FUJITSU

DATASHEET
FUJITSU PRIMERGY BX960 S1 QUAD SOCKET SERVER BLADE

Datasheet for Red Hat certification

DYNAMICS PAIRED WITH HIGH SCALING

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 BX960 S1

The PRIMERGY BX960 S1 server blade enables the use of the next generation Intel® Xeon® processors with up to 8 cores à two threads. In conjunction with the QuickPath architecture and the on-chip memory controllers, these processors enable a greatly increased Server Blade performance in contrast to the predecessor generations. Four of these processors can be used in the BX960 S1 Server Blade, together with up to 32 DDR3 RDIMM main memory modules and two Dual-Channel Intel 82599 based 10 Gigabit Ethernet controllers onboard. A USB flash module useable for VMware ESXi, up to two SSD data media and four Mezzanine I/O cards complete this full-height server blade (single width). The perfect alignment of processor performance, main memory capacity and I/O bandwidth makes the PRIMERGY BX960 S1 ideal, on the one hand as

a consolidation platform with virtualization solutions using any market-relevant hypervisor and, on the other hand, as a server which efficiently and reliably meets the high-level requirements for database management systems for medium and large-sized databases.

The integrated Remote Management Controller (iRMC S2) - in conjunction with the actual server management software optionally incl. the resource manager RCVE - offers that level of security and easy operation which is essential for operating your business critical data center applications

FEATURES AND BENEFITS

MAIN FEATURES	BENEFITS
SCALABLE PERFORMANCE ■ Four CPUs in the Intel® Xeon® processor 7500 series with 4, 6 or 8 cores à 2 threads, 24 MB Third Level Cache, Turbo Boost Technology, Demand Based Switching and internal Memory Management Unit. The local memory controllers in the Intel® QuickPath architecture enable the BX960 S1 a high-speed bandwidth of up to 25.6 GT/s between the individual processors, the main memory and the processors as well as I/O hub and processors	■ Scalable performance meets the highest requirements for consolidation scenarios with many applications as well as single instance applications, such as database management
EASY TO MANAGE, SECURE IN ITS OPERATION ■ The administration via the integrated Remote Management Controller (iRMC S2) enables access to individual servers and extensive control, even at remote locations as a result of the standard enclosed iRMC Advanced Pack. The integrated Pre-failure Detection and Analysis function provides reliable operations in all circumstances. Increased reliability via the Machine Check Architecture (MCA) which is used for the first time in Intel® Xeon® processors and which optimizes operation in business-critical environments in cooperation with the operating systems	■ Simple and reliable administration, control and operation
VARIABLE SYSTEM START OPTIONS ■ Various server boot options, e.g. from local Solid State Disks, from a USB Flash module for VMware ESXi or via the network make the server ideal for every application. It is thus an excellent platform for both virtualized and physical environments	■ A wide range of application options for an easy journey - from a local to a network-based system start.
HIGH PERFOMANCE LEVELS ON THE DATA HIGHWAY ■ Two onboard integrated Dual-Channel Intel® 82599 10 Gigabit Ethernet controllers with VMDq and SR-IOV support are standard. Four PCI Express 2.0 Mezzanine slots permit a combination of Quad-Port 1 Gbit and Dual-Port 10Gbit Ethernet and Dual-Port 8 Gbit Fibre Channel with excellent connection features via the high-performance midplane of the Blade Server chassis. The high I/O capacity of the server blade allows optimal use of different I/O protocols, ensuring smooth operations for demanding applications	■ I/O connectivity with the label "Best-in-Class", flexible and performant, for a balanced operation of virtualized and physical applications in business-critical environments

TECHNICAL DETAILS

MAINBOARD	
Mainboard type	D2873
Chipset	Intel® 7500
Processor quantity and type	2 or 4 x Intel® Xeon® processor 7500 series

