



## IBM i on POWER Blades Supported Environments

**Kyle Wurgler**

POWER Blades and IBM i Integration  
IBM Rochester, MN

April 2<sup>nd</sup>, 2008



The tables list the supported hardware configurations for running IBM i on a POWER blade installed in an IBM BladeCenter chassis. There is a table for each of the components: Chassis, SAN I/O Modules for BladeCenter H Chassis, Ethernet I/O Modules, Additional I/O Modules, System Management Modules, JS12 POWER Blade, JS22 POWER Blade, I/O Expansion Cards for POWER Blade, SANs, Tape Drives and Software and Firmware.

## JS12/JS22 POWER Blade and BladeCenter S Minimum Supported Environment

- BladeCenter S chassis:
  - 1 Advanced Management Module
  - 1 supported Ethernet I/O module from table below
  - 1 IBM BladeCenter S 6-Disk Storage Module
  - 2 SAS Hot-swap hard disks (73GB, 146GB or 300GB)
  - 1 SAS Connectivity Module
  
- JS12 POWER Blade:
  - JS12 blade
  - 2 GB memory
  - SAS Expansion Card (CFFv) for IBM BladeCenter
  - 1 SAS disk drive
  
- JS22 POWER Blade:
  - JS22 blade
  - 2 GB memory
  - SAS Expansion Card (CFFv) for IBM BladeCenter
  - 1 SAS disk drive

## JS22 POWER Blade and BladeCenter H Minimum Supported Environment

- BladeCenter H chassis:
  - 1 Advanced Management Module
  - 1 supported SAN I/O module from table below
  - 1 supported Ethernet I/O module from table below
  - 1 Multi-Switch Interconnect Module
  
- JS22 POWER Blade:
  - JS22 blade
  - 2 GB memory
  - QLogic Ethernet and 4 GB Fibre Channel Expansion Card (CFFh)
  - 1 SAS disk drive
 (see table below for feature codes and options)

## Chassis

Power System MTM	Supported with IBM i JS12   JS22	System x MTM	Description	Notes:

7989-BCH	N   Y	8852-xxx	BladeCenter H Chassis	<a href="http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/mainselect?familyind=5297403&amp;typeind=5297408&amp;modelind=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5297403&amp;continue.x=5&amp;continue.y=10">Download Firmware : http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/mainselect?familyind=5297403&amp;typeind=5297408&amp;modelind=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5297403&amp;continue.x=5&amp;continue.y=10</a>
7779-BCS	Y   Y	8886-xxx	BladeCenter S Chassis	<a href="http://www-304.ibm.com/systems/support/supportsite.wss/selectproduct?familyind=5356544&amp;typeind=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5356544&amp;oldtype=0&amp;taskind=2&amp;psid=sp&amp;continue.x=19&amp;continue.y=12">Download Firmware: http://www-304.ibm.com/systems/support/supportsite.wss/selectproduct?familyind=5356544&amp;typeind=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5356544&amp;oldtype=0&amp;taskind=2&amp;psid=sp&amp;continue.x=19&amp;continue.y=12</a>
n/a	N   N	8677-xxx	BladeCenter E Chassis	
n/a	N   N	8720-xxx 8730-xxx 8740-xxx 8750-xxx	BladeCenter T Chassis	

## SAN I/O Modules for BladeCenter H Chassis

At least one Fibre channel I/O module is required. This I/O module must be installed in the right I/O Module bay of a Multi Switch Interconnect Module (MSIM) that is installed in I/O bays 7 & 8 or 9 & 10. If you want redundant paths to your SAN, then two Fibre channel I/O modules are required each installed in the right I/O Module bay of two Multi Switch Interconnect Modules (MSIM) one installed in I/O bays 7 & 8 and one installed in I/O bays 9 & 10.

Power Feature Code	Supported with IBM i	System x Option Number	System x Feature Code	Description
3207	Y	32R1813	1571	Brocade 4Gb 10-port SAN Switch Module for IBM eServer BladeCenter
3206	Y	32R1812	1569	Brocade 4Gb 20-port SAN Switch Module for IBM eServer BladeCenter
n/a	N	32R1822	n/a	Brocade 4Gb 10-port Upgrade for IBM BladeCenter
3202	Y	26R0881	1560	QLogic 4Gb 20-port Fibre Channel Switch Module for eServer
3243	Y	43W6724	2986	QLogic 10-port 4Gb SAN Switch Module for IBM BladeCenter
3244	Y	43W6725	2987	QLogic 20-port 4Gb SAN Switch Module for IBM BladeCenter
3245	Y	43W6723	2985	QLogic 4Gb Intelligent Pass-thru Module for IBM BladeCenter
3241	N	39Y9284	2984	Cisco Systems 4Gb 10-port Fibre Channel Module
3242	N	39Y9280	2983	Cisco Systems 4Gb 20-port Fibre Channel Module

