

# Data Sheet

## Fujitsu PRIMERGY RX4770 M5 Server

Power for the backend of digitalization

### PRIMERGY RX4770 M5

The Fujitsu PRIMERGY Server RX4770 M5 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 and optionally up to 24x Intel® Optane™ DC Persistent Memory NV-DIMM modules 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 M5 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. Up to eight PCI-Express Gen3 slots increases bandwidth and provides sufficient expandability for faster 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 M5 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 M5 delivers state-of-the-art management capabilities with the latest generation integrated Remote Management Controller (iRMC S5) offering a variety of user-friendly functions to ensure a faster and more cost-effective 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	Benefits
<p><b>INNOVATION MEETS PERFORMANCE</b></p> <ul style="list-style-type: none"> <li>Wide choice of different types of Intel® Xeon® Scalable processors as well as new 2nd generation Intel® Xeon® Scalable processors. Each processor offers up to 28 cores, up to 56 threads, 12 memory channels enabling a significantly higher performance and efficiency. They rely on Intel® UltraPath Interconnect for an increased data rate between the CPUs. Intel® Optane™ DC persistent memory is an innovative memory technology that delivers a unique combination of affordable large capacity and persistence (non-volatility). It revolutionizes the data center memory-storage hierarchy of the past and brings massive data sets closer to the CPU for faster time to insight. In total, up to 15,360 GB main memory in a mixed mode (non-volatile memory + DDR4 @ 2,933 MT/s) are available.</li> </ul> <p><b>ENHANCED FEATURES FOR ENHANCED COMPUTING</b></p> <ul style="list-style-type: none"> <li>Extended RAS-features for fail-safe operation: Built-in redundancy and hot-pluggable components, Advanced ECC, Memory Scrubbing and SDDC. A storage drive bay configuration with up to 16x 2.5-inch or up to 12x PCIe 2.5-inch SSD SFF*, complemented by internal M.2 devices for hypervisor installations. Our power supply units with up to 96% energy efficiency and Fujitsu's Cool-safe® Advanced Thermal Design for higher ambient temperatures in the data center are available for this server.</li> </ul> <p><b>REVOLUTIONIZING MEMORY AND STORAGE</b></p> <ul style="list-style-type: none"> <li>Intel® Optane™ persistent memory modules are DDR4 socket compatible and can co-exist with conventional DDR4 DRAM DIMMs on the same platform. They are available in capacities of 128 GB, 256 GB and 512 GB.</li> </ul> <p><b>INFRASTRUCTURE MANAGEMENT</b></p> <ul style="list-style-type: none"> <li>ISM is available with two licensing options: (1) ISM Advanced is the fully featured licensed version of ISM that provides comprehensive infrastructure management capabilities across datacenter. (2) ISM Essential provides a quick start to infrastructure management with essential monitoring and update functions.</li> </ul> <p><b>PROTECT YOUR COMPANY WITH SECURE SERVERS</b></p> <ul style="list-style-type: none"> <li>PRIMERGY servers are equipped with beneficial features to protect against, detect and recover from security breaches (UEFI Secure Boot, TPM 2.0, signed firmware updates, agent-free device management, secure authorization and authentication, alerting and logging, secure Out of Band Management with iRMC S5, ...).</li> </ul>	<ul style="list-style-type: none"> <li>Ready for the future and data growth scenarios with the performance of two processors – marking the standard of tomorrow with an increase in computing power. New SKUs of the 2nd generation Intel® Xeon® Scalable processors deliver additional customer value with increased performance and industry leading frequency for the most demanding workloads.</li> <li>Business-critical RAS features lower the risk for unplanned IT downtimes. The systems' enhanced set of features adds even more reliability, availability, and serviceability that customers need to run business-critical applications.</li> <li>Optimize, store, and move larger, more complicated data sets with Intel® Optane™ technology. This revolutionary innovation bridges critical gaps in the storage and memory hierarchy delivering persistent memory, large memory pools, fast caching and fast storage.</li> <li>Converged data center management that provides organizations centralized control over the entire infrastructure that includes servers, storage, networking, cloud management software as well as power and cooling using a single user interface.</li> <li>PRIMERGY servers come with a wide variety of such robust security features and combine these capabilities with the best quality and efficiency, and more agility in daily operations helps to turn IT into a business advantage faster.</li> </ul>

