Solution editions are not eligible. Service vouchers deliver the technical leadership and consulting resources that can help you more fully understand and use the latest features and capabilities of the IBM i operating system. The experts will join your team and help get you started on the road to success with your new operating environment. For more information about vouchers, visit

  http://www.ibm.com/systems/power/hardware/vouchers/index.html

New Power 520 and 550 Express Product Offerings

Express Product Offerings are available only as initial order.

If you order a Power 520 server with a 2- or 4-core POWER6 4.7 GHz processor or a Power 550 server with a 2-core 5.0 GHz POWER6 processor Express Product Offering as defined here, you may qualify for a processor activation at no additional charge. The number of processors, total memory, quantity/size of disk, and presence of a media device are the only features that determine if a customer is entitled to a processor activation at no additional charge.

When you purchase an Express Product Offering, you will be entitled to a lower-priced AIX or Linux operating system license, or you may choose to purchase the system with no operating system. The lower-priced AIX or Linux operating system is processed via a feature number on AIX and either Red Hat or SUSE Linux. You may choose either the lower-priced AIX or Linux subscription, but not both. If you choose AIX for your lower-priced operating system, you can also order Linux but will purchase your Linux subscription at full price versus the reduced price. The converse is true if you choose a Linux subscription as your lower-priced operating system. Systems with a lower-priced AIX offering will be referred to as the IBM Power Systems Express, AIX edition and systems with a lower-priced Linux operating system will be referred to as the IBM Power Systems Express, OpenPower® edition. In the case of Linux, only the first subscription purchased is lower priced so, for example, additional licenses purchased for Red Hat to run in multiple partitions will be at full price.

You can make changes to the standard features as needed and still qualify for processor entitlements at no additional charge, and a discounted AIX or Linux operating system license.

However, selection of total memory or DASD smaller than the totals defined as the minimums disqualifies the order as an Express Product Offering.

Processor activations are only available to Solution Delivery Integration (SDIs) as MES orders.

All currently defined Express Product Offerings on the Power 520 and Power 550 will now include an SATA DVD-ROM (#5743) in place of an IDE DVD-ROM (#5756), and will include the DASD Backplane supporting an SATA DVD device (#8310) in place of the DASD Backplane supporting an IDE DVD device (#8345).

IBM Power 520 Express Product Offerings

2-core 4.7 GHz offering

- 1 x 2-core 4.7 GHz processor card (#5577)
- 1 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 950 Watt, Base (#7703)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 1 x Processor activation (#5578)

Receive one processor activation (#5579) at no additional charge. Two processors are activated.

4-core 4.7 GHz offering

- 1 x 4-core 4.7 GHz processor card (#5587)
- 2 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 950 Watt, Base (#7703)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 2 x Processor activation (#5588)

Receive two processor activations (#5589) at no additional charge. Four processors are activated.

If ordering a Power 520 in a tower (deskside) configuration, the following additional features must be ordered:

- 1 x Op Panel Cable with 3.5-inch DASD Backplane (#1843)
- 1 x IBM Deskside Coverset (#7112)

If ordering a Power 520 in a rack-mount configuration, the following additional features must be ordered:

- 1 x Op Panel Cable with 3.5-inch DASD Backplane (#1877)
- 1 x IBM Rack bezel and hardware (#7200)
- 1 x IBM/OEM Rack-mount drawer rail kit (#7114)

IBM Power 550 Express Product Offerings

2-core 5.0 GHz offering

- 1 x 2-core 5.0 GHz processor card (#4967)
- 1 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 1 x Processor activation (#4987)

Receive one processor activation (#4947) at no additional charge. Two processors are activated.

4-core 5.0 GHz offering

- 2 x 2-core 5.0 GHz processor card (#4967)
- 2 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 2 x Processor activation (#4987)

Receive two processor activations (#4947) at no additional charge. Four processors are activated.

6-core 5.0 GHz offering

- 3 x 2-core 5.0 GHz processor card (#4967)
- 3 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 3 x Processor activation (#4987)

Receive three processor activations (#4947) at no additional charge. Six processors are activated.

8-core 5.0 GHz offering

- 4 x 2-core 5.0 GHz processor card (#4967)
- 4 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)

- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 4 x Processor activation (#4987)

Receive four processor activations (#4947) at no additional charge. Eight processors are activated.

If ordering a Power 550 in a tower (deskside) configuration, the following additional features must be ordered:

- 1 x Op Panel Cable with 3.5-inch DASD Backplane (#1843)
- 1 x IBM Deskside Coverset (#7392)

If ordering a Power 550 in a rack-mount configuration, the following additional features must be ordered:

- 1 x Op Panel Cable with 3.5-inch DASD Backplane (#1877)
- 1 x IBM Rack bezel and hardware (#7360)
- 1 x IBM/OEM Rack-mount drawer rail kit (#7146)

In addition, Express Product Offerings are now available on a 6-core 3.5 GHz and a 6-core 4.2 GHz Power 550.

