FUJITSU

Datasheet
Fujitsu Server PRIMEQUEST 2800B Business Critical

The mission critical open system Fujitsu PRIMEQUEST provides high-end server functionality using superior Fujitsu technology, long cultivated and refined over generations of computer system development.

The most cost-efficient enterprise server
The mission critical x86 server "Fujitsu PRIMEQUEST" is a high-end data center system focused on the needs of the growing enterprise. Based on technologies and innovations Fujitsu has refined over generations of highly reliable mainframe and UNIX servers, it provides mission critical class high-performance, excellent service availability and the openness of x86 servers.

Global standard Linux® and/or Microsoft® Windows® operating systems, with highly advanced Fujitsu reliability, stability and manageability technologies, make Fujitsu PRIMEQUEST a highly cost effective mission critical open platform.

Customer investment is fully secured by:
- Ability to operate a 24-hour, 365-day business.
- Outstanding performance and reliability.
- Excellent flexibility and scalability in an open server.
- A radically improved cost/performance profile.
- Use optimization and scalability for the future.

Platform of standards and high availability
With outstanding redundancy, Fujitsu PRIMEQUEST 2800B provides the high uptime required from true enterprise platforms. T Under the strict quality standards in Fujitsu's production processes - from server design to manufacturing and quality assurance – Fujitsu PRIMEQUEST can dramatically reduce failure rates.

Using Intel® Xeon® E7-8800 v2 product family and Fujitsu's super fast I/O technologies, Fujitsu PRIMEQUEST 2800B has hit highest performance scores in the large systems server arena. This is further proof that Fujitsu can deliver best-matched products, conforming to open systems standards that handle enterprise workloads. For instance, PRIMEQUEST 2800B combined with variety of Solid State Drive products can leap data throughput from what existing mission critical servers could provide.

Based on state-of-the art technologies such as smart cooling, Intel processors and other components Fujitsu PRIMEQUEST 2800Bprovides the best cost-efficiency in the enterprise server arena. It also reduces data center costs by lowering power consumption and minimizing the server footprint.

Fujitsu PRIMEQUEST 2800B with its high availability, performance scalability, cost-efficiency, and risk-free virtualization can lift the Return on Investment (ROI) of your IT system.

Main features	Benefits

Complete redundancy and online recovery function
- Almost all the components can be redundantly configured
-

Highest data throughput in mission critical arena
- 2.5 times the performance of predecessor model PRIMERGY RX900 S2
- 4 times the performance of PRIMERGY RX600 S6

- Highest level of database performance in Mission Critical arena
- High performance for computation, memory access, and I/O access
- High data throughput even for very large data

Rich variety of I/O products
- Solid State Drive products for disk drives and flash memory connected through PCIe are selectable according to customers demands such as cost efficiency and high performance
- InfiniBand helps scale out database system without sacrificing performance

Secure confidential data
- Even if confidential data is stolen, the stolen data cannot be used maliciously

Much lower operational costs
- Fujitsu PRIMEQUEST 2800B can halve reduce power consumption compared to predecessor model at similar performance
- With high performance Intel Xeon E7-8800 v2 product family and super fast I/O technology, PRIMEQUEST provides high performance with small number processor core

Simplified server lifecycle management
- An integrated suite of tools takes care of servers and their component products in your datacenter over the entire life of the server

Benefits column:
- Systems on Fujitsu PRIMEQUEST 2800B can continue operation even if a component fails
- Fujitsu PRIMEQUEST 2800B with much superior performance scalability can accommodate higher workloads
- Fujitsu PRIMEQUEST 2800B can satisfy customers demand to expand business platform without disruption
- For demands for cost-efficiency and performance upgrade, SSD disk drives can be the best solution. For demands for high performance upgrade, PCIe SSD can be the best solution
- PRIMQUEST with Infiniband can scale up Oracle Database unlimitedly
- Intel Xeon's on-chip encryption greatly reduces encryption/decryption time making database encryption a practical solution for protecting intellectual property
- As server resource utilization changes, PRIMEQUEST 2800B power consumption stays low. In particular it only consumes power according to its application workload
- PRIMEQUEST help reduce costs for datacenter space
- PRIMEQUEST can save costs more for Oracle DB license and support charge compared to other Mission Critical Servers at the similar performance.
- Human resource costs for server management, including: installation, integration, monitoring, maintenance, and upgrading are reduced
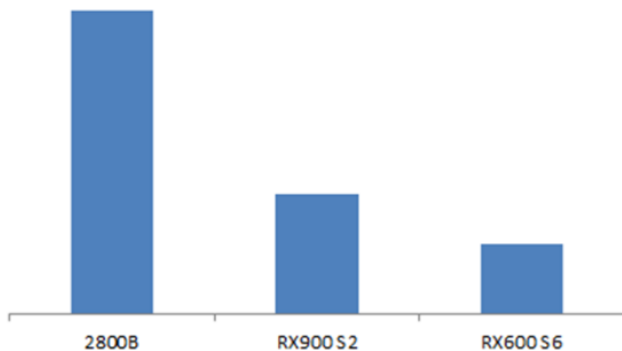
Topics

