Datasheet
Fujitsu SPARC M10-4 server

For the largest departmental and application modules. This is very reliable computing power in a rackable footprint.

Only the best with Fujitsu SPARC Enterprise

Based on robust SPARC architecture and running the leading Oracle Solaris11, Fujitsu SPARC M10-4 servers are ideal for customers needing highly scalable, reliable servers that increase their system utilization and performance through virtualization.

The combined leverage of Fujitsu's expertise in mission-critical computing technologies and high-performance processor design, with Oracle's expertise in open, scalable, partition-based network computing, provides the overall flexibility to meet any task.

A SPARC of steel

Fujitsu SPARC M10-4 provides ideal growth capability in a mid-range system. Built with the same mission critical RAS features as its larger enterprise class cousins, it offers a flexible rack-mounted design that is ideal for business function growth.

It features non-stop, self-healing mechanisms and the rock solid, dependability needed to run multiple databases and ERP applications. It can even host high availability clustering between pairs of physical partitions. Total binary compatibility fully protects your application investments, as well as providing Solaris Containers for further sub-divide resources. Fujitsu SPARC M10-4 has the performance leadership to handle your most important business applications.

Features and benefits

Main features	Benefits
Affordable performance	
■ SPARC M10-4 performance excels in mid-range server arena	■ With high end class performance, the M10-4 allows businesses to downsize from highend server
■ Increase in parallelism through rich computational resources within each processor	
■ Significant reductions in memory access time by integrating memory access controllers within the processor	
■ Major reductions in I/O access time by integrating System Controller and PCIe Bridge inside the processor	
High Green performance	
■ The 4U server's simple design greatly reduces power consumption and space	■ Highest Green performance dramatically slashes datacenter costs
■ Efficient liquid cooling of high dense CPU and memory	
■ Liquid Loop Cooling targets hot spots to lower failure rates and reduce power consumption	
■ Superior power supply efficiency of PSU with 80 PLUS Platinum certified	
■ Control power consumption easily by capping power and monitoring power in real-time	
■ Integrate the power consumption of all sever parts to holistically monitor overall power	
Flexible investment protection	
■ Dependable server consolidation platform with a maximum of 128 VM's	■ Server investment efficiency is maximized because Oracle VM for SPARC server allows full utilization of server resource
■ Cost efficiencies are achieved through a high level of virtualization granularity, where one VM can be created per thread of CPU and memory resources can be shared between VMs	.
■ CPU resources can be bound to VM	
■ Resource utilization can be changed dynamically to eliminate any single point of failure, I/O domains can be made redundant	
Reliability that makes you forget	
■ Hardware availability is fully assured through data protection and component redundancy	■ Suits the needs for mission critical systems - databases and various industry application systems including finance and telecommunications.
■ Error Checking and Correction (ECC) protection has been built into CPU to assure address and data bus traffic between LSI	
■ Hardware-level memory patrol detects all memory errors	
■ All major components including HDD, Power Supply Units and Fans can be configured redundantly, and are hot-swappable	
■ Total system redundancy, including server, storage and network using PRIMECLUSTER	
World's most advanced OS, Oracle Solaris 11	
■ The combination of SPARC64 processor and Oracle Solaris OS provides certainly around the protection of system assets and a mission critical service	■ Minimizes costs of server administration and maintenance
■ Lowering operational costs including electricity and license charges can increase investment efficiency	■ Protects business credibility by eliminating information exposure and business disruption risks
■ Oracle Solaris with UNIX OS (based on UNIX System V Release 4)	■ SPARC64 X processor protects all application assets in former SPARC servers due to conformity to SPARC V9 architecture
■ Application binary compatibility, ensures applications will run without change or complication	
■ SPARC64™ X and Oracle Solaris conform to the same SPARC V9 open processor architecture as all other SPARC processors and operating system versions. This provides the most stable roadmap into the futures	

Topics

Affordable performance

With Quadrupled core and thread number and rich computational resources inside, Fujitsu SPARC64 X processor lifts SPARC server performance to eight times of the previous SPARC server. Essentials for the supreme performance are Fujitsu's 28 nanometer semiconductor technology, which helps embed 16 core and 32 thread and affluent computational circuits including pipelines and registers inside processor.

SPARC64 X has around five times the transistors compared to previous SPARC64 VII+ owing to System on Chip technology. Packed in this processor are circuits to control memory, I/O, and inter-processor interfaces – in former SPARC Enterprise M-series corresponding devices were outside processor. Due to reduction of latency between devices memory and I/O access performance are much improved in SPARC M-10.