3217	N	32R17564	1574	Cisco Systems 4X InfiniBand Switch module for IBM BladeCenter
3178	Y	43W6836	n/a	QLogic SAN Doctor for IBM BladeCenter
3183	Y	43W6838	n/a	QLogic Enterprise Fabric Suite 2007 for IBM BladeCenter
3181	Y	43W6837	n/a	QLogic Fabric Security for IBM BladeCenter
3209	N	32R1905	1576	McData 4Gb 10-port Fibre Channel Switch Module for eServer
3208	N	32R1833	1562	McData 4Gb 20-port Fibre Channel Module for eServer BladeCenter
n/a	N	32R1912	n/a	QLogic/ McData 10-port Upgrade for IBM eServer BladeCenter
n/a	N	39Y9207	2941	QLogic InfiniBand Ethernet Bridge Module for IBM BladeCenter
n/a	N	39Y9211	2942	QLogic InfiniBand Fibre Channel BladeCenter
3216	N	43W4419	2990	4X InfiniBand Pass-thru Module for IBM BladeCenter

## Ethernet I/O Modules

At least one Ethernet I/O module installed in I/O bay 1 is required for external Ethernet connections.

For BladeCenter H Chassis: If a second external Ethernet connection is required, a second Ethernet I/O module is installed in I/O bay 2. For third and fourth external Ethernet connections, 2 additional Ethernet I/O modules are installed in the right I/O Module bay of two Multi Switch Interconnect Modules (MSIM) one installed in I/O bays 7 & 8 and one installed in I/O bays 9 & 10.

Power Feature Code	Supported with IBM i		System x Option Number	System x Feature Code	Description
	BCS	BCH			
3211	Y	Y	32R1859	1494	Nortel Networks Layer 2-7 Gb Ethernet Switch Mod for IBM BladeCenter (not supported in MSIM)
3212	Y	Y	32R1860	1495	Nortel Networks L2/L3 Copper Gb Ethernet Sw Mod for IBM BladeCenter
3213	Y	Y	32R1861	1496	Nortel Networks L2/L3 Fiber Gb Ethernet Sw Mod for IBM BladeCenter
3214	N	Y	32R1888	1497	Cisco Systems Fiber Intelligent Gb Ethrnt Sw Mod for IBM BladeCenter
3215	N	Y	32R1892	1498	Cisco Systems Intelligent Gb Ethernet Sw Mod for IBM BladeCenter
3219	Y	Y	39Y9320	2900	IBM BladeCenter Copper Passthru Module for IBM BladeCenter
3218	Y	Y	39Y9316	1556	IBM BladeCenter Optical Passthru Module for IBM BladeCenter
3220	Y	Y	39Y9324	1484	Server Connectivity Module for IBM BladeCenter
3210	Y	Y	32R1783	1493	Nortel 10Gb Uplink Ethernet Switch Module for IBM BladeCenter
n/a	N	N	39Y92674	2952	Nortel 10Gb Ethernet Switch Module for IBM BladeCenter

## Additional I/O Modules

Power Feature	Supported with IBM i	System x Option	System x Feature	Description
---------------	----------------------	-----------------	------------------	-------------

Code	BCS   BCH	Number	Code	
3239	N   Y	39Y9314	2971	Multi-Switch Interconnect Module for IBM BladeCenter H (MSIM)
3267	Y   Y	39Y9195	2980	IBM BladeCenter SAS Connectivity Module

## Systems Management Modules

Power Feature Code	Supported with IBM i BCS   BCH	System x Option Number	System x Feature Code	Description
3201	Y   Y	25R5778	1604	IBM BladeCenter KVM/Advanced Management Module

