



# IBM Power Systems Facts and Features POWER7 Blades and Servers

November 2010



IBM Power Systems™ servers and IBM BladeCenter® blade servers using IBM POWER6® and POWER6+™ processors are described in a separate Facts and Features report dated April 2010 (POB03004-USEN-14).

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These notes apply to the description tables for IBM POWER7® systems:

Y	Standard / Supported
Optional	Optionally Available / Supported
N/A or -	Not Available / Supported or Not Applicable
P	Processor Capacity Upgrade on Demand option – permanent processor activation
M	Memory Capacity Upgrade on Demand option – permanent memory activation
T	Trial Capacity on Demand option
OO	On/Off Capacity on Demand for processors and memory option – temporary activation
U	Utility Capacity on Demand for processors option – temporary activation
SOD	Statement of General Direction announced
SLES	SUSE Linux Enterprise Server
RHEL	Red Hat Enterprise Linux

a	If installed in BladeCenter E or T chassis, Advanced Management Module (AMM) is required and other restrictions may apply.
b	IBM Statement of Direction to increase the maximum number of Micro-Partitions to 320 on the Power 750 server, to 640 on Power 770 and 780 servers and to 1,000 on the Power 795 server.
c	Using EXP12S SAS expansion drawers. If the Power 755 server is clustered, the maximum number of disk drives will be reduced.
d	4-core Power 710 can have 4 GB minimum memory, larger core 710 have an 8 GB minimum memory.
e	Node Add, Node Repair and Memory Upgrade functions on Power 770 and 780 servers are planned for availability November 19, 2010.
f	Each Power 780 3.86 GHz processor card has two sockets, with each socket having eight POWER7 processor cores. If run in optional TurboCore mode at 4.14 GHz, only half the cores in each socket are available to be activated, with each of those cores having access to 8 MB of Level 3 (L3) cache, rather than the standard 4 MB of L3 cache.
g	CPW values shown use two 24-core partitions or two 32-core partitions
h	IBM Statement of Direction to enable support for Active Memory Expansion capability on POWER7 based blade servers.
i	TurboCore CPW values measured using 8-core partitions.
j	Each Power 795 4.0 GHz processor book has four sockets, with each socket having eight POWER7 processor cores. If run in optional TurboCore mode at 4.25 GHz, only half the cores in each socket are available to be activated, with each of those cores having access to 8 MB of Level 3 (L3) cache, rather than the standard 4 MB of L3 cache. At least three processor books must be installed to run in TurboCore mode.
k	Node Add, Node Repair, Memory Upgrade functions on the Power 795 server is planned for availability April 30, 2011.
l	EXP 12S drawer not supported on 4-core Power 710 Express configurations.
m	EXP 12S drawer and 12X I/O drawers not supported on 4-core Power 720 Express configurations.
n	Option not supported on IBM i.
*	Full benchmark results are located at <a href="http://ibm.com/systems/power/hardware/reports/system_perf.html">ibm.com/systems/power/hardware/reports/system_perf.html</a>

For additional connectivity information, please reference the IBM Sales Manual for more information on I/O features and adapters.

## BladeCenter PS700 Express

Product Line	IBM BladeCenter PS700 Express
Machine type	8406-70Y
System packaging	Chassis mount (1 wide)
BladeCenter chassis supported	E <sup>a</sup> , H, HT, S, T <sup>a</sup>
Microprocessor type	64-bit POWER7
# of processor sockets per blade	1
Processor options	3.0 GHz (4)   4
GHz (cores/socket)   # of cores	
EnergyScale™	Y
Level 2 (L2) cache per core	256 KB
Level 3 (L3) cache per core	4 MB
Blade memory (minimum - maximum)	8 GB – 64 GB (1066 MHz DDR3)
Active Memory™ Expansion	SOD <sup>n</sup>
<b>Reliability, availability, serviceability</b>	
Chipkill memory	Y
Service processor	Y
Hot-swappable disks	Y (in BladeCenter S chassis)
Dynamic Processor Deallocation	Y
Processor Instruction Retry	Y
Alternate Processor Recovery	Y
Dynamic deallocation: PCI bus slots	Y
Redundant hot-plug power	Y (in chassis)
Redundant hot-plug cooling	Y (in chassis)
Hot-Node Add, Hot-Node Repair, Memory Upgrade	Hot-swap blades
<b>Capacity and expandability</b>	
Capacity on Demand (CoD) functions	N/A
PowerVM™ Express Edition	Optional
PowerVM Standard Edition	Optional
PowerVM Enterprise Edition	Optional
Max logical partitions/micro-partitions	40 (10 per core)
Available expansion card slots	1 PCIe CIOv + 1 PCIe CFFh
Maximum disk bays   Storage on blade	2 SFF   1.2 TB
RAID support for disk on blade	Y
Maximum disk bays   Storage in BladeCenter S	12   12.0 TB
Maximum media bays in chassis	1 - BladeCenter E, H, HT, S 2 -optional in BladeCenter HT
<b>Connectivity</b>	
Integrated Gigabit Ethernet ports	2
Gigabit Ethernet	Optional
10 Gbps Ethernet	Optional
4 Gbps Fibre Channel	Optional
8 Gbps Fibre Channel	Optional
10 Gbps Fibre Channel over Ethernet	Optional
4X InfiniBand®	Optional
3 Gbps SAS	Optional
<b>Performance*</b>	
AIX® rPerf range (number cores)	3.0 GHz (4): 45.13 (4)
IBM i CPW (number cores)	3.0 GHz (4): 21100 (4)

## BladeCenter PS701 & PS702 Express

Product Line	IBM BladeCenter PS701 Express	IBM BladeCenter PS702 Express
Machine type	8406-71Y	8406-71Y + FC 8358
System packaging	Chassis mount (1 wide)	Chassis mount (2 wide)
BladeCenter chassis supported	H, HT, S	H, HT, S
Microprocessor type	64-bit POWER7	64-bit POWER7
# of processor sockets per blade	1	2
Processor options GHz (cores/socket)   # of cores	3.0 GHz (8)   8	3.0 GHz (8)   16
EnergyScale	Y	Y
Level 2 (L2) cache per core	256 KB	256 KB
Level 3 (L3) cache per core	4 MB	4 MB
Blade memory (minimum - maximum)	16 GB – 128 GB (1066 MHz DDR3)	32 GB – 256 GB (1066 MHz DDR3)
Active Memory Expansion	SOD <sup>n</sup>	SOD <sup>n</sup>
<b>Reliability, availability, serviceability</b>		
Chipkill memory	Y	Y
Service processor	Y	Y
Hot-swappable disks	Y (in BladeCenter S chassis)	Y (in BladeCenter S chassis)
Dynamic Processor Deallocation	Y	Y
Processor Instruction Retry	Y	Y
Alternate Processor Recovery	Y	Y
Dynamic deallocation: PCI bus slots	Y	Y
Redundant hot-plug power	Y (in chassis)	Y (in chassis)
Redundant hot-plug cooling	Y (in chassis)	Y (in chassis)
Hot-Node Add, Hot-Node Repair, Memory Upgrade	Hot-swap blades	Hot-swap blades
<b>Capacity and expandability</b>		
Capacity on Demand (CoD) functions	N/A	N/A
PowerVM Express Edition	Optional	Optional
PowerVM Standard Edition	Optional	Optional
PowerVM Enterprise Edition	Optional	Optional
Max logical partitions/micro-partitions	80 (10 per core)	160 (10 per core)
Available expansion card slots	1 PCIe CIOv + 1 PCIe CFFh	2 PCIe CIOv + 2 PCIe CFFh
Maximum disk bays   Storage on blade	1 SFF   600 GB	2 SFF   1.2 TB
RAID support for disk on blade	-	Y
Maximum disk bays   Storage in BladeCenter S	12   12.0 TB	12   12.0 TB
Maximum media bays in BladeCenter chassis	1 - BladeCenter H, HT, S 2 - optional in BladeCenter HT	1 - BladeCenter H, HT, S 2- optional in BladeCenter HT
<b>Connectivity</b>		
Integrated Gigabit Ethernet ports	2	4
Gigabit Ethernet	Optional	Optional
10 Gbps Ethernet	Optional	Optional
4 Gbps Fibre Channel	Optional	Optional
8 Gbps Fibre Channel	Optional	Optional
10 Gbps Fibre Channel over Ethernet	Optional	Optional
4X InfiniBand	Optional	Optional
3 Gbps SAS	Optional	Optional
<b>Performance*</b>		
AIX rPerf (number cores)	3.0 GHz (8): 81.24 (8)	3.0 GHz (8): 154.36 (16)
IBM i CPW (number cores)	3.0 GHz (8): 42100 (8)	3.0 GHz (8): 76300 (16)