PROCESSOR	
PROCESSOR	Intel® Xeon® processor E7520 (4C/8T, 1.86 GHz, SLC: -, TLC: 18 MB, Turbo: No, 4.8 GT/s, 95 W)
	Intel® Xeon® processor E7530 (6C/12T, 1.86 GHz, SLC: -, TLC: 12 MB, Turbo: 0/1/1/2, 5.86 GT/s, 105 W)
	Intel® Xeon® processor E7540 (6C/12T, 2.00 GHz, SLC: -, TLC: 18 MB, Turbo: 0/1/1/2, 6.4 GT/s, 105 W)
	Intel® Xeon® processor L7545 (6C/12T, 1.86 GHz, SLC: -, TLC: 18 MB, Turbo: 0/1/3/5, 5.86 GT/s, 95 W)
	Intel® Xeon® processor L7555 (8C/16T, 1.86 GHz, SLC: -, TLC: 24 MB, Turbo: 1/2/4/5, 5.86 GT/s, 95 W)
	Intel® Xeon® processor X7542 (6C/6T, 2.66 GHz, SLC: -, TLC: 18 MB, Turbo: 0/1/1/1, 5.86 GT/s, 130 W)
	Intel® Xeon® processor X7550 (8C/16T, 2.00 GHz, SLC: -, TLC: 18 MB, Turbo: 1/2/3/3, 6.4 GT/s, 130 W)
	Intel® Xeon® processor X7560 (8C/16T, 2.26 GHz, SLC: -, TLC: 24 MB, Turbo: 1/2/3/3, 6.4 GT/s, 130 W)
Processor notes	The number of CPUs with 130W TDP in the server blade is limited to 2.
Memory slots	32 (4 channels per CPU with 2 slots each)
Memory slot type	DIMM (DDR3) registered
Memory capacity (min. - max.)	8 GB - 256 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC (Chipkill™) Memory Mirroring support Hot-spare memory support

MEMORY OPTIONS	
MEMORY OPTIONS	64 GB (4 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM
	32 GB (4 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	16 GB (4 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	8 GB (4 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM

INTERFACES	
USB ports	4 x USB at the front via special cable
Graphics (15-pin)	1 x VGA at the front via special cable
Serial connection	1 x RS232 (9-pin) at the front via special cable
LAN / Ethernet (RJ-45)	4 x 10 Gbit Ethernet via Midplane to Ethernet Connection Blade
Service LAN (RJ45)	Service LAN traffic can be switched to shared onboard Gbit LAN port

I/O CONTROLLER ON BOARD	
SATA Controller	ICH10R
LAN Controller	2 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	4 x BX900 Mezzanine Card

DRIVE BAYS	
Hard disk bays	2 x 2.5-inch non hot-plug SATA SSD
Hard disk bay configuration	The BX960 S1 Mezzanine/Disk mounting kit is required. This kit uses Mezzanine card module 1.

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	BIOS settings save and restore Local and remote update via ServerView Update Manager Remote PXE boot support SMBIOS V2.6 Online update tools for main Windows and Linux versions ROM based setup utility Local BIOS update from USB device

CERTIFIED OR SUPPORTED OPERATING SYSTEMS

Certified or supported operating systems	Microsoft® Windows Server® 2008 R2 Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2003 R2 Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux VMware vSphere 4.0 Citrix® XenServer™ 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	ASR&R Automatic Server Recovery and Restart
	PDA Prefailure Detection and Anaylsis
	ServerView Suite:
	      SV Installation Manager
	      SV Operation Manager
	      SV RAID Manager
	      SV Update Management
	      SV Power Management
	      SV Agents
	iRMC S2 Advanced Pack
	Online update packages for BIOS, firmware drivers and ServerView Agents
	ServerView Integration solutions for Microsoft SMS, MOM, SCOM, SCCM and Altiris
	Deployment Solution ServerView Deployment Manager (fully functional 30-day trial version)

Option	ServerView VIOM - Virtual IO Manager ServerView Remote Management ServerView Integration for Tivoli TEC®, Tivoli NetView, HP NNM and HP Operations Manager
Server Management notes	Regarding Operating System dependencies for ServerView Suite Software Products see dedicated Product Data sheets. ServerView VIOM available with BIOS update from Q4/2010.

DIMENSIONS / WEIGHT

Dimensions (W x D x H)	45 x 500 x 420 mm
Weight	12,5 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 *
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronical equipment)

COMPLIANCE

Compliance notes	In combination with corresponding PRIMERGY BX system unit
	There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request.
	* Warning:
	This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
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	FibreChannel Mezzanine Card 2 x 8 Gb Emulex (MC-FC82E), PCIe x4
	Ethernet Mezzanine Card 2 x 10 Gb Fujitsu , PCIe Gen2 x8
	Ethernet Mezzanine Card 4 x 1 Gb Fujitsu , PCIe x4

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 BX960 S1, 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 BX960 S1, 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/

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