FUJITSU M10-4 SERVER

MAINFRAME RELIABILITY WITH INDUSTRY-LEADING VIRTUALIZATION

KEY FEATURES

- A compact footprint with high performance and reliability.
- Scales up to 64 cores.
- Ideal for data center integration and virtualization.
- The 16-core 2.8 GHz SPARC64 X and the 3.4 GHz SPARC64 X+ processors and the 8-core 3.7 GHz SPARC64 X+ processor, with supercomputer technology, provide superior performance for enterprise workloads such as OLTP, ERP, BIDW, SCM, and CRM.
- Software-on-chip instructions on the SPARC64 X / SPARC64 X+ processors accelerate key database functions.
- CPU Activation economically and rapidly meets capacity requirements.
- Flexible resource configuration using Oracle VM Server for SPARC and Oracle Solaris Zones virtualization technologies.
- Power-saving features are built in to the processor and the server.
- Mainframe-class RAS features for 24/7 mission-critical applications.
- The server is managed by the independent service processor's eXtended System Control Facility (XSCF).
- Firmware updates during system operation.

The Fujitsu M10-4 server is a high-performance, highly reliable midrange server that is ideal for data center integration and virtualization. It can be configured with as many as 64 processor cores, large memory, and large disk capacity. The Fujitsu M10-4 uses the latest SPARC64 X ("ten") and X+ ("ten plus") processors. Customers can enjoy the benefits of Capacity on Demand (COD) with core-level CPU Activation to grow processor resources one core at a time. Innovative Software on Chip (SWOC) capabilities of the SPARC64 X / SPARC64 X+ processors deliver dramatic performance by implementing key software functions directly in the processor. The Fujitsu M10-4 server enables highly flexible system configuration with a suite of built-in virtualization technologies included at no cost: Oracle VM Server for SPARC and the Oracle Solaris Zones.

Protect Your Investment with Reliability, Availability, Serviceability, and Flexibility

The Fujitsu M10-4 server has many mainframe-class reliability, availability, and serviceability (RAS) features, such as automatic recovery with instruction retry, up to 2 TB of system memory with error-correcting code (ECC) protection with extended ECC support, guaranteed data path integrity, and configurable memory mirroring. In addition, the disks, I/O cards, power supplies, and fans are redundant and hot-swappable. To enhance flexibility, multiple independent logical domains can be configured with Oracle VM Server for SPARC. For additional flexibility, multiple Oracle Solaris Zones can be configured and processor/memory resource allocation can be changed dynamically. Both Oracle VM Server for SPARC and the Oracle Solaris Zones feature of Oracle Solaris are included in all Fujitsu M10 servers at no cost.

Oracle Solaris: The World's Most Advanced Operating System

Only Oracle offers the Oracle Solaris Binary Application Guarantee Program, offering guaranteed binary and source-code compatibility for applications dating back to 1997 or earlier. The Fujitsu M10-4 server supports Oracle Solaris 10 and Oracle Solaris 11. In addition, Oracle Solaris 8 and Oracle Solaris 9 are available to use in Oracle Solaris Legacy Containers. Oracle Solaris 10 and later also deliver Oracle Solaris ZFS and revolutionary features such as dynamic tracing (DTrace), cryptographic infrastructure, user and process rights management, and the Oracle Solaris IP Filter.

ORACLE

Fujitsu M10-4 Server Specifications	
Processor	
CPU	SPARC64 X: 16-core, SPARC64 X+: 16-core or 8-core, dual-threaded SPARC V9 architecture, Error Checking and Correction (ECC) protection
Primary cache per core	64 K data cache and 64 K instruction cache
Secondary cache per processor	24 MB
Clock speed	2.8 GHz (16-core SPARC64 X) / 3.4 GHz (16-core SPARC64 X+) / 3.7 GHz (8-core SPARC64 X+)
Software on Chip features	• SIMD Single Instruction Multiple Data Vector Processing • Extended Floating-Point Registers • Decimal Floating-Point Processing. IEEE 754 standard and Oracle Number are supported. • Cryptographic Processing. Supported encryption modes are AES, DES, 3DES, RSA and SHA.
System	
CPU	Up to four CPUs (two CPUs per board/two boards per server)
Main memory	Up to 2,048 GB, with 32 GB DIMM
I/O	• 11 PCI Express 3.0 short, low-profile slots (eight lanes) • Up to 71 PCI Express slots with optional PCI expansion unit • 4-port GbE, 1-port SAS, 2-port USB
Memory bandwidth (per chip)	102 GB/sec
Service processor	One per unit
Storage	
Internal device	Up to eight 900 GB or 600 GB internal 2.5-in. SAS HDDs or 400 GB or 200 GB SAS SSDs
Software	
Operating system	• Oracle Solaris 11.1 or later • Oracle Solaris 10 1/13 or later
Software Included	• Oracle Solaris 11.2 which includes Oracle VM Server for SPARC • Oracle Solaris ZFS (default file system)
Management software	• XSCF monitoring/control facility • XSCF software, which manages hardware configuration and health, domain configuration and status, error monitor, and notification
System monitoring	Oracle Enterprise Manager Ops Center
Virtualization	Built-in, no-cost Oracle VM Server for SPARC and Oracle Solaris Zones provide the flexibility and power of up to 128 virtual systems in a single Fujitsu M10-4 server. Applications certified only for Oracle Solaris 8 or Oracle Solaris 9 may be installed in an Oracle Solaris legacy zone in an Oracle Solaris 10 1/13 guest domain.
Reliability, Availability, and Serviceability	
Key features	• End-to-end ECC protection • Guaranteed data path integrity • Automatic recovery with instruction retry • Dynamic L1 and L2 cache way degradation • ECC and Extended ECC protection for memory, memory mirroring, periodic memory patrol, and predictive self-healing • Hardware redundancy in memory, HDD/SSD, PSU, fan, and liquid cooling pump • Hot-pluggable HDD/SSD, PSU, PCI card, and fan • Live operating system upgrades • Firmware updates during system operation

