FUJITSU

Data Sheet

Fujitsu PRIMERGY RX600 S5 Quad-Socket Multi-Core Xeon 7500 series rack server

Datasheet for Red Hat certification

Scalability and balanced composition ensure your growth

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 RX600 S5

Extensive usage of IT platforms is becoming more important than ever: be it as database management system for medium or large-sized databases or as a consolidation basis to run an immensely large number of different applications using virtualization technologies, the scalable PRIMERGY RX600 S5 is in every respect a reliable server for such critical company scenarios.
The ideal interaction of integrated redundancy functions with server management components results in high-level availability and constantly efficient IT production as a character feature of this server platform.
The processors equipped with up to 8 state-of-the art cores enable a unique performance boost which however does not bear optimal

dividends unless paired with other features: a correspondingly high extendable main memory capacity with up to 64 DIMMs and a very high number of performant PCI Express channels enable balanced easy modifications so as to meet increasing requirements.
This and the continued evolution of virtualization support via Intel® components (processor, I/O controller) enable a greater consolidation of servers and applications with all the market relevant virtualization solutions and excellent best-in-class efficiency.

Features and Benefits

Main Features	Benefits
Scale-up Performance for Growth ■ The first use of Intel® QPI architecture in x86 systems for more than 2 CPU sockets results in an excellent increase in performance when compared to the previous systems. Thanks to the integration of two memory controllers per processor, the CPU to memory bandwidth has been raised up to a factor of 9. Together with the doubled / quadrupled maximum memory capacity and the new processor generation with up to 8 cores and 2 threads per core, the system performance achieves unprecedented growth factors.	■ This system is designed for critical corporate applications and large scale consolidation. The new Intel QPI architecture ensures for even more efficient deployment of demanding scale-up computing needs. Irrespective of the server usage, as database or virtualization system, the performance can always be extended so that no bottlenecks can arise as a result of low processor performance or main memory capacity.
Balanced Scaleability ■ Balanced scale-up performance is achieved by providing various Intel Xeon 7500 series processor choices combined with PCI Express Generation 2 I/O busses and the choice of up to 64 memory DIMMs on 8 configurable memory boards.	■ More demanding database loads can be hosted on RX600 S5 with peace of mind, capitalizing on high performance I/O and massive computing power. ■ Large scale consolidation of tier 1 and tier 2 workloads into virtual machines benefit from the high platform reliability and its balanced scaleability. ■ More consolidation and virtualization efficiency is obtained by using less server instances with the scale-up RX600 S5 platform. Deployment of "fat VMs" for demanding tier 2 applications can be combined with large scale consolidation of tier 1 virtual machines onto significantly less management instances.
Integrated High Availability as standard ■ Hot-spare memory support and (socket-overlapping) memory mirroring, ECC and SDDC, hot-plug redundant fan and power supply as standard, up to 8x hot-plug 2.5-inch SAS/SATA hard disks, hot-plug PCIe slots ■ LocalView display and integrated Remote Management Controller (iRMC S2) IPMI 2.0 as standard	■ Enhanced server reliability without extra cost, operational continuity which means more value for your money as well as secured data safety.

Technical details

Mainboard	
Mainboard type	D 2870
Chipset	Intel® 7500 / 7500 Scalable Memory Buffer
Processor quantity and type	2 - 4 x Intel® Xeon® processor 7500 series
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	A mimimum of 2 processors must be configured, no mix of different processor types
Memory slots	64 (distributed on 8 memory boards with 8 slots each)
Memory slot type	DIMM (DDR3) registered
Memory capacity (min. - max.)	8 GB - 1024 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC Memory Mirroring support Hot-spare memory support
Memory notes	Memory modules are installed on memory boards (8 DIMM slots per memory board) Two memory boards are preinstalled in base unit, further memory boards as option
Memory modules	8 GB (4 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	16 GB (4 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	32 GB (4 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM
	64 GB (4 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM
Memory modules notes	Memory modules will be delivered in set´s of 4 DIMMs per order code. Intel® 7500 Scalable Memory Buffer supports max. 1066MHz memory clock speed.
Interfaces	
USB ports	6 x USB 2.0 (3 x front, 2 x rear, 1 x internal)
Graphics (15-pin)	2 x VGA (1 x front, 1 x rear)
Serial 1 (9-pin)	2 x RS-232-C
LAN / Ethernet (RJ-45)	4 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	8 Port SAS RAID 0/1 or RAID 5/6 controller as option See under Components RAID controller

Onboard or integrated Controller

Remote Management Controller	Integrated Remote Management Controller (iRMC S2, 32 MB attached memory incl. graphics controller), IPMI 2.0 compatible
Trusted Platform Module (TPM)	Infineon / separate module; TCG V1.2 compliant (option)

Slots

PCI-Express 2.0 x4 (mech. x8)	3 x full height (2 x ½ length, 1 x ¾ length)
PCI-Express 2.0 x8	4 x full height (all ¾ length)
PCI-Express 2.0 x16	1 x full height (all ¾ length)
PCI-Express x4 (mech. x8)	2 x half height (all ½ length)

Drive bays

Hard disk bays	8 x 2.5-inch hot-plug
Accessible drive bays	1 x 5.25/0.5-inch for CD-RW/DVD 1 x 5.25/1.6-inch for backup devices

General system information

Number of fans	8
Fan configuration	hot plug
Fan notes	Different base units available: with 4 fan´s (non redundant) or 8 fan´s (redundant)

Operating panel

Operating buttons	On/off switch NMI button Reset button ID 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)
Service display	ServerView Local Service Display (LSD)

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 Systems and Virtualization Software

Certified or supported operating systems and virtualization software	Microsoft® Windows Server® 2003 R2 Microsoft® Windows Server® 2008 R2 Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux VMware vSphere 4.0 Citrix® XenServer™
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
	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 Integration solutions for Microsoft SMS, MOM, SCOM, SCCM and Altiris Deployment Solution
	ServerView Deployment Manager (fully functional 30-day trial version)
Option	ServerView Remote Management
	ServerView Integration for Tivoli TEC®, Tivoli NetView, HP NNM and HP Operations Manager
	ServerView Deployment Manager (fully functional unlimited version)
	iRMC S2 Advanced Pack
Server Management notes	Regarding Operating System dependencies and product details for ServerView Suite Software Products see dedicated Product Data sheets.