## JS12 POWER Blade

	Power Feature Code	Description	Notes
Blade	8442	IBM BladeCenter JS12 2-core, 3.8 GHz	not available yet
Processor	8444	Processor Entitlement (Qty 2)	two processor entitlements required
	8444	<u>Express Config</u> Processor Entitlement (Qty 1)	
	8443	Zero-priced Processor Entitlement (Qty 1)	
Memory	8220	2 GB (2 x 1 GB) DDR2 667 MHz DIMMs	one required, up to four supported
	8229	4 GB (2 x 2 GB) DDR2 667 MHz DIMMs	
	8239	8 GB (2 x 4 GB) DDR2 667 MHz DIMMs	
	8245	16 GB (2 x 8 GB) DDR2 533 MHz DIMMs	
Disk	8237	IBM 73 GB SAS 10K SFF HDD	one required, up to two supported
	8236	IBM 146 GB SAS 10K SFF HDD	
SAS I/O Expansion Card	8250	SAS Expansion Card (CFFv) for IBM BladeCenter	required for connection to BCS disk and SAS tape

## JS22 POWER Blade

	Power Feature Code	Description	Notes
Blade	8400	IBM BladeCenter JS22 4-core, 4.0 GHz	<a href="http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/mainselect?familyind=5358230&amp;typeir=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5358230&amp;continue.x=9&amp;continue.y=5">Download Firmware:</a> <a href="http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/mainselect?familyind=5358230&amp;typeir=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5358230&amp;continue.x=9&amp;continue.y=5">http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/mainselect?familyind=5358230&amp;typeir=0&amp;osind=0&amp;brandind=5000020&amp;oldfamily=5358230&amp;continue.x=9&amp;continue.y=5</a>
Processor	8401	Processor Entitlement (Qty 4)	four processor entitlements required
	8401	<u>Express Config</u> Processor Entitlement (Qty 2)	
	8399	Zero-priced Processor Entitlement (Qty 2)	
Memory	8232	2 GB (2 x 1 GB) DDR2 667 MHz DIMMs	one required, up to two supported
	8233	4 GB (2 x 2 GB) DDR2 667 MHz DIMMs	
	8234	8 GB (2 x 4 GB) DDR2 667 MHz DIMMs	
	8235	16 GB (2 x 8 GB) DDR2 533 MHz DIMMs	

Disk	8237	IBM 73 GB SAS 10K SFF HDD	one required
	8236	IBM 146 GB SAS 10K SFF HDD	
Fibre I/O Expansion Card	8252	QLogic Ethernet and 4 GB Fibre Channel Expansion Card (CFFh)	<ul style="list-style-type: none"> <li>required for SAN connection in BCH</li> <li>not supported in BCS</li> </ul>
SAS I/O Expansion Card	8250	SAS Expansion Card (CFFv) for IBM BladeCenter	<ul style="list-style-type: none"> <li>optional for SAS tape connection in BCH</li> <li>required for SAS disk and tape in BCS</li> </ul>

## I/O Expansion Cards on POWER Blade

Power Feature Code	Supported with IBM i		System x Option Number	System x Feature Code	Description
	BCS	BCH			
8252	N	Y	39Y9306	2968	Qlogic Ethernet & 4Gb Fibre Channel Exp Card (CFFh) for BladeCenter
8250	Y	Y	39Y9190	2979	SAS Expansion Card (CFFv) for IBM BladeCenter
8249	N	N	39Y9310	2969	Ethernet Expansion Card (CFFv) for IBM BladeCenter
8238	N	N	32R1923	1358	Qlogic iSCSI Daughtercard for IBM BladeCenter
8298	N	N	43W4420	2993	Voltaire 4X InfiniBand DDR Expansion Card (CFFh) for IBM BladeCenter
8297	N	N	43W4421	2992	Cisco 4X InfiniBand DDR Expansion Card (CFFh) for IBM BladeCenter
8256	N	N	32R1760	1466	Cisco Systems 4X InfiniBand expansion card for IBM BladeCenter
8258	N	N	43W4423	2991	4X InfiniBand DDR Expansion Card (CFFh) for IBM BladeCenter
8251	N	N	43W6859	2994	Emulex 4Gb Fibre Channel Expansion Card (CFFv) for IBM BladeCenter
8248	N	N	41Y8527	2970	QLogic 4Gb Fibre Channel Expansion Card (CFFv) for IBM BladeCenter
n/a	N	N	73P6000	1546	Myrinet Cluster Exp. Card
n/a	N	N	39R8624	1548	SFF Gb Ethernet Exp. Card
n/a	N	N	39Y9271	2967	NetXen 10Gb Ethernet Expansion Card (CFFh) for IBM BladeCenter
n/a	N	N	26K6457	1551	Topspin InfiniBand host channel expansion card for eServer
n/a	N	N	26R0890	1577	QLogic 4Gb SFF Fibre Channel Expansion Card for eServer
n/a	N	N	39Y9186	2925	Emulex 4Gb SFF Fibre Channel Expansion Card for IBM BladeCenter
n/a	N	N	26K5939	1568	cKVM Feature Card for IBM BladeCenter
n/a	N	N	39R7563	4265	IBM BladeCenter Storage and I/O Expansion Blade

