

# Data Sheet FUJITSU Server PRIMERGY RX4770 M4 Rack Server

# Power for the backend of digitalization

FUJITSU Server PRIMERGY will give you the servers you need to power any workload and changing business requirements. As business processes expand so does the need for applications. Each has its own resource footprint, so you need a way to optimize your computing to better serve your users. PRIMERGY systems will help you match your computing capabilities to your business priorities with our complete portfolio of expandable PRIMERGY tower servers for remote and branch offices, versatile rack-mount servers as well as hyper-converged multi-node servers. They convince by business proven quality with a wide range of innovations, highest efficiency cutting operational cost and complexity, provide more agility in daily operations, and integrate seamlessly to let help you concentrate on core business functions.

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 data center. PRIMERGY RX servers deliver more than 20 years of development and production know-how resulting in extremely low failure rates below market average, and lead to continuous operations and outstanding hardware availability.

#### PRIMERGY RX4770 M4

The FUJITSU Server PRIMERGY RX4770 M4 is an industry-standard x86 server system with four sockets, providing superior levels of performance, scalability and efficiency. This combination turns the server into an ideal platform for running databases and transactional applications, business intelligence (BI) workloads, back-end and in-memory databases as well as other compute-intensive applications. In addition, it substantially simplifies carrying out DC server optimization such as server virtualization or consolidation. Featuring the latest Intel® Xeon® Scalable Family processors with each up to 28 cores pushes this server to a

whole new level of compute performance to deliver more efficient business results. Thanks to the highly performant and superfast DDR4 memory technology with up to 6TB memory capacity along with excellent support for NVME Flash drives, the system can handle complex, data-intensive workloads such as in-memory databases like SAP HANA® and real-time business analytics even easier than the previous generation. The PRIMERGY RX4770 M4 supports 12 Gbit/s SAS/SATA controllers with optional FBU. It can either come as a 16x 2.5-inch hot-plug storage drives holding base unit or in a base unit holding a total of 12x storage drives even for directly connected PCIe SSDs. An onboard dual-channel 10 Gbit/s Ethernet controller, together with 8 PCI-Express Gen3 slots, help to increase bandwidth for even faster timeto-business insights. With built-in redundancy and hot-pluggable components as well as advanced business-critical RAS features such as Resilient System- and Memory Technologies, the RX4770 M4 provides higher availability and uptime. Virtualization and consolidation of IT resources offer many benefits but can often lead to increased expenses for server administration. Therefore the PRIMERGY RX4770 M4 delivers state-of-theart management capabilities with the latest generation integrated Remote Management Controller (iRMC S5) offering a variety of userfriendly functions to ensure a faster and more costeffective infrastructure management, no matter whether the server is located in the server-room next door or in another part of the world.

















# Features & Benefits

# Main Features

# Versatile Performance for any computing need

- 4x Intel® Xeon® Scalable family processors with up to 28 cores relying on Intel® UltraPath Interconnect for an increased data rate between the CPUs.
- Up to 6,144 GB DDR4 memory with 2,666 MHz (48 DIMM slots).
- 8x PCle Gen3 slots.

# **Enhanced Features for enhanced Computing**

- Extended RAS-features for fail-safe operation: Built-in redundancy and hot-pluggable components, Advanced ECC, Memory Scrubbing, SDDC and DDDC.
- On Onboard LAN via OCP for basic LAN, DynamicLoM for extended requirements.
- Ideal scalability of either up to 16x 2.5-inch HDD/SSD + 1x ODD or up to 12x PCle 2.5-inch SSD SFF\*.
- Internal M.2 device support for hypervisor installations.
- Redundant hot-plug power supply units with 94% energy efficiency.
- Fujitsu's Cool-safe® Advanced Thermal Design for higher ambient temperatures in the data center, optional Liquid Cooling (on special request) for even more advanced computing.

### Foundation for Trust and Security

- Fujitsu ServerView Suite including tools for installation and deployment, permanent status monitoring and control.
- BIOS, firmware and selected software are updated free of charge.
- TPM1.2 & 2.0 modules and latest operating system support.

# Simplified management

 iRMC S5 comes with new interactive web UI and conforms to Redfish providing unified API support for heterogeneous environment.

