Data Sheet
Fujitsu PRIMERGY RX900 S2 8 socket 8 U rack server

It starts where 4 socket servers end up!

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 RX900 S2

PRIMERGY RX900 S2 is a new x86 based 8-socket rack server, designed for mission-critical back-end services, scale-up corporate workloads and high performance database processing. It constitutes a highly scalable, next-generation Intel Xeon processor E7-8800 based server that significantly extends the economic advantages of x86 industry standard scale-up solutions.
It scales the usage patterns for single standard operating system deployment to new frontiers far beyond the 4 socket standard x86 server class. PRIMERGY RX900 S2 provides extreme scalability as regards the processing performance (80 cores), memory expandability (2 TB RAM) and its aggregated peak I/O bandwidth of more than 100 Gigabyte/s with 16 x PCIe slots and 2x 10 GbE + 6x 1 GbE onboard. It scales up linearly for I/O, memory and CPUs inside the 8 U rack system unit without the need for infrastructure changes. Very large corporate databases and heavy load transactional processing applications, where response time and throughput is paramount, will benefit best from the platform´s efficient scalability and high I/O bandwidth. Likewise, corporate SAP/ERP, Decision Support services and Business Intelligence solutions, where performance for time-to-results constitutes the business critical value, will profit from its enormous processing power. Using enterprise virtualization suites such as VMware, Hyper-V and Xen, PRIMERGY RX900 S2 as well enables for large scale consolidation of virtual servers to a central point, running many big VMs without performance barriers. The PRIMERGY RX900 S2 provides all the mission critical attributes for a constantly reliable IT production.

Features and Benefits

Main Features	Benefits
8 sockets scale-up performance	
■ With PRIMERGY RX900 S2, the highspeed Intel Quickpath QPI link architecture is used to enable seamless 8-socket scalability using the new Intel® Xeon® E7-8800 processor family with up to 10 cores per CPU. The result is a new scale-up server, that sets a new performance reach achievable with x86 rack server technology.	■ This comprehensive portfolio expansion will give you the opportunity to benefit from extreme scale-up performance and reliability of PRIMERGY industry standard servers in datacenter scenarios that so far had been closed for x86 servers. RX900 S2 is driving the x86 price performance benefits into to the segments of proprietary UNIX bastions.
■ Compared to latest generation 4 socket Xeon servers, the new RX900 S2 with Intel Xeon processor E7-8800 product family scales up to 80 processor cores and 160 threads - a double-up in number of cores and threads per system. Combined with the massive memory capacity using up to 128 memory DIMM sockets, the RX900 S2 truly constitutes a new 8 socket x86 performance class which starts where the 4-socket x86 server reach is ending up.	
Linear Scalability	
■ RX900 S2 provides linear scalability by simultaneously expanding I/O capacity, memory capacity and CPU performance, once upgrading the system with combined CPU/Memory boards. Not only will CPU performance scale up in line with additional 16 memory slots per configurable board. With Intel QPI link technology, a fully populated 8 CPU system will have 4 activated I/O hubs, providing aggregated peak I/O bandwidth of more than 100 GByte/s. The two onboard 10 Gigabit Ethernet controllers plus 6 x 1000 baseT onboard Ethernet ports ensure ample IP network bandwidth from the very start.	■ Linear scalability ensures for efficient growth in CPU/ Memory and I/O capacities. Irrespective of the server usage as Database, ERP, Decision Support or Virtualization system- once additional processor/memory boards are added to the system, the performance gains will equally benefit from the incremental I/O resources activated in the same step.
Scale-up growth without a change	
■ The new PRIMERGY RX900 S2 packs its scalability for 8 socket performance, 16 x PCIe slots, up to 128 memory sockets on 8 CPU/ Memory boards, and 2+1 or 2+2 power supply redundancy features into a space saving 8U rack unit.	■ This system is designed to enable for scale-up growth as necessities dictate. Due to the glueless system design with latest Intel QPI link architecture, all scale up performance upgrades are inside the RX900 S2 system. Thus scale-up with PRIMERGY RX900 S2 does not need addition of external boxes or controllers that would necessarily change and re-arrange the given infrastructure of a datacenter rack setup and thus cause unwanted additional downtimes.
■ Starting with a 4 socket basic configuration, it enables to scale up the system to its upper limits, inside the same chassis and without having to modify the rack infrastructure.	
Integrated High Availability as Standard	
■ Advanced Memory Mirroring, ECC and SDDC memory protection, hot-plug redundant fans, hot-plug power supplies (2+1 and 2+2 redundancy), up to 8 x hot-plug SAS /SATA hard disks and hot-plug PCIe slots, integrated RAID controller	■ New RAS features have been built in to the Intel Xeon processor E7-8800 product family to enable advanced actions for error circumvention, assisted by the enterprise x86 operating systems. This perfectly combines with the built in High Availabilty features of the RX900 S2 platform. The result is an IT business platform that provides unprecedented operational continuity and more value for money in the high end server range.
■ LocalView display and integrated Baseboard Management Controller, new RAS features of Intel Xeon processor E7-8800 product family enable for enhanced error correction/circumvention activities with support of the Operating systems	

