FUJITSU

DATA SHEET

PRIMERGY RX200 S5

Issue: November 2009

Dual-Socket 1 U Rack Server - If efficiency is the key decision factor, choose RX200 for maximum productivity

The PRIMERGY RX Rack Server family is the perfect platform to form dynamic infrastructures for your business processes today and in the coming decade. You will thus benefit several times over from our recognized experience in optimized data center technology and our innovative strength in developing energy-efficient and cost/performance-optimized rack systems for universal use. PRIMERGY rack servers, built upon industry standards, focus from a functional viewpoint on core features: energy efficiency, reliability, optimized for virtualization, ease of operation and maintenance, flexibility for your future. And thus they notably meet your requirements for outstanding cost efficiency. Optimal operating costs and long-term usability comply with the IT quality required by your customers. Our responsibility goes way beyond the hardware as our tailor-made service packages mean that you can rely on the best support for your IT during its whole lifecycle.

PRIMERGY RX200 S5

The new RX200 offers the seemingly impossible: more performance, higher extendability and greater reliability packed in a flat rack housing of only 1 U – with a significantly improved performance / power consumption ratio. In other words: more for less with regard to data center energy-efficiency. Energy consumption and cooling in data centers is a “burning” issue. The innovative PRIMERGY Cool-safe™ system design of the new RX200 rack server generation provides the right answers. Hot-pluggable, redundant power supply units, whose efficiency has been increased to 89%, ensure efficient energy utilization. Depending on the load, sensor-controlled, hot-pluggable and redundant fans are used to maintain an optimal temperature in the server at all times; all supported by an innovative, extremely air-permeable honeycomb design and barrier-free, internal air-flow channels. The result is a sustainable high server performance, longlife components and fewer data center cooling requirements. The integrated ServerView Power Management is used to monitor and manage the maximum consumption loads in order to ensure cost efficiency. Cool-safe™ gives you the certainty that the top performance of the new Intel® Xeon® Dual-Core, Quad-Core and Turbo Quad-Core processor generation can be fully exploited in high-level memory and hard disk configurations in this 1U rack server.

MAIN FEATURES	BENEFITS
Highly efficient power supply units 89+% EPA-compliant (Environmental Protection Agency) Sensor-controlled fan management Power consumption management 2.5 inch hard disks with low consumption	High performance for particularly efficient energy utilization Fan management as required saving energy and reducing noise levels Individually defined profiles for power consumption 2.5 inch hard disks save up to 20 % energy
Memory sparing and mirroring option Hot-plug redundant power supplies and fans, Hot-plug hard disks Cool-safe™ system design with high air thoughput Integrated Remote Management Controller iRMC S2 plus optional iRMC Advanced Pack Modular RAID for levels 0, 1, 5, 6,…. Individual service packages	High availability and reliability Security level for each application scenario Permanently high performance available, longer lifespan for components used, optimal performance per watt ratio Easy,fast service access from anywhere ensuring reliable operations Low-priced, powerful data security Tailor-made service for the respective requirements
Dual, Quad and Turbo Quad-Core Intel Xeon 5500 series with up to 8 MB TLC and VT-x Up to 96 GB state-of-the-art DDR3 main memory 2 free PCIe Gen2 slots, double I/O throughput 2 x Gbit/s Ethernet LAN with VT-c (I/O acceleration and VMDq) Up to 8x 2.5 inch hot-plug SAS hard disks in 1HE Certification for Hyper-V, VMware, Xen Hypervisor	More virtual machines und applications can be used on one server Higher application loads and extended usage options Double I/O bandwidth so that SAN and network loads achieve optimal throughput More than 2 TByte of low-priced internal hard disk storage Problem-free usage for market-relevant virtualization solutions
Customer self-service module integrated Switchable service LAN (shared or dedicated) Illuminated green control points on hot-plug components Fully extendable telescope rails	Cost-reducing and pro-active customer self-service Physically separated service access Easy-to-use with standardized labelling Comfortable rack installation and server operation
ServerView Suite - Proven tools for the efficient management of physical and virtual resources throughout the entire lifecycle: perfect installation - stable operations – secure updates - exact (remote) maintenance – easy integration in specific corporate management solutions	The key to high-level IT benefits and reduced operational and service costs: greater reliability, lower downtimes and improved service quality