Dimensions / Weight

Rack (W x D x H)	482.6 mm (Bezel) / 445mm (Body) x 770 x 176 mm
Mounting Depth Rack	728 mm
Height Unit Rack	4 U
19" rackmount	Yes
Mounting Cable depth rack	100 mm (1000 mm Rack recommended)
Weight	max. 46 kg
Weight notes	Actual weight may vary depending on configuration
Rack integration kit	Rack integration kit as option

Environmental

Noise emission	Measured according to ISO 7779 and declared according to ISO 9296
Sound pressure (LpAm)	46 dB(A) (idle) / 51 dB(A) (operating)
Sound power (LWAd; 1B = 10dB)	6.2 B (idle) / 6.6 B (operating)
Noise notes / description	at ambient temperature <23°C
Operating ambient temperature	10 - 35°C
Operating environment	FTS 04230 – Guideline for Data Center (installation locations)
Operating environment Link	http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe

Electrical values

Power supply configuration	Up to 4 hot plug power supplies. Base unit equipped with 2 power supplies, 3rd and 4th PSU as option
Max. output of single power supply	850 W
Hot-plug power supply redundancy	Yes
Rated voltage range	100 V - 127 V / 200 V - 240 V
Rated frequency range	50 Hz - 60 Hz
Rated current max.	18 A / 14 A (100 V / 240 V)
Active power (min. configuration)	750 W
Active power (max. configuration)	1950 W
Rated power max.	3360 W
Heat emission	7020.0 kJ/h (6653.7 BTU/h)

Compliance

Germany	GS
Europe	CE Class A *

Compliance

USA/Canada	CSAc/us ULc/us FCC Class A
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronical equipment)
Japan	VCCI
Taiwan	BSMI
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. * 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, hot-plug, 2.5-inch, enterprise
	SSD SATA, 3 Gb/s, 32 GB, SLC, hot-plug, 2.5-inch, enterprise
	HDD SATA, 3 Gb/s, 500 GB, 7200 rpm, hot-plug, 2.5-inch, business critical
	HDD SATA, 3 Gb/s, 160 GB, 7200 rpm, hot-plug, 2.5-inch, business critical
	HDD SAS, 6 Gb/s, 300 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 146 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 146 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 73 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
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
Tape Drives	DDS Gen5, 36 GB, 3 MB/s, half height, USB 2.0
	LTO2HH Ultrium, 200 GB, 24 MB/s, half height, SAS 3Gb/s
	LTO3HH Ultrium, 400 GB, 60 MB/s, half height, SAS 3Gb/s
	LTO4HH Ultrium, 800 GB, 120 MB/s, half height, SAS 3Gb/s
	RDX Drive, 80 GB, 160 GB, 320 GB, 500 GB, 25 MB/s, half height, USB 2.0
Optical drives	Blu-ray Disc™ 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 1ch int/ext PCIe x1
	SAS Ctrl. 3 Gb 4 ports int. / 4 ports ext. PCIe x4
RAID Controller	RAID 5/6 Ctrl., HDD SAS 6 Gb, LSI , 8 ports ext. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI SAS2108)
	Integrated RAID 5/6 Ctrl., HDD SAS 6 Gb, Fujitsu , 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI SAS2108)
	Integrated RAID 0/1 Ctrl., SAS/SATA 6 Gb, Fujitsu , 8 ports int. RAID level: 0, 1, 10, no BBU support (based on LSI SAS2008)
	Integrated RAID 0/1 Ctrl., SAS/SATA 3 Gb, 4 ports int. RAID level: 0, 1, 1E, no BBU support , for internal SAS tapes (based on LSI 1064e)

Fibre Channel controller	Fibre Channel Host Bus Adapter 1 x 4 Gb Emulex LPe1150 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 4 Gb Emulex LPe11002 MMF LC-style
	Fibre Channel Host Bus Adapter 1 x 4 Gb Qlogic QLE2460 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 4 Gb Qlogic QLE2462 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 8 Gb Emulex LPe12002 MMF LC-style
	Fibre Channel Host Bus Adapter 1 x 8 Gb Emulex LPe1250 MMF LC-style
LAN Controller	Ethernet Ctrl. 1 x 1 Gb Intel® PRO/1000 PF Server Adapter
	Ethernet Ctrl. 2 x 10 Gb Intel® Ethernet Server Adapter X520-DA2
	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 2U for 3rd party racks
	Cable Management for 19-inch DataCenter / PRIMECENTER Racks
	Rackmount kit full extraction (760mm), 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 - For locations outside of EMEA please contact your local Fujitsu partner.
Spare Parts availability	5 years
Service Weblink	http://ts.fujitsu.com/Supportservice

More information

Fujitsu platform solutions

In addition to Fujitsu PRIMERGY RX600 S5, 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 RX600 S5, 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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