

SPARC® Enterprise Server Model T5120

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Pages 4

SPARC® Enterprise servers are proven UNIX based computers based on the latest and most performing and reliable SPARC processor architecture and running the worldwide number 1 UNIX operating environment Solaris 10.

The new Fujitsu Siemens Computers SPARC® Enterprise servers T5120 and T5220 – the first servers using the new UltraSPARC T2 chip-multithreading processor - are setting new standards in the market for network centric computing, energy efficiency and compute density, providing the ideal platform particularly for web and application tier services and for on-line transaction processing and technical workloads. Built-in, no-cost virtualization capabilities in the servers also enable customers to easily maximize system utilization, helping to lower the cost of delivering new IT services. SPARC® Enterprise servers T5120 and T5220 are the first servers to integrate 10 Gigabit Ethernet technology and IO directly on the chip without additional network interface card costs.

SPARC® Enterprise Server Entry Model T5120

The Entry model T5120 incorporates the UltraSPARC T2 processor with 1.2 GHz (4 or 8 cores) or 1.4 GHz (8 cores) and enhanced 4 MB L2 cache. This processor delivers with its 8 cores up to 64 simultaneous execution threads and 128 GB of fully buffered memory (16 DIMM slots). The T5120 model also offers 4 or 8 hot-plug SAS disk drive bays and 3 free PCIe slots in addition to the two 10 GbE and four GbE on-chip network interfaces. 1 Floating Point Unit per core and 1 integrated Crypto Unit per core are further improvements. The Solaris 10 Operating System and the logical domain feature (up to 64 LDom's) are pre-installed and provide a highly flexible, efficient and secure application environment. Standard RAS features include redundant power supply units, core offlining, extended ECC protection and the Integrated Lights Out Management (ILOM) tool.



Key Features	Benefits
■ UltraSPARC T2 processor with up to 8 cores (8 threads each)	■ All major server functions (8 cores, 64 threads, 10 GbE network, crypto unit) integrated on chip
■ Industry-leading space and power consumption efficient, rack-optimized 1RU design	■ Maximized throughput at minimized space and power levels (less than 10 Watts per thread)
■ Solaris 10 Operating System (latest Update) and LDom support preinstalled	■ Providing new standards for performance, availability and security, saving significant time and money when deploying, operating and managing IT infrastructures ■ Increased consolidation/virtualization capabilities with Solaris containers and logical domains
■ Assemble To Order (ATO) concept for flexible configurations	■ Right-sized configurations - easy to configure and order - depending on customers request
■ Built-in no-cost multithreading (64 threads) and virtualization (64 LDom's) capabilities	■ Highest level of utilization by deploying many applications on a single server – improved flexibility, reduced administration efforts
■ Advanced reliability, serviceability and security features	■ Decreased installation time, increased agility and reduced management overhead

SPARC® Enterprise T5120 Technical characteristics

- UltraSPARC T2 processor with CoolThreads technology offers up to eight multithreaded cores.
- Typical processor power consumption of <95 watts (1.2 GHz), delivering up to 64 simultaneous threads.
- 16 FBDIMM Slots
- Up to 3 PCI-express controller
- Up to 2 XAUI cards, occupies PCI-e slots, for 10Gbit Ethernet.
- Redundant components: hard disk drives 2.5", fans (standard), power supply units and power feeds
- Hot-plug able components: hard disk drives, power supply units and fans
- Monitoring of operating status of system units in real time on system management console.
- 19-inch rack system units (1HU)
- Integrated Lights Out Manager, ILOM, with:
 - 1 Serial interface
 - 1 10/100 Mb Ethernet interface telnet CLI, LAN console connection through LAN direct to ILOM LAN port.
 - Secure Ethernet interface (secure shell CLI)
 - Host side interface/admin utility
 - Host side monitoring (disks, fans, power, temp, PSU, Field Replaceable Unit ID, hot plug devices)
 - Host control (power, reset)
 - Enhanced events logging (ILOM events, host events, hotplug devices)
 - Logging events to ILOM (including nvram and syslog)
 - Logging host console stream output
 - Out-of-box functionality (Server management capability even when the OS is not available)
 - Hardware environmental monitoring/management

Ultra SPARC T2 Processor Functions

- 1.2 GHz with 4 or 8 cores
- 1.4 GHz with 8 cores
- SPARC V9 compliant
- Core features:
 - 8 threads per core
 - 8 KB primary data cache per core
 - 16 KB primary instruction cache per core
 - 2 instruction pipelines per core
 - 1 Floating Point Unit per core
 - 1 Security coprocessor per core
 - 1 cryptographic accelerator unit per core (IPsec Enable only with special SW)
- Dual 10 Gigabit Ethernet and PCIe integrated onto chip
- 4 MB On-chip level 2 cache shared by all cores, 8 banks
- Four memory controllers
- Up to 64 threads per Processor
- In Processor Integrated Options
 - Up to 8 cores, 8 threads per core
 - Memory BW >60 GB/sec
 - 4 DIMMs per controller - 16 DIMMs total
- Technology
 - 65 nm technology
 - 1.2 GHz and 1.4 GHz frequency
 - Power consumption <95 watt for 1.2 GHz