## Power 710 and 730 Express

Product Line	IBM Power 710 Express	IBM Power 730 Express
Machine type	8231-E2B	8231-E2B
System packaging	19" rack drawer (2U)	19" rack drawer (2U)
Microprocessor type	64-bit POWER7	64-bit POWER7
# of processor sockets per server	1	2
Processor options GHz (cores/socket)   # of cores	3.0 GHz (4)   4 3.7 GHz (6)   6 3.55 GHz (8)   8	3.0 GHz (4)   8 3.7 GHz (4)   8 3.7 GHz (6)   12 3.55 GHz (8)   16
EnergyScale	Y	Y
Level 2 (L2) cache per core	256 KB	256 KB
Level 3 (L3) cache per core	4 MB	4 MB
System memory (minimum - maximum)	4 GB – 64 GB (1066 MHz DDR3) <sup>d</sup>	8 GB -128 GB (1066 MHz DDR3)
Active Memory Expansion	Optional	Optional
<b>Reliability, availability, serviceability</b>		
Chipkill memory	Y	Y
Service processor	Y	Y
Hot-swappable disks	Y	Y
Dynamic Processor Deallocation	Y	Y
Processor Instruction Retry	Y	Y
Alternate Processor Recovery	Y	Y
Dynamic deallocation: PCI bus slots	Y	Y
Hot-plug PCI slots	N/A	N/A
Blind-swap PCI slots in system unit	N/A	N/A
Redundant hot-plug power	Optional	Y
Redundant hot-plug cooling	Y	Y
Node Add, Node Repair, Memory Upgrade	N/A	N/A
<b>Capacity and expandability</b>		
Capacity on Demand (CoD) functions	N/A	N/A
PowerVM Express Edition	Optional	Optional
PowerVM Standard Edition	Optional	Optional
PowerVM Enterprise Edition	Optional	Optional
Max logical partitions/micro-partitions	80 (10 per core)	160 (10 per core)
Maximum system unit PCI slots	4 PCIe 8x low profile	4 PCIe 8x low profile
Max PCI slots: system unit + PCI-X 12X I/O drwrs	4 PCIe 8x low profile	4 PCIe 8x low profile
Max PCI slots: system unit + PCIe 12X I/O drwrs	4 PCIe 8x low profile	4 PCIe 8x low profile
System Unit: Disk/SSD bays   media bays (select one of three options)	3 SFF   2 (DVD & tape) <sup>n</sup> 6 SFF   1 (DVD) <sup>n</sup> 6 SFF w/ RAID   1 (DVD)	3 SFF   2 (DVD & tape) <sup>n</sup> 6 SFF   1 (DVD) <sup>n</sup> 6 SFF w/ RAID   1 (DVD)
Maximum disk storage in system unit	1.8 TB (with six 300 GB disks)	1.8 TB (with six 300 GB disks)
Maximum I/O loops (12X)	N/A	N/A
Maximum PCI-X 12X I/O drawers	N/A	N/A
Maximum PCIe 12X I/O drawers	N/A	N/A
Max disk drives (sys unit +I/O drawers)   Storage	102   45 TB (450 GB drives in EXP 12S drawer <sup>l</sup> , 300 GB drives in SFF bays)	102   45 TB (450 GB drives in EXP 12S drawer, 300 GB drives in SFF bays)
<b>Performance*</b>		
AIX rPerf GHz (cores/socket): perf (# cores)	3.0 GHz (4): 45.13 (4) 3.7 GHz (6): 76.69 (6) 3.55 GHz (8): 91.96 (8)	3.0 GHz (4): 86.66 (8) 3.7 GHz (6): 101.62 (8), 147.24 (12) 3.55 GHz (8): 176.57 (16)
IBM i CPW GHz (cores/socket): perf (# cores)	3.0 GHz (4): 23,800 (4) 3.7 GHz (6): 40,900 (6) 3.55 GHz (8): 51,800 (8)	3.0 GHz (4): 44,600 (8) 3.7 GHz (6): 51,900 (8), 77,200 (12) 3.55 GHz (8): 97,700 (16)

## Power 720 and 740 Express

Product Line	IBM Power 720 Express	IBM Power 740 Express
Machine type	8202-E4B	8205-E6B
System packaging	19" rack drawer (4U) or tower	19" rack drawer (4U) or tower
Microprocessor type	64-bit POWER7	64-bit POWER7
# of processor sockets per server	1	1 or 2
Processor options GHz (cores/socket)   # of cores	3.0 GHz (4)   4	3.3 GHz (4)   4, 8
	3.0 GHz (6)   6	3.7 GHz (4)   4, 8
	3.0 GHz (8)   8	3.7 GHz (6)   6, 12 3.55 GHz (8)   8, 16
EnergyScale	Y	Y
Level 2 (L2) cache per core	256 KB	256 KB
Level 3 (L3) cache per core	4 MB	4 MB
System memory (minimum - maximum)	4-core: 8 GB – 64 GB (1066 MHz DDR3) 6- or 8-core: 8 GB – 128 GB (1066 MHz DDR3)	8 GB – 256 GB (1066 MHz DDR3)
Active Memory Expansion	Optional	Optional
<b>Reliability, availability, serviceability</b>		
Chipkill memory	Y	Y
Service processor	Y	Y
Hot-swappable disks	Y	Y
Dynamic Processor Deallocation	Y	Y
Processor Instruction Retry	Y	Y
Alternate Processor Recovery	Y	Y
Dynamic deallocation: PCI bus slots	Y	Y
Hot-plug PCI slots	N/A (in system unit) Y (in 12X I/O drawers)	N/A (in system unit) Y (in 12X I/O drawers)
Blind-swap PCI slots in system unit	N/A	N/A
Redundant hot-plug power	Optional	Y
Redundant hot-plug cooling	Y	Y
Node Add, Node Repair, Memory Upgrade	N/A	N/A
<b>Capacity and expandability</b>		
Capacity on Demand (CoD) functions	N/A	N/A
PowerVM Express Edition	Optional	Optional
PowerVM Standard Edition	Optional	Optional
PowerVM Enterprise Edition	Optional	Optional
Max logical partitions/micro-partitions	80 (10 per core)	160 (10 per core)
Maximum system unit PCI slots	4 PCIe 8x std + 4 PCIe low profile (opt)	4 PCIe 8x std + 4 PCIe low profile (opt)
Max PCI slots: system unit + PCI-X 12X I/O drwrs	24 PCI-X DDR (64-bit) + 4 PCIe 8x	48 PCI-X DDR (64-bit) + 4 PCIe 8x
Max PCI slots: system unit + PCIe 12X I/O drwrs	24 PCIe 8x	44 PCIe 8x
System Unit: Disk/SSD bays   media bays (select one of two options)	6 SFF   2 (DVD & tape) <sup>n</sup> 8 SFF w/ RAID   2 (DVD & tape)	6 SFF   2 (DVD & tape) <sup>n</sup> 8 SFF w/ RAID   2 (DVD & tape)
Maximum disk storage in system unit	2.4 TB (with eight 300 GB disks)	2.4 TB (with eight 300 GB disks)
Maximum I/O loops (12X)	1	2
Maximum PCI-X 12X I/O drawers <sup>m</sup>	4 (max 4 drawers per loop)	8 (max 4 drawers per loop)
Maximum PCIe 12X I/O drawers <sup>m</sup>	2 (max 2 drawers per loop)	4 (max 2 drawers per loop)
Max disk drives (sys unit +I/O drawers)   Storage	380   164 TB (450 GB drives in EXP 12S drawer <sup>m</sup> , 300 GB drives in SFF bays)	416   175 TB (450 GB drives in EXP 12S drawer, 300 GB drives in SFF bays)
<b>Performance*</b>		
AIX rPerf GHz (cores/socket): perf (# cores)	3.0 GHz (4): 45.13 (4), 65.52 (6), 81.24 (8)	3.3 GHz (4): 48.33 (4), 92.79 (8) 3.7 GHz (4): 52.93 (4), 101.62 (8) 3.7 GHz (6): 76.69 (6), 147.24 (12) 3.55 GHz (8): 91.96 (8), 176.57 (16)
IBM i CPW GHz (cores/socket): perf (# cores)	3.0 GHz (4): 23,800 (4), 34,900 (6), 46,300 (8)	3.3 GHz (4): 25,500 (4), 47,800 (8) 3.7 GHz (4): 27,900 (4), 52,200 (8) 3.7 GHz (6): 41,600 (6), 77,200 (12) 3.55 GHz (8): 52,600 (8), 97,700 (16)

