

Data Sheet

FUJITSU Server PRIMERGY RX500 S7 Quad socket 4U rack server

Economic Scaling to 4 socket Performance

FUJITSU Server PRIMERGY systems provide the most powerful and flexible data center solutions for companies of all sizes, across all industries and for any type of workload. This includes expandable PRIMERGY tower servers for remote and branch offices, versatile rack-mount servers, compact and scalable blade systems, as well as density-optimized scale-out servers. They convince by business proven quality with a wide range of innovations, highest efficiency cutting operational cost and complexity, and provide more agility in daily operations in order to turn IT faster into a business advantage.

FUJITSU Server PRIMERGY RX rack systems are versatile rack-optimized servers providing best-in-class performance and energy efficiency, and thus form the "standard" in each datacenter. PRIMERGY RX servers deliver 20 years of development and production know-how resulting in extremely low failure rates below market average, and leading to continuous operations and outstanding hardware availability.

PRIMERGY RX500 S7

The Fujitsu Server PRIMERGY RX500 S7 not only provides the next generation Intel® Xeon® processor E5-4600 product family with integration of the PCI Express bus and next generation Intel QPI interconnect to boost performance as well as energy efficiency.

Moreover, the RX500 S7 enables new economic scale-up from 2 to 4 socket server computing by leveraging the price performance efficiency of 2 socket servers into the 4 socket performance class. Starting with a 2 processor configuration, this 4u rack server can easily scale-up to 4 processors and double its memory up to 1536GB RAM inside the same 4U rack chassis without changing the server and rack infrastructure. Its energy conscious design and usage of low voltage memory pays dividends in superior performance per Watt and higher

expandability than with 2 socket server standards.



Features & Benefits

Main Features	Benefits
Double the expandability and performance of a dual socket system <ul style="list-style-type: none">■ 4x Intel Xeon processor E5-4600 product family■ 48 DIMMs with in total 1536 GB RAM■ 11x PCIe Gen3 slots directly connected to the processors■ 8x 2.5-inch HDDs	<ul style="list-style-type: none">■ Cut costs for management and energy by running more workloads on the fewer servers■ Enables you to run more and larger virtual machines on a single server■ Enables you to start with a 2-socket configuration and scale up easily at any time without impacting the server and rack infrastructure■ Enables individual and cost-saving configuration of the server according to the need of today with upgrade option to meet the demand of tomorrow
Scale up with peace of mind <ul style="list-style-type: none">■ Easy upgrade from 2-socket to 4-socket■ Modular concept for LAN, RAID and Power Supply Units	
Economic in costs <ul style="list-style-type: none">■ Intel® Xeon® processor E5 family■ Low cost DIMMs■ Simplified power management with pre-defined power profiles■ 4x hot-plug and redundant power supply (PSU) with platinum efficiency (94%)	

Technical details

PRIMERGY RX500 S7

Base unit	PRIMERGY RX500 S7 SFF
Housing types	Rack
Storage drive architecture	8x 2.5-inch SAS/SATA/SSD

Mainboard

Mainboard type	D3039
Chipset	Intel® C600
Processor quantity and type	2 or 4 x Intel® Xeon® processor E5-4600
Processor notes	A minimum of 2 processors must be configured, no mix of different processor types
Memory slots	48 (12 DIMMs per CPU, 4 channels with 3 slots per channel)
Memory slot type	DIMM (DDR3)
Memory capacity (min. - max.)	8 GB - 1536 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC (Chipkill™) Rank sparing memory support Memory Mirroring support
Memory notes	Max. 8 memory modules/CPU with quad-rank RDIMM; max. 12 memory modules/CPU with single or dual-rank RDIMM or single, dual-rank or quad-rank Load-Reduced (LR) DIMM. Memory Mirroring with identical modules in both channel pairs of a bank (4 modules per bank), Rank sparing or Performance Mode with identical modules in all four channels (4 modules per bank).