Technical specifications T5120 Server

Processor

Type	Ultra SPARC T2 (SPARC V9 compliant)	
CPUs / cores and threads	1 CPU per Server / 4 core 32 threads OR 8 core 64 threads per CPU	
Level-1 Cache per core, (I/D)	16KB Instruction Cache / 8KB Data Cache	
Level-2 Cache shared by all cores	4MB / CPU	
Clock Speed	1,2 GHz	1.4 GHz
SPECint_rate2006 (with 8 cores)	TBD	78.5
SPECfp_rate2006 (with 8 cores)		62.3

Main memory configuration

Type	16 Fully Buffered DIMM slots, ECC protected
min. capacity	4 GB (4 x 1 GB DIMMs)
max. capacity	128 GB (16 x 8 GB DIMMs)
Expansion kits	2GB, 4GB, 8GB and 16GB units (bundled in pieces confirmed via Configuration Guide)

I/O ports (Standard)

LAN	4 x Ethernet (10baseT / 100baseTX / 1000base TX ; RJ45) On Board
V.24 (RS232C)	1 serial port (DB9 RS232C)
USB	2 x 2 ports Ver. 2.0. (2 on Front Side and 2 on Rear Side, only for Keyboard and Mouse)
console port	1 x serial port (RJ45 on ILOM) 1 x Ethernet port (10baseT / 100baseTX RJ45 on ILOM)
SAS bus (for int. disk drives)	1 bus per 1 Control-Chip per Server (SAS, Serial attached SCSI)

PCI slots

PCI-express	1 slots low profile with PCI-e 8 lanes
Combo PCI-express / XAUI	2 slots low profile with PCI-e 4 lanes or XAUI Card for 10 Gbit Ethernet T2 connection

Useable PCI-controller

LVD U320 Dual SCSI	U320 SCSI, 16bit, 2 channels
Fibre Channel	4 Gbit/s, 2 channels and 1 channel
1 Gigabit Ethernet	1000 base-SX, 2 channels or 4 channels
1Gigabit Ethernet	10baseT/100baseTX/1000 base-TX, 2 channels
10 Gigabit Ethernet	10 Gbit XAUI with 1 GIBIC module or PCI-e 10 Gbit with up to 2 GIBIC modules

Mass storage (hard disk drives)

Type	2,5" SAS 10krpm
Max. Data rate	300MB/s
Min. capacity	1 x 73 GB ¹⁾
Expansion unit	73 GB ¹⁾ / 146 GB ¹⁾
Max capacity	1168 GB ¹⁾ (8 x 146GB ¹⁾)

Mass storage (DVD)

Type	DVD-RW/CD-RW, (8X DVD, RW)
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Software

Operating system	Solaris™ 10 starting with Update 4
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¹⁾ 1 MB = 10⁶ Byte, 1 GB = 10⁹ Byte

Installation specifications T5120 Server

	SPARC® Enterprise Server T5120 1HU rack version 1-CPU socket, up to 8 cores, up to 64 threads	
Width	425 mm	
Depth	714 mm	
Height	44 mm	
Maintenance area	Maintenance area is specified in rack description	
Weight	16.6 kg *1)	
Rated voltage	100-120 VAC / 200-240 VAC	
Main connections	max. 2 x IEC320-C14	
Frequency	50/60Hz	
Wattage Power consumption, max.	Max 641 Watt	
Heat generation	Max 2.308 kj/h	
Operating temperature / Operating altitude	from 5 to 35 °C / 0 – 900 m, from 5 to 34 °C / 0 – 1,200 m, from 5 to 33 °C / 0 – 1,500 m, from 5 to 32 °C / 0 – 1,800 m, from 5 to 31 °C / 0 – 2,100 m, from 5 to 30 °C / 0 – 2,400 m, from 5 to 29 °C / 0 – 2,700 m, from 5 to 28 °C / 0 – 3,000 m	
Relative humidity	10 % - 90 % relative humidity, non condensing	
Non-operating Environment	-40° C to 60° C 93% relative humidity, non condensing	
Declared Acoustic	Operating/Idling Acoustic Noise 7.0B (LwAd,1B=10dB) 59dB (LpAm, bystander positions)	

*1) without slide rails

Category	Relevant Standards
Product Safety	CFR21 part1040, CNS14336, GB4943, IEC825-1, IEC825-2, EN60950-1, IEC60950-1 CB Scheme with all country deviations, UL/CSA-60950-1
RFI / EMC	47CFR15B ClassA, AS/NZ3548 ClassA, CNS13438 ClassA, EN55022 ClassA, EN61000-3-2, EN61000-3-3, GB9254, GB17625.1, ICES-003, KSC5858 ClassA, VCCI ClassA, EN 50371 *This product and the released accessories are in compliance with emission class A. In certain cases measures have to be taken to reduce the electro magnetic influence to other equipment.
Immunity	EN55024, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11
Telecommunications	EN300-386
Regulatory Markings	BSMI, CE, C-tick, FCC, GOST-R, ICES-003, MIC, UL/cUL, UL/S-mark, VCCI, CCC, UL/DEMCO