# **Benefits**

- Ready for the future and data growth scenarios with the performance of four processors – optimal for database processing.
- DDR4 memories with higher bandwidth and lower consumption are the enabler; optimized for enormous data amounts in data centers and high performance computing.
- Flexible expandability and diverse options for storage devices permits for the integration of existing and new SSD and HDD as needed. Less today, more in future – or vice versa.
- Business-critical RAS features lowering the risk for unplanned IT downtimes. The systems' enhanced set of features adds even more reliability, availability, and serviceability that customers need for running their business-critical applications.
- The right Ethernet connection for all: Basic via onboard LAN, extended with DynamicLoM guarantees the highest flexibility to integrate the server into existing infrastructures now and in future without overhauling the existing infrastructure.
- Flexible expandability and diverse options for storage devices permits for the integration of existing and new SSD and HDD as needed. Less today, more in future – or vice versa.
- Not only "greener", also less expensive over time: Highly efficient hot-plug power supplies save energy costs and make it easy to maintain the running system and ensure a 99,997% uptime.
- Higher ambient temperatures lead to lower costs for cooling the data center.
- Lifecycle investment protection.
- The comprehensive tools of the FUJITSU ServerView Suite eases the administrators life.
- Hardware and Software driven security features are very important in a fast-paced world, especially considering cybercrime.
- Optimized for both: data centers and SMEs can now rely on latest generation iRMC S5 increasing security and server admin productivity.

# Technical details

PRIMERGY RX4770 M4			
Base unit	PRIMERGY RX4770 M4	PRIMERGY RX4770 M4 LC	PRIMERGY RX4770 M4 Performance
Housing types	Rack	Rack	Rack
Storage drive architecture	16x 2.5-inch SAS/SATA/PCIe, thereof max. 12x 2.5-inch PCIe	16x 2.5-inch SAS/SATA/PCle, thereof max. 12x 2.5-inch PCle	8x 2.5-inch SAS/SATA/PCIe
Power supply	Hot-plug	Hot-plug	Hot-plug
Product Type	Quad Socket Rack Server	Quad Socket Rack Server	Quad Socket Rack Server
Mainboard			
Mainboard type	D3753		
Chipset	Intel® C624		
Processor quantity and type	2 or 4 x Intel® Xeon® Processor Scalable Family		
Mainboard type			
Processor quantity and type	2 or 4	4	4

#### Intel® Xeon® Gold Processor

Intel® Xeon® Gold 5115 (10C, 2.40 GHz, TLC: 13.75 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,400 MHz, 85 W, AVX Base 2.00 GHz, AVX Turbo 2.40 GHz)

Intel® Xeon® Gold 5118 (12C, 2.30 GHz, TLC: 16.5 MB, Turbo: 2.70 GHz, 10.4 GT/s, Mem bus: 2,400 MHz, 105 W, AVX Base 1.90 GHz, AVX Turbo 2.30 GHz)

Intel® Xeon® Gold 5120 (14C, 2.20 GHz, TLC: 19.25 MB, Turbo: 2.60 GHz, 10.4 GT/s, Mem bus: 2,400 MHz, 105 W, AVX Base 1.80 GHz, AVX Turbo 2.20 GHz)

Intel® Xeon® Gold 5122 (4C, 3.60 GHz, TLC: 16.5 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 105 W, AVX Base 3.30 GHz, AVX Turbo 3.60 GHz)

Intel® Xeon® Gold 6126 (12C, 2.60 GHz, TLC: 19.25 MB, Turbo: 3.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 125 W, AVX Base 2.20 GHz, AVX Turbo 2.90 GHz)

Intel® Xeon® Gold 6128 (6C, 3.40 GHz, TLC: 19.25 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 115 W, AVX Base 2.90 GHz, AVX Turbo 3.60 GHz)

Intel® Xeon® Gold 6130 (16C, 2.10 GHz, TLC: 22 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 125 W, AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)

Intel® Xeon® Gold 6132 (14C, 2.60 GHz, TLC: 19.25 MB, Turbo: 3.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 140 W, AVX Base 2.20 GHz, AVX Turbo 2.90 GHz)

Intel® Xeon® Gold 6134 (8C, 3.20 GHz, TLC: 24.75 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 130 W, AVX Base 2.70 GHz, AVX Turbo 3.40 GHz)

Intel® Xeon® Gold 6134M (8C, 3.20 GHz, TLC: 24.75 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 130 W, AVX Base 2.70 GHz, AVX Turbo 3.40 GHz)

Intel® Xeon® Gold 6136 (12C, 3.00 GHz, TLC: 24.75 MB, Turbo: 3.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 2.60 GHz, AVX Turbo 3.30 GHz)

Intel® Xeon® Gold 6138 (20C, 2.00 GHz, TLC: 27.5 MB, Turbo: 2.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 125 W, AVX Base 1.60 GHz, AVX Turbo 2.30 GHz)