6-core 3.5 GHz offering

- 3 x 2-core 3.5 GHz processor card (#4965)
- 3 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 3 x Processor activation (#4985)

Receive three processor activations (#4945) at no additional charge. Six processors are activated.

6-core 4.2 GHz offering

- 3 x 2-core 4.2 GHz processor card (#4966)
- 3 x 4096 MB (2 x 2048 MB) DIMMs (#4532)
- 2 x 146.8 GB 15,000 RPM Disk Drive (#3647)
- 1 x Dual-port 1 Gb Integrated Ethernet Daughter Card (#5623)
- 2 x Power supply, 1700 Watt, Base (#7707)
- 1 x SATA DVD-ROM (#5743)
- 1 x DASD/Media Backplane without external SAS, 6 x 3.5-inch DASD (#8308)
- 1 x Language Group Specify (#9300 or #97xx)
- 2 x Power cord (#6xxx)
- 3 x Processor activation (#4986)

Receive three processor activations (#4946) at no additional charge. Six processors are activated.

Software requirements

If installing the AIX operating system (one of these):

- AIX 5.3 with the 5300-07 Technology Level and Service Pack 9, or later
- AIX 5.3 with the 5300-08 Technology Level and Service Pack 7, or later
- AIX 5.3 with the 5300-09 Technology Level and Service Pack 4, or later
- AIX 5.3 with the 5300-10 Technology Level, or later
- AIX 6.1 with the 6100-00 Technology Level and Service Pack 9, or later
- AIX 6.1 with the 6100-01 Technology Level and Service Pack 5, or later
- AIX 6.1 with the 6100-02 Technology Level and Service Pack 4, or later
- AIX 6.1 with the 6100-03 Technology Level, or later

If installing the IBM i operating system (one of these):

- IBM i 5.4, with V5R4M5 machine code, or later (supported on limited I/O)
- IBM i 6.1, or later

If installing the Linux operating system (one of these):

- SUSE Linux Enterprise Server 10 SP1 for POWER^{tm}, or later
- Red Hat Enterprise Linux 4 Update 5 for POWER, or later
- Red Hat Enterprise Linux 5 Update 1 for POWER, or later

Visit the IBM Prerequisite Web site for compatibility information for hardware features and the corresponding AIX Technology Levels

  http://www-912.ibm.com/e_dir/eserverprereq.nsf

Note: Not all features available with the Power 520 and Power 550 are supported with each available operating system. Check the specific feature detail to identify which of the available operating systems are supported.

Limitations

Processor cards

- Power 520 processor cards (#5577 and #5587) are available on MES orders only to Solution Delivery Integration (SDIs).
- Only one Power 520 processor card may be installed in the system. Power 520 processor cards are soldered to the planar.
- All Power 520 and Power 550 processors must be activated.
  - The 2-core 4.7 GHz processor (#5577) requires that two processor activation codes be ordered. A maximum of two processor activation code features (2 x #5578, or 1 x #5578 and 1 x #5579) are required and allowed per processor card.
  - The 4-core 4.7 GHz processor (#5587) requires that four processor activation codes be ordered. A maximum of four processor activation code features (4 x #5588, or 2 x #5588 and 2 x #5589) are required and allowed per processor card.
  - The 2-core 5.0 GHz processor (#4967) requires that two processor activation codes be ordered. A maximum of two processor activation code features (2 x #4987, or 1 x #4987 and 1 x #4947) are required and allowed per processor card.
- Memory features 4520, 4521, and 4522 are not orderable with processor features 4967, 5577, and 5587.

Storage devices/bays

- Either feature 8341, 8345, 8346, 8308, or 8310 must be selected. On the Power 520, feature numbers 8345, 8346, and 8310 require feature number 3674 if an external SAS connection is required. On the Power 550, feature numbers 8345, 8346, and 8310 require feature number 3668 or 3669 if an external SAS connection is required. Features 8308 and 8341 do not support an external SAS connection.
- If feature number 1882, 1883, or 1884 (2.5-inch DASD) is selected, feature number 8346 must be selected. Feature number 1856 (for tower system) or 1878 (for rack-mount system) must be selected.
- Feature numbers 5743 and 5762 require either feature number 8308, 8310, or 8346. Feature numbers 5756 and 5757 require either feature number 8341 or 8345.
- IBM i partitions do not support the use of 520/550 CEC split backplane.
- Solid State Drives (SSDs) (#1890, #1909, #3586, #3587)
    - SSDs and other disk types (HDDs) are not allowed to mirror each other.
    - SSDs are not compatible with features 5900, 5901, and 5912 SAS adapters.
    - Features 3586 and 3587 are not supported in the Power 520 and Power 550 CECs. They are supported external to the CEC. Use feature 1890 or 1909 in the CEC.
    - A maximum of eight SSDs per feature 5886 drawer is allowed. No mixing of SSDs and HDDs is allowed in a 5886 drawer.