Technical details

Mainboard	
Chipset	Intel® 7500 / 7510 Scalable Memory Buffer
Processor quantity and type	4, 6 or 8 x Intel® Xeon® processor E7-8800 series
Processor	
	(,)
	Intel® Xeon® processor E7-8830 (8C/16T, 2.13 GHz, SLC: -, TLC: 24 MB, Turbo: 0/1/1/1/2, 6.4 GT/s, 105 W)
	Intel® Xeon® processor E7-8837 (8C/8T, 2.67 GHz, SLC: -, TLC: 24 MB, Turbo: 0/1/1/1/1, 6.4 GT/s, 130 W)
	Intel® Xeon® processor E7-8850 (10C/20T, 2.00 GHz, SLC: -, TLC: 24 MB, Turbo: 1/1/2/3/3, 6.4 GT/s, 130 W)
	Intel® Xeon® processor E7-8860 (10C/20T, 2.26 GHz, SLC: -, TLC: 24 MB, Turbo: 1/1/2/3/3, 6.4 GT/s, 130 W)
	Intel® Xeon® processor E7-8870 (10C/20T, 2.40 GHz, SLC: -, TLC: 30 MB, Turbo: 1/1/2/3/3, 6.4 GT/s, 130 W)
Memory slots	128 (distributed on 8 CPU / Memory Riser cards with 16 memory slots each)
Memory slot type	DIMM (DDR3) registered
Memory capacity (min. - max.)	8 GB - 4096 GB
Memory protection	Advanced ECC Memory Scrubbing SDDC (Chipkill™) Memory Mirroring support
Memory options	16 GB (4 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	32 GB (4 module(s) 8 GB) DDR3 LV, registered, ECC, 1066 MHz, PC3-8500, DIMM
	32 GB (4 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM
	64 GB (4 module(s) 16 GB) DDR3 LV, 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® 7510 Scalable Memory Buffer supports max. 1066MHz memory clock speed. Clock speed is also depending on the processor type. 4TB memory capacity will be possible when 32GB DIMM modules are available.
Interfaces	
USB ports	8 x USB 2.0 (3 x front, 4 x rear, 1 x internal)
Graphics (15-pin)	2 x VGA (1 x front, 1 x rear)
Serial 1 (9-pin)	1 x RS-232-C
LAN / Ethernet (RJ-45)	6 x Gbit/s Ethernet, 2x 10 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 5/6 controller as option See under Components RAID 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)	2 x Full height (all ½ length)
PCI-Express 2.0 x8	14 x Full height (all ½ length, 4x hot-plug)

Storage drive bays	8 x 2.5-inch hot-plug SAS
Accessible drive bays	1 x 5.25/0.5-inch for CD-RW/DVD

General system information

Number of fans	4
Fan configuration	hot plug

Operating panel

Operating buttons	On/off switch NMI 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)
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® Hyper-V™ Server 2008 R2
	Microsoft® Windows Server® 2008 R2 Datacenter
	Microsoft® Windows Server® 2008 R2 Enterprise
	Microsoft® Windows® Server 2008 Datacenter
	Microsoft® Windows® Server 2008 Enterprise
	Microsoft® Windows® Server 2008 Standard
	VMware vSphere™ 5.0 Embedded
	VMware vSphere™ 5.0
	VMware vSphere™ 4.1
	VMware vSphere™ 4.1 Embedded
	VMware vSphere™ 4.1 Installable
	Novell® SUSE Linux Enterprise Server 11
	Novell® SUSE Linux Enterprise Server 10
	Red Hat® Enterprise Linux 5
	Red Hat® Enterprise Linux 5 with XEN
	Oracle® VM 3.0
Operating system release link	http://docs.ts.fujitsu.com/dl.aspx?id=a9e600b9-e4cb-4f48-aa41-632f69058421
Operating system notes	Support of other Linux derivatives on demand

