

### Single-Socket



	IBM HS12
CPU brand	Intel
Uni CPUs	Celeron 445
Dual Core CPUs	E3113, E6405, E6305
Quad Core CPUs	X3363, L5420
Exa Core CPUs	
Chipset	
Max memory (GB)	24
Physical memory slots	6
Chipkill / Online Spare/ Mirroring	Yes / No / No
Memory expansion blade supported	No
Standard NIC ports	2
Std. TOE / iSCSI	No / No
Max NICs/FC ports (concurrently)	8/0* or 4/4*
Expansion cards max	2
SAS expansion card supported	Yes
Ethernet	2-port Gb, 4-port GB, 2-port 10Gb (NetXen or Broadcom), 4-port 10Gb (Broadcom)
CNA (Converged Network Adapters)	QLogic 2-port 10 Gbps CNA
PCI expansion blade	Yes
Virtualized I/O card	N/A
InfiniBand	2-port Cisco 4x, 2-port Cisco 4x DDR, 2-port Voltaire 4x DDR,
Light Path Diagnostics on blade (also when off)	Yes
iSCSI	QLogic HBA
Fibre Channel	2-port Qlogiq, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet)
Solid State Disks (SATA/USB)	2 SATA (50GB)
SAS / SATA disks	SAS or SATA
SAS Max # HDD	2 (+3 on SIO blade)
SAS hot swap	Yes
RAID standard	0,1
RAID as option	RAID 5 & BBWC in SIO
Combo card support (FC + E/Net)	Yes, QLogic (2+2ports, also 8Gbps FC)
Pre-failure Alert	Memory, CPU, optional disk
TPM	No
Blade slots occupied in chassis	1 (2 if SIO or PCI exp. Blade used)

\* in BCH with MSIM

### 2 Sockets x86



	IBM HS21XM
CPU brand	Intel
Uni CPUs	
Dual Core CPUs	X5260, L5240
Quad Core CPUs	X5460, E5450, L5430
Exa Core CPUs	
Chipset	
Max memory (GB)	64
Physical memory slots	8
Chipkill / Online Spare/ Mirroring	No / Yes / No
Memory expansion blade supported	No
Standard NIC ports	2
Std. TOE / iSCSI	Yes / Yes
Max NICs/FC ports (concurrently)	8/0* or 4/4*
Expansion cards max	2 (3 in SIO blade)
SAS expansion card supported	Yes
Ethernet	2-port Gb, 4-port GB, 2-port 10Gb (NetXen or Broadcom), 4-port 10Gb (Broadcom)
CNA (Converged Network Adapters)	QLogic 2-port 10 Gbps CNA
PCI expansion blade	Yes
Virtualized I/O card	
InfiniBand	2-port Cisco 1x, 2-port Cisco 4x, 2-port Cisco 4x DDR, 2-port Voltaire 4x DDR,
Light Path Diagnostics on blade (also when off)	Yes
iSCSI	QLogic HBA
Fibre Channel	2-port Qlogiq, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet), 2-port 8Gbps Qlogic
Solid State Disks (SATA/USB)	Yes/Yes
SAS / SATA disks	SAS
SAS Max # HDD	1 (3 with SIO blade)
SAS hot swap	No (3 in SIO blade)
RAID standard	0,1
RAID as option	RAID 5 & BBWC in SIO
Combo card support (FC + E/Net)	Yes, QLogic (2+2ports, also 8Gbps FC)
Pre-failure Alert	Memory, CPU, optional disk
TPM	No
Blade slots occupied in chassis	1 (2 if SIO or PCI exp. Blade used)

