






IBM POWER7™ Systems Family Quick Reference Guide

February 2010

				
	Power[®] 750 Express	Power 755	Power 770	Power 780
System package	4U, 19" rack	4U, 19" rack	4U / node, 19" rack (1 - 4 nodes)	4U / node, 19" rack (1 - 4 nodes)
# of POWER7™ cores (GHz)	3.0/3.3 GHz 8, 16, 24, 32 3.3 GHz 6, 12, 18, 24 3.55 GHz 32	3.3 GHz 32	3.1 GHz 16, 32, 48, 64 3.5 GHz 12, 24, 36, 48	3.8 GHz 16, 32, 48, 64 4.1 GHz 8, 16, 24, 32
# of sockets	1, 2, 3, 4	4	2, 4, 6, 8	2, 4, 6, 8
Min - max. memory	8 ^c - 512 GB (max 128 per proc card)	128 - 256 GB (max 64 per proc card)	32 GB - 2 TB ^{3,4} (max 512 GB per node)	32 GB - 2 TB ^{3,4} (max 512 GB per node)
Max CEC disk bays / TB storage	8 / 2.4 TB	8 / 2.4 TB	6 per node / 1.8 TB Max per sys 24 / 7.2 TB	6 per node / 1.8 TB Max per sys 24 / 7.2 TB
Max CEC PCI slots	3 PCIe and 2 PCI-X DDR	3 PCIe and 2 PCI-X DDR	6 PCIe per node 24 per system	6 PCIe per node 24 per system
Max GX adapter slots	1 socket 1 GX+ 2 or more sockets 1 GX++ and 1 GX+	1 GX++	2 GX++ per node Max per system = 8	2 GX++ per node Max per system = 8
Max 12X I/O PCIe drwrs	4	0	16	16
Max 12X I/O PCI-X drwrs	8	0	32	32
Max disk bays w/ I/O drawers	584	164	1320	1320
Max PCI slots w/ 12X PCI-X I/O drawers	1 PCIe and 50 PCI-X DDR	3 PCIe and 2 PCI-X DDR	24 PCIe and 192 PCI-X DDR	24 PCIe and 192 PCI-X DDR
Max PCI slots w/ 12X PCIe I/O drawers	41 PCIe and 2 PCI-X DDR	3 PCIe and 2 PCI-X DDR	184 PCIe	184 PCIe
AIX [®] rPerf Ranges	3.0 GHz: 81.24 - 292.47 3.3 GHz: 70.07 - 313.15 3.55 GHz: 331.06	N/A	3.1 GHz: 165.30 - 579.39 3.5 GHz: 140.75 - 493.37	3.8 GHz: 195.45 - 685.09 4.1 GHz: 115.86 - 425.50
IBM i CPW Ranges	3.0 GHz: 44600 - 158300 3.3 GHz: 37200 - 168800 3.55 GHz: 181000	N/A	3.1 GHz: 88800 - 292700 3.5 GHz: 73100 - 248550	3.8 GHz: 105200 - 343050
Capacity on Demand options	N/A	N/A	CUoD, On/Off, Utility, Trial	CUoD, On/Off, Utility, Trial
Warranty	1-yr 9x5, next business day	1-yr 9x5, next business day	1-yr 9x5, next business day	1-yr 24x7, same day
Max partitions (10/core)	160 - 240/320 ⁵	32 (DLPAR Only)	160 - 480/640 ⁵	160 - 640 ⁵
IBM i level & tier	6.1.1 Small - P20	N/A	6.1.1 Medium - P30	6.1.1 Large - P50
AIX level & group	5.3, 6.1 Small	5.3, 6.1 Small	5.3, 6.1 Medium	5.3, 6.1 Large
Linux support	SLES 10 SP3 SLES 11 RHEL (SOD) ⁶	SLES 10 SP3 SLES 11 RHEL (SOD) ⁶	SLES 10 SP3 SLES 11 RHEL (SOD) ⁶	SLES 10 SP3 SLES 11 RHEL (SOD) ⁶
PowerVM™ Express	Optional	N/A	N/A	N/A
PowerVM Standard	Optional	N/A	Optional	Optional
PowerVM Enterprise	Optional	N/A	Optional	Optional
Systems Director Express (w/VMControl)	Included	Included	Included	Included
Systems Director Standard (w/VMControl)	Optional	Optional	Optional	Optional
Systems Director Enterprise (w/VMControl)	Optional	Optional	Optional	Optional

