

# Datasheet

## Fujitsu Server PRIMEQUEST 2800B2

### 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 2800B2 provides the high uptime required from true enterprise platforms. 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 v3 product family and Fujitsu's super fast I/O technologies, Fujitsu PRIMEQUEST 2800B2 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 2800B2 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 2800B2 provides 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 2800B2 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
<p><b>Complete redundancy and online recovery function</b></p> <ul style="list-style-type: none"> <li>■ Almost all the components can be redundantly configured</li> </ul>	<ul style="list-style-type: none"> <li>■ Systems on Fujitsu PRIMEQUEST 2800B2 can continue operation even if a component fails</li> </ul>
<p><b>Highest data throughput in mission critical arena</b></p> <ul style="list-style-type: none"> <li>■ Highest level of database performance in Mission Critical arena</li> <li>■ High performance for computation, memory access, and I/O access</li> <li>■ High data throughput even for very large data</li> </ul>	<ul style="list-style-type: none"> <li>■ Fujitsu PRIMEQUEST 2800B2 can satisfy customers demand to expand business platform without disruption</li> </ul>
<p><b>Rich variety of I/O products</b></p> <ul style="list-style-type: none"> <li>■ 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</li> </ul>	<ul style="list-style-type: none"> <li>■ 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</li> </ul>
<p><b>Secure confidential data</b></p> <ul style="list-style-type: none"> <li>■ Even if confidential data is stolen, the stolen data cannot be used maliciously</li> </ul>	<ul style="list-style-type: none"> <li>■ Intel Xeon’s on-chip encryption greatly reduces encryption/decryption time making database encryption a practical solution for protecting intellectual property</li> </ul>
<p><b>Much lower operational costs</b></p> <ul style="list-style-type: none"> <li>■ Fujitsu PRIMEQUEST 2800B2 can halve reduce power consumption compared to predecessor model at similar performance</li> <li>■ With high performance Intel Xeon E7-8800 v3 product family and super fast I/O technology, PRIMEQUEST provides high performance with small number processor core</li> </ul>	<ul style="list-style-type: none"> <li>■ As server resource utilization changes, PRIMEQUEST 2800B2 power consumption stays low. In particular it only consumes power according to its application workload</li> <li>■ PRIMEQUEST help reduce costs for datacenter space</li> <li>■ PRIMEQUEST can save costs more for Oracle DB license and support charge compared to other Mission Critical Servers at the similar performance.</li> </ul>
<p><b>Simplified server lifecycle management</b></p> <ul style="list-style-type: none"> <li>■ An integrated suite of tools takes care of servers and their component products in your datacenter over the entire life of the server</li> </ul>	<ul style="list-style-type: none"> <li>■ Human resource costs for server management, including: installation, integration, monitoring, maintenance, and upgrading are reduced</li> </ul>

# Topics

## Almost every component redundant

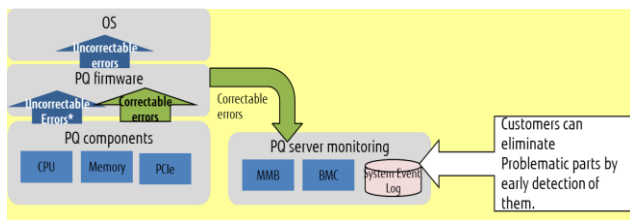
With Fujitsu PRIMEQUEST 2800B2, your most important business operations can be strictly protected from errors as follows:

- 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
- Power Supply Units (PSU) can be optionally configured as redundant

With new memory technology called DDR4 inside the box, data protection of PRIMEQUEST 2800B2 has become more resilient.

- Bank SDDC/DDDC is recovery mechanism enhanced from SDDC/DDDC recovery in units of DRAM to recovery in units of bank of DRAM. Memory recovery in more granular level strengthens data protection of PRIMEQUEST – even if Maximum five banks fail all at once, read/write operations from/to memory can continue
- Multi Memory Rank Sparring allows reserves Memory Ranks of DIMM to replace Memory Ranks in correctable errors with the reserved ones without intervention of operation.

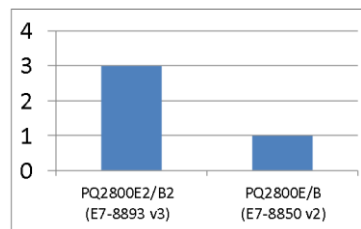
With enhancement of problem prevention mechanism called eMCA Gen2, PRIMEQUEST 2800B2 helps eliminate problems in CPU, memory, or IO by detections of recoverable errors via system trace. Even if such recoverable errors happen, servers can continue their operations.