Memory options	4 GB (1 module(s) 4 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM, single rank
	8 GB (1 module(s) 8 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM, dual rank
	16 GB (1 module(s) 16 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM, dual rank

Interfaces

USB 2.0 ports	7 x USB 2.0 (2x front, 2x rear, 1x internal for backup devices, 1x USB stick and USSD)
Graphics (15-pin)	2 x VGA (thereof 1x front optional)
Serial 1 (9-pin)	1 x serial RS-232-C, usable for iRMC or system or shared
LAN / Ethernet	2
Management LAN (RJ45)	1 x dedicated management LAN port for iRMC S3 (10/100/1000 Mbit/s) Front Service LAN port as option Management LAN traffic can be switched to shared onboard Gbit LAN port or optional Modular LAN 2x10 Gbit controller

Onboard or integrated Controller

RAID controller	4 port for internal 3G SATA HDDs with RAID 0/1/10 (Intel® C600) upgradeable by SAS Enabling Key to connect SAS LTO devices additional RAID controller options are described under Components RAID controller
SATA Controller	Intel® C600, 1 x SATA channel for ODD
LAN Controller	Intel® Ethernet Controller I350, 2 x 10/100/1000 Mbit/s Ethernet (I/O acceleration), Modular integrated on-board LAN offers upgrade options for additional 2x1 Gbit/s, 4x 1 Gbit/s or 2x 10 Gbit/s. PXE-Boot via LAN from PXE server, iSCSI boot (also diskless)
Remote management controller	Integrated Remote Management Controller (iRMC S3, 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 3.0 x8	9 x Full height (here of 1 is reserved for Modular RAID controller)
PCI-Express 3.0 x16	2 x Full height

Slots

Slot Notes	One PCIe Gen3 x8 slot may be occupied with a modular LAN controller if configured. One PCIe Gen3 x8 slot may be occupied with a modular RAID controller if configured. Important: 5 PCIe x8 and 2 PCIe x16 slots are supported with the 1./2. processor. 4 additional PCIe x8 slots are supported only with 3./4. processor.
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Drive bays

Storage drive bays	8
Storage drive bay configuration	8x 2.5" SAS/SATA HDD/SSD
Accessible drive bays	1 x 5.25/0.5-inch for CD-RW/DVD 1 x 5.25/1.6-inch for backup devices
Notes accessible drives	All possible options described in relevant system configurator.

General system information

Number of fans	4
Fan configuration	redundant / hot-plug
Fan notes	3+1 redundant

Operating panel

Operating buttons	On/off switch Reset button NMI button ID button
Status LEDs	System status (orange / yellow) Identification (blue) Hard disks access (green) Power (amber / green) At system rear side: System status (orange / yellow) Identification (blue) LAN connection (green) LAN speed (green / yellow)
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 V2.7 Remote PXE boot support Remote iSCSI boot support
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Operating Systems and Virtualization Software

Certified or supported operating systems and virtualization software	VMware vSphere™ 5.1 Embedded
	Microsoft® Hyper-V Server 2012 R2
	Microsoft® Windows Server® 2012 R2 Datacenter
	Microsoft® Windows Server® 2012 R2 Standard
	Microsoft® Hyper-V Server 2012
	Microsoft® Windows Server® 2012 Datacenter
	Microsoft® Windows Server® 2012 Standard
	Microsoft® Hyper-V™ Server 2008 R2
	Microsoft® Windows Server® 2008 R2 Datacenter
	Microsoft® Windows Server® 2008 R2 Enterprise
	Microsoft® Windows Server® 2008 R2 Standard
	Microsoft® Windows® Web Server 2008 R2
	Microsoft® Windows HPC Server® 2008 R2 Suite
	Microsoft® Windows® Server 2008 Datacenter
	Microsoft® Windows® Server 2008 Enterprise
	Microsoft® Windows® Server 2008 Standard
	VMware vSphere™ 5.1
	VMware vSphere™ 5.0 Embedded
	VMware vSphere™ 5.0
	VMware vSphere™ 4.1
	VMware vSphere™ 4.1 Embedded
	VMware vSphere™ 4.1 Installable
	SUSE® Linux Enterprise Server 11
	SUSE® Linux Enterprise Server 10
	SUSE® Linux Enterprise Server 10 with XEN
	Red Hat® Enterprise Linux 7
	Red Hat® Enterprise Linux 6
	Red Hat® Enterprise Linux 5
	Red Hat® Enterprise Linux 5 with XEN
	Citrix® XenServer®
Oracle® VM 3	
Operating system release link	http://docs.ts.fujitsu.com/dl.aspx?id=d4ebd846-aa0c-478b-8f58-4cfbf3230473
Operating system notes	Support of other Linux derivatives on demand