Almost every component redundant

With Fujitsu PRIMEQUEST 2800B, your most important business operations can be strictly protected from errors as follows:

- Memory can be mirrored. This means that even if a memory failure occurs the application will continue using the correct data. With Double Data Device Correction (DDDC), even if two memory chips fail, the system can continue operation without interruption
- System Interconnect, called Quick Path Interconnect (QPI), provides multiple access routes. This ensures continued operation even if one route fails
- Fans, PCI Express switches, PCI Express cards, and Ethernet ports, are redundant as standard
- HDD can be configured redundant using hardware or software RAID
- Management Boards (MMB) and Power Supply Units (PSU) can be optionally configured as redundant

Only grow as you need, only buy for that growth

With up to 120 cores and maximum 12TB of memory, Fujitsu PRIMEQUEST 2800B has the resources to accommodate hundreds of workloads. Performance has doubled ensuring Fujitsu PRIMEQUEST 2800B capability as an enterprise workload platform continues to expand .

Performance improvement of PRIMEQUEST 2800B

Secure confidential data

Fujitsu PRIMEQUEST embeds security measures into its hardware and OS. Due to swift encryption by Advanced Encryption Standard New Instructions (AES-NI) with the Intel Xeon E7-8870 v2 processor family, a hacker could never maliciously use any stolen data. As an example, Oracle Database 12 and Xeon processors shrink the encryption time to one-tenth.

Much lower operational costs

Fujitsu PRIMEQUEST 2800B can reduce operational costs : power consumption, datacenter space, and Oracle license and support changes,

- This halves the power consumption charge compared to predecessor model at the similar performance.
- Oracle database license and support charges are halved compared to predecessor model PRIMERGY RX900 S2.

Simplified server lifecycle management

During a server's life cycle you must undertake a variety of actions including installation, integration, monitoring, maintenance, and upgrading of all servers in your datacenter. To do this you have to use different tools for different actions. It can be a nightmare. Fully integrated tools through the lifecycle are what our customers are demanding.

Fujitsu provides an integrated suite of tools that take care of server products at your datacenter for the entire life of the server. ServerView Suite, a bundled product with Fujitsu PRIMEQUEST and PRIMERGY, can help ease the pain in dealing with servers. This includes:

- Automated OS installation on multiple servers
- Automated RAID configuration
- Automated driver updates, hot fixes and security patch applications
- Integrated monitoring of multiple Fujitsu PRIMEQUEST and Fujitsu PRIMERGY servers
- Simplified setup and monitoring of disk array controllers, HDD, and logical drives

The suite also enables early problem detection and resolution via intuitive diagnostics, look-and-feel operation and pro-active error alerts.