Technical details

Mainboard	
Mainboard type	D 2786
Chipset	Intel® 5500
Processor quantity and type	1 - 2 x Intel® Xeon® processor 5500 series
Processor	Intel® Xeon® processor X5570 4C/8T, 2.93 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5560 4C/8T, 2.80 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor X5550 4C/8T, 2.66 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: Yes, 6.4 GT/s, Mem bus: 1333 MHz, 95 W)
	Intel® Xeon® processor L5530 4C/8T, 2.40 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 60 W)
	Intel® Xeon® processor L5520 4C/8T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 60 W)
	Intel® Xeon® processor L5506 4C/4T, 2.13 GHz, SLC: 4 x 256 KB, TLC: 4 MB (Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 60 W)
	Intel® Xeon® processor E5540 4C/8T, 2.53 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W)
	Intel® Xeon® processor E5530 4C/8T, 2.40 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W)
	Intel® Xeon® processor E5520 4C/8T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 8 MB (Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 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 E5504 4C/4T, 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 E5502 2C/2T, 1.86 GHz, SLC: 2 x 256 KB, TLC: 4 MB (Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W)
Memory slots	12 (3 channels per CPU with 2 slots per channel = 6 DIMMs per CPU)
Memory slot type	DIMM (DDR3)
Memory capacity (min. - max.)	1 GB - 96 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC (only for registered DIMMs) Memory Mirroring support Hot-spare memory support
Memory notes	max. 96 GB registered or 24 Gbyte unbuffered; min. 2 GB registered or 1 GB unbuffered, no mix of registered and unbuffered modules possible; Memory Mirroring with 2 identical modules per channel
Memory Modules Independent Mode	1 GB (1 module(s) 1 GB) DDR3, unbuffered, ECC, 1066 MHz, PC3-8500
	2 GB (1 module(s) 2 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	2 GB (1 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	2 GB (1 module(s) 2 GB) DDR3, unbuffered, ECC, 1066 MHz, PC3-8500
	4 GB (1 module(s) 4 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	4 GB (1 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	8 GB (1 module(s) 8 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	8 GB (1 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
Memory Modules Mirrored Mode	4 GB (2 module(s) 2 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	4 GB (2 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	8 GB (2 module(s) 4 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	8 GB (2 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	16 GB (2 module(s) 8 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	16 GB (2 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600

