DATASHEET
FUJITSU PRIMERGY BX924 S2 DUAL-SOCKET SERVER BLADE

Datasheet for Red Hat certification

SERVER BLADE WITH VIRTUALIZATION FITNESS AT ALL LEVELS, BE IT COMPUTE POWER OR I/O THROUGHPUT

The PRIMERGY BX Blade Servers are the ideal choice for data center solutions of today and tomorrow. Our blade servers provide maximum performance and maximum redundancy, but with only minimum space requirements, low power consumption and a reduction in the time and effort required for cabling. The PRIMERGY BX system family is designed to share components between chassis in order to react quickly and easily to changing business requirements. Storage and server blades can be added without any extra effort, as would be needed when cabling or adding management software. You can use the same applications, rely on the same server and storage components and establish connections to the same networks. The PRIMERGY BX Blade Servers are flexible and have complete control via a central administration instance that is redundant in design; they minimize administrative time and effort, freeing you of time-consuming administration tasks. Our build-to-order process ensures that only completely installed and previously tested solutions are supplied, which have been precisely adapted to individual requirements and which will grow with future business requirements.

PRIMERGY BX924 S2

The PRIMERGY BX924 S2 server blade is operated by two CPUs of the Intel® Xeon® processor 5500 and 5600 series, each with up to 6 cores. Chipset and CPU provide comprehensive, hardware based virtualization support, being supplemented by additional functions of the dual port 10 Gigabit Ethernet controller Intel® 82599, integrated on motherboard. Up to 18 DIMM modules in the system allow for a scalability that was never before possible, playing into the hands of consolidation demands in the datacenter. A large amount of applications may be controlled by Hypervisor based solutions from VMware, Microsoft, RedHat, Suse or Citrix. Although servers are being booted more and more via network, be it with iSCSI protocols and Ethernet, or SAN topologies and Fibre Channel, this system is enabled for local boot, too. This may optionally be realized by use of solid state drives that combine outstanding performance and high reliability. For VMware ESXi the boot procedure may also be done using a USB connected Flash Module. The efficient administration of the entire system via ServerView is supported by the integrated Remote Management Controller (iRMC S2); the hardware monitoring and setting options can thus be optimally visualized in order to use all options at the highest energy-efficiency levels.

FEATURES AND BENEFITS

MAIN FEATURES	BENEFITS
BOOSTING APPLICATION POWER	
■ Single-wide, half-high Server Blade, predestined for use as high performing application server.	■ High performance with up to 12 processor cores for a wide variety of data center applications.
■ The "Power" Blade for Virtual Machines provides 18 slots for memory and abandons the use of magnetic disk drives.	■ Requirements for remote boot and maximum available memory capacity are perfectly fulfilled hereby, thus mainly virtualized environments may be served best. ■ Easy boot of OS like a Hypervisor (e. g. VMware) via USB connected Flash Module.
CORE TECHNOLOGY FOR HIGH PERFORMANCE	
■ Next generation Intel® platform architecture realized: Intel® QuickPath for Westmere's integrated memory controllers (high-speed connections between microprocessors and external memory, and between microprocessors and the I/O hub).	■ Best-in-class performance, bandwidth, and reliability, through integrated memory controllers and a high-speed interconnect for connecting processors and other components; enables systems to fully unleash the new levels of performance that new and more powerful next generation microarchitecture-based processor cores deliver.
POWER CONSUMPTION UNDER CONTROL	
■ Next generation Intel® microarchitecture with Quad- and Six-Core CPUs of the Intel® Xeon® processor 5600 series (Westmere), based on the 32-nanometer silicon technology; includes different versions from LV up to high performance models; enabled to execute four instructions per clock cycle, simultaneous multi-threading (SMT) with 2 threads per core, up to 12 MB fully inclusive, fully shared L3 cache. ■ Extended Page Table (EPT) included.	■ More performance in the same power and thermal envelope. ■ Outstanding energy efficiency and performance on demand through dynamic management of cores, threads, cache, interfaces, and power at runtime. ■ Improved virtualization performance due to better collaboration between guest and host OS.
HASSLE-FREE MANAGEABILITY	
■ Management with integrated Remote Management Controller (iRMC S2).	■ Server access and extensive control, even at remote locations. Routine tasks and maintenance measures in the event of server problems can be conducted remotely and efficiently, thus avoiding the need for time-consuming and cost-intensive call-outs. Use of shared or dedicated Service LAN depending on customers' demands.
I/O IN LINE WITH DEMAND	
■ IO components: 2 channel 10 GbE on board, 2 slots for optional mezzanine cards (Quad GbE, Dual 10 GBASE-KR, Dual 8 Gbit/s FC, Dual 40 Gb/s Infiniband)	■ High IO capacity of the Blade Server system itself allows for use of a large number of diverse Server Blade internal IO components in parallel