      A 5886 drawer containing SSD disks cannot be connected to other 5886 drawers.

      A 5886 drawer containing SSD disks cannot be attached to the CEC external ports on the Power 520 and Power 550.

    - In a Power 520 or Power 550 with a split backplane, SSDs and HDDs may be placed in either "split," but no mixing of SSDs and HDDs within a "split" is allowed.
    - In a Power 520 or Power 550 without a split backplane, SSDs and HDDs may be mixed in any combination.
    - SSDs and HDDs cannot be mixed within a RAID array
    - Features 1890 and 1909 are only supported in the Power 520 and Power 550 CECs.

Product positioning

PCIe 12X I/O Drawers:

The new 12X I/O drawers provide potential performance advantages and are recommended for most configurations. Especially when attached to DDR (double data rate) GX adapters in the server, the maximum bandwidth to the drawer is significantly increased compared to the SDR (single data rate) 12X adapter. The Power 595 12X GX adapters are all DDR. The Power 575, 570, and 560 12X GX adapters are all SDR. The Power 550 and 520 (4-core and larger) can select one feature 5609 DDR 12X GX adapter.

The 24-inch PCIe 12X I/O Drawer is available either with disk slots (#5803) or diskless (#5873). If you do not require disk slots due to a SAN storage strategy or a partition mobility strategy or if you simply need lots of PCI slots, the diskless drawer offers a lower price and lower maintenance compared to the disk-capable drawer.

Compared to the 24-inch PCI-X 12X I/O drawer (#5797 or #5798), the new 12X I/O drawer (#5803 or #5873) has the same number of PCI slots (20), but these are all PCIe 8x slots, which can provide higher data rates than the six PCI-X and 14 PCI-X DDR slots. Both the PCIe and PCI-X 12X I/O drawers have a maximum of one drawer per 12X loop or both can be logically split into two drawers, each half on a 12X loop. Feature 5803 has 26 SFF disk slots compared to the 16 SCSI slots of the feature 5797 or 5798, providing more disk capacity in the I/O drawer, assuming 146 GB drives are used in both drawers. Also note both I/O drawers can drive 19-inch EXP 12S SAS Disk Drawers with their SAS controllers located in the 12X 24-inch I/O drawers.

Feature 5803 has zero imbedded controllers, but by using either feature 5901 or by using pairs of feature 5903 located in its PCIe slots, you can select different levels of functionality and OS support.

Compared to the 19-inch PCI-X 12X I/O drawer (#5796 or 5714-G30), the 19-inch PCIe 12X I/O Drawer (#5802) has four more PCI slots and all 10 slots are PCIe 8x, which can provide more bandwidth than PCI-X DDR slots. However, the maximum number of PCI-X DDR 12X I/O drawers per 12X loop is four, providing 4 x 6 = 24 PCI-X DDR slots while the maximum PCIe 12X I/O drawer per loop is two, providing 2 x 10 = 20 PCIe slots. But remember the total bandwidth on the PCIe 12X I/O drawer loop is higher than the PCI-X 12X loop. The PCI-X and PCIe 12X I/O drawers differ greatly in disk slots. Feature 5802 has 18 SFF disk slots, whereas the feature 5796/5714-G30 has zero disk slots. Note both I/O drawers can drive EXP 12S SAS Disk Drawers with SAS controllers located in the 12X I/O drawers.

SAS Disk and SAS Disk Controllers:

First, comparing 15k rpm to 15k rpm drives, SAS drives will be slightly faster than SCSI drives. Second, SAS disk prices and maintenance are generally better than SCSI prices. Third, IBM plans to withdraw the last SCSI disk drive from marketing later in 2009, whereas SAS drives are planned to be available for a longer time.[1] Thus SAS should be preferred in almost every POWER6 configuration scenario. The one exception might be if only one or two disk drives are needed and there is no additional disk growth planned. Then if there are empty SCSI slots and no empty SAS slots, the higher price and maintenance of SCSI drives is overcome by the price of SAS disk slots and SAS disk controller. But typically, additional drives will be needed over time and the SAS preference is obvious.

The PCIe "medium" size write cache controller (380 MB, #5903) has twice the write cache of the PCI-X medium size write cache controller (175 MB, #5902). Functionally, these SAS disk adapters are very similar. Both have two SAS ports and both have the same write cache protection rules requiring pairs of controllers to be used together. Both controllers support the attachment of the EXP 12S Disk Drawer. But the PCIe controller can support SFF disk drives located in the PCIe 12X I/O drawer and it can support SSD located in an EXP 12S Disk Drawer. Both controllers are supported by AIX and Linux. A statement of direction for IBM i support of the PCIe controller has been shared.