Memory Modules Performance Mode	6 GB (3 module(s) 2 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	6 GB (3 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	12 GB (3 module(s) 4 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	12 GB (3 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
	24 GB (3 module(s) 8 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500
	24 GB (3 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600
Interfaces	
USB ports	7 x USB 2.0 (3x front, 3x rear, 1x internal)
Graphics (15-pin)	2 x VGA (1x front)
Serial connection	1 x serial RS-232-C (9-pin), usable for iRMC or system or shared
LAN / Ethernet (RJ-45)	2 x Gbit/s Ethernet
Service LAN (RJ45)	1 x dedicated service LAN port for iRMC S2 (10/100 Mbit/s) Service LAN traffic can be switched to shared onboard Gbit LAN port
Onboard or integrated Controller	
RAID Controller	Integrated RAID 0/1 or RAID 5/6 controller for SAS base units (occupies one PCIe slot). See under Components RAID controller
SATA Controller	ICH10R, 4-port for RAID 0,1 (for 4x 2.5-inch HDD´s only) , 1 x SATA channel for DVD
LAN Controller	Intel® 82575EB , 2 x 10/100/1000 Mbit/s Ethernet (I/O acceleration), VT-c (I/O acceleration and VMDq), PXE boot via LAN from PXE server, iSCSI boot (also diskless) via onboard LAN
Remote Management Controller	Integrated Remote Management Controller (iRMC S2, 32 MB attached memory incl. graphics controller),
Trusted Platform Module (TPM)	optional TPM
Slots	
PCI-Express Gen2 x4	1 x low profile
PCI-Express Gen2 x8	2 x (1x full height or low profile, 1x low profile)
Slot Notes	PCI-Express Gen2 x4, only for modular RAID controller
Drive bays	
Hard disk bays	8 x
Hard disk bay configuration	6 x 2.5-inch SAS or 8 x 2.5-inch SAS
Accessible drive bays	1 x 5.25/0.5-inch for CD/RW-DVD (only for option 6x 2.5-inch HD)
General system information	
Number of fans	5
Fan configuration	hot-plug redundant double fans (5+1 redundancy)
Operating panel	
Operating buttons	On/off switch Reset button NMI button
Status LEDs	System status (amber / yellow) Identification (blue) Hard disks access (green) Power (amber / green) At system rear side: System status (amber / yellow) Identification (blue) LAN connection (green) LAN speed (green / yellow)
Service display	
BIOS	
BIOS features	ROM based setup utility Recovery BIOS BIOS settings save and restore Local BIOS update from USB device Online update tools for main Windows and Linux versions Local and remote update via ServerView Update Manager SMBIOS V2.4 Remote PXE boot support Remote iSCSI boot support

Operating system	
Supported operating systems	Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2003 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://ts.fujitsu.com/software 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 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) ServerView Deployment Manager (fully functional 30-day trial version)
Option	ServerView Integration for Tivoli TEC®, Tivoli NetView, HP NNM and HP Operations Manager iRMC S2 Advanced Pack
Server Management notes	Regarding Operating System dependencies for ServerView Suite Software Products see dedicated Product Data sheets.

Dimensions / Weight	
Rack (W x D x H)	431 x 765 x 43 mm
Mounting Depth Rack	728 mm
Height Unit Rack	1 U
19” rackmount	Yes
Mounting Cable depth rack	200 mm (1000 mm Rack recommended)
Weight	up to 18 kg
Weight notes	Weight may vary depending on actual configuration
Rack integration kit	Rack integration kit as option
Floor-stand (W x D x H)	
Rack (W x D x H)	

Environmental	
Noise emission	Measured according to ISO 7779 and declared according to ISO 9296
Sound pressure (LpAm)	49 dB(A) (idle) / 57 dB(A) (operating)
Sound power (LWAd; 1B = 10dB)	6.6 B (idle) / 7.4 B (operating)
Operating ambient temperature	10 - 35°C
Operating relative humidity	10 - 85 % (non condensing)

The following products use less energy and reduce greenhouse gas emissions by meeting the strict Energy Star guidelines.

LKN:R2005S0010IN
For configuration details see link below.

http://ts.fujitsu.com/products/standard_servers/e_efficient.html

Electrical values	
Power supply configuration	hot-plug power supply as standard, redundancy as option (1 + 1 redundancy)
Max. output of power supply	770 W
Hot-plug power supply redundancy	Yes
Rated voltage range	100 - 127 V / 200 - 240 V

Electrical values	
Rated frequency range	50 - 60 Hz
Rated current max.	8 A / 4 A
Rated current in basic configuration	5 A / 2.5 A (100 V / 240 V)
Active power max. (per system unit)	459 W
Apparent power max. (per system unit)	466 VA
Heat emission	1652.4 kJ/h (1566.6 BTU)

Compliance	
Germany	GS
Europe	CE
USA/Canada	CSAc/us ULc/us ICES-003 class A FCC Class A
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronical equipment)
Japan	VCCI class A
Taiwan	CNS 13438 class A
Compliance notes	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.
Compliance link	https://sp.ts.fujitsu.com/sites/certificates/default.aspx

