

Data Sheet

FUJITSU Server PRIMERGY RX900 S2 8 socket 8U rack server

It starts where 4 socket servers end up!

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 approximately 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 RX900 S2

The Fujitsu Server PRIMERGY RX900 S2 is a 8-socket multi-core Xeon system with latest Intel® Xeon® E7-8800 processor family in a "glue-less" scale-up rack server design, easily scaling up inside the system for up to 80 cores, 128 DIMMs for main memory and more than 100 GB/s aggregated I/O throughput. The system drives the x86 price performance benefits into the datacenter backend tiers, until now being dominated by proprietary RISC/Unix platforms.

New RAS features of the Intel® Xeon® E7-8800 processor family perfectly combine with the built-in High Availability functions of the RX900 S2 system, enabling enterprises to run even their most demanding large-scale business critical workloads and virtualization projects on an x86 environment with peace of mind at lower total

cost.



Features & Benefits

| Main Features | Benefits |
|---|--|
| <p>8 sockets scale-up performance</p> <ul style="list-style-type: none"> 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. 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. <p>Linear Scalability</p> <ul style="list-style-type: none"> 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. <p>Scale-up growth without a change</p> <ul style="list-style-type: none"> 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. 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. <p>Integrated High Availability as Standard</p> <ul style="list-style-type: none"> 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 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 | <ul style="list-style-type: none"> 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. 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. 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. 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 Availability 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. |

Technical details

PRIMERGY RX900 S2

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|----------------------------|--------------------------|
| Base unit | PRIMERGY RX900 S2 |
| Housing types | Rack |
| Storage drive architecture | 8x 2.5-inch SAS/SATA/SSD |
| Power supply | Hot-plug |

Mainboard

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|-----------------------------|---|
| Mainboard type | D 3144 |
| Chipset | Intel® 7500 / 7510 Scalable Memory Buffer |
| Processor quantity and type | 4, 6 or 8 x Intel® Xeon® processor E7-8800 product family |

Processor

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|-----------|--|
| 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) |

| | |
|-------------------------------|---|
| Processor notes | A minimum of 4 processors must be configured, no mix of different processor types |
| 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 |

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|----------------|--|
| Memory options | 16 GB (4 module(s) 4 GB) DDR3 LV, registered, ECC, 1,333 MHz, PC3-10600, DIMM, single rank 32 GB (4 module(s) 8 GB) DDR3 LV, registered, ECC, 1,333 MHz, PC3-10600, DIMM, dual rank 64 GB (4 module(s) 16 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM, dual rank 128 GB (4 module(s) 32 GB) DDR3 LV, registered, ECC, 1,066 MHz, PC3-8500, DIMM, quad rank |
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| 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. |
|----------------------|---|

Interfaces

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| USB 2.0 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 |
| Management LAN (RJ45) | 1 x dedicated management LAN port for iRMC S2 (10/100 Mbit/s) Management LAN traffic can be switched to shared onboard Gbit LAN port |

Onboard or integrated Controller

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|-------------------------------|---|
| RAID controller | 8 Port SAS RAID 5/6 controller as option additional RAID controller options are described under Components RAID controller |
| LAN Controller | Intel® 82599 (Niantic wo/IPsec), 2 x 10 Gbit/s Ethernet (SFP+); 6 x 10/100/1000 Mbit/s Ethernet (RJ45), TCP/IP acceleration, 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) IPMI 2.0 compatible |
| Trusted Platform Module (TPM) | Infineon / separate module; TCG V1.2 compliant (option) |

Slots

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| 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) |

Drive bays

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| 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

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| Number of fans | 4 |
| Fan configuration | hot plug |

Operating panel

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| 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

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| 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 |
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Operating Systems and Virtualization Software

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| 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 Datacenter |
| | Microsoft® Windows® Server 2008 Enterprise |
| | Microsoft® Windows® Server 2008 Standard |
| | VMware vSphere™ 5.5 Embedded |
| | VMware vSphere™ 5.5 |
| | 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 12 |
| | SUSE® Linux Enterprise Server 11 |
| | 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=d4ebd846-aa0c-478b-8f58-4cfbf3230473 |
| Operating system notes | Support of other Linux derivatives on demand |

Server Management

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|-----------------|---|
| 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

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|--------------------------------|---|
| Option | ServerView Suite - Maintain iRMC Advanced Pack incl. Advanced Video Redirection (AVR), video capturing and Virtual Media ServerView Suite - Dynamize Virtual-IO Manager (VIOM) Resource Orchestrator Virtual Edition (ROR VE) Resource Orchestrator Cloud Edition (ROR CE) 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

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|-----------------------------|---|
| 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

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|--------------------------------------|---|
| 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 |
| Sound pressure (LpAm) | 60 dB(A) (idle) / 60 dB(A) (operating) |
| Noise notes | at ambient temperature <23°C Noise emissions and operation modes depend on system configuration. |

Electrical values

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| 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 % (80 PLUS 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) | 2,800 W |
| Heat emission | 10080.0 kJ/h (9554.0 BTU/h) |

Compliance

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|-------------------------|---|
| Global | CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronic equipment) |
| Germany | GS |
| Europe | CE Class A * |
| USA/Canada | FCC Class A CSA UL |
| 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. |

Components

Storage drives

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| SSD SATA, 6 Gb/s, 800 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise |
| SSD SATA, 6 Gb/s, 400 GB, MLC, 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 |
| SSD SAS, 6 Gb/s, 400 GB, SLC, hot-plug, 2.5-inch, enterprise |
| SSD SAS, 6 Gb/s, 400 GB, MLC, hot-plug, 2.5-inch, enterprise |
| SSD SAS, 6 Gb/s, 200 GB, MLC, 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 |

Optical drives

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| 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

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

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| 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 5/6 512MB (D2616), 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, Optional BBU for selected systems (based on LSI SAS2108) |

Fibre Channel controller

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| 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

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| Converged Network Adapter 2 x 10 Gbit/s PCIe 2.0 x8 (Emulex) |
| Ethernet Ctrl. 1 x 1 Gbit/s PCIe x4 (Intel®) |
| 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 (Fujitsu) |
| Ethernet Ctrl. 4 x 1 Gbit/s PCIe 2.1 x4 (Fujitsu) |
| InfiniBand HCA 1 x 40 Gbit/s PCIe 2.0 x8 (Mellanox) |

Rack infrastructure

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|---------------------------------------|
| Cable Arm 2U for 3rd party racks |
| Rackmount kit full extraction (760mm) |

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 RX900 S2, 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 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 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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Contact
FUJITSU LIMITED

Website: www.fujitsu.com
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