## Power 750 Express

Product Line	IBM Power 750 Express
Machine type	8233-E8B
System packaging	19" rack drawer (4U)
Microprocessor type	64-bit POWER7
# of processor sockets per server	1 – 4 (one per processor card)
Processor options GHz (cores/socket)   # of cores	3.0 GHz (8)   8, 16, 24, 32
	3.3 GHz (6)   6, 12, 18, 24
	3.3 GHz (8)   8, 16, 24, 32
	3.55 GHz (8)   8, 16, 24, 32
EnergyScale	Y
Level 2 (L2) cache per core	256 KB
Level 3 (L3) cache per core	4 MB
System memory (minimum - maximum)	8 GB <sup>a</sup> – 512 GB (1066 MHz DDR3)
Active Memory Expansion	Optional
<b>Reliability, availability, serviceability</b>	
Chipkill memory	Y
Service processor	Y
Hot-swappable disks	Y
Dynamic Processor Deallocation	Y
Processor Instruction Retry	Y
Alternate Processor Recovery	Y
Dynamic deallocation: PCI bus slots	Y
Hot-plug PCI slots	Y
Blind-swap PCI slots in system unit	N/A
Redundant hot-plug power	Y
Redundant hot-plug cooling	Y
Node Add, Node Repair, Memory Upgrade	N/A
NEBS compliant	Optional
<b>Capacity and expandability</b>	
Capacity on Demand (CoD) functions	-
PowerVM Express Edition	Optional
PowerVM Standard Edition	Optional
PowerVM Enterprise Edition	Optional
Max logical partitions/micro-partitions	160 <sup>b</sup> (10 per core)
Maximum system unit PCI slots	2 PCI-X DDR (64-bit) + 3 PCIe 8x
Max PCI slots: system unit + PCI-X 12X I/O drwrs	50 PCI-X DDR (64-bit) + 1 PCIe 8x
Max PCI slots: system unit + PCIe 12X I/O drwrs	2 PCI-X DDR (64-bit) + 41 PCIe 8x
System Unit: Disk/SSD bays   media bays	8 SFF   2 (1 bay optional)
Maximum disk storage in system unit	2.4 TB (with eight 300 GB disks)
Maximum I/O loops (12X)	1-socket: 1, 2- to 4-socket: 2
Maximum PCI-X 12X I/O drawers	8 (max 4 drawers per loop)
Maximum PCIe 12X I/O drawers	4 (max 2 drawers per loop)
Max disk drives (sys unit +I/O drawers)   Storage	584   261 TB with 450 GB drives
<b>Performance*</b>	
AIX rPerf	3.0 GHz (8): 81.24(8), 155.99(16), 224.23(24), 292.47 (32)
GHz (cores/socket): perf (# cores)	3.3 GHz (6): 70.07(6), 134.54(12), 193.40(18), 252.26(24)
	3.3 GHz (8): 86.99(8), 167.01(16), 240.08(24), 313.15 (32)
	3.55 GHz (8): 91.96 (8), 176.57 (16), 253.82 (24), 331.06 (32)
IBM i CPW	3.0 GHz (8): 44,600(8), 82,600(16), 122,500(24), 158,300(32)
GHz (cores/socket): perf (# cores)	3.3 GHz (6): 37,200(6), 69,200(12), 94,900(18), 135,300(24)
	3.3 GHz (8): 47,800(8), 88,700(16), 129,700(24), 168,800(32)
	3.55 GHz (8): 52,200 (8), 95,700 (16), 138,500 (24), 181,000 (32)

## Power 755

Product Line	IBM Power 755
Machine type	8236-E8C
System packaging	19" rack drawer (4U)
Microprocessor type	64-bit POWER7
# of processor sockets per server	4 (one per processor card)
Processor options	3.3 GHz (8)   32
GHz (cores/socket)   # of cores	
EnergyScale	Y
Level 2 (L2) cache per core	256 KB
Level 3 (L3) cache per core	4 MB
System memory (minimum <sup>a</sup> - maximum)	128 GB – 256 GB (1066 MHz DDR3)
Active Memory Expansion	N/A
<b>Reliability, availability, serviceability</b>	
Chipkill memory	Y
Service processor	Y
Hot-swappable disks	Y
Dynamic Processor Deallocation	Y
Processor Instruction Retry	Y
Alternate Processor Recovery	Y
Dynamic deallocation: PCI bus slots	Y
Hot-plug PCI slots	Y
Blind-swap PCI slots in system unit	N/A
Redundant hot-plug power	Y
Redundant hot-plug cooling	Y
Node Add, Node Repair, Memory Upgrade	N/A
<b>Capacity and expandability</b>	
Capacity on Demand (CoD) functions	N/A
PowerVM Express Edition	N/A
PowerVM Standard Edition	N/A
PowerVM Enterprise Edition	N/A
Max logical partitions/micro-partitions	32 (1 per core)
Maximum system unit PCI slots	2 PCI-X DDR + 3 PCIe 8x
Max PCI slots: system unit + PCI-X 12X I/O drawers	2 PCI-X DDR + 3 PCIe 8x (12X drawers not supported)
Max PCI slots: system unit + PCIe 12X I/O drawers	2 PCI-X DDR + 3 PCIe 8x (12X drawers not supported)
System unit: Disk bays   media bays	8 SFF   1
Maximum disk storage in system unit	2.4 TB (with eight 300 GB disks)
Maximum I/O loops (12X)	1 GX++ adapter slot used for 4X connection to cluster
Maximum PCI-X 12X I/O drawers	N/A
Maximum PCIe 12X I/O drawers	N/A
Maximum disk drives (sys unit+I/O drawers)   Storage	164 <sup>c</sup>   72 TB with 450 GB drives
<b>Performance*</b>	
AIX rPerf	N/A
GHz (cores/socket): perf (# cores)	
IBM i CPW	N/A
GHz (cores/socket): perf (# cores)	