## SANs

Supported with IBM i on POWER Blade in BCS   BCH	Description	Notes
N   Y	IBM System Storage DS4700	Fibre channel disk drives only
N   Y	IBM System Storage DS4800	Fibre channel disk drives only
N   Y	IBM System Storage DS8100	
N   Y	IBM System Storage DS8300	

## Tape Drives

Supported with IBM i	Description	Model number
Y	IBM System Storage TS2230 Tape Drive	3580S3E (SAS version)

## Software and Firmware

Description	Minimum Levels Required
IBM i	6.1 plus the latest PTF package and the following individual PTFs: <ul style="list-style-type: none"> <li>• SI30649</li> <li>• MF43772</li> <li>• SI30583</li> <li>• MF43935</li> </ul>
VIOS	1.5 with Fix Pack 10.1 and any individual Interim Fixes (iFixes) listed at the VIOS update Web page: <a href="http://www14.software.ibm.com/webapp/set2/sas/f/vios/download/home.html">http://www14.software.ibm.com/webapp/set2/sas/f/vios/download/home.html</a>
System firmware on POWER blade (FSP code level)	EA320_030_030 or later
Advanced Management Module firmware	BPET34E or later
Multi-Path I/O software	DS8100, DS8300 <ul style="list-style-type: none"> <li>• SDDPCM v2.1.0.8 or later</li> <li>• Download SDDPCM package for DS8000 and AIX version 5.3 from this Web page: <a href="http://www-1.ibm.com/support/docview.wss?rs=540&amp;context=ST52G7&amp;dc=D430&amp;uid=ssg1S40c=en_US&amp;cs=utf-8&amp;lang=en">http://www-1.ibm.com/support/docview.wss?rs=540&amp;context=ST52G7&amp;dc=D430&amp;uid=ssg1S40c=en_US&amp;cs=utf-8&amp;lang=en</a></li> </ul> DS4700, DS4800 <ul style="list-style-type: none"> <li>• RDAC driver which is included in base VIOS code</li> </ul>

This document was developed for IBM offerings in the United States as of the date of publication. IBM may not make these offerings available in other countries, and the information is subject to change without notice. Consult your local IBM business contact for information on the IBM offerings available in your area. Information in this document concerning non-IBM products was obtained from the suppliers of these products or other public sources. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. Send license inquires, in writing, to IBM Director of Licensing, IBM Corporation, New Castle Drive, Armonk, NY 10504-1785 USA.

All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

The information contained in this document has not been submitted to any formal IBM test and is provided "AS IS" with no warranties or guarantees either expressed or implied.

All examples cited or described in this document are presented as illustrations of the manner in which some IBM products can be used and the results that may be achieved. Actual environmental costs and performance characteristics will vary depending on individual client configurations and conditions.

IBM Global Financing offerings are provided through IBM Credit Corporation in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government clients. Rates are based on a client's credit rating, financing terms, offering type, equipment type and options, and may vary by country. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice.

IBM is not responsible for printing errors in this document that result in pricing or information inaccuracies. All prices shown are IBM's United States suggested list prices and are subject to change without notice; reseller prices may vary.

IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

Any performance data contained in this document was determined in a controlled environment. Actual results may vary significantly and are dependent on many factors including system hardware configuration and software design and configuration. Some measurements quoted in this document may have been made on development-level systems. There is no guarantee these measurements will be the same on generally-available systems. Some measurements quoted in this document may have been estimated through extrapolation. Users of this document should verify the applicable data for their specific environment.

