Data Sheet
Fujitsu PRIMERGY RX2540 M5 Rack Server

The data center standard without compromise

Fujitsu offers a fantastic blend of systems, solutions and expertise to guarantee maximum productivity, efficiency and flexibility, delivering confidence and reliability. Fujitsu PRIMERGY servers deliver workload-optimized x86 industry standard systems for any workload and business demand. Since there is no single server solution to meet all these needs, Fujitsu offers a broad server portfolio consisting of expandable tower servers, versatile rack-mount servers, density-optimized multi-node servers as well as GPU servers purpose-built for the demands of AI and VDI. While all these systems are designed to handle multiple workloads, each server is optimized for specific use cases. Whatever the size of your business – large enterprise with multiple sites, or a small or medium-sized company with limited space and budget – with the right choice of server, your IT can become the business enabler you have always wanted it to be.

PRIMERGY RX2540 M5
The Fujitsu Server PRIMERGY RX2540 M5 sets higher standards for usability, scalability and cost efficiency. It is a 2U dual-socket rack server ideal for running enterprise applications, collaboration and messaging workloads as well as traditional databases. In addition, it substantially simplifies carrying out infrastructure-related tasks such as server virtualization and consolidation. As one of the key innovations, versatile performance is guaranteed by a new generation of processors. The PRIMERGY RX2540 M5 can be equipped with two of the Intel® Xeon® Processor Scalable Family CPUs with up to 28 cores each. The system can also be equipped with the new 2nd generation processors of the Intel® Xeon® Scalable Family (CLX-R) delivering industry-leading frequencies. Along with new DDR4 memory technology with up to 3TB and optionally up to 12x Intel® Optane™ DC Persistent Memory NV-DIMM modules it boosts application performance so that it copes with the increasing data growth and to shorten time to business results. The modular design of the server offers excellent expandability with up to 28 disk drives, high storage density, up to 8 PCIe Gen 3 I/O expansion slots. A variety of onboard DynamicLoM options, plus its dual-port embedded LAN meet future requirements, cost-optimized. The PRIMERGY RX2540 M5 comes with two redundant hot-plug power supply units, offering up to 96% energy efficiency. The Cool-safe® Advanced Thermal Design allows operation in ambient temperatures of up to 45 °C/104 °F. Having both these features helps to reduce operational expenses.
Features & Benefits

Main Features | Benefits
---|---
**INNOVATION MEETS PERFORMANCE**
- 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 7,680 GB main memory in a mixed mode (non-volatile memory + DDR4 @ 2,933 MT/s) are available. What's more is the support for up to 2x GPGPUs for fast processing.
- Ready for data growth scenarios with the performance of the 2nd generation Intel® Xeon® Scalable processors deliver additional customer value and industry leading frequency (up to 3.9 GHz base and up to 44% more processor cache) for the most demanding workloads.

**ENHANCED FEATURES FOR ENHANCED COMPUTING**
- The RX2540 M5 comes with onboard LAN for basic LAN, DynamicLoM via OCP slot for extended requirements. A mix&match storage drive bay configuration offers the choice of either up to 8x 3.5-inch HDD/SSD + 1x ODD, 12x 3.5-inch or up to 24x 2.5-inch, up to 8x PCIe 2.5-inch SSD + an additional rear option of 4x 2.5-inch drives, 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.
- The right Ethernet connection for all: Basic via onboard LAN, extended with DynamicLoM via OCP 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.
- 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.
- 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.
- 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.

**INFRASTRUCTURE MANAGEMENT**
- 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.
- 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.

**REVOLUTIONIZING MEMORY AND STORAGE**
- 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.
- 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.

**PROTECT YOUR COMPANY WITH SECURE SERVERS**
- 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, …).
- 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.
## Technical details

### PRIMERGY RX2540 M5

<table>
<thead>
<tr>
<th>Base unit</th>
<th>PRIMERGY RX2540 M5 LFF</th>
<th>PRIMERGY RX2540 M5 LFF</th>
<th>PRIMERGY RX2540 M5 SFF</th>
<th>PRIMERGY RX2540 M5 SFF</th>
<th>PRIMERGY RX2540 M5 SFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing types</td>
<td>Rack</td>
<td>Rack</td>
<td>Rack</td>
<td>Rack</td>
<td>Rack</td>
</tr>
<tr>
<td>Storage drive architecture</td>
<td>4x 3.5-inch SAS/SATA max. 12x 3.5-inch SAS/ SATA/PCIe</td>
<td>16x 2.5-inch SAS/ SATA/PCIe</td>
<td>8x 2.5-inch SAS/SATA/ PCIe</td>
<td>24x 2.5-inch SAS/SATA</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>Hot-plug</td>
<td>Hot-plug</td>
<td>Hot-plug</td>
<td>Hot-plug</td>
<td>Hot-plug</td>
</tr>
<tr>
<td>Product Type</td>
<td>Dual Socket Rack Server</td>
<td>Dual Socket Rack Server</td>
<td>Dual Socket Rack Server</td>
<td>Dual Socket Rack Server</td>
<td>Dual Socket Rack Server</td>
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</tbody>
</table>