## Power 770

Product Line	IBM Power 770
Machine type	9117-MMB
System packaging	19" rack drawer (4U per node) 1 – 4 nodes per CEC
Microprocessor type	64-bit POWER7
# of processor sockets per server	2, 4, 6, 8 (2 per processor card)
Processor options	3.1 GHz (8)   16, 32, 48, 64
GHz (cores/socket)   # of cores	3.5 GHz (6)   12, 24, 36, 48
EnergyScale	Y
Level 2 (L2) cache per core	256 KB
Level 3 (L3) cache per core	4 MB
System memory (minimum - maximum)	32 GB – 2 TB (1066 MHz DDR3)
Active Memory Expansion	Optional
<b>Reliability, availability, serviceability</b>	
Chipkill memory	Y
Service processor	Redundant SP and clock with failover (2 nodes or more)
Hot-swappable disks	Y
Dynamic Processor Deallocation	Y
Processor Instruction Retry	Y
Alternate Processor Recovery	Y
Dynamic deallocation: PCI bus slots	Y
Hot-plug PCI slots	Y
Blind-swap PCI slots in system unit	Y
Redundant hot-plug power	Y
Redundant hot-plug cooling	Y
Node Add, Node Repair, Memory Upgrade	Y <sup>e</sup>
<b>Capacity and expandability</b>	
Capacity on Demand (CoD) functions	P, M, U, T, OO
PowerVM Express Edition	N/A
PowerVM Standard Edition	Optional
PowerVM Enterprise Edition	Optional
Max logical partitions/micro-partitions	254 <sup>d</sup> (10 per core)
Maximum system unit PCI slots	24 PCIe 8x
Max PCI slots: system unit + PCI-X 12X I/O drawers	24 PCIe + 192 PCI-X DDR
Max PCI slots: system unit + PCIe 12X I/O drawers	184 PCIe
System unit: Disk bays   media bays	24 SFF   4 (optional)
Maximum disk storage in system unit	7.2 TB (with 24 300 GB disks)
Maximum I/O loops (12X)	8
Maximum PCI-X 12X I/O drawers	32
Maximum PCIe 12X I/O drawers	16
Max disk drives (system unit+I/O drawers)   Storage	1320   590 TB with 450 GB drives
<b>Performance*</b>	
AIX rPerf	3.1 GHz (8): 165.30(16), 306.74(32), 443.06(48), 579.39(64)
GHz (cores/socket): perf (# cores)	3.5 GHz (6): 140.75 (12), 261.19(24), 377.28(36), 493.37(48)
IBM i CPW	3.1 GHz (8): 88800(16), 155850(32), 229800(48) <sup>g</sup> , 292700(64) <sup>g</sup>
GHz (cores/socket): perf (# cores)	3.5 GHz (6): 73100(12), 131050(24), 248550(48) <sup>g</sup>

## Power 780

Product Line	IBM Power 780
Machine type	9179-MHB
System packaging	19" rack drawer (4U per node) 1 – 4 nodes per CEC
Microprocessor type	64-bit POWER7
# of processor sockets per server	2, 4, 6, 8 (2 per processor card)
Processor options	3.86 GHz (8)   16, 32, 48, 64 4.14 GHz (4) <sup>f</sup>   8, 16, 24, 32
EnergyScale	Y
Level 2 (L2) cache per core	256 KB
Level 3 (L3) cache per core	4 MB (MaxCore mode) 8 MB (TurboCore mode) <sup>f</sup>
System memory (minimum - maximum)	32 GB – 2 TB (1066 MHz DDR3)
Active Memory Expansion	Optional
<b>Reliability, availability, serviceability</b>	
Chipkill memory	Y
Service processor	Redundant SP and clock with failover (2 nodes or more)
Hot-swappable disks	Y
Dynamic Processor Deallocation	Y
Processor Instruction Retry	Y
Alternate Processor Recovery	Y
Dynamic deallocation: PCI bus slots	Y
Hot-plug PCI slots	Y
Blind-swap PCI slots in system unit	Y
Redundant hot-plug power	Y
Redundant hot-plug cooling	Y
Node Add, Node Repair, Memory Upgrade	Y <sup>e</sup>
<b>Capacity and expandability</b>	
Capacity on Demand (CoD) functions	P, M, U, T, OO
PowerVM Express Edition	-
PowerVM Standard Edition	Optional
PowerVM Enterprise Edition	Optional
Max logical partitions/micro-partitions	254 <sup>b</sup> (10 per core)
Maximum system unit PCI slots	24 PCIe 8x
Max PCI slots: system unit + PCI-X 12X I/O drawers	24 PCIe + 192 PCI-X DDR
Max PCI slots: system unit + PCIe 12X I/O drawers	184 PCIe
System Unit: Disk bays   media bays	24 SFF   4 (optional)
Maximum disk storage in system unit	7.2 TB (with 24 300 GB disks)
Maximum I/O loops (12X)	8
Maximum PCI-X 12X I/O drawers	32
Maximum PCIe 12X I/O drawers	16
Max disk drives (system unit+I/O drawers)   Storage	1320   590 TB with 450 GB drives
<b>Performance*</b>	
AIX rPerf	3.86 GHz (8): 195.45(16), 362.70(32), 523.89(48), 685.09(64) 4.14 GHz (4): 115.16(8), 226.97(16), 326.24(24), 425.50(32)
IBM i CPW	3.86 GHz (8): 105200(16), 177400(32), 265200(48) <sup>g</sup> , 343050(64) <sup>g</sup> 4.14 GHz (4): 57450(8), 114850(16) <sup>i</sup> , 172450(24) <sup>i</sup> , 229650(32) <sup>i</sup>

## Power 795

Product Line	IBM Power 795	
Machine type	9119-FHB	
System packaging	24" system frame (+ expansion frames)	
Microprocessor type	64-bit POWER7	
# of processor sockets per server	4 – 32 (4 sockets per processor book)	
Processor options	3.7 GHz (6)   24 - 192	
GHz (cores/socket)   # of cores	4.0 GHz (8)   32 - 256	
	4.25 GHz (4) <sup>j</sup>   24 - 128	
EnergyScale	Y	
Level 2 (L2) cache per core	256 KB	
Level 3 (L3) cache per core	4 MB (MaxCore mode) 8 MB (TurboCore mode) <sup>j</sup>	
System memory (minimum - maximum)	16 GB – 8 TB (1066 MHz DDR3)	
Active Memory Expansion	Optional	
<b>Reliability, availability, serviceability</b>		
Chipkill memory	Y	
Service processor	Redundant SP and clock with failover	
Hot-swappable disks in I/O drawer	Y	
Dynamic Processor Deallocation	Y	
Processor Instruction Retry	Y	
Alternate Processor Recovery	Y	
Dynamic deallocation: PCI bus slots	Y	
Hot-plug PCI slots in I/O drawer	Y	
Blind-swap PCI slots in I/O drawer	Y	
Redundant hot-plug power	Y	
Redundant hot-plug cooling	Y	
Node Add, Node Repair, Memory Upgrade	Y <sup>k</sup>	
<b>Capacity and expandability</b>		
Capacity on Demand (CoD) functions	P, M, U, T, OO,	
PowerVM Express Edition	-	
PowerVM Standard Edition	Optional	
PowerVM Enterprise Edition	Optional	
Maximum logical partitions/micro-partitions	254 <sup>b</sup>	
Maximum system unit PCI slots	Use I/O drawers	
Max PCI slots: system unit + PCI-X 12X I/O drawers	600 PCI-X	
Max PCI slots: system unit + PCIe 12X I/O drawers	640 PCIe	
System Unit: Disk bays   media bays	Use I/O drawers	
Maximum disk storage in system unit	Use I/O drawers	
Maximum I/O loops (12X)	32	
Maximum PCI-X 12X I/O drawers	30	
Maximum PCIe 12X I/O drawers	32	
Max disk drives (system unit+I/O drawers)   Storage	3052   1,248 TB	
<b>Performance*</b>		
AIX rPerf	3.7 GHz (6):	273.51 (24) – 2,188.08 (192)
GHz (cores/socket): perf (# cores) *	4.0 GHz (8):	372.27 (32) – 2,978.16 (256)
	4.25 GHz (4):	347.36 (24) – 1,852.56 (128)
IBM i CPW	3.7 GHz (6):	39,300 (6) – 288,500 (2 x 24-core LPARs)
GHz (cores/socket): perf (# cores) **	4.0 GHz (8):	55,100 (8) – 399,200 (2 x 32-core LPARs)
	4.25 GHz (4):	162,100 (24) – 218,400 (2 x 16-core LPARs)

