Data Sheet

We make sure

FUJITSU COMPUTERS SIEMENS

PRIMEPOWER 250 2U

2-way Rack Server – Optimized for low complexity and cost efficiency

Issue July 2006

Pages 4

PRIMEPOWER servers are proven Unix computers based on the latest high performance processor architecture (SPARC64™V) and running the worldwide No #1 Solaris™ Operating Environment. PRIMEPOWER gives you the confidence that your IT business processes are always up and running. PRIMEPOWER servers make sure that dynamically changing IT production tasks will always be finished in time, by effectively using all of the system resources – with no resources wasted and with unique flexibility to adopt to changing priorities.

PRIMEPOWER rack-servers are the perfect answers for an IT strategy that aims to downsize datacenter infrastructure costs. Simplified operation, cost-effective scaling and enhanced quality of datacenter IT production are the main benefits. The PRIMEPOWER ServerView Suite management functions care for less troubleshooting efforts and access from anywhere at any time, to provide a stable and reliable system performance.

PRIMEPOWER 250 2U

As business processes grow, datacenters face the challenge of rapid enhancements of their front-tier infrastructure. Increasingly you are looking for a platform solution which has minimum impact on the budgets and yet assures the quality of service while keeping complexity issues down. The PRIMEPOWER 250 2U is the perfect answer for these demands. The server provides up to two SPARC64™ V processors in a cost cutting housing of two height units, and its integrated set of redundant components cares for enhanced production uptime. The server features an advanced degree of availability thanks to its innovative SPARC64™ V processor chip features which care for end-to-end data integrity and protect against incorrect execution of instructions with Automatic Instruction Retry (AIR). Management complexity is significantly reduced with hot plug components and its integrated independent service processor, which improves continuous operation through early recognition and preventive diagnostics, accessible from anywhere through LAN connection. PRIMEPOWER 250 2U provides exceptional value for money combining cost efficiency with low complexity computing.

Key Features	Benefits
■ Extended System Control Facility provided by an independent service processor. This facility is used to detect and avoid abnormalities and control the system accordingly despite CPU errors and system hang-ups.	■ Enhanced quality of service
■ High level of manageability by single and comprehensive system management tool PRIMEPOWER ServerView	■ Reduction of the complexity and increased productivity
■ Space-saving housing (2 height units)	■ High availability and serviceability with smallest space requirement

PRIMEPOWER 250 2U Technical characteristics

- XA system architecture with up to 2 SPARC64™V processors with 1.65GHz or 1.98 GHz and 3MB level-2 cache on-chip
- Up to 16 GB DDR-SDRAM main memory conditioned to system versions, 2-way
- Up to 3 PCI controllers
- High-speed interconnect (crossbar) with 2 processors.
- Redundant hard disks (optional), fans (standard), power supply units (optional) and/or power phases (optional)
- Hot-swap components: hard disks, power supply units and fans.
- Monitoring of operating status of system units in real time on system management console.
- New eXtended System Control Facility, XSCF, with:
  Controlling and diagnostic when power is on.
  Diagnostics when Power is off.
  Power on/off per command.
  LAN console connection through LAN direct to XSCF LAN port.
  Serial port (tty-a) for use with console attached via RCA4.
- 19-inch rack system unit (2HU)

SPARC64 ^{TM} V – Processor Functions

- Super-scalar processing
- VIS^{TM} – Visual Instruction Set
- 64-bit virtual address space
- 7 Execution Units (2 Load Store, 2 Fixed Point, 2 Floating Point, 1 Branch)
- Up to 4 instructions can be ended with each CPU-Clock cycle
- SMP – cache coherency support (MOESI-Protokoll)
- 2x128 KB on-chip Level1 low latency cache
- 4 way 16K entries branch history table
- optimized Branch Prediction method
- Concurrent out-of-order execution
- ECC (Error Correction Code) for
  - Level-1 data cache
  - Level-2 cache
  - High speed interconnect
  - Memory
- Parity for
  - CPU register
  - CPU core (data pathes and all ALU's)
  - TLB (Translation Look-aside Buffer)
  - Level-1 instruction cache
- Duplication of tags for level-1 instruction- and data- cache
- Automatic, in hardware implemented instruction recovery in case sporadic one-bit error of the CPU-core (AIR = Automatic Instruction Retry)
- Automatic degradation of parts of individual CPU subcomponents (ways) of level-1, level-2cache and TLB in the event of sporadic single-bit errors during operation
- Instruction TLB:
  1024 entry, 2 way, 8KB pages
  + 1024 entry, 2 way, 4MB pages
  + 32 entry, full associative 64KB, 512KB and locked page
- Data TLB:
  1024 entry, 2 way, 8KB pages
  + 1024 entry, 2 way, 4MB pages
  + 32 entry, full associative 64KB, 512KB and locked page
- 3 MB 3-way joint low latency on-chip level-2 Cache
- 400 Mio. Transistors, 90nm copper technology