The zero write cache controllers, PCI-X feature 5912 and PCIe feature 5901, provide essentially the same function. But the PCIe controller can support SFF disk drives located in the PCIe 12X I/O drawer. Little performance difference is expected between the two adapters in most client scenarios.

Solid state drives (SSD):

SSDs are a new category of storage, far faster than disk and slower than memory. SSDs represent an opportunity to do things differently. This might be running an application interactively that had been a batch disk-bound job previously to provide new levels of customer service or competitive advantage. Or it might be using a mixture of SSD and HDD (hard disk drives or spinning disk), putting high-use or "hot" data on SSD and putting low-use or "cold" data on HDD to provide a solution with better performance and price/performance than 100% SSD. Do not bother comparing the price of SSD and HDD storage on a "per GB" basis as SSD is significantly more expensive looking at just this aspect. Performance, better capacity utilization, lower energy, and mixed SSD/HDD all need to be considered together to determine this product's value to you.

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All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice. Any reliance on these statements of general direction is at the relying party's sole risk and will not create liability or obligation for IBM.

Product number

The following are newly announced features on the specific models of the IBM Power Systems 8203 and 8204 machine type:

```
                                                            Feature
Description                                    MT   Model   number

#1884 Load Source Specify                      8203  E4A    0851
                                               8204  E8A
#1909 Load Source Specify                      8203  E4A    0854
                                               8204  E8A
```

```
#3587 Load Source Specify                          8203  E4A   0855
                                                   8204  E8A
Op Panel Cable for Deskside System w/2.5" DASD     8203  E4A   1856
Op Panel Cable for Rack-mount Drawer w/2.5" DASD   8203  E4A   1878
146.8GB 10K RPM SAS SFF Disk Drive                 8203  E4A   1882
73.4 GB 15K RPM SAS SFF Disk Drive                 8203  E4A   1883
                                                   8204  E8A
69.7 GB 15K RPM SAS SFF Disk Drive                 8203  E4A   1884
                                                   8204  E8A
69GB SFF SAS Solid State Drive                     8203  E4A   1890
                                                   8204  E8A
69GB SFF SAS Solid State Drive                     8203  E4A   1909
                                                   8204  E8A
69GB 3.5" SAS Solid State Drive                    8203  E4A   3586
                                                   8204  E8A
69GB 3.5" SAS Solid State Drive                    8203  E4A   3587
                                                   8204  E8A
Zero-priced Processor Activation for #4967         8204  E8A   4947
2-core 5.0 GHz POWER6 Processor Card               8204  E8A   4967
One Processor Activation for Processor Feature
#4967                                              8204  E8A   4987
2-core 4.7 GHz POWER6 Processor Card, 4 Memory
DIMM Slots                                         8203  E4A   5577
One Processor Activation for Processor Feature
#5577                                              8203  E4A   5578
Zero-priced Processor Activation for #5577         8203  E4A   5579
4-core 4.7 GHz POWER6 Processor Card, 8 Memory
DIMM Slots                                         8203  E4A   5587
One Processor Activation for Processor Feature
#5587                                              8203  E4A   5588
Zero-priced Processor Activation for #5587         8203  E4A   5589
GX Dual-port 12X Channel Attach                    8203  E4A   5609
                                                   8204  E8A
SATA Slimline DVD-ROM Drive                        8203  E4A   5743
                                                   8204  E8A
SATA Slimline DVD-RAM Drive                        8203  E4A   5762
                                                   8204  E8A
Non-paired PCIe SAS RAID Indicator                 8203  E4A   5923
                                                   8204  E8A
Quantity 150 of #3587                              8203  E4A   7536
                                                   8204  E8A
Linux Software Preinstall                          8203  E4A   8143
                                                   8204  E8A
Linux Software Preinstall (SDIs)                   8203  E4A   8144
                                                   8204  E8A
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape   8203  E4A   8308
                                                   8204  E8A
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape
with External SAS Port                             8203  E4A   8310
                                                   8204  E8A
DASD/Media Backplane for 2.5" DASD/SATA DVD/Tape
with External SAS Port                             8203  E4A   8346
```

Feature conversions

The existing components being replaced during a model or feature conversion become the
property of IBM and must be returned.

Feature conversions are always implemented on a "quantity of one for quantity of one" basis.
Multiple existing features may not be converted to a single new feature. Single existing features
may not be converted to multiple new features.