Specifications

Mainboard type	Up to 4 x System Board
- Note for System Board	System Board selectable from one with Trust Platform Module (TPM) and one without TPM
System Boards	
Processor quantity	2 Processor per System Board
Processor type	Intel Xeon® processor E7-8850v2 (12C/24T, 2.30GHz, TLC:24 MB, Turbo: Yes, 7.2 GT/s, Mem bus: 1333 MHz, 105W)
	Intel Xeon® processor E7-8857v2 (12C/12T, 3.0GHz, TLC:30 MB, Turbo: Yes, 8.0 GT/s, Mem bus: 1600 MHz, 130W)
	Intel Xeon® processor E7-8870v2 (15C/30T, 2.30GHz, TLC:30 MB, Turbo: Yes, 8.0 GT/s, Mem bus: 1600 MHz, 130W)
	Intel Xeon® processor E7-8880v2 (15C/30T, 2.50GHz, TLC:37.5 MB, Turbo: Yes, 8.0 GT/s, Mem bus: 1600 MHz, 130W)
	Intel Xeon® processor E7-8890v2 (15C/30T, 2.80GHz, TLC:37.5 MB, Turbo: Yes, 8.0GT/s, Mem bus: 1600 MHz, 155W)
	Intel Xeon® processor E7-8893v2 (6C/12T, 3.4 GHz, TLC:37.5 MB, Turbo: Yes, 8.0GT/s, Mem bus: 1600 MHz, 155W)

Memory slots	192

Memory slot type	DDR3
Memory capacity (min.- max.)	16GB-12TB
Memory protection	ECC
	Extended ECC
	Double Data Device Correction
	Memory Patrol
	Memory Mirroring ; full and partial mirroring available
Memory notes	Up to 192 DIMM slots per server within 4 system boards, each equipped with 2 Memory Mezzanine cards. 12TB will be available with 64GB LRDIMM module.
Memory modules	16 GB (2 x 8GB) DDR3 L, registered, ECC, 1600 MHz, PC3-12800, DIMM
	32 GB (2 x 16GB) DDR3 L, registered, ECC, 1600 MHz, PC3-12800, DIMM
	64 GB (2 x 32GB) DDR3 L, registered, ECC, 1600 MHz, PC3-12800, DIMM
	128 GB (2 x 64GB) DDR3 L, registered, ECC, 1333 MHz, PC3-10600, DIMM
Memory modules notes	Memory modules are delivered in units of 2 DIMMSs per order code

Drive bays	
	Disks can be mounted in max. two Disk Units
Hard disk bay configuration	- Internal storage : Max. 8 x 2.5-inch for SAS
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Hard disk drive	HDD SAS, 6Gb/s, 300 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6Gb/s, 300 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6Gb/s, 600 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise

	HDD SAS, 6Gb/s, 900 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6Gb/s, 1.2 TB, 1000 rpm, hot-plug, 2.5-inch, enterprise
	SSD, 6 Gb/s, 200 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 6 Gb/s, 400 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 6 Gb/s, 800 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 6 Gb/s, 1.6 TB,MLC, hot-plug, 2.5-inch, enterprise
RAID Controller	RAID 5/6 Ctrl, SAS/SATA 6Gbit/s, LSI LSI MegaRAID SAS 9286CV-8e, 8 ports ext.
	RAID level:0, 1, 10, 5, 50, 6, 60, 1GB, Optional FBU (based on LSI SAS2208)

Interfaces

	LAN ports in max. four IO Units are available.
LAN	Max. four sets of LAN ports below selectable
	= 1 x dual 1Gbps Ethernet (RJ45) ports for IOU 1GbE
	= 1 x dual 10Gbps Ethernet ports for IOU 10GbE
Graphics (15-pin)	1 (System Board #0 is only Available)
Serial 1 (9-pin)	1 per Management Board
Management LAN (RJ45)	1 per Management Board

Slots

	PCIe slots in max. four IO units and max. four PCI Boxes are available.
PCI Express	Max. four sets of PCIe 3 slots below selectable
	- 4 low profile PCIe 3 slot for IOU 1GbEs
	- 1 low profile PCIe 3 slots and 2 PCIe 3.0 full height slots for IOU 10GbE
Note	Max. 16 PCIe slots

Drive bays

Storage drive bays	2.5-inch hot-plug SAS
Storage drive bay configuration	Max. 8 x 2.5-inch

General system information

Number of fans	6 fan modules contained in PSU and FANU
Fan configuration	Hot plug

Operating panel

Status LED	System status (orange / yellow)
	Power (amber / green)
	Identification (blue)

Connectable components

Fibre channel controllers	Single Channel 8Gbps Fiber Channel Card
	Dual Channel 8Gbps Fiber Channel Card
	Single Channel 16Gbps Fiber Channel Card
	Dual Channel 16Gbps Fiber Channel Card
LAN controllers	Dual Channel 1000BASE-T Card
	Quad Channel 1000BASE-T Card
	Dual Channel 10G BASE LAN Card
	10GBASE-SR SFP+ Optical Module
	Dual Channel 10G BASE-T LAN Card
FcoE Cards	Dual Channel FCoE Card (10Gbps)
- Note	Only VMware available.