1 The Power 780 processor card (one per node) has 16 POWER7 processor cores. If run in optional TurboCore™ mode at 4.1 GHz, only half the cores are available.
 2 The 8 GB (2 x 4 GB) memory feature on Power 750 Express and Power 755 is planned for availability March 16, 2010.
 3 The 128 GB (4 x 32 GB) memory feature on Power 770 and Power 780 is planned for availability November 19, 2010.
 4 Maximum memory capacity on Power 770 and Power 780 is 1 TB at 1066 MHz and 2 TB at 800 MHz.
 5 IBM Statement of Direction to increase the maximum number of Micro-Partitions to 320 on the Power 750 server and to 640 on Power 770 and 780 servers.
 6 IBM is working with Red Hat on POWER7 support. Red Hat plans to support the Power 750, 755, 770, and 780 models in an upcoming release targeted for availability during the 1st half of 2010. For additional questions on the availability of this release, please contact Red Hat.

RAS Features	Power 750 Express	Power 755	Power 770	Power 780
Redundant / Hot Swap Fans & Blowers	Std	Std	Std	Std
Hot Swap DASD / Media / PCI Adapters	Std	Std	Std	Std
Concurrent Firmware Update	Std	Std	Std	Std
Redundant / Hot Swap Power Supplies	Std	Std	Std	Std
Dual disk controllers (split backplane for AIX)	Opt	N/A	Std	Std
Processor Instruction Retry / Alternate Processor Recovery	Std	Std	Std	Std
Storage Keys (AIX only)	Std	Std	Std	Std
PowerVM Live Partition Mobility/Live Application Mobility ¹	Opt	N/A	Opt	Opt
PowerVM Active Memory™ Sharing ²	Opt	N/A	Opt	Opt
Redundant Service Processors	N/A	N/A	Std ³	Std ³
Redundant System Clocks	N/A	N/A	Std ³	Std ³
Redundant / Hot Swap Power Regulators	N/A	N/A	Std	Std
Dynamic Processor Sparing	N/A	N/A	Opt	Opt
Memory Sparing	N/A	N/A	Opt	Opt
Hot GX Adapter Add and Cold Repair	N/A	N/A	Std	Std
Hot-Node Add ⁴ / Cold-node Repair	N/A	N/A	Std ³	Std ³
Hot-Node Repair ⁴ / Memory Upgrade ⁴	N/A	N/A	Std ³	Std ³
Dynamic System Clock Failover	N/A	N/A	Std ³	Std ³
Chipkill Memory with Dynamic Bit Steering	Std	Std	Std	Std

1 Live Partition Mobility/Live Application Mobility is not supported on IBM i 6.1.

2 Active Memory Sharing requires AIX 6.1 TL3, IBM i 6.1 or SUSE Linux Enterprise Server 11 for Power, or later.

3 Requires two or more nodes.

4 Hot-Node Add, Hot-Node Repair and Memory Upgrade are planned for availability November 19, 2010.

See the Power Systems™ Facts and Features document for POWER7 servers (POB03022-USEN-00) for more detailed information

For more benchmark results, see http://www.ibm.com/systems/power/hardware/reports/system_perf.html

The IBM Power Systems home page on the Internet can be found at: ibm.com/systems/power/

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Commercial Processing Workload (CPW) is a relative measure of performance of systems running the IBM i operating system. rPerf (Relative Performance) is an estimate of commercial processing performance relative to other IBM UNIX systems. Actual performance will vary based on application and configuration specifics.