The following conversions are available to customers:

Feature conversions for 9406-520 to 8203-E4A administrative features:

```
                                                   Return
From FC:                    To FC:                 parts

1615 - Proc #8952           5577 - 2-core 4.7 GHz    No
Transition Feature          POWER6 Processor Card, 4
                            Memory DIMM Slots
```

```
1616 - Proc #8953          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
1617 - Proc #8954          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
1618 - Proc #8955          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
1619 - Proc #8327          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
1620 - Proc #8330          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
```

Feature conversions for 9406-520 to 8203-E4A capacity on demand features:

```
                                                        Return
From FC:                   To FC:                       parts
7320 - One Processor       5578 - One Processor         No
Activation                 Activation for Processor
                           Feature #5577
```

Feature conversions for 9406-520 to 8203-E4A processor features:

```
                                                        Return
From FC:                   To FC:                       parts

8410 - Base Proc Activation 5578 - One Processor        No
                           Activation for Processor
                           Feature #5577
```

Feature conversions for 9406-525 to 8203-E4A administrative features:

```
                                                        Return
From FC:                   To FC:                       parts
1621 - Proc #8330          5577 - 2-core 4.7 GHz        No
Transition Feature         POWER6 Processor Card, 4
                           Memory DIMM Slots
```

Feature conversions for 9406-525 to 8203-E4A capacity on demand features:

```
                                                        Return
From FC:                   To FC:                       parts

7320 - One Processor       5578 - One Processor         No
Activation                 Activation for Processor
                           Feature #5577
```

Feature conversions for 9406-525 to 8203-E4A processor features:

```
                                                        Return
From FC:                   To FC:                       parts


8410 - Base Proc Activation 5578 - One Processor        No
                           Activation for Processor
                           Feature #5577
```

Feature conversions for 9406-550 to 8204-E8A administrative features:

```
                                                        Return
From FC:                   To FC:                       parts
1625 - Proc #8312          4967 - 2-core 5.0 GHz        No
Transition Feature         POWER6 Processor Card
1626 - Proc #8958          4967 - 2-core 5.0 GHz        No
Transition Feature         POWER6 Processor Card
```

Feature conversions for 9406-550 to 8204-E8A capacity on demand features:

```
                                                        Return
From FC:                   To FC:                       parts
7323 - 550 One Processor   4987 - One Processor         No
Activation                 Activation for Processor
                           Feature #4967
7871 - 550 CUoD Proc       4987 - One Processor         No
Activation                 Activation for Processor
```

```
                         Feature #4967
8413 - 550 Base Proc     4987 - One Processor       No
Activation               Activation for Processor
                         Feature #4967
8450 - 550 Base Proc     4987 - One Processor       No
Activation               Activation for Processor
                         Feature #4967
```

Business Partner information

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

   https://www.ibm.com/partnerworld/mem/sla.jsp?num=109-183

Publications

No publications are shipped with these features.

Services

Global Technology Services

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

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

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

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

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

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

For details on education offerings related to specific products, visit

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

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

Technical information

Specified operating environment

Operating environment

Power 520:

- Power consumption: 850 watts (maximum)

- Power factor: 0.97

- Thermal output: 2,901 Btu/hour (maximum)

- Power-source loading

  – 0.876 kva (maximum configuration)

– Maximum altitude: 3,048 m (10,000 ft)

Power 550:

- Power consumption: 1500 watts (maximum)
- Power factor: 0.97
- Thermal output: 5,120 Btu/hour (maximum)
- Power-source loading
    - 1.546 kva (maximum configuration)
    - Maximum altitude: 3,048 m (10,000 ft)

Software requirements

If installing the IBM AIX operating system (one of these):

- AIX 5.3 with the 5300-07 Technology Level and Service Pack 9, or later
- AIX 5.3 with the 5300-08 Technology Level and Service Pack 7, or later
- AIX 5.3 with the 5300-09 Technology Level and Service Pack 4, or later
- AIX 5.3 with the 5300-10 Technology Level, or later
- AIX 6.1 with the 6100-00 Technology Level and Service Pack 9, or later
- AIX 6.1 with the 6100-01 Technology Level and Service Pack 5, or later
- AIX 6.1 with the 6100-02 Technology Level and Service Pack 4, or later
- AIX 6.1 with the 6100-03 Technology Level, or later

If installing the IBM i operating system (one of these):

- IBM i 5.4, with V5R4M5 machine code, or later (Supported on limited I/O)
- IBM i 6.1, or later

If installing the Linux operating system (one of these):

- SUSE Linux Enterprise Server 10 SP1 for POWER, or later
- Red Hat Enterprise Linux 4 Update 5 for POWER, or later
- Red Hat Enterprise Linux 5 Update 1 for POWER, or later

Planning information

Customer responsibilities

This product is customer setup and contains Licensed Machine Code (LIC: 2).