Intel® Xeon® Gold 6140 (18C, 2.30 GHz, TLC: 24.75 MB, Turbo: 3.00 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 140 W, AVX Base 1.90 GHz, AVX Turbo 2.60 GHz)

Intel® Xeon® Gold 6140M (18C, 2.30 GHz, TLC: 24.75 MB, Turbo: 3.00 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 140 W, AVX Base 1.90 GHz, AVX Turbo 2.60 GHz)

Intel® Xeon® Gold 6142 (16C, 2.60 GHz, TLC: 22 MB, Turbo: 3.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 2.20 GHz, AVX Turbo 2.90 GHz)

Intel® Xeon® Gold 6142M (16C, 2.60 GHz, TLC: 22 MB, Turbo: 3.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 2.20 GHz, AVX Turbo 2.90 GHz)

Intel® Xeon® Gold 6144 (8C, 3.50 GHz, TLC: 24.75 MB, Turbo: 4.10 GHz, 10.4 GT/s, Mem bus: 2,666 MHz, 150 W, AVX Base 2.80 GHz, AVX Turbo 3.50 GHz)

Intel® Xeon® Gold 6146 (12C, 3.20 GHz, TLC: 24.75 MB, Turbo: 3.90 GHz, 10.4 GT/s, Mem bus: 2,666 MHz, 165 W, AVX Base 2.60 GHz, AVX Turbo 3.30 GHz)

Intel® Xeon® Gold 6148 (20C, 2.40 GHz, TLC: 27.5 MB, Turbo: 3.10 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 1.90 GHz, AVX Turbo 2.60 GHz)

Intel® Xeon® Gold 6150 (18C, 2.70 GHz, TLC: 24.75 MB, Turbo: 3.40 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 165 W, AVX Base 2.30 GHz, AVX Turbo 3.00 GHz)

Intel® Xeon® Gold 6152 (22C, 2.10 GHz, TLC: 30.25 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 140 W, AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)

Intel® Xeon® Gold 6154 (18C, 3.00 GHz, TLC: 24.75 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 200 W, AVX Base 2.60 GHz, AVX Turbo 3.30 GHz)

Intel® Xeon® Platinum Processor	Intel® Xeon® Platinum 8153 (16C, 2.00 GHz, TLC: 22 MB, Turbo: 2.30 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 125 W, AVX Base 1.60 GHz, AVX Turbo 2.00 GHz)	
	Intel® Xeon® Platinum 8156 (4C, 3.60 GHz, TLC: 16.5 MB, Turbo: 3.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 105 W, AVX Base 3.30 GHz, AVX Turbo 3.60 GHz)	
	Intel® Xeon® Platinum 8158 (12C, 3.00 GHz, TLC: 24.75 MB, Turbo: 3.60 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W AVX Base 2.60 GHz, AVX Turbo 3.30 GHz)	
	Intel® Xeon® Platinum 8160 (24C, 2.10 GHz, TLC: 33 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 1.80 GHz, AVX Turbo 2.50 GHz)	
	Intel® Xeon® Platinum 8160M(24C, 2.10 GHz, TLC: 33 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W, AVX Base 1.80 GHz, AVX Turbo 2.50 GHz)	
	Intel® Xeon® Platinum 8164 (26C, 2.00 GHz, TLC: 35.75 MB, Turbo: 2.70 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 150 W AVX Base 1.60 GHz, AVX Turbo 2.30 GHz)	
	Intel® Xeon® Platinum 8168 (24C, 2.70 GHz, TLC: 33 MB, Turbo: 3.40 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 205 W, AVX Base 2.30 GHz, AVX Turbo 3.00 GHz)	
	Intel® Xeon® Platinum 8170 (26C, 2.10 GHz, TLC: 35.75 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 165 W AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)	
	Intel® Xeon® Platinum 8170M (26C, 2.10 GHz, TLC: 35.75 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 165 W, AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)	
	Intel® Xeon® Platinum 8176 (28C, 2.10 GHz, TLC: 38.5 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 165 W, AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)	
	Intel® Xeon® Platinum 8176M(28C, 2.10 GHz, TLC: 38.5 MB, Turbo: 2.80 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 165 W, AVX Base 1.70 GHz, AVX Turbo 2.40 GHz)	
	Intel® Xeon® Platinum 8180 (28C, 2.50 GHz, TLC: 38.5 MB, Turbo: 3.20 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 205 W, AVX Base 1.70 GHz, AVX Turbo 2.30 GHz)	
	Intel® Xeon® Platinum 8180M (28C, 2.50 GHz, TLC: 38.5 MB, Turbo: 3.20 GHz, 10.4 GT/s, Mem bus: 2,667 MHz, 205 W, AVX Base 1.70 GHz, AVX Turbo 2.30 GHz)	
Processor notes	A mimimum of 2 processors must be configured, no mix of different processor types	
Memory slots	48 (12 DIMMs per CPU, 6 channels with 2 slots per channel)	
Memory slot type	DIMM (DDR4)	
Memory capacity (min max.)	16 GB - 6 TB	
Memory protection	Advanced ECC Memory Scrubbing SDDC DDDC (Double Device Data Correction) Memory Mirroring support Rank sparing memory support	
Memory notes	Memory Mirroring with identical modules in both channel pairs of a bank (6 modules per bank), Rank sparing or Performance Mode with identical modules in all six channels (6 modules per bank).	
Memory options	8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 1Rx4	
	8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 1Rx8	
	8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 2Rx8	
	16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 1Rx4	
	16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 2Rx4	
	16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 2Rx8	
	32 GB (1 module(s) 32 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 2Rx4	
	64 GB (1 module(s) 64 GB) DDR4 3DS, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 4Rx4	
	64 GB (1 module(s) 64 GB) DDR4, registered, ECC, 2,666 MHz, PC4-2666, LRDIMM, 4Rx4	
	128 GB (1 module(s) 128 GB) DDR4 3DS, registered, ECC, 2,666 MHz, PC4-2666, DIMM, 8Rx4	
Interfaces		
USB 3.0 ports	5 x USB 3.0 (2x front, 2x rear, 1x 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)	$1\mathrm{x}$ dedicated management LAN port for iRMC S5 (10/100/1000 Mbit/s) Management LAN traffic can be switched to shared onboard LAN controller port, speed and connector is related to installed interface card.	