### Mainboard

- **Mainboard type**: D3384-B
- **Chipset**: Intel® C624
- **Processor quantity and type**: 1 - 2 x Intel® Xeon® Bronze 3xxx processor / Intel® Xeon® Silver 4xxx processor / Intel® Xeon® Gold 5xxx processor / Intel® Xeon® Gold 6xxx processor / Intel® Xeon® Platinum 8xxx processor
- **Memory slots**: 24 (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.)**: 8 GB - 7.5 TB
- **Memory protection**: Advanced ECC, Memory Scrubbing, SDDC, Rank sparing memory support, Memory Mirroring 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) - for base units with max. drives count: 1x USB 2.0 front only
- **Graphics (15-pin)**: 2 x VGA (thereof 1x front optional)
- **Serial 1 (9-pin)**: 1 x serial RS-232-C optional, usable for iRMC or system or shared
- **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
  - For dedicated base units front AND rear storage drives may be connected to a single controller. Please see SystemArchitect for configuration options and restrictions.
- **SATA Controller**: Intel® C624, 1 x SATA channel for ODD
- **LAN Controller**: Intel® C624
  - 2 x 1 Gbit/s onboard
  - Optional DynamicLoM OCP adaptors:
    - 4 x 1 Gbit/s Ethernet (RJ45)
    - 2 x 10 Gbit/s Ethernet (RJ45)
    - 2 x 1 Gbit/s SFP+
    - 4 x 10 Gbit/s SFP+
  - All supported features are described in relevant system configurator.
- **Remote management controller**: Integrated Remote Management Controller (iRMC S5, 512 MB attached memory incl. graphics controller)
  - IPMI 2.0 compatible
- **GPU / coprocessor**: GFX/GPU support for dedicated base units. Please see relevant SystemArchitect for details and restrictions.
- **Onboard controller notes**: Onboard 8x S-ATA 66Gbit/s RAID Controller (RAID 0,1) for up to 8x S-ATA drives available.
- **Trusted Platform Module (TPM)**: Infineon / TPM 1.2 or TPM 2.0 module; TCG compliant (option)
**Slots**

- **PCI-Express 3.0 x8**
  3 x Low profile (2nd processor required for slot 4)
- **PCI-Express 3.0 x16**
  3 x Low profile (2nd processor required for slot 5 and 6)

**Slot Notes**

One PCIe Gen3 x8 slot may be occupied with a Modular RAID controller if configured. Important: 3 PCIe slots are supported with the first processor. 6 PCIe slots are supported with two processors. PCIe riser card options can expand number of slots by two (max. 8 in total) and support max. 4 full height slots. Possible slot length described in relevant system configurator.

**Drive bays**

- **Storage drive bays**
  3.5-inch or 2.5-inch hot-plug SAS/SATA
- **Accessible drive bays**
  1 x 5.25/0.4-inch for CD-RW/DVD

**Notes accessible drives**

All possible options described in relevant system configurator.

**Optional hard disk bays**

4x 2.5-inch hot-plug SAS/SATA rear option

**Drive bays (Base unit specific)**

<table>
<thead>
<tr>
<th>Storage drive bays</th>
<th>4x 3.5-inch hot-plug SAS/SATA</th>
<th>12x 3.5-inch hot-plug SAS/SATA</th>
<th>16x 2.5-inch hot-plug SAS/SATA</th>
<th>8x 2.5-inch hot-plug SAS/SATA</th>
<th>24x 2.5-inch hot-plug SAS/SATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible drive bays</td>
<td>1x 5.25/0.4-inch for CD-RW/DVD</td>
<td>1x 5.25/0.4-inch for CD-RW/DVD</td>
<td>1x 5.25/0.4-inch for CD-RW/DVD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Optional accessible drives**

ODD 5.25" possible ODD 5.25" NOT possible ODD 5.25" possible ODD 5.25" NOT possible

**General system information**

- **Number of fans**
  6
- **Fan configuration**
  redundant / hot-plug
- **Fan notes**
  3x2 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)

**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

**Operating Systems and Virtualization Software**

**Operating system release link**

### Operating Systems and Virtualization Software

**Operating system notes** Support of other Linux derivatives on demand

Use of certified or supported operating systems and virtualization software is subject to proactive acceptance of the respective License Agreements/ EULAs/ Subscription and support terms of the Software manufacturer as applicable for the relevant Software whether preinstalled or optional. The software may only be available bundled with a software support subscription which – depending on the Software - may be subject to separate remuneration.

