

# Datasheet

## Fujitsu SPARC M10-1 server

Powerful entry-level solution to mission critical computing, with the high-end benefits of virtualization, automation and the deployment flexibility of a UNIX application portfolio.

### Only the best with Fujitsu SPARC Enterprise

Based on robust SPARC architecture and running the leading Oracle Solaris 11, Fujitsu SPARC M10-1 servers are ideal for customers needing highly scalable, reliable platforms 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 M10-1 is the entry to mission-critical system with high-end features. It uses the same aggressive RAS functions as its larger enterprise class cousins, yet the compact rack mounted single processor design ensures the lowest possible cost of ownership.

In-built self-healing mechanisms and rock solid dependability, plus the latest 2.8 GHz SPARC64™ X processor, means excellent and long term operation for a wide range of systems including databases, ERP application modules and telecommunication systems. Total binary compatibility also fully protects your application investments, as well as providing Solaris Containers for resource virtualization at no extra cost. You will find that Fujitsu SPARC M10-1 is a cost performance leader for whatever tasks you have in mind.



# Features and benefits

Main features	Benefits
<p><b>Affordable performance</b></p> <ul style="list-style-type: none"> <li>■ The High density compact 1U chassis provides high performance through system on chip technology</li> <li>■ Up to eight times the performance of the previous SPARC64 processor</li> <li>■ Significant reductions in memory access time by integrating memory access controllers within the processor</li> <li>■ Major reductions in I/O access time by integrating System Controller and PCIe Bridge inside the processor</li> </ul>	<ul style="list-style-type: none"> <li>■ With midrange class performance, the M10-1 allows businesses to downsize from mid-range servers</li> </ul>
<p><b>High Green performance</b></p> <ul style="list-style-type: none"> <li>■ The 1U server's simple design greatly reduces power consumption and space</li> <li>■ Server space is halved from SPARC Enterprise M3000</li> <li>■ Control power consumption easily by capping power and monitoring power in real-time</li> <li>■ Integrate the power consumption of all server parts to holistically monitor overall power</li> </ul>	<ul style="list-style-type: none"> <li>■ Best cost efficiency due to high dense and high performance server</li> <li>■ Maximization of performance while minimizing power consumption</li> </ul>
<p><b>Flexible investment protection</b></p> <ul style="list-style-type: none"> <li>■ Dependable, thin server consolidation platform with a maximum of 32 VM's</li> <li>■ 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</li> <li>■ Full conformance to SPARC V9 architecture</li> </ul>	<ul style="list-style-type: none"> <li>■ Highest efficiency in server resource utilization maximizes ROI</li> <li>■ Applications running in former SPARC64 server can run in SPARC M10-1 without compilation</li> </ul>
<p><b>Reliability that makes you forget</b></p> <ul style="list-style-type: none"> <li>■ Hardware availability is fully assured through data protection and component redundancy</li> <li>■ Error Checking and Correction (ECC) protection has been built into CPU to assure address and data bus traffic between LSI</li> <li>■ Hardware-level memory patrol detects all memory errors</li> <li>■ All major components including HDD, Power Supply Units and Fans can be configured redundantly, and are hot-swappable</li> <li>■ Total system redundancy, including server, storage and network using PRIMECLUSTER</li> </ul>	<ul style="list-style-type: none"> <li>■ Suits the needs for mission critical systems - databases and various industry application systems including finance and telecommunications.</li> </ul>
<p><b>World's most advanced OS, Oracle Solaris 11</b></p> <ul style="list-style-type: none"> <li>■ Whole network can be virtualized by mapping physical network entities onto virtualization entities</li> <li>■ Solaris 10 Containers can help applications run on Solaris 11</li> <li>■ Boot Environment greatly reduces downtime for server updates</li> <li>■ Highest security including delegated administration can minimize risks of attacks</li> </ul>	<ul style="list-style-type: none"> <li>■ Minimizes costs of server administration and maintenance</li> <li>■ Maximum system operations time due to online systems update ability</li> <li>■ Protects business credibility by eliminating information exposure and business disruption risks</li> </ul>

# 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.

These results prove SPARC M10-1 is the optimal platform to reduce initial investment and operational costs by accommodation of mid range server workloads.

In SPARC64 X Fujitsu integrates software logics - parallel data manipulation frequently used in database application. This will much improve Oracle database performance in future.

## 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 M10-1 is halved compared to 2U SPARC Enterprise M3000.

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 administrative 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 32 VMs in 1 U 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 M10-1 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 M10-1.

## Reliability that makes you forget

While Fujitsu SPARC Enterprise M10-1 is positioned as an entry to mission-critical server, its reliability is second to none. The Fujitsu design reflects a long engineering heritage where quality and robustness are not seen as items only available at the enterprise level. The result is a most reliable self-sustaining system that works well with all the applications it supports. The wide ranging error checking and correction systems are implemented directly in the hardware. This not only takes the pressure off the OS and applications but also ensures the platform really can manage itself. This relieves system administrators from most of the difficult diagnostic and recovery tasks required with many other systems. Once you own a Fujitsu SPARC M10 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 respond if a major application problem occurs. That has directly led to Solaris having one of the world's largest application portfolios and why it is the development platform of choice for many of the world's major software developers.

# Technical details

<b>Processor</b>	
Processor quantity	1
Processor type	SPARC64 X
Processor details	- 2.8 GHz, 16 core per socket, 2 thread per core - L1 cache : 128KB per core - L2 cache : 22MB per socket
<b>Memory</b>	
Max. Memory capacity	512 GB, 16 x 32 GB DIMM (DDR3)
<b>Drive bays</b>	
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
<b>IO ports onboard</b>	
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.
<b>Slots</b>	
PCI slots	3 slots for PCI Express 3.0 (8lane)
I/O slots	
Number of I/O Expansion Units	Max. 23 slots for PCI Express 3.0 (8lane) Max. 2 units of I/O Expansion Units connectable.
<b>Supported operating systems</b>	
Supported operating systems	Oracle Solaris
<b>Virtualization</b>	
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
Hot-swap components	Hard disk drive (software RAID/hardware RAID)
	Fan
	Power supply unit,

Dimensions / Weight

Rack-mount (W x D x H)	431 x 721 x 42.5 (mm) ; 1U
Weight	18 kg
	39.68 lbs.

Electrical values

Rated voltage range	AC 100-120V, 200-240V
Active power max.	763W( 100-120V)
	740W(200-240V)
Apparent power max.	778VA (100-120V)
	763VA (200V-240V)
Heat emission	2747 kJ/h (100-120V)
	2664 kJ/h (200-240V)

# More information

## Fujitsu platform solutions

In addition to Fujitsu SPARC M10-1, 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/](http://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/](http://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 M10-1, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.  
[www.fujitsu.com/sparcenterprise/](http://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/](http://www.fujitsu.com/global/about/environment/)



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