## Much lower operational costs

Fujitsu PRIMEQUEST 2800B2 can reduce operational costs: power consumption, datacenter space, and Oracle license and support changes. And it triples OLTP performance per Oracle database license and support charge compared to previous generation of PRIMEQUEST.

OLTP performance per Oracle core license



## 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 v3 processor family, a hacker could never maliciously use any stolen data. As an example, Oracle Database 12c and Xeon processors shrink the encryption time to one-tenth.

## 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

<b>Mainboard type</b>	Up to 4 x System Board
<b>- Note for System Board</b>	System Board selectable from one with Trust Platform Module (TPM) and one without TPM
<b>System Boards</b>	
<b>Processor quantity</b>	2 Processor per System Board
<b>Processor type</b>	Intel Xeon® processor E7-8860v3 (16C/32T, 2.2GHz, TLC:40MB, Turbo: Yes, Mem bus: 140W)
	Intel Xeon® processor E7-8867v3 (16C/32T, 2.5GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)
	Intel Xeon® processor E7-8870v3 (18C/36T, 2.1GHz, TLC:45MB, Turbo: Yes, Mem bus: 140W)
	Intel Xeon® processor E7-8880v3 (18C/36T, 2.3GHz, TLC:45MB, Turbo: Yes, Mem bus: 150W)
	Intel Xeon® processor E7-8890v3 (18C/36T, 2.5GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)
	Intel Xeon® processor E7-8891v3 (10C/20T, 2.8GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)
	Intel Xeon® processor E7-8893v3 (4C/8T, 3.2GHz, TLC:45MB, Turbo: Yes, Mem bus: 140W)
<b>Memory slots</b>	192
<b>Memory slot type</b>	DDR4
<b>Memory capacity (min.- max.)</b>	16GB-12TB
<b>Memory protection</b>	ECC Extended ECC Double Data Device Correction Memory Patrol Memory Mirroring ; full and partial mirroring available Bank DDDC/SDDC Multi Memory Rank Sparing Address Based Memory Mirror
<b>Memory notes</b>	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.
<b>Memory modules</b>	16 GB (2 x 8GB) DDR4, RDIMM, ECC 32 GB (2 x 16GB) DDR4, RDIMM, ECC 64 GB (2 x 32GB) DDR4, RDIMM, , ECC 64 GB (2 x 32GB) DDR4, LRDIMM, , ECC 128 GB (2 x 64GB) DDR4, LRDIMM, ECC
<b>Memory modules notes</b>	Memory modules are delivered in units of 2 DIMMSs per order code
<b>Drive bays</b>	
<b>Hard disk bay configuration</b>	Disks can be mounted in max. two Disk Units - Internal storage : Max. 8 x 2.5-inch for SAS

<b>Hard disk drive</b>	HDD SAS, 12Gb/s, 300 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 300 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 600 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 600 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 900 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 1.2 TB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 12Gb/s, 1.8 TB, 10,000 rpm, hot-plug, 2.5-inch, enterprise
	SSD, 12 Gb/s, 200 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 12 Gb/s, 400 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 12 Gb/s, 800 GB,MLC, hot-plug, 2.5-inch, enterprise
	SSD, 12 Gb/s, 1.6 TB,MLC, hot-plug, 2.5-inch, enterprise
	<b>RAID Controller</b>

### Interfaces

<b>LAN</b>	LAN ports in max. four IO Units are available.
	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
<b>Graphics (15-pin)</b>	1 (System Board #0 is only Available)
<b>Serial 1 (9-pin)</b>	1 per Management Board
<b>Management LAN (RJ45)</b>	1 per Management Board

### Slots

<b>PCI Express</b>	PCIe slots in max. four IO units and max. four PCI Boxes are available.
	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
<b>Note</b>	Max. 16 PCIe slots

### Drive bays

<b>Storage drive bays</b>	2.5-inch hot-plug SAS
<b>Storage drive bay configuration</b>	Max. 8 x 2.5-inch

### General system information

<b>Number of fans</b>	6 fan modules contained in PSU and FANU
<b>Fan configuration</b>	Hot plug

### Operating panel

<b>Status LED</b>	System status (orange / yellow) Power (amber / green) Identification (blue)
-------------------	---

### Connectable components

<b>Fibre channel controllers</b>	Single Channel 8Gbps Fiber Channel Card
	Dual Channel 8Gbps Fiber Channel Card
	Single Channel 16Gbps Fiber Channel Card
	Dual Channel 16Gbps Fiber Channel Card
<b>LAN controllers</b>	Dual Channel 1000BASE-T Card
	Quad Channel 1000BASE-T Card
	Dual Channel 10G-T BASE LAN Card
	Dual Channel 10G BASE LAN Card