\* in BCH with MSIM

### 2 Sockets x86 "Nehalem"



	IBM HS22
CPU brand	Intel
Uni CPUs	
Dual Core CPUs	E5502
Quad Core CPUs	x5570, E5540, E5506, L5520
Exa Core CPUs	
Chipset	Intel 5520
Max memory (GB)	96
Physical memory slots	12
Chipkill / Online Spare/ Mirroring	Yes* / No / Yes
Memory expansion blade supported	No
Standard NIC ports	2 (Broadcom 5709S)
Std. TOE / iSCSI	Yes / Yes
Max NICs/FC ports (concurrently)	8/0** or 4/4**
Expansion cards max	2
SAS expansion card supported	Yes
Ethernet	2-port Gb, 4-port GB, 2-port 10Gb (NetXen or Broadcom), 4-port 10Gb (Broadcom 57711)
CNA (Converged Network Adapters)	QLogic 2-port 10 Gbps CNA, Emulex Virtual Fabric Adapter
PCI expansion blade	No
Virtualized I/O card	Emulex Virtual Fabric Adapter
InfiniBand	2-port Cisco 4x, 2-port Cisco 4x DDR, 2-port Voltaire 4x DDR, 2-port QDR CFFh
Light Path Diagnostics on blade (also when off)	Yes
iSCSI	QLogic HBA
Fibre Channel	2-port Qlogiq, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet), 2-port 8Gbps Qlogic
Solid State Disks (SATA/USB)	Yes / USB for hypervisor
SAS / SATA disks	Yes/Yes
SAS Max # HDD	2
SAS hot swap	Yes
RAID standard	0,1
RAID as option	RAID 5 and BBWC
Combo card support (FC + E/Net)	Yes, QLogic (2+2ports, also 8Gbps FC)
Pre-failure Alert	Memory, CPU, disk
TPM	TPM Version 1.2 chip
Blade slots occupied in chassis	1

\* Nehalem-EP memory controllers support Chipkill technology with x4 DIMM's, but not with x8 DIMM's without using lockstep mode.  
\*\* in BCH with MSIM

### 2 Sockets x86 "Istanbul"



	IBM LS22
CPU brand	AMD
Uni CPUs	
Dual Core CPUs	
Quad Core CPUs	2384, 2376HE, 2356, 2347 HE
Exa Core CPUs	2435
Chipset	
Max memory (GB)	64 (up to 800MHz)
Physical memory slots	8
Chipkill / Online Spare/ Mirroring	Yes(2 or4GBDIMMs) / No / No (Memory Booster)
Memory expansion blade supported	No
Standard NIC ports	2 (Broadcom 5709S)
Std. TOE / iSCSI	Yes / Yes
Max NICs/FC ports (concurrently)	8/0* or 4/4*
Expansion cards max	2
SAS expansion card supported	Yes
Ethernet	2-port Gb, 4-port GB, 2-port 10Gb (NetXen or Broadcom), 4-port 10Gb (Broadcom)
CNA (Converged Network Adapters)	QLogic 2-port 10 Gbps CNA
PCI expansion blade	Yes
Virtualized I/O card	Emulex Virtual Fabric Adapter
InfiniBand	2-port Cisco 4x, 2-port Cisco 4x DDR, 2-port Voltaire 4x DDR,
Light Path Diagnostics on blade (also when off)	Yes
iSCSI	QLogic HBA
Fibre Channel	2-port Qlogiq, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet), 2-port 8Gbps Qlogic
Solid State Disks (SATA/USB)	Yes (2) (also 1 int. USB port)
SAS / SATA disks	SAS
SAS Max # HDD	2
SAS hot swap	No
RAID standard	0,1
RAID as option	
Combo card support (FC + E/Net)	Yes, QLogic (2+2ports, also 8Gbps FC)
Pre-failure Alert	Memory, CPU, optional disk
TPM	No
Blade slots occupied in chassis	1

\* in BCH with MSIM

### 4 Socket x86



	IBM LS42
CPU brand	AMD
Uni CPUs	
Dual Core CPUs	
Quad Core CPUs	8384, 8376HE, 8356, 8347HE
Exa Core CPUs	8435
Chipset	
Max memory (GB)	128 (up to 800MHz)
Physical memory slots	16
Chipkill / Online Spare/ Mirroring	Yes(2 or4GBDIMMs) / No / No (Memory Booster)
Memory expansion blade supported	No
Standard NIC ports	4 (Broadcom 5709S)
Std. TOE / iSCSI	Yes / Yes
Max NICs/FC ports (concurrently)	12/0 or 4/6
Expansion cards max	3
SAS expansion card supported	Yes
Ethernet	2-port Gb, 4-port GB, 2-port 10Gb (NetXen or Broadcom), 4-port 10Gb (Broadcom)
CNA (Converged Network Adapters)	QLogic 2-port 10 Gbps CNA
PCI expansion blade	Yes
Virtualized I/O card	Emulex Virtual Fabric Adapter
InfiniBand	2-port Cisco 4x, 2-port Cisco 4x DDR, 2-port Voltaire 4x DDR,
Light Path Diagnostics on blade (also when off)	Yes
iSCSI	QLogic HBA
Fibre Channel	2-port Qlogiq, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet)
Solid State Disks (SATA/USB)	Yes (2) (also 1 int. USB port)
SAS / SATA disks	SAS
SAS Max # HDD	2
SAS hot swap	No
RAID standard	0,1
RAID as option	-
Combo card support (FC + E/Net)	Yes, QLogic (2+2ports, also 8Gbps FC)
Pre-failure Alert	Memory, CPU, optional disk
TPM	No
Blade slots occupied in chassis	1