Onboard or integrated Controller			
RAID controller	All hardware storage controller option	s are described under Components	
SATA Controller	Intel® C624, 1 x SATA channel for ODD		
LAN Controller	DynamicLoM based on Intel® C624 (Intel® X722) Optional DynamicLoM OCP adaptors: 2 x 10 Gbit/s Ethernet (RJ45) 2 x 10 Gbit/s SFP+ 4 x 1 Gbit/s Ethernet (RJ45) 4 x 10 Gbit/s SFP+ All supported features are described in relevant system configurator. Wake-on-LAN supported on onboard Port 1 and 2. PXE-Boot via LAN from PXE server, iSCSI / FCoE boot (also diskless). Extra LAN controller (PCIe Cards) are listed below. (i210 LAN card via project release possible)		
Remote management controller	Integrated Remote Management Controller (iRMC S5, 512 MB attached memory incl. graphics controller) IPMI 2.0 compatible		
Trusted Platform Module (TPM)	Infineon / TPM 1.2 or TPM 2.0 module	; TCG compliant (option)	
Slots			
PCI-Express 3.0 x16	8 x whereas 4x full height and 4x low	profile with up to 167mm length	
Slot Notes	Important note: 4 PCIe slots are supported with the first and second processor. Additional 4 PCIe slots are supported with the third and forth processors.  Slot 1&2: PCIe Gen3 x16 @CPU1 for low profile cards with up to 167mm length Slot 3&4: PCIe Gen3 x16 @CPU4 for full height cards with up to 167mm length Slot 5: PCIe Gen3 x16 @CPU2 for low profile cards with up to 167mm length Slot 6&7: PCIe Gen3 x16 @CPU3 for full height cards with up to 167mm length Slot 8: PCIe Gen3 x16 @CPU2 for low profile cards with up to 167mm length (used for the internal modular RAID controller if selected)		
Slots (Base unit specific)			
PCI-Express 3.0 x16	8 x	5 x PCle slot 5, 6 & 7 not available; reserved for liquid cooling in/out	6 x PCIe slot 1 & 2 not available; reserved for additional air cooling
Drive bays			
Storage drive bays	2.5-inch hot-plug SAS/SATA/PCIe 2 x M.2 slot whereas slot 1 supports 8	0mm or 110mm and slot 2 supports 4	2mm or 80mm
Notes accessible drives	All possible options described in relevant system configurator.		
Optional accessible drives	1 x 5.25/9.5mm for DVD-RW/Blu-ray		
Drive bays (Base unit specific)			
Storage drive bays	16 x 2.5-inch hot-plug SAS/SATA/PCle	16 x 2.5-inch hot-plug SAS/SATA/PCI	e 8 x 2.5-inch hot-plug SAS/SATA/PCle
General system information			
Number of fans	12		
Fan configuration	hot-plug		
Fan notes	11+1 redundant		
Operating panel			
Operating buttons	On/off switch NMI button Reset button ID button		