### 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.

**Manageability link** http://docs.ts.fujitsu.com/dl.aspx?id=9e92297a-16fb-4c69-8559-e38e7b42fee6

### Dimensions / Weight

<table>
<thead>
<tr>
<th>Rack (W x D x H)</th>
<th>482.4 mm (Bezel) / 445 mm (Body) x 770 x 86.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Depth Rack</td>
<td>740 mm</td>
</tr>
<tr>
<td>Height Unit Rack</td>
<td>2 U</td>
</tr>
<tr>
<td>19” rackmount</td>
<td>Yes</td>
</tr>
<tr>
<td>Mounting Cable depth rack</td>
<td>200 mm (1,000 mm Rack recommended)</td>
</tr>
<tr>
<td>Weight</td>
<td>up to 25 kg</td>
</tr>
<tr>
<td>Weight notes</td>
<td>Actual weight may vary depending on configuration</td>
</tr>
<tr>
<td>Rack integration kit</td>
<td>Rack integration kit as option</td>
</tr>
</tbody>
</table>

### Environment

**Operating ambient temperature** 5 - 45 °C (41 - 113 °F)

**Operating temperature note** Cool-safe® Advanced Thermal Design (above 35 °C or below 10 °C) depending on configuration. Please use the Fujitsu WebArchitect (www.fujitsu.com/configurator/public) to get detailed information on the corresponding configurations. Ambient temperature limitation may differ for liquid cooled models. Please refer to the SystemArchitect for detailed information.

**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)**
- Typical noise : 43 dB(A) (idle) / 43 dB(A) (operating)

**Sound power (LWAd; 1B = 10dB)**
- Typical noise : 6.1 B (idle) / 6.0 B (operating)

**Noise notes** Noise emissions depends on operation modes, system configuration and ambient temperature. Typical hardware configuration which is the base for measurement according to ISO 7779: 2x PSU 450W, 2x CPU Xeon 85W, 4x RAM 16GB, 2x HDD 500GB SATA, 6x LAN 1 Gbit/s

### Electrical values

**Power supply configuration** 1 x hot-plug power supply or 2x hot-plug power supply for redundancy

**Hot-plug power supply redundancy** Optional

**Active power (max. configuration)** 715 W

**Apparent power (max. configuration)** 753 VA

**Heat emission (max. configuration)** 2574.0 kJ/h (2439.7 BTU/h)

**Rated current max.**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 V</td>
<td>7.68 A</td>
</tr>
<tr>
<td>240 V</td>
<td>2.98 A</td>
</tr>
</tbody>
</table>

**Active power note** To estimate the power consumption of different configurations use the Fujitsu Product Configurator: www.fujitsu.com/configurator/public
**Electrical values**

Power supply
- 450W hot-plug, 94% (Platinum efficiency), 100-240V, 50 / 60Hz
- 800W hot-plug, 94% (Platinum efficiency), 100-240V, 50 / 60Hz
- 800W hot-plug, 96% (Titanium efficiency), 200-240V, 50 / 60Hz
- 1200W hot-plug, 94% (Platinum efficiency), 100-240V, 50 / 60Hz; 110V range: 1000W, less than 110V: 900W
- 800W hot-plug, 92% (equivalent to Gold efficiency) –48V DC
- 1300W hot plug, 94% (equivalent to Platinum efficiency) 380V DC

**Power supply notes**
- Power Safeguard adapts system performance in case the power requirements exceeds supply limits.
- 96% Titanium Power supply unit is only released for 200-240V

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**Compliance**

**Product** PRIMERGY RX2540 M5

**Model** PR300D

**Global**
- CB
- RoHS (Substance limitations in accordance with global RoHS regulations)
- WEEE (Waste electrical and electronical equipment)
- Germany GS
- Europe CE
- USA/Canada CSAc/us
- FCC Class A
- ICES-003 / NMB-003 Class A
- Japan VCCI V3 Class A + JIS 61000-3-2
- Russia EAC
- South Korea KC
- China CCC
- Australia/New Zealand RCM
- Taiwan BSMI
- India BIS R41004006

**Compliance link** https://sp.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.

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**Components**

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**Warranty**

**Warranty period** 3 years

**Warranty type** Onsite warranty

**Warranty Terms & Conditions** www.fujitsu.com/support

**Product Support - the perfect extension**

**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 https://support.ts.fujitsu.com/

**Service Weblink** http://www.fujitsu.com/emeia/products/product-support-services/
More information

Fujitsu products, solutions & services
In addition to Fujitsu PRIMERGY RX2540 M5, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio
Built 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 offerings. This allows customers to select 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/products/computing/

Software
www.fujitsu.com/software/

More information
Learn more about Fujitsu PRIMERGY RX2540 M5, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/primergy

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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