\* rPerf estimates shown for the Power 795 assume the LPAR size equal to the number of cores in one processor book (24-core for 3.7 GHz, 32-core for 4.0 GHz and 16-core for 4.25 GHz).

\*\* To obtain CPW estimates for larger configurations than those shown, use the IBM Systems Workload Estimator at <http://www.ibm.com/systems/support/tools/estimator>.

## System Unit Details (POWER7 Blades)

System Unit Details	BladeCenter PS700 Express	BladeCenter PS701 Express	BladeCenter PS702 Express
SAS Disk bays in CEC	2 SFF	1 SFF	2 SFF
Available media bays	- <sup>1</sup>	- <sup>1</sup>	- <sup>1</sup>
Standard HH size	-	-	-
Slimline size	-	-	-
System ports	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>2</sup>
Serial ports	-	-	-
USB ports	2	2	2
HMC ports	-	-	-
Integrated Ethernet controller ports	2 at 1 Gbps	2 at 1 Gbps	4 at 1 Gbps
Integrated storage controllers	1 SAS	1 SAS	1 SAS
Max SAS speed	3.0 Gbps	3.0 Gbps	3.0 Gbps
Protected write cache for integrated SAS controller	-	-	-
Optional more disk bays with write cache	-	-	-
PCIe expansion slots			
PCIe CIOv	1	1	2
PCIe CFFh	1	1	2
Max PCIe bus speed (GHz)	2.5	2.5	2.5
LED diagnostics	Y	Y	Y

<sup>1</sup> Media bay available in BladeCenter H or S chassis

<sup>2</sup> Serial over LAN (SOL) connection from service processor on blade to Adv. Mgmt. Module in BladeCenter chassis.

## System Unit Details (POWER7 Express Servers)

System Unit Details	Power 710 Express	Power 720 Express	Power 730 Express	Power 740 Express	Power 750 Express
SAS Disk bays in CEC	3 <sup>1</sup> or 6 SFF	6 <sup>2</sup> or 8 SFF	3 <sup>1</sup> or 6 SFF	6 <sup>2</sup> or 8 SFF	8 SFF
Available media bays	1 or 2 <sup>1</sup>	2	1 or 2 <sup>1</sup>	2	2
Standard HH size	1 for opt. tape <sup>1</sup>	1 for opt. tape	1 for opt. tape <sup>1</sup>	1 for opt. tape	1 optional
Slimline size	1 for DVD-RAM	1 for DVD-RAM	1 for DVD-RAM	1 for DVD-RAM	1 for DVD-RAM
System / serial ports <sup>3</sup>	2	2	2	2	2
USB ports	3	3	3	3	3
HMC ports	2	2	2	2	2
Integrated Ethernet adapter ports	4 at 1 Gbps or 2 at 10 Gbps	4 at 1 Gbps or 2 at 10 Gbps	4 at 1 Gbps or 2 at 10 Gbps	4 at 1 Gbps or 2 at 10 Gbps	4 at 1 Gbps or 2 at 10 Gbps
Integrated storage controllers	1 SAS/SATA	1 SAS/SATA	1 SAS/SATA	1 SAS/SATA	1 SAS/SATA
Max SAS speed	3.0 Gbps	3.0 Gbps	3.0 Gbps	3.0 Gbps	3.0 Gbps
Protected write cache for integrated SAS controller	Opt. dual 175 MB. enable RAID 5/6 & help disk performance	Opt. dual 175 MB. enable RAID 5/6 & help disk performance	Opt. dual 175 MB. enable RAID 5/6 & help disk performance	Opt. dual 175 MB. enable RAID 5/6 & help disk performance	Opt. dual 175 MB. enable RAID 5/6 & help disk performance
Optional more disk bays with write cache via external SAS port	Yes, 12 SAS with EXP12S #5886 <sup>4</sup>	Yes, 12 SAS with EXP12S #5886 <sup>5</sup>	Yes, 12 SAS with EXP12S #5886	Yes, 12 SAS with EXP12S #5886	Yes, 12 SAS with EXP12S #5886
PCI adapter slots	4	4 + 4 optional	4	4 + 4 optional	5
PCIe 8x Long	-	-	-	-	1
PCIe 8x Short	4 LP	4 FH + 4 opt. LP <sup>8</sup>	4 LP	4 FH + 4 opt. LP <sup>8</sup>	2 <sup>6</sup>
PCI-X DDR Long	-	-	-	-	2
Maximum PCI-X bus speed (MHz)	-	-	-	-	266
Max PCIe bus speed (GHz)	2.5	5.0 <sup>8</sup>	2.5	5.0 <sup>8</sup>	2.5
GX adapter slots	1 GX++	1 GX++ <sup>7</sup>	2 GX++	2 GX++ <sup>7</sup>	1 GX+ (1-socket) 1 GX++ (2-4 sockets)
PCIe 12X I/O drawers	N/A	2 <sup>5</sup>	N/A	4	Up to 4
PCI-X DDR 12X I/O drawers	N/A	4 <sup>5</sup>	N/A	8	Up to 8
LED diagnostics	Y	Y	Y	Y	Y

Note: The terms LP (low profile) and FH (full high or full height) refer to the size of a PCI slot or size of a PCI adapter card.

<sup>1</sup> On the Power 710 and 730 Express servers, the backplane option with 3 SSF bays + DVD slot + HH tape slot is supported on IBM i only through VIOS.

<sup>2</sup> On the Power 720 and 740 Express servers, the backplane option with 6 SSF bays + DVD slot + HH tape slot is supported on IBM i only through VIOS.

<sup>3</sup> AIX uses only for modem and async terminal connections. Not supported by AIX when HMC ports are connected to Hardware Management Console. IBM i can use for status link to UPS.

<sup>4</sup> Not supported on 4-core Power 710 Express configurations.

<sup>5</sup> Not supported on 4-core Power 720 Express configurations.

<sup>6</sup> Each GX+ and GX++ I/O loop adapter occupies same space as one PCIe short slot.

<sup>7</sup> The GX++ slot on the Power 720 Express and one of the two GX++ slots on the Power 740 Express are not available if the optional PCIe Riser and its four PCIe LP adapter slots are used.

<sup>8</sup> 5 GHz associated with four optional LP (low profile) PCIe Gen2 slots. Otherwise slots are 2.5 GHz.

