

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 T5220

The Entry model T5220 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 T5220 model also offers 8 or 16 hot-plug SAS disk drive bays and 6 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 preinstalled 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.

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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 2RU design	 Maximized throughput at minimized space and power levels (less than 12 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
■ Flexible "Assemble To Order" (ATO) configuration concept	 Right-sized configurations - easy to configure and order - depending on customers request
 Built-in no-cost multithreading (64 threads) and virtualiza- tion (64 LDom´s) capabilities 	 Highest level of utilization by deploying many applications on a single server – improved flexibility, reduced admini- stration efforts
 Advanced reliability, serviceability and security features 	 Decreased installation time, increased agility and reduced management overhead

SPARC® Enterprise T5220 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 6 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 (2HU)
 - 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 (1.2 GHz)

Technical specifications T5220 Server

Processor				
Туре	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				
Туре	16 Fully Buffered DIMM slots, ECC protected			
min. capacity	4 GB (4 x 1 GB FBDIMMs)			
max. capacity	128 GB (16 x 8 GB FBDIMMs)			
Expansion kits	2GB, 4GB, 8GB and 16GB units (bundled in pieces confirmed via Configuration Guide)			
I/O ports (Standard)				
LAN	4 x Ethernet (10baseT / 100baseT)	(/ 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)	2 buses per 1 Control-Chip per Server (SAS, Serial attached SCSI)			
PCI slots				
PCI-express	2 slots low profile with PCI-e 8 lanes			
	2 slots low profile v	with PCI-e 4 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, 16	bit, 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/10	00 base-TX, 2 channels		
10 Gigabit Ethernet	10 Gbit XAUI with 1 GIBIC module or PC	CI-e 10 Gbit with up to 2 GIBIC modules		
Mass storage (hard disk drives)				
Туре	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⁾) 16 x 146 GB future enhancement			
Mass storage (DVD)				
Туре	DVD-RW/CD-RW	/, (8X DVD, RW)		
Software				

Solaris[™] 10 starting with Update 4

¹⁾ 1 MB = 10⁶ Byte, 1 GB = 10⁹ Byte

Installation specifications T5220 Server

	SPARC® Enterprise Serv	er T5220 2HU rack version		
	1-CPU socket, up to 8	cores, up to 64 threads		
Width	425 mm			
Depth	714	mm		
Height	88 mm			
Maintenance area	Maintenance area is specified in rack description			
Weight	23.6 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 795 Watt			
Heat generation	Max 2.862 kj/h			
Operating temperature /	from 5 to 35 ° C / 0 – 900 m,	from 5 to 34 ° C / 0 – 1,200 m,		
Operating altitude	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 $^{\rm o}$ C / 0 – 2,700 m,	from 5 to 28 ° C / 0 – 3,000 m		
Relative humidity	10 % - 90 % relative humanity, non condensing			
Non-operating Environment	-40° C to 60° C 93% relative humidity, non condensing			
Declared Acoustic	Operating/Idling Acoustic Noise 7.4B (LwAd,1B=10dB) 63dB (LpAm, bystander posi- tions)			

*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,		

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