Technical specifications PRIMEPOWER 250 2U

Server	GP250-GR3xEy (with 1.65GHz/3MB SLC)	GP250-GR3xFy (with 1.98GHz/3MB SLC)

Processor

Type	**SPARC64™V (equivalent to SPARC V9)**	
CPUs	**1-2 per Server**	
Level-1 Cache, (I/D)	**128KB / 128KB**	
Level-2 Cache	**3MB / CPU**	
Clock Speed	**1.65 GHz**	**1.98 GHz**
SPECint_rate2000	**27.8**	**32.5**
SPECfp_rate2000	**36.9**	**40.7**

Main memory configuration

Type	**Synchronous DDR SDRAM with ECC (even single-chip failure will be corrected)**
min. capacity	**1 GB / server**
max. capacity	**16 GB / server**
Expansion unit	**1 GB or 2 GB or 4 GB**

I/O ports (Standard)

LAN	**1 x Ethernet (10baseT / 100baseTX)** **1 x Ethernet (10baseT / 100baseTX / 1000base TX)**
V.24 (RS232C)	**1 x**
console port	**1 x RS232C (on XSCF)** **1 x Ethernet (10baseT / 100baseTX on XSCF)**
SCSI bus (for int. disks)	**1 per Server (LVD U320)**
RCI	**1 port (RJ45 6-pin)**
UPS	**1 port / Server (D-sub 9-pin)**

PCI slots

PCI (64 bit)	**3 slots (2x33 MHz, 1x33/66 MHz)**

PCI-controller

Ultra Dual SCSI	**Ultra SCSI, 16 bit, D, 2 channels**
LVD U320 Dual SCSI	**U320 SCSI, 16bit, 2 channels**
Fibre Channel	**2 Gbit/s, Non-OFC**
Fast Ethernet	**10base-T/100base-TX, 1 or 4 channels**
Gigabit Ethernet	**1000 base-SX, 1 channel**
Gigabit Ethernet	**10baseT/100baseTX/1000 base-TX, 1 channel**
Token Ring	**100 / 16 / 4 Mbit/s**
WAN	**V.24, X.21, V.35, 2 Mbps**
ISDN	**S_0, S_{2m}**

Mass storage (hard disks)

Type	**LVD U320**
Data rate	**320 MB/s (sync, max)**
Min. capacity	**73 GB (U320) [1)]**
Expansion unit	**73 GB / 147 GB (U320) [1)]**
Total capacity	**294 GB (internal) 6.4 TB (incl. 3 DN4x disk boxes) [1)]**

DN4x disk box 3HU (1 per PCI adapter)

Hard disk bays	**14 bays(2 x 7)**

BG57 peripheral box 3HU

Peripheral bays	**4 bays (1,6" height) 1 to 4 SCSI strings**

Console

LAN-Console	**1 x per server / mandatory in a network or a SMC from an Enterprise system**

Software

Operating system	**Solaris™ 8 02/02, 9 und 10**
Networking	**ONC/NFS, TCP/IP, OSI, X.25**
Compiler	**C/C++, Fortran-90, COBOL, Java**
System management	**PRIMEPOWER ServerView Suite**
Storage management	**VERITAS Volume Manager & File System, PRIMECLUSTER**

[1)] 1 MB = 10^6 Byte, 1 GB = 10^9 Byte

Installation specifications PRIMEPOWER 250 2U

		PW250 2HE Rack Version Up to 2-way
Width		444 mm
Depth		657 mm (709 mm over all)
Height		87 mm
Maintenance area		Maintenance area is specified in rack description
Weight		25 kg *1)
Rated voltage		200-240 VAC +/-10%
Mains connections		max. 3 x IEC320-C14
Frequency		50/60Hz +2%/-4%
Power consumption, max.		700VA (630 Watt)
Heat output, max.		2268 kJ/h
Operating temperature / Operating altitude		from 5 to 35 º C / 0 – 1.500 m from 5 to 31º C / 1.501 – 3.000 m
Relative humidity		20 % - 80 %, no condensation
Electrical standards:	Safety	IEC60950 ; C22.2 No.60950 ; ICES003 (CSA 108.8) ; UL60950
	EMC	EN55022 / CISPR22 Class B ; EN61000-3-2 / EN61000-3-3
	Immunity	EN55024 / CISPR24
Environmental conditions:	Operation	EN60721-3-3, 3K2, 3M2, 3C2, 3S2
	Storage	EN60721-3-1, 1K2, 1M3, 1C2, 1S2
	Transport	EN60721-3-2, 2K2, 2M2, 2C2, 2S1
Ecology		ECO ; FSC 03230

*1) without the necessary mounting rails and supports

Published by

Fujitsu Siemens Computers
http://www.fujitsu-siemens.com/

Company stamp