\* in BCH with MSIM

**Single-Socket Non-x86**



**IBM JS12**

**2 Socket Non-x86**



**IBM QS22**

**2 Socket Non-x86**



**IBM JS23**

**4 Socket Non-x86**



**IBM JS43**

**Telco Blades**

All blades except LS42\*

	IBM JS12	IBM QS22	IBM JS23	IBM JS43
CPU brand	IBM Power6	Cell Broadband Engine	IBM Power6+	IBM Power6+
Uni CPUs				
Dual Core CPUs	3,8GHz Power 6	IBM PowerXCell 8i (1 PPE + 8 SPE)*	4,2 GHz Power6+	4,2 GHz Power6+
Quad Core CPUs				
Max memory (GB)	64	32	64	128
Physical memory slots	8		8	16
Chipkill / Online Spare/ Mirroring	Yes / No (Bit Steering) / No		Yes / No (Bit Steering) / No	Yes / No (Bit Steering) / No
Memory expansion blade supported	No		No	No
Standard NIC ports	Integrated Virtual ethernet (2)	2 (Virtual I/O supported)	2	4 (Virtual I/O supported)
Std. TOE / iSCSI	No / No	No (I/O bridge chip=)	No / No	No / No
Max NICs/FC ports (concurrently)	6/2* or 4/4*	N/A	6/2* or 4/4*	10/2* or 6/4*
Expansion cards max	2	1	2	4
SAS expansion card supported	Yes	Yes	Yes	Yes
Fibre Channel	2-port Qlogic, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet)	No	2-port Qlogic, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet), all also 8Gbps	2-port Qlogic, 2-port Emulex, combo QLogic (incl. 2-port FC + 2-port Ethernet), all also 8Gbps
Ethernet	2-port Gb, 4-port Gb	No	No	No
CNA (Converged Network Adapters)	Yes, QLogic (2+2ports)	No	Yes, QLogic (2+2ports)	Yes, QLogic (2+2ports)
Virtualized I/O card	No	No	No	No
Combo card support (FC + E/Net)	QLogic 2-port CNA	No	QLogic 2-port 10 Gbps CNA	QLogic 2-port 10 Gbps CNA
InfiniBand	2-port Cisco 4x, 2-port Voltaire 4x DDR,	Cisco DDR 4x	2-port Voltaire DDR 4x, 2-port 4x DDR	2-port Voltaire DDR 4x, 2-port 4x DDR
iSCSI	QLogic HBA	No	No	No
PCI expansion blade	Yes	Yes	No	No
Solid State Disks (SATA/USB)	No	Flash drive	Yes/No	Yes/No
SAS / SATA disks	SAS	No	SAS	SAS
SAS Max # HDD	2	0	1	1
SAS hot swap	No	No	No	No
RAID standard	0, 1	No	No	No
RAID as option	-	No	No	No
Light Path Diagnostics on blade (also when off)	No	No	Yes	Yes
Pre-failure Alert	No	No	Yes	Yes
TPM	1	1	1	2
Blade slots occupied in chassis	No	No	No	No

\* in BCH with MSIM

\* Power Processor Element (PPE) Synergistic Processor Elements (SPE)

\* in BCH with MSIM

\* in BCH with MSIM

\* Some combinations of chassis and blades might be subject to restrictions. See the interoperability guide <http://www-947.ibm.com/systems/support/supportsite.wss/docdisplay?lnocid=MIGR-5073016&brandind=5000020>