FUJITSU

Data Sheet
Fujitsu M10-4 Server

High-performance, highly reliable midrange server that is ideal for data center integration and virtualization

The Fujitsu M10-4

The Fujitsu M10-4 server can be configured with as many as 64 cores, large memory, and large disk capacity. Processor resources can be expanded incrementally with the CPU Activation feature, which supports adding processor resources one core at a time. The latest SPARC64 X ("ten") and X+ ("ten plus") processors are implemented, so customers can enjoy the benefits of Software on Chip and core-level CPU Activation, known as COD. Its SPARC64 X /SPARC64 X+ processors were developed to deliver dramatic high-speed performance by implementing instructions in hardware that accelerate key software functions (Software on Chip). The Fujitsu M10-4 server enables highly flexible system configuration with two no-cost virtualization technologies, Oracle VM Server for SPARC and the Oracle Solaris Zones feature of Oracle Solaris.

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 in logical domains 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.

SPARC64

Features and Benefits

Main features	Benefits
■ Four 16-core SPARC64 X / SPARC64 X+ processors for a total of 64 cores and 128 powerful threads and 2 TB of main memory	■ Superior performance for largest workloads such as ERP, BIDW, SCM, CRM, big data, and analytics
■ 4 RU form factor	■ Compact footprint with high performance and reliability ideal for data center integration and virtualization
■ Mainframe-class reliability, availability, and serviceability (RAS) capabilities	■ High availability to support the most demanding 24/7 mission-critical applications
■ Core-based CPU activation	■ Ability to pay for only the resources that are needed and put into use minimizing initial investment and avoiding expensive upgrades ■ Fast and economical system capacity growth in increments as small as two processor cores at a time with no downtime
■ Software-on-Chip instructions implemented directly on SPARC64 X / SPARC64 X+ processors	■ Drastic performance gains for a wide range of applications such as encryption, decimal arithmetic operations, and key database functions
■ Liquid Loop Cooling technology for innovative system design	■ Dramatic reduction in space as well as a reduction of memory latency by as much as 1/5 of previous generation M-Series SPARC servers
■ Built-in no-cost virtualization: Oracle VM Server for SPARC and Oracle Solaris Zones technologies	■ Higher levels of system utilization and cost reduction with flexible resource configurations ■ Massive server consolidation without the need to acquire additional software
■ Supports Oracle Solaris 11 and Oracle Solaris 10, also Solaris 9 and 8 with Oracle Solaris Legacy Containers	■ Investment protection for application software as well as system management and administration expertise developed over the years avoiding costly and complex migrations
■ Oracle Solaris 100% Binary Compatibility Guarantee	■ Preserving of software investments with the full binary compatibility guarantee that the existing SPARC Oracle Solaris applications would run unmodified

Technical Details

Processor

CPU	SPARC64 X /SPARC64 X+: 16-core processors, SPARC V9 architecture, ECC-protected
Primary cache per core	64 K data cache and 64 K instruction cache
Secondary cache per processor	24 MB
Clock speed	2.8 GHz (SPARC64 X) / 3.4 GHz (SPARC64 X+)

System

CPU	As many as four CPUs (two CPUs per board/two boards per unit)
Main memory	Up to 2,048 GB with 32 GB DIMM
I/O	• 11 PCI Express 3.0 short, low-profile slots (eight lanes) • As many as 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

Local storage	As many as eight 600 GB or 900 GB internal 2.5-in. SAS HDDs or 200 or 400 GB eMLC SAS SSDs (can be mixed)

Software

Operating system	• Oracle Solaris 11.1 or later (SRU required) • Oracle Solaris 10 1/13 or later (SRU required)
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 12c Release 2 or later
Virtualization	Built-in, no-cost Oracle VM Server for SPARC and Oracle Solaris Zones provide the flexibility and power of up to 32 virtual systems in a single Fujitsu M10-4 server.

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

Environment

AC power	200 V to 240 V ±10% (50/60 Hz)
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℃ (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)

More Information

Fujitsu platform solutions

In addition to Fujitsu M10-4, 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/services/computing/
- PRIMERGY: Industrial standard server
- FUJITSU M10: UNIX server
- PRIMEQUEST: Mission-critical IA server
- ETERNUS: Storage system
- BS2000/OSD: Mainframe
- GS21: Mainframe
- ESPRIMO: Desktop PC
- LIFEBOOK: Notebook PC
- CELSIUS: Workstation

Software
www.fujitsu.com/software/
- Interstage: Application infrastructure software
- Systemwalker: System management software
- Symfoware: Database software
- PRIMECLUSTER: Clustering software

More information

Learn more about Fujitsu M10-4, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/sparc

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 resolve issues of environmental energy efficiency through IT. Please find further information at:
www.fujitsu.com/global/about/environment/

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