TECHNICAL DETAILS

MAINBOARD	
Mainboard type	D 2952
Chipset	Intel® 5500
Processor quantity and type	2 x Intel® Xeon® processor 5500 series / Intel® Xeon® processor 5600 series
PROCESSOR	Intel® Xeon® processor E5503 (2C/2T, 2.00 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W)
	Intel® Xeon® processor E5506 (4C/4T, 2.13 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W)
	Intel® Xeon® processor E5507 (4C/4T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W)
	Intel® Xeon® processor E5620 (4C/8T, 2.40 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W)
	Intel® Xeon® processor E5630 (4C/8T, 2.53 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W)
	Intel® Xeon® processor E5640 (4C/8T, 2.66 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W)
	Intel® Xeon® processor L5609 (4C/4T, 1.86 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 40 W)
	Intel® Xeon® processor L5630 (4C/8T, 2.13 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 40 W)
	Intel® Xeon® processor L5640 (6C/12T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/3/3/4/4, 6.4 GT/s, Mem bus: 1333 MHz, 60 W)
	Intel® Xeon® processor X5650 (6C/12T, 2.66 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5660 (6C/12T, 2.80 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5667 (4C/8T, 3.06 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5670 (6C/12T, 2.93 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5677 (4C/8T, 3.46 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W)
	Intel® Xeon® processor X5680 (6C/12T, 3.33 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W)
Processor notes	CPUs with 130W TDP not operable in combination with SSDs. #Inlet temperatures higher than 30° C plus operation of CPUs with 130 W TDP or of CPUs with 95 W TDP and SSDs may lead to reduced system performance.
Memory slots	18 (3 channels per CPU with 3 slots each)
Memory slot type	DIMM (DDR3)
Memory capacity (min. - max.)	1 GB - 192 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC (Chipkill™) Memory Mirroring support Hot-spare memory support
MEMORY MODULES INDEPENDENT MODE	2 GB (1 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	2 GB (1 module(s) 2 GB) DDR3, unbuffered, ECC, 1333 MHz, PC3-10600, DIMM
	2 GB (1 module(s) 2 GB) DDR3 LV, unbuffered, ECC, 1333 MHz, PC3-10600, DIMM
	4 GB (1 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	4 GB (1 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	8 GB (1 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	8 GB (1 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	16 GB (1 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM

MEMORY MODULES MIRRORED MODE	4 GB (2 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	8 GB (2 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	8 GB (2 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	16 GB (2 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	16 GB (2 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	32 GB (2 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM
MEMORY MODULES SPARE OR PERFORMANCE MODE	6 GB (3 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	12 GB (3 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	12 GB (3 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	24 GB (3 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	24 GB (3 module(s) 16 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	48 GB (3 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM
Memory modules notes	Currently available 16 GB DIMMs are quad ranked and maybe installed up to 12 times.
INTERFACES	
USB ports	4 x USB at the front via special cable
Graphics (15-pin)	1 x VGA at the front via special cable
Service LAN (RJ45)	Service LAN traffic can be switched to shared onboard Gbit LAN port
I/O CONTROLLER ON BOARD	
LAN Controller	1 x Intel® 82599, 2 x 10 Gbit/s Ethernet, Intel® VT-c (includes I/OAT, VMDq, VMDc = PCI-SIG SR-IOV)
Remote Management Controller	Integrated Remote Management Controller (iRMC S2, 32 MB attached memory incl. graphics controller)
Trusted Platform Module (TPM)	Infineon / 1.2 (option)
SLOTS	
PCI-Express 2.0 x8	2 x BX900 Mezzanine
DRIVE BAYS	
Hard disk bays	2 x 2.5-inch non hot-plug SATA SSD
OPERATING PANEL	
Operating buttons	On/off switch ID button
Status LEDs	Power (amber / green) System status (amber) LAN connection (green) Identification (blue) CSS (yellow)
BIOS	
BIOS features	Local and remote update via ServerView Update Manager Online update tools for main Windows and Linux versions SMBIOS V2.6 Remote PXE boot support Remote iSCSI boot support
CERTIFIED OR SUPPORTED OPERATING SYSTEMS	
Certified or supported operating systems	Microsoft® Windows Server® 2008 R2 (containing Hyper-V) Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2003 R2 Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux Citrix® XenServer™ VMware Infrastructure VMware vSphere 4.0 Note: Support of other Linux derivatives on demand
Operating system release link	http://docs.ts.fujitsu.com/dl.aspx?id=a9e600b9-e4cb-4f48-aa41-632f69058421

SERVER MANAGEMENT	
Standard	ServerView Suite: SV Installation Manager SV Operation Manager SV RAID Manager SV Update Management SV Power Management SV Agents ASR&R Automatic Server Recovery and Restart PDA Prefailure Detection and Anaylsis
Server Management notes	Regarding Operating System dependencies for ServerView Suite Software Products see dedicated Product Data sheets.
DIMENSIONS / WEIGHT	
Dimensions (W x D x H)	45 x 500 x 210 mm
Weight	5,75 kg
Weight notes	Actual weight may vary depending on configuration
ENVIRONMENTAL	
Temperature note	In accordance with the corresponding PRIMERGY BX900 System Unit
Electrical values	
COMPLIANCE	
Germany	GS
Europe	CE Class A *
Compliance notes	In combination with corresponding PRIMERGY BX system unit
Compliance link	https://sp.ts.fujitsu.com/sites/certificates/default.aspx

COMPONENTS

HARD DISK DRIVES	SSD SATA, 3 Gb/s, 64 GB, SLC, non-hot-plug, 2.5-inch, enterprise
	SSD SATA, 3 Gb/s, 32 GB, SLC, non-hot-plug, 2.5-inch, enterprise
Hard disk notes	One Gigabyte equals one billion bytes, when referring to hard disk drive capacity.
MEZZANINE CARDS	Fibre Channel Mezzanine Card 2 x 8 Gb Emulex (MC-FC82E), PCIe x4
	Ethernet Mezzanine Card 4 ports int. x 1 Gb Fujitsu (), PCIe x4
	InfiniBand Mezzanine Card 2 x 40 Gb Mellanox (), PCIe x8
	Ethernet Mezzanine Card 2 x 10 Gb, PCIe Gen2 x8
WARRANTY	
Standard Warranty	3 years
Service level	(depending on country)
MAINTENANCE AND SUPPORT SERVICES - THE PERFECT EXTENSION	
Recommended Service	7x24, Onsite Response Time: 4h - For locations outside of EMEA please contact your local Fujitsu partner.
Spare Parts availability	5 years
Service Weblink	http://ts.fujitsu.com/Supportservice

FUJITSU PLATFORM SOLUTIONS

In addition to Fujitsu PRIMERGY BX924 S2, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Dynamic Infrastructures
With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

Computing Products
www.fujitsu.com/global/services/computing/

Software
www.fujitsu.com/software/

MORE INFORMATION

Learn more about Fujitsu PRIMERGY BX924 S2, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
http://ts.fujitsu.com/Primergy

FUJITSU GREEN POLICY INNOVATION

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT.
Please find further information at http://www.fujitsu.com/global/about/environment/

Green Policy Innovation

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2010-07-09 CE-EN