Fujitsu M10-4 Server Specifications – continued	
Environment	
AC power	200 V to 240 V ±10% (50/60 Hz)
Power consumption	Maximum 2,765 W (SPARC64 X), 3,082 W (SPARC64 X+)
Operating temperature	• 5° to 35° C (41° to 95° F) at an altitude of 0 m to 500 m • 5° to 33° C (41° to 91° F) at an altitude of 501 m to 1,000m • 5° to 31° C (41° to 88° F) at an altitude of 1,001 m to 1,500 m • 5° to 29° C (41° to 84° F) at an altitude of 1,501 m to 3,000 m
Non-operating temperature	• –20° to 60° C (packed) • 0° to 50°C (non-packed)
Altitude	Up to 3,000 m (9,843 ft.)
Acoustic Noise	• 8.2 B, 7.5 B (4x, 2x SPARC64 X) / 9.0 B, 8.5 B (4x, 2x SPARC64 X+) • 64 dB, 58 dB (4x, 2x SPARC64 X) / 74 dB, 67 dB (4x, 2x SPARC64 X+)
Cooling	• 9,954 kJ/hr, 9,434 BTU/hr (SPARC64 X) / 11,100 kJ/hr, 10,520BTU/hr (SPARC64 X+)
Dimensions and Weight	
Height	17.5 cm (6.9 in.)
Width	44.0 cm (17.3 in.)
Depth	74.6 cm (29.4 in.)
Weight	58 kg (127.9 lb.)
Regulations	
Safety	• UL60950-1, 2nd Edition + A1 • CSA C22.2 No. 60950-1-07 + A1 • EN60950-1:2006 + A1:2010 +A2:2011 • IEC60950-1:2005, 2nd Edition + A1:2009 (evaluated to all CB countries) • CFR21 Part 1040 • IEC60825-1 • IEC60825-2 • CB Scheme with all country deviations • CNS14336&GB4943 through exemption • CNS14336 • S-Mark • GOST-R certification mark
RFI/EMC	• EN55022:2010 • VCCI (2012) • FCC Part-15 (2012) • CNS13438:2006 (CISPR 22:2005 +A1:2005) • KCC • GOST-R certification mark • S-Mark • EN61000-3-2:2006 + A1:2009 + A2:2009 • EN61000-3-3:2008 • JIS C 61000-3-2 (2011) • ICES-003 Class A • AS/NZS CISPR 22 (2009) • CISPR 22:2008
Immunity	• EN55024:2010 • IEC61000-4-2 • IEC61000-4-3 • IEC61000-4-4 • IEC61000-4-5 • IEC61000-4-6 • IEC61000-4-8 • IEC61000-4-11
Telecommunications	EN 300 386 V1.4.1 (2008)

Warranty

Visit oracle.com/us/support/index.html for Oracle's global warranty support information on Oracle products.

Services

From design and implementation to support and management, Oracle provides an end-to-end portfolio of services designed to accelerate the alignment of IT infrastructure with business needs, optimize usage of IT assets, and contain costs. Oracle's expertise helps you address key data center challenges, including virtualization/consolidation, power, space and cooling optimization, planning and implementation, and ongoing maintenance and support. In addition, Oracle offers top-rated technical support for your Fujitsu M10-4 server. Visit oracle.com/us/support/index.html for information on Oracle's service program offerings for Oracle products.

Contact Us

For more information about the Fujitsu M10-4 server, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

Hardware and Software, Engineered to Work Together