	10GBASE-SR SFP+ Optical Module
	Dual Channel 10G BASE-T LAN Card
<b>FcoE Cards</b>	Dual Channel FCoE Card (10Gbps)
	Dual Channel FCoE Card (40Gbps)
<b>InfiniBand controllers</b>	Single Channel 56Gbps Infiniband card
	Dual Channel 56Gbps Infiniband card
	Single Channel 100Gbps Infiniband card
	Dual Channel 100Gbps Infiniband card
<b>SAS Controllers</b>	Dual Channel SAS RAID controll card
	Dual Channel SAS controll card
<b>PCIe SSD</b>	PCIe SSD card (800 GB)
	PCIe SSD card (1.2 TB)
	PCIe SSD card (2.0 TB)

**Optional Software**

<b>Server Management</b>	ServerView Suite
--------------------------	------------------

**Operating System**

<b>Microsoft Windows Server® 2012</b>	Microsoft Windows Server® 2012 Standard Edition (64-bit)
	Microsoft Windows Server® 2012 Datacenter Edition (64-bit)
<b>Microsoft Windows Server® 2012 R2</b>	Microsoft Windows Server® 2012 R2 Standard Edition (64-bit)
	Microsoft Windows Server® 2012 R2 Datacenter Edition (64-bit)
<b>Red Hat Enterprise Linux</b>	Red Hat Enterprise Linux 6 ( for Intel64)
	Red Hat Enterprise Linux 7 ( for Intel64)
<b>SUSE Linux Enterprise Server</b>	Novell SUSE Linux Enterprise Server 11
	Novell SUSE Linux Enterprise Server 12
<b>VMware</b>	VMware vSphere 5.5
	VMware vSphere 6

**Optional Software**

<b>Server Management</b>	<ul style="list-style-type: none"> <li>ServerView Suite – Control                             <ul style="list-style-type: none"> <li>SV Operations Manager including PDA and ASR &amp; R (Pre-failure and analysis; Automatic Server Recovery and Restart)</li> <li>SV Performance Manager</li> <li>SV Power Management</li> <li>SV RAID Manager</li> </ul> </li> <li>ServerView Suite – Maintain                             <ul style="list-style-type: none"> <li>SV Remote Management</li> <li>SV Update Management</li> <li>SV Asset Management</li> <li>SV Online Diagnostics</li> </ul> </li> <li>ServerView Suite - Integrate</li> </ul>
--------------------------	--

**RAS features**

<b>Redundant components</b>	Memory (memory mirroring), HDD (RAID0/1/1E/5/6/10), Power Supply Unit (option), PCI card (option), FAN, Dual Power Supply to server (option),
<b>Online maintenance</b>	Online Firmware Update
<b>Problem prevention</b>	eMCA Gen2
<b>Quick Path Interconnect</b>	Data transferred between system boards protected by system interface error detection, re-transmission, and degradation. Removes cabling errors, cabling work and cable problems when changing

Cable-less Design in chassis	partition configurations.
------------------------------	---------------------------

**Dimensions / Weight**

Weight	143 Kg (315 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	<a href="http://www.fujitsu.com/downloads/PRMQST/documents/PQ-Gaseous-Particulate-Contamination-Guidelines-DataCenter.pdf">http://www.fujitsu.com/downloads/PRMQST/documents/PQ-Gaseous-Particulate-Contamination-Guidelines-DataCenter.pdf</a>

**Electrical values**

Rated operating range	200 - 240 VAC ±10%
Rated frequency range	50/60 Hz +2%, -4%
Active power max.	5,520 Watts
Heat emission	18,835 BTU
Rush current	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	<a href="http://www.fujitsu.com/support">www.fujitsu.com/support</a>
--------------	--

More information

# More Information

## Fujitsu platform solutions

In addition to Fujitsu PRIMEQUEST 2800B2, 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
- Fujitsu M10: UNIX server
- PRIMEQUEST: Mission-critical IA server
- ETERNUS: Storage system

### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

- Interstage: Application infrastructure software
- Systemwalker: System management software

## More information

Learn more about Fujitsu PRIMEQUEST 2800B2, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.  
[www.fujitsu.com/primequest/](http://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/](http://www.fujitsu.com/global/about/environment/)



## Copyright

© Copyright 2015 Fujitsu limited  
Fujitsu, the Fujitsu logo, [other Fujitsu trademarks /registered trademarks] are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries. Other company, product and service names may be trademarks or registered trademarks of their respective owners.

## Disclaimer

Technical data subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.