Security, auditability, and control

This product uses the security and auditability features of host software 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 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^{tm} 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.

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

Terms and conditions

MES Discount Applicable

No. Equal to the volume commitment discount.

Field-installable features

Yes

Warranty period

This feature or features assume the same warranty or maintenance terms as the machine in which it is installed for the remainder of the warranty or maintenance period for such machine.

Customer setup

Yes, this product is customer setup.

Licensed Machine Code

Same license terms and conditions as base machine.

Prices

The following are newly announced features on the specific models of the IBM Power Systems 8203 and 8204 machine type:

```
                                  Initial/
                                  MES/
Description            Model  Feature   Both/        RP
Machine type 8203      number numbers   Support  CSU MES

#1884 Load Source Specify
                       E4A    0851      Both     Yes No
#1909 Load Source Specify
                       E4A    0854      Both     Yes No
#3587 Load Source Specify
                       E4A    0855      Both     Yes No
Op Panel Cable for Deskside System w/2.5" DASD
                       E4A    1856      Both     Yes No
Op Panel Cable for Rack-mount Drawer w/2.5" DASD
                       E4A    1878      Both     Yes No
146.8GB 10K RPM SAS SFF Disk Drive
                       E4A    1882      Both     Yes No
73.4 GB 15K RPM SAS SFF Disk Drive
                       E4A    1883      Both     Yes No
69.7 GB 15K RPM SAS SFF Disk Drive
```

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Description	Model number	Feature numbers	Initial/ MES/ Both/ Support	RP CSU	MES
	E4A	1884	Both	Yes	No
69GB SFF SAS Solid State Drive					
	E4A	1890	Both	Yes	No
69GB SFF SAS Solid State Drive					
	E4A	1909	Both	Yes	No
69GB 3.5" SAS Solid State Drive					
	E4A	3586	Both	Yes	No
69GB 3.5" SAS Solid State Drive					
	E4A	3587	Both	Yes	No
2-core 4.7 GHz POWER6 Processor Card, 4 Memory DIMM Slots					
	E4A	5577	Both	Yes	No
One Processor Activation for Processor Feature #5577					
	E4A	5578	Both	Yes	No
Zero-priced Processor Activation for #5577					
	E4A	5579	Both	Yes	No
4-core 4.7 GHz POWER6 Processor Card, 8 Memory DIMM Slots					
	E4A	5587	Both	Yes	No
One Processor Activation for Processor Feature #5587					
	E4A	5588	Both	Yes	No
Zero-priced Processor Activation for #5587					
	E4A	5589	Both	Yes	No
GX Dual-port 12X Channel Attach					
	E4A	5609	Both	Yes	No
SATA Slimline DVD-ROM Drive					
	E4A	5743	Both	Yes	No
SATA Slimline DVD-RAM Drive					
	E4A	5762	Both	Yes	No
Non-paired PCIe SAS RAID Indicator					
	E4A	5923	Both	Yes	No
Quantity 150 of #3587					
	E4A	7536	Both	Yes	No
Linux Software Preinstall					
	E4A	8143	Initial	N/A	No
Linux Software Preinstall (SDIs)					
	E4A	8144	Initial	N/A	No
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape					
	E4A	8308	Both	Yes	No
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape with External SAS Port					
	E4A	8310	Both	Yes	No
DASD/Media Backplane for 2.5" DASD/SATA DVD/Tape with External SAS Port					
	E4A	8346	Both	Yes	No

Description Machine type 8204	Model number	Feature numbers	Initial/ MES/ Both/ Support	RP CSU	MES
#1884 Load Source Specify					
	E8A	0851	Both	Yes	No
#1909 Load Source Specify					
	E8A	0854	Both	Yes	No
#3587 Load Source Specify					
	E8A	0855	Both	Yes	No
73.4 GB 15K RPM SAS SFF Disk Drive					
	E8A	1883	Both	Yes	No
69.7 GB 15K RPM SAS SFF Disk Drive					
	E8A	1884	Both	Yes	No
69GB SFF SAS Solid State Drive					
	E8A	1890	Both	Yes	No
69GB SFF SAS Solid State Drive					
	E8A	1909	Both	Yes	No
69GB 3.5" SAS Solid State Drive					
	E8A	3586	Both	Yes	No
69GB 3.5" SAS Solid State Drive					
	E8A	3587	Both	Yes	No
Zero-priced Processor Activation for #4967					
	E8A	4947	Both	Yes	No
2-core 5.0 GHz POWER6 Processor Card					
	E8A	4967	Both	Yes	No
One Processor Activation for Processor Feature #4967					
	E8A	4987	Both	Yes	No
GX Dual-port 12X Channel Attach					
	E8A	5609	Both	Yes	No

```
SATA Slimline DVD-ROM Drive
                E8A      5743    Both      Yes No
SATA Slimline DVD-RAM Drive
                E8A      5762    Both      Yes No
Non-paired PCIe SAS RAID Indicator
                E8A      5923    Both      Yes No
Quantity 150 of #3587
                E8A      7536    Both      Yes No
Linux Software Preinstall
                E8A      8143    Initial   N/A No
Linux Software Preinstall (SDIs)
                E8A      8144    Initial   N/A No
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape
                E8A      8308    Both      Yes No
DASD/Media Backplane for 3.5" DASD/SATA DVD/Tape with External SAS
Port
                E8A      8310    Both      Yes No
```