# Technical details

## PRIMERGY RX4770 M5

### Mainboard

Mainboard type	D3753
Chipset	Intel® C624
Processor quantity and type	2 or 4 x Intel® Xeon® Gold 5xxx processor / Intel® Xeon® Gold 6xxx processor / Intel® Xeon® Platinum 8xxx processor
Processor notes	A minimum 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 / DDR-T for non-volatile memory modules)
Memory capacity (min. - max.)	16 GB - 15 TB
Memory protection	Advanced ECC Memory Scrubbing SDDC Memory Mirroring support Rank sparing memory support
Memory notes	Max. 6 slots populated with DCPMM modules per CPU, please see relevant system configurator for details. Memory Mirroring Mode with identical modules in both channel pairs of a bank (4 or 6 modules per bank) per CPU. Rank Sparing Mode with minimum of 2 modules single ranked (1R) or dual ranked (2R) or 1 module quad ranked (4R) per CPU.

### Interfaces

USB 3.x 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 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 options 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. 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)

**Drive bays**

Storage drive bays	2.5-inch hot-plug SAS/SATA/PCIe 2 x M.2 slot whereas slot 1 supports 80mm or 110mm and slot 2 supports 42mm 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

**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
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 Cryptographically Signed BIOS Firmware Update HTTP and HTTPS Boot PCIe Bifurcation configurable
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**Operating Systems and Virtualization Software**

Operating system release link	<a href="http://docs.ts.fujitsu.com/dl.aspx?id=d4ebd846-aa0c-478b-8f58-4cfbf3230473">http://docs.ts.fujitsu.com/dl.aspx?id=d4ebd846-aa0c-478b-8f58-4cfbf3230473</a>
Operating system notes	Support of other Linux derivatives on demand

**Infrastructure and Server Management**

DC Infrastructure Management	Infrastructure Manager (ISM) Essential Edition Advanced Edition
Server Management	Infrastructure Manager (ISM) Essential Edition Advanced Edition ServerView Suite
Management notes	For further information regarding ISM and ServerView Suite see dedicated 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. 29.7 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. Please use the Fujitsu WebArchitect ( <a href="http://www.fujitsu.com/configurator/public">www.fujitsu.com/configurator/public</a> ) to get detailed information on the corresponding configurations.
Operating relative humidity	10 - 85 % (non condensing)
Operating environment	FTS 04230 – Guideline for Data Center (installation specification)
Operating environment link	<a href="http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe">http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe</a>
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.

**Electrical values**

Power supply configuration	2 hot-plug power supplies (standard), single power supply configuration possible
Hot-plug power supply redundancy	Optional
Active power (max. configuration)	2,335 W
Apparent power (max. configuration)	2360 VA
Heat emission (max. configuration)	8406.0 kJ/h (7967.3 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 Fujitsu Product Configurator: <a href="http://www.fujitsu.com/configurator/public">www.fujitsu.com/configurator/public</a>
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**

Product	PRIMERGY RX4770 M5
Model	PS4770A
Global	CB RoHS (Substance limitations in accordance with global RoHS regulations) WEEE (Waste electrical and electronical equipment)
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	<a href="https://sp.ts.fujitsu.com/sites/certificates">https://sp.ts.fujitsu.com/sites/certificates</a>
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

<STEPTABLE O="PMod\_250341" OT="Product" TT="DS-Server-EU Warranty" VC="INT - eng" VO="stibo.10560277" W="Main" />

## Warranty

Warranty period	3 years
Warranty type	Onsite warranty
Warranty Terms & Conditions	<a href="http://support.ts.fujitsu.com/warranty/Index.asp?LNG=COM">http://support.ts.fujitsu.com/warranty/Index.asp?LNG=COM</a>
<b>Product Support - the perfect extension</b>	
Support Pack Options	Globally available in major metropolitan 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 EMEA please contact your local Fujitsu partner.
Service Lifecycle	at least 5 years after shipment, for details see <a href="https://support.ts.fujitsu.com/">https://support.ts.fujitsu.com/</a>
Service Weblink	<a href="http://ts.fujitsu.com/Supportservice">http://ts.fujitsu.com/Supportservice</a>

# More information

## Fujitsu platform solutions

In addition to Fujitsu PRIMERGY RX4770 M5, 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/products/computing/](http://www.fujitsu.com/global/products/computing/)

### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

## More information

Learn more about Fujitsu PRIMERGY RX4770 M5, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.  
<http://www.fujitsu.com/fts/products/computing/servers/primergy/rack/rx4770m5/>

## Fujitsu green policy innovation

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