Server Management

Standard	<ul style="list-style-type: none"> ServerView Suite - Deploy <ul style="list-style-type: none"> SV Installation Manager SV Scripting Toolkit ServerView Suite - Control <ul style="list-style-type: none"> Operations Manager incl. PDA and ASR & R (Prefailure and Analysis; Automatic Server Recovery and Restart) Agents and CIM Providers System Monitor RAID Manager Capacity Management Power Management Storage Support ServerView Suite - Maintain <ul style="list-style-type: none"> Remote Management (iRMC) Update Management (BIOS, Firmware, Windows Drives and SV Agents) Performance Measurement Asset Management Online Diagnostics ServerView Suite - Integrate <ul style="list-style-type: none"> Integration packs e.g. for Microsoft System Center, VMware vCenter, Nagios, HP SIM and others Deployment Solutions and others
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Server Management

Option	ServerView Suite - Maintain iRMC Advanced Pack incl. Advanced Video Redirection (AVR), video capturing and Virtual Media ServerView Suite - Integrate Integration pack for Fujitsu ManageNow® solution
Server Management notes	Regarding dependencies for ServerView Suite software products see dedicated product data sheets.

Dimensions / Weight

Rack (W x D x H)	482.6 mm (Bezel) / 448mm (Body) x 767.4 x 176 mm
Mounting Depth Rack	743 mm
Height Unit Rack	4 U
19" rackmount	Yes
Weight	up to 35 kg
Weight notes	Actual weight may vary depending on configuration
Rack integration kit	Rack integration kit as option

Environmental

Operating ambient temperature	10 - 35 °C
Operating relative humidity	10 - 85 % (non condensing)
Operating environment	FTS 04230 – Guideline for Data Center (installation specification)
Operating environment link	http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe
Noise emission	Measured according to ISO 7779 and declared according to ISO 9296
Sound pressure (LpAm)	53 dB(A) (idle) / 53 dB(A) (operating)
Sound power (LWAd; 1B = 10dB)	7.0 B (idle) / 7.0 B (operating)
Noise notes	at ambient temperature <23°C Noise emissions and operation modes depend on system configuration.

Electrical values

Power supply configuration	1-4x 800 W hot-plug power supply
Max. output of single power supply	800 W
Power supply efficiency	94 % (80 PLUS platinum)
Hot-plug power supply redundancy	Yes
Rated voltage range	100 V - 240 V
Rated frequency range	47 Hz - 63 Hz
Rated current max.	14.0 A - 5.8 A (100 V / 240 V)
Active power (min. configuration)	160 W
Active power (max. configuration)	1,400 W
Active power note	To estimate the power consumption of different configurations use the Power Calculator of the System Architect: http://configurator.ts.fujitsu.com/public/
Apparent power (max. configuration)	1,470 VA
Heat emission	5040.0 kJ/h (4777.0 BTU/h)

Compliance

Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronic equipment)
Europe	CE Class A *
USA/Canada	CSAc/us FCC Class A
Japan	VCCI
Compliance link	http://globalsp.ts.fujitsu.com/sites/certificates
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.

Components

Storage drives

SSD SATA, 6 Gb/s, 800 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SATA, 6 Gb/s, 400 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SATA, 6 Gb/s, 200 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SATA, 6 Gb/s, 100 GB, MLC, hot-plug, 2.5-inch, enterprise
SSD SATA, 6 Gb/s, 100 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SAS, 12 Gb/s, 800 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SAS, 12 Gb/s, 400 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SAS, 12 Gb/s, 200 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
SSD SAS, 12 Gb/s, 1.6 TB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise
PCIe-SSD, 785 GB, MLC, Flash drive, 7.7 DWPD (drive writes per day)
PCIe-SSD, 1.2 TB, MLC, Flash drive, 7.7 DWPD (drive writes per day)
HDD SAS, 6 Gb/s, 900 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 600 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 500 GB, 7,200 rpm, hot-plug, 2.5-inch, business critical
HDD SAS, 6 Gb/s, 450 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 300 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 300 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 146 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 1.2 TB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
HDD SAS, 6 Gb/s, 1 TB, 7,200 rpm, hot-plug, 2.5-inch, business critical

Backup Drives

DDS Gen6, 80 GB, 6 MB/s, half height, USB 2.0
LTO3HH Ultrium, 400 GB, 60 MB/s, half height, SAS 3Gb/s
LTO4HH Ultrium, 800 GB, 120 MB/s, half height, SAS 6Gb/s
LTO5HH Ultrium, 1,500 GB, 140 MB/s, half height, SAS 6Gb/s
LTO6HH Ultrium, 2,500 GB, 160 MB/s, half height, SAS 6Gb/s
RDX Drive, 320 GB, 500 GB, 1 TB, 25 MB/s, half height, USB 3.0