High Green performance

System on Chip (SoC) in SPARC64 X much contributes to reduce costs. :
*   Reduction of datacenter costs related to footprint and space
    Server height for SPARC M10-4 is reduced to two-fifth compared to 10U
    SPARC Enterprise M5000.

Electricity bills can be reduced more using automatic control of power consumption.
*   Automatically coordinate power consumption of devices in server
*   Assists to control power consumption by Power Capping and real-time power monitor
*   Reduction of administrational costs due to relief from maintenance operations
    SoC, reducing the numbers of components in server, contributes to much
    lower occurrence of failures.

Flexible investment protection

Flexible virtualization of SPARC M10 called Oracle VM Server for SPARC helps accommodate large number of workloads by improvement of system utilization.
*   It helps accommodate 128 VMs in 4U server
*   It can lift resource utilization by allotment of system resources like CPU and memory to more resource intensive workloads.

For enterprise systems, down time means a cost and loss of business opportunity. In this sense, SPARC M10 is the best choice for them due to its highest reliability hardware. If you plan to reduce costs more by server consolidation, server virtualization must be also reliable as the hardware.

To minimize t down time, Oracle VM for SPARC Server is the best virtualization because it has redundancy of I/O virtualization services called IO Domains. In other virtualization products a failure of I/O virtualization cause the entire server failure. SPARC M10-4 can continue operations even in such failure.

There is another cost, which may disturb system upgrade - costs for upgrade of applications. If you choose SPARC M10, you are freed from such burdens. SPARC processors for SPARC M10 series and SPARC Enterprise conform to SPARC V9 architecture in common. This means applications running on SPARC Enterprise run on SPARC M10-4.

Reliability that makes you forget

When Fujitsu designed Fujitsu SPARC Enterprise M10-4 they looked to their long mainframe heritage to provide the quality and robustness needed in an important mid-range platform. The result is a most reliable, and highly scalable, self-sustaining system. That works well with the world's most popular business application systems and databases. By placing the widest range of error checking and correction systems directly into the hardware, the platform manages itself. This relieves system administrators from most of the difficult diagnostic and recovery tasks required with many other systems. Once you own Fujitsu SPARC Enterprise system you will soon forget the operational problems of the past. Like the engine management systems in the finest cars, everything is monitored and self-managed to ensure all applications work non-stop at the peak of their capability.

World's most advanced OS, Oracle Solaris

Solaris is the only OS that has the scalability, security, and diagnostic features, to fully and quickly comprehend the situation, if a major application problem occurs. That is one of the reasons Solaris has the largest application portfolio and why it is the development platform of choice for many of the world's major business applications.

Technical details

Processor

Processor quantity	2 or 4
Processor type	SPARC64 X
Processor details	- 2.8 GHz, 16 core per socket, 2 thread per core
	- L1 cache : 128KB per core
	- L2 cache : 24MB per socket

Memory

Max. Memory capacity	2TB, 64 x 32 GB DIMM (DDR3)

Drive bays

Drive bays	- 8 disk bays for HDD and SSD
- Hard disk drive / Solid state drive bays	
Hard disk drives / Solid state drives	- HDD : 600GB
	- SSD : 100/ 200GB

IO ports onboard

SAS	1 mini-SAS port
Network	4 LAN ports (10Base-T/100Base-TX/1000Base-T)
USB	One USB port on front side, one USB port on rear side.

Slots

PCI slots	11 slots for PCI Express 3.0 (8lane)
I/O slots	
Number of I/O Expansion Units	Max.71 slots for PCI Express 3.0 (8lane)
	Max. 6 units of I/O Expansion Units connectable.

Supported operating systems

Supported operating systems	Oracle Solaris

Virtualization

Virtualization features	Oracle VM Server for SPARC, Solaris Containers

RAS features

Redundant components	Mirrored Memory
	Hard disk drive (software RAID/hardware RAID)
	Fan
	Power supply unit,
	Power system
	Liquid cooling pump
Hot-swap components	Hard disk drive (software RAID/hardware RAID)
	Fan
	Power supply unit,

Dimensions / Weight

Rack-mount (W x D x H)	440 x 746 x 175 (mm) ; 4U
Weight	58 kg
	127.87 lbs.

Electrical values

Rated voltage range	AC 200-240V

Active power max.	2765 W
Apparent power max.	2821VA
Heat emission	9954 kJ/h

www.fujitsu.com/sparc

More information

Fujitsu platform solutions

In addition to Fujitsu SPARC 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
- SPARC 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 SPARC M10-4, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/sparcenterprise/

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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