Components

Hard disk drives	SSD SATA, 3 Gb/s, 64 GB, hot plug, 2.5-inch
	SSD SATA, 3 Gb/s, 32 GB, hot plug, 2.5-inch
	SAS, 3 Gb/s, 300 GB, 10000 rpm, hot plug, 2.5-inch
	SAS, 3 Gb/s, 146 GB, 15000 rpm, hot plug, 2.5-inch
	SAS, 3 Gb/s, 146 GB, 10000 rpm, hot plug, 2.5-inch
	SAS, 3 Gb/s, 73 GB, 15000 rpm, hot plug, 2.5-inch
	SAS, 3 Gb/s, 73 GB, 10000 rpm, hot plug, 2.5-inch
Hard disk notes	One Gigabyte equals one billion bytes, when referring to hard disk drive capacity. Accessible capacity may vary, also depending on used software
Optical drives	Blu-ray combo drive, (2x BD-ROM; 8x DVD; 24x CD), slimline, SATA I
	DVD Super Multi, (8xDVD/DVD+RW, 6xDVD-RW, 5xDVD-RAM; 24xCD/CD-R, 16xCD-RW), slimline, SATA I
SCSI / SAS Controller	SCSI Ctrl 320 MB 1x int /1x ext
	SAS Ctrl 3 Gb 4 ports int. / 4 ports ext.
RAID Controller	RAID 5/6 Ctrl, SAS/SATA 3 Gb, LSI MegaRAID SAS8880E, 8 ports ext. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI 1078)
	Integrated RAID 5/6 Ctrl, SAS/SATA 3 Gb, 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI 1078)
	Integrated RAID 5/6 Ctrl, SAS/SATA 3 Gb, 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 256 MB Cache, optional BBU (based on LSI 1078)
	Integrated RAID 0/1 Ctrl, SAS/SATA 3 Gb, 8 ports int. RAID level: 0, 1, 1E, no BBU support (based on LSI 1068e)
	Integrated RAID 0/1 Ctrl, SAS/SATA 3 Gb, 4 port int. RAID level: 0, 1, 1E, no BBU support , for internal SAS tapes (based on LSI 1064e)
Fibre Channel controller	Fibre Channel Ctrl 2 x 4 Gb Emulex LPe11002 MMF LC
	Fibre Channel Ctrl 1 x 4 Gb Emulex LPe1150 MMF LC
	Fibre Channel Ctrl 1 x 4 Gb Qlogic QLE2460 MMF LC
	Fibre Channel Ctrl 2 x 4 Gb Qlogic QLE2462 MMF LC
	Fibre Channel Ctrl 2 x 8 Gb Emulex LPe12002 MMF LC
	Fibre Channel Ctrl 1 x 8 Gb Emulex LPe1250 MMF LC

LAN Controller	Ethernet Ctrl 1 x 1 Gb Intel® Gigabit CT Desktop Adapter
	Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PF Server Adapter
	Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PT Server Adapter
	Ethernet Ctrl 2 x 10 Gb Intel® 10 Gigabit XF SR Dual Port Server Adapter
	Ethernet Ctrl 2 x 1 Gb Intel® PRO/1000 PT Dual Port Server Adapter
	Ethernet Ctrl 4 x 1 Gb Intel® PRO/1000 PT Quad Port Server Adapter
Rack infrastructure	Cable Arm 1U for PRIMECENTER- and 3rd-party racks
	Rackmount kit full extraction (760mm), tool less mounting
	Rackmount kit partly extraction (524mm), tool less mounting

Warranty	
Standard Warranty	3 years
Service level	On-site Service (depending on country)
Maintenance and Support Services - the perfect extension	
Recommended Service	7x24, Onsite Response Time: 4h
Spare Parts availability	5 years
Service Weblink	http://ts.fujitsu.com/Supportservice

Information about environmental care, policies, programs and our Environmental Guideline FSC 03230:
http://ts.fujitsu.com/aboutus
Take back and Recycling information:
http://ts.fujitsu.com/recycling

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