Machine type	Model	Feature number	Description	One-time charge
8203	E4A	0851	#1884 Load Source Specify	$ 0
8203	E4A	0854	#1909 Load Source Specify	0
8203	E4A	0855	#3587 Load Source Specify	0
8203	E4A	1856	Op Panel Cable for Deskside Sy	6
8203	E4A	1878	Op Panel Cable for Rack-mount	6
8203	E4A	1882	146.8 GB 10K RPM SAS SFF Disk	650
8203	E4A	1883	73.4 GB 15K RPM SAS SFF Disk	498
8203	E4A	1884	69.7 GB 15K RPM SAS SFF Disk	498
8203	E4A	1890	69 GB SFF SAS Solid State Drive	10,000
8203	E4A	1909	69 GB SFF SAS Solid State Drive	10,000
8203	E4A	3586	69 GB 3.5" SAS Solid State Dr	10,000
8203	E4A	3587	69 GB 3.5" SAS Solid State Dr	10,000
8203	E4A	5577	2-core 4.7 GHz Power6 Proc	7,390
8203	E4A	5578	One Proc Activation for #5577	3,104
8203	E4A	5579	Zero-priced Activat for #5577	0
8203	E4A	5587	4-core 4.7 Ghz Power6 Proc	10,650
8203	E4A	5588	One Proc Activation for #5587	2,180
8203	E4A	5589	Zero-priced Activat for #5587	0
8203	E4A	5609	GX Dual-port 12X Channel Att	2,200
8203	E4A	5743	SATA Slimline DVD-ROM Dr	208
8203	E4A	5762	SATA Slimline DVD-RAM Dr	399
8203	E4A	5923	Non-paired PCIe SAS RAID Indic	0
8203	E4A	7536		1,500,000

			Quantity 150 of #3587	
8203	E4A	8143	Linux Software Preinstall	60
8203	E4A	8144	Linux Software Preinstall SDIs	60
8203	E4A	8308	DASD/Media Backplane for 3.5"	340
8203	E4A	8310	DASD/Media Backplane 3.5" SAS	633
8203	E4A	8346	DASD/Media Backplane 2.5" SAS	799
8203	E4A	9742	Customer Install MES	0
8203	E4A	9743	Notify CSO After Install	0
8204	E8A	0851	#1884 Load Source Specify	0
8204	E8A	0854	#1909 Load Source Specify	0
8204	E8A	0855	#3587 Load Source Specify	0
8204	E8A	1883	73.4 GB 15K RPM SAS SFF Disk	498
8204	E8A	1884	69.7 GB 15K RPM SAS SFF Disk	498
8204	E8A	1890	69 GB SFF SAS Solid State Drive	10,000
8204	E8A	1909	69 GB SFF SAS Solid State Drive	10,000
8204	E8A	3586	69 GB 3.5" SAS Solid State Dr	10,000
8204	E8A	3587	69 GB 3.5" SAS Solid State Dr	10,000
8204	E8A	4947	Zero-priced Activat for #4967	0
8204	E8A	4967	2-core 5.0 GHZ POWER6 Proc	15,230
8204	E8A	4987	One Proc Activation for #4967	9,747
8204	E8A	5609	GX Dual-port 12X Channel Att	2,200
8204	E8A	5743	SATA Slimline DVD-ROM Dr	208
8204	E8A	5762	SATA Slimline DVD-RAM Dr	399
8204	E8A	5923	Non-paired PCIe SAS RAID Indic	0
8204	E8A	7536	Quantity 150 of #3587	1,500,000
8204	E8A	8143	Linux Software Preinstall	60
8204	E8A	8144	Linux Software Preinstall SDIs	60
8204	E8A	8308	DASD/Media Backplane for 3.5"	340
8204	E8A	8310	DASD/Media Backplane 3.5" SAS	633