# Operating panel

**Status LEDs** System status (green)

Global error (orange) Identification (blue) Hard disks access (green)

Power (green)
CSS (orange)
At system rear side:
System status (green)
CSS (orange)
Identification (blue)
Global error (orange)
LAN connection (green)
LAN speed (green / yellow)

#### **BIOS**

BIOS features UEFI compliant

Legacy BIOS compatibility customer configuration option

Secure boot support ROM based setup utility

GPT support for boot drives larger than 2.2 TB Memory Redundancy support (Mirroring, Sparing)

IPMI support Recovery BIOS

BIOS settings save and restore Local BIOS update from USB device Online update tools for main Linux versions

Local and remote update via ServerView Update Manager

IPv4/IPv6 remote PXE & iSCSI boot support

# Operating Systems and Virtualization Software

Certified or supported operating systems and virtualization software

Hyper-V Server 2016

Windows Server 2016 Datacenter Windows Server 2016 Standard

Windows Server Datacenter, version 1709

Hyper-V Server 2012 R2

Windows Server 2012 R2 Datacenter Windows Server 2012 R2 Standard

VMware vSphere™ 6.5 VMware vSphere™ 6.7 VMware vSphere™ 6.0

SUSE® Linux Enterprise Server 12 SUSE® Linux Enterprise Server 11

Red Hat® Enterprise Linux 7
Red Hat® Enterprise Linux 6

Oracle® Linux 7
Oracle® Linux 6
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 and Infrastruc	ture Management
Standard	ServerView Suite (Deploy)
	ServerView Installation Manager
	ServerView Scripting Toolkit
	ServerView Suite (Control)
	ServerView Operations Manager (incl. PDA and ASR & R)
	ServerView Agents and CIM provider ServerView Agentless Management
	ServerView System Monitor
	SVOM- Event Manager
	ServerView RAID Manager
	SVOM- Threshold Manager
	Power Monitor (monitoring the Power Consumption) Power Management (iRMC)
	Storage Management (server) with SVOM/SV-RAID
	ServerView Suite (Maintain)
	iRMC S5 (Remote Management)
	System Update Manager (BIOS, Firmware, Windows Drives and SV Agents)
	Performance management (SVOM) Asset Management
	Primecollect
	Customer Self Service
	Online Diagnostics
	ServerView Suite (Integrate)
0-1:	ServerView Integration packs for MS System Center, VMware vCenter, VMware vRealize, Nagios, and HP SIM
Option	ServerView Suite (Maintain) ServerView eLCM
	iRMC Advanced Pack incl. Advanced Video Redirection (AVR), video capturing and Virtual Media
	Infrastructure Manager (ISM)
	Automate device configuration
	Mass OS installation
	Node Management Health status Monitoring and Control
	Capacity/Threshold Management
	Power Management
	Converged Management
	Auto Discovery
	Virtual-IO Management Network topology Management
	Remote Management
	Update Management
	Logging and Auditing
	Integrate in to
	Enterprise Management Vendor specific Management
	Monitor 3rd party platforms
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) / 434.8 mm (Body) x 724.8 x 86.9 mm
Mounting Depth Rack	741.3 mm
Height Unit Rack	2 U
19" rackmount	Yes
Mounting Cable depth rack	200 mm (1,000 mm Rack recommended)
Weight	max. 30.3 kg
Weight notes	Actual weight may vary depending on configuration
Rack integration kit	Rack integration kit as option
Environment	
Operating temperature note	Cool-safe® Advanced Thermal Design (above 35 °C or below 10 °C) depending on configuration. For detailed
Operating relative humidity	information see relevant system configurator.  10 - 85 % (non condensing)
operating relative numbers	10 03 /0 (Holl Collectibility)