## System Unit Details (POWER7 Servers)

System Unit Details	Power 755	Power 770 Node	Power 780 Node	Power 795
SAS Disk bays in CEC	8 SFF	6 SFF	6 SFF	-
Available media bays	1	1	1	2 in media drawer
Standard HH size	-	-	-	1 for opt. tape
Slimline size	1 for DVD-RAM	1 for opt. DVD-RAM	1 for opt. DVD-RAM	1 for opt. DVD
System / serial ports	2 <sup>1</sup>	1	1	-
Serial ports	-	1	1	-
USB ports	3	3 (9 max per system)	3 (9 max per system)	-
HMC ports	2	2 (4 max per system)	2 (4 max per system)	4
Integrated Ethernet controller ports	4 at 1 Gbps or 2 at 10 Gbps	4 at 1 Gbps or 2 at 1 Gbps, 2 at 10 Gbps	4 at 1 Gbps or 2 at 1 Gbps, 2 at 10 Gbps	-
Integrated storage controllers	1 SAS/SATA	2 SAS, 1 SATA (media)	2 SAS, 1 SATA (media)	-
Max SAS speed	3.0 Gbps	3.0 Gbps	3.0 Gbps	3.0 Gbps
Protected write cache for integrated SAS controller	Optional dual 175 MB. enable RAID 5/6 & help disk performance	Optional dual 175 MB. enable RAID 5/6 & help disk performance	Optional dual 175 MB. enable RAID 5/6 & help disk performance	N/A
Optional more disk bays with write cache via external SAS port	Yes, 12 SAS with EXP12S #5886	Yes, 12 SAS per node with EXP12S #5886	Yes, 12 SAS per node with EXP12S #5886	N/A
PCI adapter slots	5	8	8	-
PCIe 8x Long	1	8	8	-
PCIe 8x Short	2 <sup>2</sup>	-	-	-
PCI-X DDR Long	2	-	-	-
Maximum PCI-X bus speed (MHz)	266	-	-	266
Max PCIe bus speed (GHz)	2.5	2.5	2.5	2.5
GX adapter slots	1 GX++	2 GX++	2 GX++	
PCIe 12X I/O drawers	-	Up to 4	Up to 4	Up to 32 <sup>3</sup>
PCI-X DDR 12X I/O drawers	-	Up to 8	Up to 8	Up to 30
LED diagnostics	Y	Y	Y	Y

<sup>1</sup> AIX uses only for modem and async terminal connections. Not supported by AIX when HMC ports are connected to Hardware Management Console. IBM i can use for status link to UPS.

<sup>2</sup> Each GX+ and GX++ I/O loop adapter occupies same space as one PCIe short slot.

<sup>3</sup> Total number of 12X PCIe I/O drawers per system is 32. The maximum for I/O drawer #5873 is 31.

## Server I/O Drawers

Drawer	Server Loop Attachment	PCI Slots per Drawer	Disk Bays per Drawer	POWER7 Availability	Max Drwrs per Loop	Footprint
#5797	12X SDR	14 PCI-X DDR + 6 PCI-X	16 SCSI	Y	1	24" rack
#5798	12X SDR	14 PCI-X DDR + 6 PCI-X	16 SCSI	Y (supported)	1	24" rack
#5803	12X DDR	20 PCIe	26 SFF SAS	Y	1	24" rack
#5873	12X DDR	20 PCIe	0	Y	1	24" rack
7314-G30	12X SDR	6 PCI-X DDR	0	w/d mig	4	19" rack ½ 4U <sup>2</sup>
#5796	12X SDR	6 PCI-X DDR	0	Y	4	19" rack ½ 4U <sup>2</sup>
#5802	12X DDR <sup>1</sup>	10 PCIe	18 SFF SAS	Y	2	19" rack
#5877	12X DDR <sup>1</sup>	10 PCIe	0	Y	2	19" rack
EXP24 7031-D24	n/a	0	24 SCSI	w/d, mig	n/a	19" rack 4U
EXP24 #5786	n/a	0	24 SCSI	mig <sup>3</sup>	n/a	19" rack 4U
EXP12S #5886	n/a	0	12 SAS	Y	n/a	19" rack 2U

<sup>1</sup> Runs at DDR (Double Data Rate) speed assuming GX adapter and 12X cable are also DDR. Otherwise runs at SDR.

<sup>2</sup> Logically two drawers in one 4-U foot print. Drawers can be configured on the same or different loops.

<sup>3</sup> Drawer supported for migration. Order additional #5786 drawers on the POWER5 or POWER6 server until Nov 2010 when withdrawal from marketing is planned. Not orderable on the POWER7 server

w/d Withdrawn from marketing, not orderable from IBM Manufacturing

mig Migrate - Attachment of existing I/O units supported

Y New I/O drawers orderable from IBM Manufacturing

n/a Not applicable

## Server I/O Drawer Attachment

(inclusion in list does not necessarily mean can order new drawers)

Server Drawer <sup>1</sup>	Power 710 / 730 Express 0 Loops	Power 720 Express 0-1 Loops	Power 740 Express 0-2 Loops	Power 750 Express 0-2 Loops	Power 755 0 Loops	Power 770 0-8 Loops	Power 780 0-8 Loops	Power 795 1-32 loops
#5797	0	0	0	0	0	0	0	30
#5798	0	0	0	0	0	0	0	30
#5803	0	0	0	0	0	0	0	32
#5873	0	0	0	0	0	0	0	31
7314-G30	0	Max 8 <sup>4</sup>	Max 8	Max 8	0	Max 32	Max 32	0
#5796	0	Max 8 <sup>4</sup>	Max 8	Max 8	0	Max 32	Max 32	0
EXP24 7031-D24	0	Max 24 <sup>4</sup>	Max 24	Max 24	0	Max 60	Max 60	110
EXP24 #5786 <sup>2</sup>	0	Max 24 <sup>4</sup>	Max 24	Max 24	0	Max 60	Max 60	110
#5802	0	Max 2 <sup>4</sup>	Max 4	Max 4	0	Max 16	Max 16	0
#5877	0	Max 2 <sup>4</sup>	Max 4	Max 4	0	Max 16	Max 16	0
EXP12S #5886	Max 8 <sup>3</sup>	Max 28 <sup>4</sup>	28	Max 48	13	Max 110	Max 110	Max 185

<sup>1</sup> Though you can mix 12X PCI-X DDR I/O drawers with 12X PCIe I/O drawers on a system with two or more loops, within a loop it must be all PCIe or all PCI-X DDR I/O drawers.

<sup>2</sup> In addition to the #5786, the EXP24 #5787 Disk Tower is supported, but not orderable, on the Power 750, 770 and 780.

<sup>3</sup> Disk-only I/O drawers are not supported on 4-core Power 710 Express configurations.

<sup>4</sup> 12X I/O drawers or disk-only drawers are not supported on 4-core Power 720 Express configurations.

**For Additional I/O and I/O Adapter Information - Please reference the sales manual**

## Physical Planning Characteristics (POWER7 Blades)

Note: Additional summary information can be found in the IBM Sales Manual at [ibm.com/common/ssi](http://ibm.com/common/ssi) .