InfiniBand controllers	
	Dual Channel 40Gbps Infiniband card
	Single Channel 56Gbps Infiniband card
	Dual Channel 56Gbps Infiniband card
SAS Controllers	Dual Channel SAS RAID controll card
	Dual Channel SAS controll card
PCIe SSD	PCIe SSD card (365 GB)
	PCIe SSD card (785 GB)
	PCIe SSD card (1.2 TB)

Optional Software	
Server Management	ServerView Suite

Operating System	
Microsoft Windows Server® 2008 R2	Microsoft Windows Server® 2008 R2, Standard Edition (64-bit)
	Microsoft Windows Server® 2008 R2, Enterprise Edition (64-bit)
	Microsoft Windows Server® 2008 R2, Datacenter Edition (64-bit)
Microsoft Windows Server® 2012	Microsoft Windows Server® 2012 Standard Edition (64-bit)
	Microsoft Windows Server® 2012 Datacenter Edition (64-bit)
Microsoft Windows Server® 2012 R2	Microsoft Windows Server® 2012 R2 Standard Edition (64-bit)
	Microsoft Windows Server® 2012 R2 Datacenter Edition (64-bit)
Red Hat Enterprise Linux	Red Hat Enterprise Linux 6 (for Intel64)
	Red Hat Enterprise Linux 7 (for Intel64)
SUSE Linux Enterprise Server	Novell SUSE Linux Enterprise Server 11 (for Intel64)
	Novell SUSE Linux Enterprise Server 11 (for x86)
VMware	VMware vSphere 5.5
	VMware vSphere 5.1 Update2

Optional Software	
Server Management	
	ServerView Suite – Control
	SV Operations Manager including PDA and ASR & R
	(Pre-failure and analysis; Automatic Server Recovery and Restart)
	SV Performance Manager
	SV Power Management
	SV RAID Manager
	ServerView Suite – Maintain
	SV Remote Management
	SV Update Management
	SV Asset Management
	SV Online Diagnostics
	ServerView Suite - Integrate

RAS features	
Redundant components	Memory (memory mirroring), HDD (RAID0/1/1E/5/6/10), Power Supply Unit (option), PCI card (option), FAN, Dual Power Supply to server (option),
Online maintenance	Online Firmware Update
Quick Path Interconnect	Data transferred between system boards protected by system interface error detection, re-transmission, and degradation.
Cable-less Design in chassis	Removes cabling errors, cabling work and cable problems when changing partition configurations.

Dimensions / Weight	

Weight	150 Kg (332 lb)
Rack-mount (W x D x H)	445 x 778 x 438 mm, 10U

Environment

Noise emission	60 dB
Operating ambient temperature	5 – 35 degree C
Operating relative humidity	20 – 80 %
Operating relative altitude	3000 m
Operating environment	Gaseous and Particulate Contamination Guidelines for Datacenters
Operating environment link	http://www.fujitsu.com/downloads/PRMQST/documents/PQ-Gaseous-Particulate-Contamination-Guidelines-DataCenter.pdf

Electrical values

Rated operating range	200 - 240 VAC ±10%
Rated frequency range	50/60 Hz +2%, -4%
Active power max.	6000 Watts
Active apparent power max.	6,190 VA
Heat emission	20,500 BTU
Rush currency	Max. 20A

Compliance

Europe	EMC Directive 2004/108/EC
	Low Voltage Directive 2006/95/EC
	RoHS Directive(2002/95/EC)
USA/Canada	FCC
	ICES-003
Japan	VCCI

Service link

Service link	www.fujitsu.com/support

More information

More Information

Fujitsu platform solutions

In addition to Fujitsu PRIMEQUEST 2800B, 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
- Fujitsu M10: UNIX server
- PRIMEQUEST: Mission-critical IA server
- ETERNUS: Storage system

Software

www.fujitsu.com/software/
- Interstage: Application infrastructure software
- Systemwalker: System management software

More information

Learn more about Fujitsu PRIMEQUEST 2800B, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/primequest/

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/