Environment			
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)	47.4 dB(A) (idle) / 47.4 dB(A) (operating)		
Sound power (LWAd; 1B = 10dB)	6.5 B (idle) / 6.5 B (operating)		
Noise notes	Noise emissions depends on operation modes, system configuration and ambient temperature.  Operating mode measured based on OLTIS with 50% load. *OLTIS = FUJITSU Load Profile which stresses all components of a server with a given load level.		
Environmental (Base unit specific)			
Operating ambient temperature	5 - 40 °C (41 - 104 °F)	5 - 45 °C (41 - 113 °F)	5 - 40 °C (41 - 104 °F)
Electrical values			
Power supply configuration	2 hot-plug power supplies (sta	ndard), single power supply configurati	on possible
Hot-plug power supply redundancy	Optional		
Active power (max. configuration)	2,189 W		
Apparent power (max. configuration)	2213 VA		
Heat emission (max. configuration)	7880.4 kJ/h (7469.2 BTU/h)		
Rated current max.	20 A (100 V) / 8 A (240 V)		
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/		
Power supply	1600W hot-plug, 94% (Platinum efficiency), 200-240V, 50 / 60Hz		
Power supply notes	Hot plug power supply redundancy with AC input Voltage at 200 - 240V only		
Compliance			
Global	CB RoHS (Substance limitations in WEEE (Waste electrical and ele	n accordance with global RoHS regulatio ctronical equipment)	ns)
Europe	CE		
USA/Canada	CSAc/us ICES-003 / NMB-003 Class A FCC Class A		
Japan	VCCI:V3 Class A + JIS 61000-3-2		
South Korea	KN32 KN35		
Australia/New Zealand	C-Tick (planned)		
Taiwan	CNS 13438 class A - planned		
Compliance link	https://sp.ts.fujitsu.com/sites/certificates		
Compliance notes	There is general compliance wi approvals required in order to s * Warning:	ith the safety requirements of all Europe satisfy statutory regulations or for other omestic environment this product may o	ean countries and North America. National reasons can be applied for on request. cause radio interference in which case the

# Components

Optical drives	Blu-ray Disc™ Triple Writer, (6x BD-RW, 8x DVD, 24x CD), ultraslim, SATA I
	DVD Super Multi ultra slim , (8x DVD; 24x CD), ultraslim, SATA I
Hard disk drives	HDD SATA, 6 Gb/s, 2 TB, 7,200 rpm, 512n, hot-plug, 2.5-inch, business critical
	HDD SATA, 6 Gb/s, 2 TB, 7,200 rpm, 512e, hot-plug, 2.5-inch, business critical
	HDD SATA, 6 Gb/s, 1 TB, 7,200 rpm, 512n, hot-plug, 2.5-inch, business critical
	HDD SATA, 6 Gb/s, 1 TB, 7,200 rpm, 512e, hot-plug, 2.5-inch, business critical

#### Hard disk drives

HDD SAS, 12 Gb/s, 900 GB, 15,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 900 GB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 900 GB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 600 GB, 15,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 600 GB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 600 GB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 600 GB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise, SED HDD SAS, 12 Gb/s, 450 GB, 15,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 300 GB, 15,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 300 GB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise, SED HDD SAS, 12 Gb/s, 300 GB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 2.4 TB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise, SED HDD SAS, 12 Gb/s, 2.4 TB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 2 TB, 7,200 rpm, 512n, hot-plug, 2.5-inch, business critical HDD SAS, 12 Gb/s, 2 TB, 7,200 rpm, 512e, hot-plug, 2.5-inch, business critical HDD SAS, 12 Gb/s, 1.8 TB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise, SED HDD SAS, 12 Gb/s, 1.8 TB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 1.2 TB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 1.2 TB, 10,000 rpm, 512e, hot-plug, 2.5-inch, enterprise HDD SAS, 12 Gb/s, 1.2 TB, 10,000 rpm, 512n, hot-plug, 2.5-inch, enterprise, SED HDD SAS, 12 Gb/s, 1 TB, 7,200 rpm, 512n, hot-plug, 2.5-inch, business critical HDD SAS, 12 Gb/s, 1 TB, 7,200 rpm, 512e, hot-plug, 2.5-inch, business critical

#### Solid-State-Drive

SSD SATA, 6 Gb/s, 960 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 960 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 0.9 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 960 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.0 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 960 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3 DWPD (drive writes per day for 5 years) SSD SATA, 6 Gb/s, 800 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 480 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 0.9 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 480 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.6 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 480 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.3 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 240 GB, Read-Intensive, hot-pluq, 2.5-inch, enterprise, 1.4 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 240 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 240 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.6 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 240 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.1 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 7.68 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 0.5 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 3.84 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1.0 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 1.92 TB, Read-Intensive, hot-pluq, 2.5-inch, enterprise, 0.9 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 1.92 TB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3.0 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 1.92 TB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3 DWPD (drive writes per day for 5 years) SSD SATA, 6 Gb/s, 1.6 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years) SSD SATA, 6 Gb/s, 1.2 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years) SSD M.2 SATA, 6 Gb/s, 480 GB, non hot plug, enterprise, 1.4 DWPD (Drive Writes Per Day for 5 years) SSD M.2 SATA, 6 Gb/s, 240 GB, non hot plug, enterprise, 1.4 DWPD (Drive Writes Per Day for 5 years) SSD M.2 SATA, 6 Gb/s, 240 GB, non hot plug, enterprise SSD M.2 SATA, 6 Gb/s, 150 GB, non hot plug, enterprise, 1.5 DWPD (Drive Writes Per Day for 5 years)