Server Management	
Standard	ServerView Suite - Deploy SV Installation Manager SV Scripting Toolkit SV Deployment Manager (30-day trial version) ServerView Suite - Control SV Operations Manager incl. PDA and ASR & R (Prefailure and Analysis; Automatic Server Recovery and Restart) SV Performance Management SV Power Management SV RAID Manager ServerView Suite - Maintain SV Remote Management (iRMC) SV Update Management (BIOS, Firmware, Windows Drives and SV Agents) SV Asset Management SV Online Diagnostics ServerView Suite - Integrate SV Integration packs e.g. for Microsoft System Center, Nagios, HP, SIM, HP NNM, IBM Tivoli, Altiris Deployment Solutions and others
Option	ServerView Suite - Deploy SV Deployment Manager (full version) ServerView Suite - Maintain iRMC Advanced Pack incl. Advanced Video Redirection (AVR) and Remote Storage ServerView Suite - Dynamize SV Virtual-IO Manager (VIOM) SV Resource Orchestrator Virtual Edition (ROR VE) SV Resource Orchestrator Cloud Edition (ROR CE) ServerView Suite - Integrate SV Integration pack for Fujitsu ManageNow® solution
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 x 724 x 352 mm
Mounting Depth Rack	724 mm
Height Unit Rack	8 U
19" rackmount	Yes
Weight	max. 85 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 locations)
Operating environment Link	http://docs.ts.fujitsu.com/dl.aspx?id=d4ebd846-aa0c-478b-8f58-4cfbf3230473
Sound pressure (LpAm)	60 dB(A) (idle) / 60 dB(A) (operating)
Noise notes / description	at ambient temperature <23°C

Electrical values	
Power supply configuration	Up to 4 hot plug power supplies. Base unit equipped with 2 power supplies, redundancy as option.
Max. output of single power supply	2.000 W
Power supply efficiency	92% (at 50% PSU load, CSCI "gold")
Hot-plug power supply redundancy	Yes
Rated voltage range	200 V - 240 V
Rated frequency range	47 Hz - 63 Hz
Active power (max. configuration)	2800 W

Electrical values	
Heat emission	10080.0 kJ/h (9554.0 BTU/h)

Compliance	
Germany	GS
Europe	CE Class A *
USA/Canada	FCC Class A CSA UL
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronical equipment)
Japan	VCCI
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	http://sp.ts.fujitsu.com/sites/certificates/

Components

Storage disks	
	SSD SAS, 6 Gb/s, 400 GB, SLC, hot-plug, 2.5-inch, enterprise
	SSD SAS, 6 Gb/s, 200 GB, SLC, hot-plug, 2.5-inch, enterprise
	SSD SAS, 6 Gb/s, 100 GB, SLC, hot-plug, 2.5-inch, enterprise
	PCIe SSD, 640 GB, MLC, Flash drive
	PCIe SSD, 320 GB, MLC, Flash drive
	HDD SAS, 6 Gb/s, 900 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 600 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 450 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 300 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
	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, 73 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise

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 Gb 8 ports ext. PCIe Gen2 x8
	SAS Ctrl. 3 Gb 4 ports int. / 4 ports ext.

RAID Controller	
	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)

Fibre Channel controller	
	Fibre Channel Host Bus Adapter 1 x 8 Gb Qlogic QLE2560 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 8 Gb Qlogic QLE2562 MMF LC-style
	Fibre Channel Host Bus Adapter 1 x 8 Gb Emulex LPe1250 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 8 Gb Emulex LPe12002 MMF LC-style

LAN Controller	
	Converged Network Adapter 2 x 10 Gb Emulex OCe10102
	Ethernet Ctrl. 1 x 1 Gb Intel® PRO/1000 PF Server Adapter
	Ethernet Ctrl. 2 x 10 Gb Fujitsu Eth Ctrl 2x10Gbit PCIe x8 D2755 SFP+
	Ethernet Ctrl. 2 x 1 Gb Fujitsu LAN Adapter D2735-2
	Ethernet Ctrl. 4 x 1 Gb Fujitsu Eth Ctrl 4x1Gbit PCIe x4 D2745 Cu
	InfiniBand HCA 1 x 40 Gb Mellanox
	InfiniBand HCA 2 x 40 Gb Mellanox

Rack infrastructure	Cable Arm 2U for PCR M1 S and 3rd party racks
	Rackmount kit full extraction (760mm)

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.
Service Lifecycle	5 years
Service Weblink	http://www.fujitsu.com/fts/services

More information

Fujitsu platform solutions

In addition to Fujitsu PRIMERGY RX900 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 RX900 S2, 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 resolve issues of environmental energy efficiency through IT.
Please find further information at http://www.fujitsu.com/global/about/environment/

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