Optical drives

Blu-ray Disc™ Triple Writer, (6x 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

SAS Ctrl. 6 Gbit/s 8 ports ext. PCIe 2.0 x8

RAID Controller

RAID 5/6 Ctrl., SAS/SATA 6 Gbit/s, LSI LSI MegaRAID SAS 9286CV-8e, RAID level: 0, 1, 10, 5, 50, 6, 60, 1 GB, Optional FBU (based on LSI SAS2208)
RAID 5/6 Ctrl., SAS/SATA 6 Gbit/s, Fujitsu RAID Ctrl SAS 6G 1GB (D3116C), 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 1 GB, Optional FBU (based on LSI SAS2208)
RAID 5/6 Ctrl., SAS/SATA 6 Gbit/s, Fujitsu RAID Ctrl SAS 6G 1GB (D3116), 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 1 GB, Optional FBU (based on LSI SAS2208)
RAID 0/1 Ctrl., SAS/SATA 6 Gbit/s, Fujitsu RAID Ctrl SAS 6G 0/1 (D2607), 8 ports int. RAID level: 0, 1, 10, No BBU support

Fibre Channel controller

Fibre Channel Host Bus Adapter 1 x 8 Gbit/s Qlogic QLE2560 MMF LC-style
Fibre Channel Host Bus Adapter 2 x 8 Gbit/s Qlogic QLE2562 MMF LC-style
Fibre Channel Host Bus Adapter 1 x 8 Gbit/s Emulex LPe1250 MMF LC-style
Fibre Channel Host Bus Adapter 2 x 8 Gbit/s Emulex LPe12002 MMF LC-style
Fibre Channel Host Bus Adapter 1 x 16 Gbit/s Emulex LPe16000B LC-style
Fibre Channel Host Bus Adapter 2 x 16 Gbit/s Emulex LPe16002B LC-style

Communication, Network	Ethernet Ctrl. 2 x 10 Gbit/s PCIe 2.0 x8 (Fujitsu)
	Ethernet Ctrl. 2 x 10 Gbit/s PCIe 2.1 x8 (Intel®)
	Ethernet Ctrl. 2 x 1 Gbit/s PCIe 2.1 x4 (Intel®)
	Ethernet Ctrl. 4 x 1 Gbit/s PCIe 2.1 x4 (Intel®)
	InfiniBand HCA 1 x 40 Gbit/s PCIe 2.0 x8 (Intel®)
	InfiniBand HCA 1 x 40 Gbit/s PCIe 3.0 x8 (Mellanox)
	InfiniBand HCA 1 x 56 Gbit/s PCIe 3.0 x8 for the US market max. one IB HCA 56Gb controller can be installed (Mellanox)
	InfiniBand HCA 2 x 40 Gbit/s PCIe 2.0 x8 (Intel®)
	InfiniBand HCA 2 x 40 Gbit/s PCIe 3.0 x8 (Mellanox)
	InfiniBand HCA 2 x 56 Gbit/s PCIe 3.0 x8 for the US market max. one IB HCA 56Gb controller can be installed (Mellanox)
Rack infrastructure	Rack Mount Kit
	Cable Management for 19-inch DataCenter / PRIMECENTER Racks
	Cable Arm 2U for PRIMECENTER- and 3rd-party racks
Warranty	
Standard Warranty	3 years
Service level	Onsite Service
Warranty Terms & Conditions	http://support.ts.fujitsu.com/warranty/Index.asp?LNG=COM
Maintenance and Support Services - the perfect extension	
Support Pack Options	Globally available in major business areas: 9x5, Next Business Day Onsite Response Time 9x5, 4h Onsite Response Time 24x7, 4h Onsite Response Time
Recommended Service	24x7, Onsite Response Time: 4h - For locations outside of EMEA please contact your local Fujitsu partner.
Service Lifecycle	5 years after end of product life
Service Weblink	http://www.fujitsu.com/fts/services/support

More information

Fujitsu OPTIMIZATION Services

In addition to Fujitsu PRIMERGY RX500 S7, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products

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

Software

www.fujitsu.com/software/

More information

Learn more about Fujitsu PRIMERGY RX500 S7, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/fts

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 contribute to the creation of a sustainable environment for future generations through IT. Please find further information at <http://www.fujitsu.com/global/about/environment>



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