SSD M.2 SATA, 6 Gb/s, 150 GB, non hot plug, enterprise

SSD SAS, 12 Gb/s, 960 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 800 GB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years), SED
SSD SAS, 12 Gb/s, 800 GB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 800 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 480 GB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 400 GB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years), SED
SSD SAS, 12 Gb/s, 400 GB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 400 GB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 7.68 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 0.9 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 3.84 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 3.2 TB, Mixed-use, hot-plug, 2.5-inch, enterprise, 2.3 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 1.92 TB, Read-Intensive, hot-plug, 2.5-inch, enterprise, 1 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 1.6 TB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years), SED
SSD SAS, 12 Gb/s, 1.6 TB, Write-Intensive, hot-plug, 2.5-inch, enterprise, 10 DWPD (Drive Writes Per Day for 5 years)
SSD SAS, 12 Gb/s, 1.6 TB, Mixed-use, hot-plug, 2.5-inch, enterprise, 3 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 6.4 TB, Mixed-use, hot-plug, 2.5-inch, Flash drive, 3.2 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 4 TB, Read-Intensive, hot-plug, 2.5-inch, Flash drive, 0.6 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 3.2 TB, Mixed-use, hot-plug, 2.5-inch, Flash drive, 3.1 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 2 TB, Read-Intensive, hot-plug, 2.5-inch, Flash drive, 0.6 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 1.6 TB, Mixed-use, hot-plug, 2.5-inch, Flash drive, 3.0 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD SFF, 1 TB, Read-Intensive, hot-plug, 2.5-inch, Flash drive, 1 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD AIC, 750 GB, Write-Intensive, HHHL, Flash drive, 30 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD AIC, 375 GB, Write-Intensive, HHHL, Flash drive, 30 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD AIC, 4 TB, Mixed-use, HHHL, Flash drive, 3.1 DWPD (Drive Writes Per Day for 5 years)
PCIe-SSD AIC, 2 TB, Mixed-use, HHHL, Flash drive, 3.1 DWPD (Drive Writes Per Day for 5 years)
Dual microSD 64GB Enterprise
LSI PSAS CP400e LP SAS Ctrl. 12 Gbit/s 8 ports ext. PCle 3.0 x8
Fujitsu PSAS CP400i SAS Ctrl. 12 Gbit/s 8 ports int. PCle 3.0 x8
Fujitsu PSAS CP400e FH SAS Ctrl. 12 Gbit/s 8 ports ext. PCle 3.0 x8
Fujitsu PRAID EP580i LP, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, NVMe-PCle 8 Gbit/s, 8 Gbit/s 16 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 8 GB, Optional FBU based on LSI SAS3516
Fujitsu PRAID EP540i LP, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, NVMe-PCle 8 Gbit/s, 8 Gbit/s 16 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 4 GB, Optional FBU based on LSI SAS3516
Fujitsu PRAID EP540e LP, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, 8 ports ext. RAID level: 0, 1, 10, 5, 50, 6, 60, 4 GB, Optional FBU based on LSI SAS3516
Fujitsu PRAID EP540e FH, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, 8 ports ext. RAID level: 0, 1, 10, 5, 50, 6, 60, 4 GB, Optional FBU based on LSI SAS3516
Fujitsu PRAID EP420i, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 2 GB, Optional FBU based on LSI SAS3108
Fujitsu PRAID EP420i for SafeStore, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 2 GB, Optional FBU based on LSI SAS3108
10 (10 16 vel. 0, 1, 10, 3, 30, 0, 00, 2 db, optional 1 bo based on Est 3/ 33/ 100
Fujitsu PRAID EP400i, RAID 5/6 Ctrl., SAS/SATA 12 Gbit/s, 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 1 GB, Optional FBU based on LSI SAS3108