The following terms are registered trademarks of International Business Machines Corporation in the United States and/or other countries: AIX, AIX/L, AIX/L (logo), AIX 6 (logo), alphaWorks, AS/400, BladeCenter, Blue Gene, Blue Lightning, C Set++, CICS, CICS/6000, ClusterProven, CT/2, DataHub, DataJoiner, DB2, DEEP BLUE, developerWorks, DirectTalk, Domino, DYNIX, DYNIX/ptx, e business (logo), e (logo) business, e (logo) server, Enterprise Storage Server, ESCON, FlashCopy, GDDM, i5/OS, i5/OS (logo), IBM, IBM (logo), ibm.com, IBM Business Partner (logo), Informix, IntelliStation, IQ-Link, LANStreamer, LoadLeveler, Lotus, Lotus Notes, Lotusphere, Magstar, MediaStreamer, Micro Channel, MQSeries, Net.Data, Netfinity, NetView, Network Station, Notes, NUMA-Q, OpenPower, Operating System/2, Operating System/400, OS/2, OS/390, OS/400, Parallel Sysplex, PartnerLink, PartnerWorld, Passport Advantage, POWERparallel, Power PC 603, Power PC 604, PowerPC, PowerPC (logo), Predictive Failure Analysis, pSeries, PTX, ptx/ADMIN, Quick Place, Rational, RETAIN, RISC System/6000, RS/6000, RT Personal Computer, S/390, Sametime, Scalable POWERparallel Systems, SecureWay, Sequent, ServerProven, SpaceBall, System/390, The Engines of e-business, THINK, Tivoli, Tivoli (logo), Tivoli Management Environment, Tivoli Ready (logo), TME, TotalStorage, TURBOWAYS, VisualAge, WebSphere, xSeries, z/OS, zSeries.

The following terms are trademarks of International Business Machines Corporation in the United States and/or other countries: Advanced Micro-Partitioning, AIX 5L, AIX PVM, AS/400e, Calibrated Vectors Cooling, Chiphopper, Chipkill, Cloudscape, DataPower, DB2 OLAP Server, DB2 Universal Database, DFDSM, DFSORT, DS4000, DS6000, DS8000, e-business (logo), e-business on demand, EnergyScale, Enterprise Workload Manager, eServer, Express Middleware, Express Portfolio, Express Servers, Express Servers and Storage, General Purpose File System, GigaProcessor, GPFS, HACMP, HACMP/6000, IBM Systems Director Active Energy Manager, IBM TotalStorage Proven, IBMLink, IMS, Intelligent Miner, iSeries, Micro-Partitioning, NUMACenter, On Demand Business logo, POWER, PowerExecutive, PowerVM, PowerVM (logo), Power Architecture, Power Everywhere, Power Family, POWER Hypervisor, Power PC, Power Systems, Power Systems (logo), Power Systems Software, Power Systems Software (logo), PowerPC Architecture, PowerPC 603, PowerPC 603e, PowerPC 604, PowerPC 750, POWER2, POWER2 Architecture, POWER3, POWER4, POWER4+, POWER5, POWER5+, POWER6, POWER6+, pure XML, Quickr, Redbooks, Sequent (logo), SequentLINK,

Server Advantage, ServeRAID, Service Director, SmoothStart, SP, System i, System i5, System p, System p5, System Storage, System z, System z9, S/390 Parallel Enterprise Server, Tivoli Enterprise, TME 10, TotalStorage Proven, Ultramedia, VideoCharger, Virtualization Engine, Visualization Data Explorer, Workload Partitions Manager, X-Architecture, z/Architecture, z/9.

A full list of U.S. trademarks owned by IBM may be found at: <http://www.ibm.com/legal/copytrade.shtml>.

The Power Architecture and Power.org wordmarks and the Power and Power.org logos and related marks are trademarks and service marks licensed by Power.org.

UNIX is a registered trademark of The Open Group in the United States, other countries or both.

Linux is a trademark of Linus Torvalds in the United States, other countries or both.

Microsoft, Windows, Windows NT and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries or both.

Intel, Itanium, Pentium are registered trademarks and Xeon is a trademark of Intel Corporation or its subsidiaries in the United States, other countries or both.

AMD Opteron is a trademark of Advanced Micro Devices, Inc.

Java and all Java-based trademarks and logos are trademarks of Sun Microsystems, Inc. in the United States, other countries or both.

TPC-C and TPC-H are trademarks of the Transaction Performance Processing Council (TPPC).

SPECint, SPECfp, SPECjbb, SPECweb, SPECjAppServer, SPEC OMP, SPECviewperf, SPECcapc, SPECchpc, SPECjvm, SPECmail, SPECimap and SPECsfs are trademarks of the Standard Performance Evaluation Corp (SPEC).

NetBench is a registered trademark of Ziff Davis Media in the United States, other countries or both.

AltiVec is a trademark of Freescale Semiconductor, Inc.

Cell Broadband Engine is a trademark of Sony Computer Entertainment Inc.

InfiniBand, InfiniBand Trade Association and the InfiniBand design marks are trademarks and/or service marks of the InfiniBand Trade Association.

Other company, product and service names may be trademarks or service marks of others.