Machine type	Model	Feature number	Description	MMMC IOR24
8203	E4A	1890	69 GB SFF SAS Solid State Drive	$ 104
8203	E4A	1909	69 GB SFF SAS Solid State Drive	104
8203	E4A	3586	69 GB 3.5" SAS Solid State Dr	104
8203	E4A	3587	69 GB 3.5" SAS Solid State Dr	104
8203	E4A	5577	2-core 4.7 GHz Power6 Proc	46
8203	E4A	5587	4-core 4.7 Ghz Power6 Proc	90
8203	E4A	7536	Quantity 150 of #3587	15,600
8204	E8A	1890	69 GB SFF SAS Solid State Drive	104
8204	E8A	1909	69 GB SFF SAS Solid State Drive	104
8204	E8A	3586	69 GB 3.5" SAS Solid State Dr	104
8204	E8A	3587	69 GB 3.5" SAS Solid State Dr	104
8204	E8A	4967	2-core 5.0 GHZ POWER6 Proc	88
8204	E8A	7536	Quantity 150 of #3587	15,600

MMMC = Minimum monthly maintenance charge

Feature conversions

Feature conversions for 9406-520 to 8203-E4A administrative features:

```
                                           Parts
From FC:                 To FC:            returned

1615 - Proc #8952        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
1616 - Proc #8953        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
1617 - Proc #8954        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
1618 - Proc #8955        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
1619 - Proc #8327        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
1620 - Proc #8330        5577 - 2-core 4.7 GHz    No
Transition Feature       POWER6 Processor Card, 4
                         Memory DIMM Slots
```

Feature conversions for 9406-520 to 8203-E4A capacity on demand features:

```
                                           Parts
From FC:                 To FC:            returned

7320 - One Processor     5578 - One Processor     No
Activation               Activation for Processor
                         Feature #5577
```

Feature conversions for 9406-520 to 8203-E4A processor features:

```
                                           Parts
From FC:                 To FC:            returned

8410 - Base Proc         5578 - One Processor     No
Activation               Activation for Processor
```

```
                                    Feature #5577
```

Feature conversions for 9406-525 to 8203-E4A administrative features:

```
                                                      Parts
From FC:                    To FC:                    returned

1621 - Proc #8330           5577 - 2-core 4.7 GHz     No
Transition Feature          POWER6 Processor Card, 4
                            Memory DIMM Slots
```

Feature conversions for 9406-525 to 8203-E4A capacity on demand features:

```
                                                      Parts
From FC:                    To FC:                    returned

7320 - One Processor        5578 - One Processor      No
Activation                  Activation for Processor
                            Feature #5577
```

Feature conversions for 9406-525 to 8203-E4A processor features:

```
                                                      Parts
From FC:                    To FC:                    returned

8410 - Base Proc            5578 - One Processor      No
Activation                  Activation for Processor
                            Feature #5577
```

Feature conversions for 9406-550 to 8204-E8A administrative features:

```
                                                      Parts
From FC:                    To FC:                    returned

1625 - Proc #8312           4967 - 2-core 5.0 GHz     No
Transition Feature          POWER6 Processor Card
1626 - Proc #8958           4967 - 2-core 5.0 GHz     No
Transition Feature          POWER6 Processor Card
```

Feature conversions for 9406-550 to 8204-E8A capacity on demand features:

```
                                                      Parts
From FC:                    To FC:                    returned

7323 - 550 One Processor    4987 - One Processor      No
Activation                  Activation for Processor
                            Feature #4967
7871 - 550 CUoD Proc        4987 - One Processor      No
Activation                  Activation for Processor
                            Feature #4967
8413 - 550 Base Proc        4987 - One Processor      No
Activation                  Activation for Processor
                            Feature #4967
8450 - 550 Base Proc        4987 - One Processor      No
Activation                  Activation for Processor
                            Feature #4967
```

Machine type	Model	Part number	Description	Price
8203	E4A	940616155577	Feat Conv 1615 to 5577	$ 7,390
8203	E4A	940616165577	Feat Conv 1616 to 5577	7,390
8203	E4A	940616175577	Feat Conv 1617 to 5577	7,390
8203	E4A	940616185577	Feat Conv 1618 to 5577	7,390
8203	E4A	940616195577	Feat Conv 1619 to 5577	7,390
8203	E4A	940616205577	Feat Conv 1620 to 5577	7,390
8203	E4A	940616215577	Feat Conv 1621 to 5577	7,390
8203	E4A	940673205578	Feat Conv 7320 to 5578	3,104
8203	E4A	940684105578		3,104

			Feat Conv 8410 to 5578	
8204	E8A	940616254967	Feat Conv 1625 to 4967	15,230
8204	E8A	940616264967	Feat Conv 1626 to 4967	15,230
8204	E8A	940673234987	Feat Conv 7323 to 4987	9,747
8204	E8A	940678714987	Feat Conv 7871 to 4987	9,747
8204	E8A	940684134987	Feat Conv 8413 to 4987	9,747
8204	E8A	940684504987	Feat Conv 8450 to 4987	9,747

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