Fibre Channel controller	Fibre Channel Host Bus Adapter 1 x 32 Gbit/s Cavium QLE2740 MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 32 Gbit/s Cavium QLE2742 MMF LC-style
	Fibre Channel Host Bus Adapter 1 x 32 Gbit/s Emulex LPe32000-M6-F MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 32 Gbit/s Emulex LPe32002-M6-F MMF LC-style
	Fibre Channel Host Bus Adapter 1 x 16 Gbit/s Qlogic QLE2690 LC-style
	Fibre Channel Host Bus Adapter 2 x 16 Gbit/s Qlogic QLE2692 LC-style
	Fibre Channel Host Bus Adapter 1 x 16 Gbit/s Emulex LPe31000-M6-F MMF LC-style
	Fibre Channel Host Bus Adapter 2 x 16 Gbit/s Emulex LPe31002-M6-F MMF LC-style
Communication, Network	Converged Network Adapter 2 x 10 Gbit/s / 25 Gbit/s PCIe 3.0 x8 SFP28 ( Cavium )
	Converged Network Adapter 2 x 10 Gbit/s PCIe 3.0 x8 SFP+ ( Emulex )
	Ethernet Ctrl. 1 x 100 Gbit/s PCle 3.0 x16 QSFP28 ( Cavium )
	Ethernet Ctrl. 1 x 100 Gbit/s PCle 3.0 x16 QSFP28 ( Mellanox )
	Ethernet Ctrl. 2 x 10 Gbit/s ; 1 Gbit/s PCle 3.0 x8 RJ45 ( Cavium )
	Ethernet Ctrl. 2 x 10 Gbit/s ; 1 Gbit/s PCle 3.0 x8 RJ45 ( Intel® )
	Ethernet Ctrl. 2 x 10 Gbit/s ; 1 Gbit/s PCle 3.0 x8 SFP+ ( Cavium )
	Ethernet Ctrl. 2 x 10 Gbit/s / 25 Gbit/s PCle 3.0 x8 SFP28 ( Cavium )
	Ethernet Ctrl. 2 x 10 Gbit/s / 25 Gbit/s PCle 3.0 x8 SFP28 (Intel®)
	Ethernet Ctrl. 2 x 10 Gbit/s / 25 Gbit/s PCle 3.0 x8 SFP28 ( Mellanox )
	Ethernet Ctrl. 2 x 10 Gbit/s PCle 3.0 x8 10Gbit/s Eth (RJ45) ( Emulex )
	Ethernet Ctrl. 2 x 10 Gbit/s PCle 3.0 x8 SFP+ ( Emulex )
	Ethernet Ctrl. 2 x 10 Gbit/s PCle 3.0 x8 SFP+ (Intel®)
	Ethernet Ctrl. 2 x 40 Gbit/s PCle 3.0 x16 QSFP ( Mellanox )
	Ethernet Ctrl. 4 x 10 Gbit/s ; 1 Gbit/s PCle 3.0 x8 RJ45 ( Intel® )
	Ethernet Ctrl. 4 x 10 Gbit/s PCle 3.0 x8 SFP+ (Intel®)
	InfiniBand HCA 1 x 100 Gbit/s PCle $3.0 \times 16$ QSFP for the US market max. one IB HCA 100Gb controller can be installed (Mellanox)
	InfiniBand HCA 1 x 56 Gbit/s PCIe 3.0 x8 QSFP for the US market max. one IB HCA 56Gb controller can be installed (Mellanox)
	InfiniBand HCA 2 $\times$ 100 Gbit/s PCIe 3.0 $\times$ 16 QSFP for the US market max. one IB HCA 100Gb controller can be installed (Mellanox)
	InfiniBand HCA $2 \times 56$ Gbit/s PCIe $3.0 \times 8$ QSFP for the US market max. one IB HCA $56$ Gb controller can be installed (Mellanox)
	Interface modul for Dynamic LoM 2 x 10 Gbit/s RJ45 (Intel®)
	Interface modul for Dynamic LoM 2 x 10 Gbit/s SFP+ (Intel®)
	Interface modul for Dynamic LoM 4 x 10 Gbit/s SFP+ (Intel®)
	Interface modul for Dynamic LoM 4 x 1 Gbit/s RJ45 ( Intel® )
	MPO x 40 Gbit/s ( )
	Omni Path 1 x PCle 3.0 x16 ( Intel® )
Rack infrastructure	Rackmount kit full extraction (820mm), tool less mounting, length variable 559-914mm
	Rack Mount Kit
	Cable Management for 19-inch DataCenter / PRIMECENTER Racks
	Cable Arm 2U for PRIMECENTER- and 3rd-party racks
 Warranty	
Warranty period	3 years
Warranty type	Onsite warranty
Warranty Terms & Conditions Product Related Services - the per	http://support.ts.fujitsu.com/warranty/Index.asp?LNG=COM
Support Pack Options	Globally available in major business areas:
	9x5, Next Business Day Onsite Response Time
	9x5, 4h Onsite Response Time (depending on country)
	24x7, 4h Onsite Response Time (depending on country)
Recommended Service	- 24x7, Onsite Response Time: 4h - For locations outside of EMEIA please contact your local Fujitsu partner.

Warranty	
Service Lifecycle	5 years after end of product life
Service Weblink	http://www.fujitsu.com/fts/products/product-support-services/

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