Server	BladeCenter PS700 Express	BladeCenter PS701 / PS702 Express	BladeCenter S Chassis	BladeCenter H Chassis	BladeCenter HT Chassis <sup>1</sup>
Machine type (AC model)	8401-70Y	8401-71Y / 8401-71Y+FC 8358	7779-BCS	7989-BCH	8750-1RX
Machine type (DC model)	-	-	-	-	8740-1RX
Packaging	Chassis mount	Chassis mount	19" rack blade cabinet (7U)	19" rack blade cabinet (9U)	19" rack blade cabinet (12U)
Number blades	-	-	Up to 6 blades	Up to 14 blades	Up to 12 blades
Maximum KVA	-	-	3.5	8.0	7.8
Maximum watts	-	-	3500	8000	7773
Maximum BTU/hour	-	-	11942	27280	26552
Voltage (AC)	-	-	110 – 127 200 – 240	200 - 240	200 – 240
Voltage (DC)	-	-	-	-	-48 - -60 <sup>2</sup>
Power supply	-	-	N+1 standard	N+N standard	N+N standard
Height					
inches	9.65	9.65	7U - 12.0	9U - 15.75	12U - 21.0
millimeters	245	245	306	400	528
Width					
inches	1.14	1.14 (PS701) 2.32 (PS702)	17.5	17.5	17.4
millimeters	29	29 (PS701) 59 (PS702)	444	444	441
Depth					
inches	17.55	17.55	28.9	28.0	27.8
millimeters	445	445	733	711	706
Maximum altitude					
feet	7000	7000	7000	7000	6000
meters	2133	2133	2133	2133	1800

1 Orderable only through HVEC fulfillment system (not AAS)

2 NEBS environment

## Physical Planning Characteristics (POWER7 Servers)

Note: More comprehensive information may be found in the IBM Site and Hardware Planning document) at <http://publib.boulder.ibm.com/infocenter/systems/scope/hw/index.jsp?topic=/iphad/sysreq.htm>. Plus, additional summary information can be found in the IBM Sales Manual for each server at [ibm.com/common/ssi](http://ibm.com/common/ssi)

Server	Power 710 Express	Power 720 Express	Power 730 Express	Power 740 Express	Power 750 Express
Packaging	19" rack drawer (2U)	19" rack drwr (4U) + tower	19" rack drawer (2U)	19" rack drwr (4U) + tower	19" rack drawer (4U)
Voltage (AC)	100 -127 (1-ph.) 200 - 240 (1-ph.)	100 -127 (1-ph.) 200 - 240 (1-ph.)	200 - 240 (1-ph.)	200 - 240 (1-ph.)	200 - 240 1-phase
Power supply	N +1 optional	N +1 optional	N +1 standard	N +1 standard	N +1 standard
Maximum altitude					
feet	10000	10000	10000	10000	10000
meters	3048	3048	3048	3048	3048

Server	Power 755	Power 770 *	Power 780 *	Power 795
Packaging	19" rack drawer (4U)	19" rack drawer (4U)	19" rack drawer (4U)	24" system frame (+expansion frames)
Voltage (AC)	200 - 240 1-phase	200 - 240 1-phase	200 - 240 1-phase	200 – 240 (3-phase) 380 – 415 (3-phase) 480 – 510 (3-phase)
Power supply	N +1 standard	N+1 standard	N+1 standard	N+1 standard
Maximum altitude				
feet	10000	10000	10000	10000
meters	3048	3048	3048	3048

\* Figures are for a single building block or node. Up to 4 nodes per system.

\*\* For system configurations installing above 2400 meters, additional ambient room temperature limits are in effect. Please refer to the Site and Hardware Planning Guide for details.

19-inch I/O Drawer	#5802	#5877	7314-G30 or #5796
	12X DDR attach, 10 PCIe slots, 18 disk bay	12X DDR attach, 10 PCIe slots, 0 disk bay	12X SDR attach, 6 PCI slots
Packaging	19" rack drawer	19" rack drawer	19" rack drawer
Rack space	1 unit in 4U space	1 unit in 4U space	2 units fit side by side in 4U space
Power supply	N+1 standard	N+1 standard	N+1 standard
Voltage	200-240V, single phase	200-240 V, single phase	200-240 V, single phase
Maximum altitude			
feet	10000	10000	10000
meters	3048	3048	3048

Racks	7014-S25 or #0555	7014-T00 or #0551	7014-T42 or #0553	7014-B42
	25U	36U	42U	42U
Height				
inches	49.0	71.0 – 75.8	79.3	79.3
millimeters	1344	1804 – 1926	2015	2015
Width (can vary depending on use of side panels)				
inches	23.8	24.5 – 25.4	24.5 - 25.4	24.5 - 25.4
millimeters	605	623 – 644	623 - 644	623 - 644
Depth (can vary depending on door options selected)				
inches	39.4	41.0 – 45.2	41.0 - 45.2	41.0 - 55.5
millimeters	1001	1042 – 1098	1043 - 1098	1042 - 1409

## Warranty<sup>1</sup>

Warranty Service Levels	BladeCenter PS700, PS701 & PS702 Express & BladeCenter Chassis H, HT, S	Power 710 Express	Power 720 Express	Power 730 Express	Power 740 Express	Power 750 Express
24x7 with two hour service objective <sup>2</sup>	Optional	Optional	Optional	Optional	Optional	Optional
24x7 with four hour service objective	Optional	Optional	Optional	Optional	Optional	Optional
9x5 with four hour service objective	Optional	Optional	Optional	Optional	Optional	Optional
9x5 next-business-day	Standard <sup>3</sup>	Standard <sup>3</sup>	Standard <sup>3</sup>	Standard <sup>3</sup>	Standard <sup>3</sup>	Standard <sup>3</sup>
<b>Warranty Period</b>	3 years	3 years	3 years	3 years	3 years	1 year

Warranty Service Levels	Power 755	Power 770	Power 780	Power 795
24x7 with two hour service objective <sup>2</sup>	Optional	Optional	Optional	Optional
24x7 with four hour service objective	Optional	Optional	Standard	Standard
9x5 with four hour service objective	Optional	Optional	-	-
9x5 next-business-day	Standard <sup>3</sup>	Standard <sup>3</sup>	-	-
<b>Warranty Period</b>	1 year	1 year	1 year	1 year

<sup>1</sup> These warranty terms and conditions are for the United States and may be different in other countries. Consult your local IBM representative or IBM Business Partner for country-specific information.

<sup>2</sup> Available in selected cities.

<sup>3</sup> Mandatory Customer Replaceable Unit (CRU) and On-site service.

## Power Systems Express Blades and Servers Software Support

Power Systems Software	BladeCenter PS700 Express	BladeCenter PS701/PS702 Express	Power 710 Express	Power 720 Express	Power 730 Express	Power 740 Express	Power 750 Express
Software Tier	Small	Small	Small	Small	Small	Small	Small
<b>PowerVM™</b>							
PowerVM Express	Supported	Supported	Supported	Supported	Supported	Supported	Supported
PowerVM Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
<b>AIX</b>							
AIX 5.3 Standard Edition	Supported TL 12	Supported TL 12	Supported TL 10/11/12	Supported TL 10/11/12	Supported TL 10/11/12	Supported TL 10/11/12	Supported TL 9/10/11/12
AIX 6.1 Express <sup>1</sup> Standard and Enterprise Editions	Supported TL 5	Supported TL 5	Supported TL 6 SOD <sup>2</sup> -TL 3/4/5	Supported TL 6 SOD <sup>2</sup> -TL 3/4/5	Supported TL 6 SOD <sup>2</sup> -TL 3/4/5	Supported TL 6 SOD <sup>2</sup> -TL 3/4/5	Supported TL 2/3/4/5
AIX 7.1 Express <sup>1</sup> , Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
AIX 5.2 Workload Partitions for AIX 7	Supported	Supported	Supported	Supported	Supported	Supported	Supported
<b>IBM i</b>							
IBM i Software Tier	Small P05	Small P10	Small P05(4-core) P10(6/8-core)	Small P05(4-core) P10(6/8-core)	Small P20	Small P20	Small P20
IBM i 6.1.1 Express, Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
IBM i 7.1 Express, Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
<b>Linux</b>							
Red Hat Enterprise Linux 5.5	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Red Hat Enterprise Linux 6	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>
Novell SUSE Linux Enterprise Server 10 SP3	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Novell SUSE Linux Enterprise Server 11	Supported SP1	Supported SP1	Supported SP1	Supported SP1	Supported SP1	Supported SP1	Supported
<b>PowerHA™</b>							
PowerHA SystemMirror for AIX 6.1 <sup>4</sup> Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
PowerHA SystemMirror for AIX 7 <sup>4</sup> Standard Edition	Supported	Supported	Supported	Supported	Supported	Supported	Supported
PowerHA SystemMirror for i 6.1	Supported	Supported	Supported	Supported	Supported	Supported	Supported
PowerHA SystemMirror for i 7.1 Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported
<b>IBM Systems Director for Power</b>							
Express, Standard and Enterprise Editions	Supported	Supported	Supported	Supported	Supported	Supported	Supported

1 – Note that AIX 6.1 and AIX 7.1 Express Edition may be used for partitions of up to 4 cores and 8 GB of memory per core.

2 – IBM Statement of Direction to support AIX 6.1 TL 3 SP7, TL4 SP7 and TL5 SP3 on the Power 710, 720, 730 and 740 Express servers.

3 – IBM Statement of Direction to support POWER7 based Power Systems servers and blades in Red Hat's upcoming version, Red Hat Enterprise Linux 6. For additional questions on the availability of this release, please contact Red Hat.

4 – PowerHA SystemMirror for AIX 6.1 is supported with both AIX 5.3 and AIX 6.1. PowerHA SystemMirror for AIX 7 is supported with both AIX 6.1 and AIX 7.1.

## Power Systems Servers Software Support

Power Systems Software	Power 755	Power 770	Power 780	Power 795
Software Tier	Small	Medium	Large	Large
<b>PowerVM™</b>				
PowerVM Express	N/A	N/A	N/A	N/A
PowerVM Standard and Enterprise Editions	N/A	Supported	Supported	Supported
<b>AIX</b>				
AIX 5.3 Standard Edition	Supported TL 9/10/11/12	Supported TL 9/10/11/12	Supported TL 9/10/11/12	Supported TL 10/11/12
AIX 6.1 Express <sup>1</sup> , Standard and Enterprise Editions	Supported TL 2/3/4/5	Supported TL 2/3/4/5	Supported TL 2/3/4/5	Supported TL 6 SOD <sup>2</sup> -TL 3/4/5
AIX 7.1 Express <sup>1</sup> , Standard and Enterprise Editions	Supported	Supported	Supported	Supported
AIX 5.2 Workload Partitions for AIX 7	Supported	Supported	Supported	Supported
<b>IBM i</b>				
IBM i Software Tier	N/A	Medium P30	Large P50	Large P50
IBM i 6.1.1 Express, Standard and Enterprise Editions	N/A	Supported	Supported	Supported
IBM i 7.1 Express, Standard and Enterprise Editions	N/A	Supported	Supported	Supported
<b>Linux</b>				
Red Hat Enterprise Linux 5.5	Supported	Supported	Supported	Supported
Red Hat Enterprise Linux 6	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>	SOD <sup>3</sup>
Novell SUSE Linux Enterprise Server 10 SP3	Supported	Supported	Supported	Supported
Novell SUSE Linux Enterprise Server 11	Supported	Supported	Supported	Supported SP1
<b>PowerHA™</b>				
PowerHA SystemMirror for AIX 6.1 <sup>4</sup> Standard and Enterprise Editions	N/A	Supported	Supported	Supported
PowerHA SystemMirror for AIX 7 <sup>4</sup> Standard Edition	N/A	Supported	Supported	Supported
PowerHA SystemMirror for i 6.1	N/A	Supported	Supported	Supported
PowerHA SystemMirror for i 7.1 Standard and Enterprise Editions	N/A	Supported	Supported	Supported
<b>IBM Systems Director for Power</b>				
Express, Standard and Enterprise Editions	N/A	Supported	Supported	Supported

1 – Note that AIX 6.1 and AIX 7.1 Express Edition may be used for partitions of up to 4 cores and 8 GB of memory per core.

2 – IBM Statement of Direction to support AIX 6.1 TL 3 SP7, TL4 SP7 and TL5 SP3 on the Power 795 server.

3 – IBM Statement of Direction to support POWER7 based Power Systems servers and blades in Red Hat's upcoming version, Red Hat Enterprise Linux 6. For additional questions on the availability of this release, please contact Red Hat.

4 – PowerHA SystemMirror for AIX 6.1 is supported with both AIX 5.3 and AIX 6.1. PowerHA SystemMirror for AIX 7 is supported with both AIX 6.1 and AIX 7.1.

## Performance Notes

The performance information contained herein is current as of the date of this document. All performance benchmark values and estimates are provided “AS IS” and no warranties or guarantees are expressed or implied by IBM. Buyers should consult other sources of information, including system benchmarks, to evaluate the performance of a system they are considering.

rPerf (Relative Performance) is an estimate of commercial processing performance relative to other IBM UNIX® systems. It is derived from an IBM analytical model which uses characteristics from IBM internal workloads, TPC and SPEC benchmarks. The rPerf model is not intended to represent any specific public benchmark results and should not be reasonably used in that way. The model simulates some of the system operations such as CPU, cache and memory. However, the model does not simulate disk or network I/O operations.

rPerf estimates are calculated based on systems with the latest levels of AIX and other pertinent software at the time of system announcement. Actual performance will vary based on application and configuration specifics. The IBM eServer™ pSeries® 640 is the baseline reference system and has a value of 1.0. Although rPerf may be used to approximate relative IBM UNIX commercial processing performance, actual system performance may vary and is dependent upon many factors including system hardware configuration and software design and configuration. Note that the rPerf methodology used for the POWER6 processor-based systems is identical to that used for the POWER5 processor-based systems. Variations in incremental system performance may be observed in commercial workloads due to changes in the underlying system architecture. For additional information about rPerf, contact your local IBM office or IBM authorized reseller.

Commercial Processing Workload (CPW) is a relative measure of performance of systems running the IBM i operating system. Performance in client environments may vary. The value is based on maximum configurations. Please refer to the “IBM Power Systems Performance Capabilities Reference—IBM i operating system Version 6.1” at the following Web site for a complete description of CPW and the CPW rating for IBM Power Systems. ([ibm.com/systems/i/advantages/perfmgmt/pdf.pcrm.pdf](http://ibm.com/systems/i/advantages/perfmgmt/pdf.pcrm.pdf) )

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SPEC – <http://www.spec.org>

TPC – <http://www.tpc.org>

## More information

- Contact your IBM marketing representative or IBM Business Partner
- Access the Power Systems Products and Services page on IBM’s World Wide Web server at [ibm.com/systems/power](http://ibm.com/systems/power) and then select the appropriate hardware or software option
- Product announcement letters and Sales Manual containing more details on hardware and software offerings are available at [ibm.com/common/ssj](http://ibm.com/common/ssj)
- More detailed benchmark and performance information is available at [ibm.com/systems/p/hardware/benchmarks](http://ibm.com/systems/p/hardware/benchmarks) , [ibm.com/systems/p/hardware/system\\_perf.html](http://ibm.com/systems/p/hardware/system_perf.html) and at [ibm.com/systems/i/solutions/perfmgmt/resource.html](http://ibm.com/systems/i/solutions/perfmgmt/resource.html) .



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This brochure provides detailed technical specifications of all IBM POWER7 processor-based Power Systems servers and BladeCenter blades in a tabular, easy-to-scan format for easy comparison between systems. These systems are UNIX (AIX), IBM i and Linux operating system servers. Not all features listed in this document are available on all three operating systems.

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