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 2400E2 provides the high uptime required from true enterprise platforms. The heart of the server, the system boards including CPUs and memory modules, can be instantly recovered on failure, enabling smooth operation of mission-critical workloads. In fact, almost every component can be redundantly configured.

This new PRIMEQUEST is the world-first open server platform which enables online addition and replacement of system boards and I/O boards – Customers can be freed from system business disruption.

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.

**Platform of excellent performance per cost**
PRIMEQUEST 2400E2 helps reduce running costs for mission critical systems including software support charges.

So, marriage of PRIMEQUEST 2400E2 and Oracle Database Standard Edition can slash down your operational costs for enterprise system.
## Main features

### Complete redundancy and online recovery function
- Almost all the components can be redundantly configured
- Unique redundancy at the heart of server, including system boards and system interconnects, offers even greater protection
- System Boards or I/O Units can be replaced online if any of them fails.

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

### Only grow as you need, only buy for that growth
- Online addition of System Board or I/O Units can increase performance in simple manner.

### 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

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

### Much lower operational costs
- Fujitsu PRIMEQUEST 2400E2 can slash down license and support charge for Oracle database

### 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

### Risk-free virtualization
- Physical Partitioning of up to four partitions and Extended Partitioning of up to eight partitions are available.

## Benefits

- Systems on Fujitsu PRIMEQUEST 2400E2 can continue operation even if a component fails
- Central component failure is usually fatal for continued system operation. Fujitsu PRIMEQUEST’s unique levels of redundancy eliminate such causes of major system failure making it suitable for enterprise operation
- Dynamic Reconfiguration can help recover from failure without system interruption
- Fujitsu PRIMEQUEST 2400E2 can satisfy customers demand to expand business platform without disruption
- Customers can save money for system investment until business growth requires system expansion
- 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
- Intel Xeon’s on-chip encryption greatly reduces encryption/decryption time making database encryption a practical solution for protecting intellectual property
- With Oracle Database Standard Edition available for max. 4 socket servers, license and support charges can be much reduced compared to other enterprise server which only Oracle Database Enterprise Edition is available.
- Human resource costs for server management, including: installation, integration, monitoring, maintenance, and upgrading are reduced
- For customers undertaking system virtualization for the first time, Physical partitioning is the best entry strategy. There are no performance overheads and no incompatibilities with applications. Extended Partitioning, doubling the number of partitions, can save operational costs by server consolidation.
Almost every component redundant
With Fujitsu PRIMEQUEST 2400E2, your most important business operations can be strictly protected from errors as follows:
- Partitions using multiple system boards (SB) can continue operation even if one full system board fails. Service may degrade a little, but the failed system board can be immediately replaced by a reserved System Board. This means normal service levels can be very quickly resumed.
- Dynamic Reconfiguration help recover from failures on System Boards or I/O Units without system stoppage.
- 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.
- Failed processor cores can be replaced by reserved cores using extended partitioning.
- 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.

With new memory technology called DDR4 inside the box, data protection of PRIMEQUEST 2400E2 has become more resilient.
- Bank SDDC/DDDC is expanded recovery 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 Sparing 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 2800E2 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.

Only grow as you need, only buy for that growth
With up to 72 cores and maximum 6TB of memory, Fujitsu PRIMEQUEST 2400E2 has the resources to accommodate hundreds of workloads. Performance has doubled ensuring Fujitsu PRIMEQUEST 2400E2 capability as an enterprise workload platform continues to expand. Outstanding performance from such a compact chassis means Fujitsu PRIMEQUEST 2400E2 is the “platform for success” when you really need to improve performance and cost-efficiency.

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 E7-8800 v3 product 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.

Much lower operational costs
Fujitsu PRIMEQUEST 2400E2 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.

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.
Topics

**Risk-free virtualization**
Using Fujitsu PRIMEQUEST and industry standard virtualization, such as VMware vSphere™ 5, Hyper-V, and KVM lets you more easily create the right platform for your demands. It means, simple migration using Physical Partitioning with no performance overheads. High reliability is guaranteed by Physical Partitioning as failures in one partition can never spread to other partitions. With VMware vSphere™ 5, hundreds of virtual machines can be created on one server.

Fujitsu PRIMEQUEST Physical Partitioning delivers risk-free and reliable virtualization. Such partitioning without performance overheads also requires no elaborate performance testing on your application environments. Further your main mission critical applications, such as databases, can be fully isolated from failures in all other partitions.

If you are planning to accommodate greater numbers of workloads, you can mix standard virtualization products with Physical Partitioning. Such state-of-the-art virtualization means applications can share system resources more flexibly, while main systems remain fully protected.

If you plan to save server operational costs by consolidation of up to four servers, you can use Extended Partitioning.
## Physical Partition
Max. two Physical Partitions form from max. two System Boards, max. two Memory Scaleup Boards, max. four IO Units, and max. two Disk Units

## Extended Partition
Max. four Extended Partitions

## Mainboard type
Up to 2 x System Board

### Note for System Board
System Board selectable from one with Trust Platform Module (TPM) and one without TPM

## System Boards

<table>
<thead>
<tr>
<th>Processor quantity</th>
<th>Processor type</th>
<th>Memory slots</th>
<th>Memory slot type</th>
<th>Memory capacity (min.- max.)</th>
<th>Memory protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Processor per System Board</td>
<td>Intel Xeon® processor E7-8860v3 (16C/32T, 2.2GHz, TLC:40MB, Turbo: Yes, Mem bus: 140W)</td>
<td>192</td>
<td>DDR4</td>
<td>16GB-12TB</td>
<td>ECC</td>
</tr>
<tr>
<td></td>
<td>Intel Xeon® processor E7-8867v3 (16C/32T, 2.5GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)</td>
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<tr>
<td></td>
<td>Intel Xeon® processor E7-8870v3 (18C/36T, 2.1GHz, TLC:45MB, Turbo: Yes, Mem bus: 140W)</td>
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<tr>
<td></td>
<td>Intel Xeon® processor E7-8880v3 (18C/36T, 2.3GHz, TLC:45MB, Turbo: Yes, Mem bus: 150W)</td>
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<tr>
<td></td>
<td>Intel Xeon® processor E7-8890v3 (18C/36T, 2.5GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)</td>
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<tr>
<td></td>
<td>Intel Xeon® processor E7-8891v3 (10C/20T, 2.8GHz, TLC:45MB, Turbo: Yes, Mem bus: 165W)</td>
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<tr>
<td></td>
<td>Intel Xeon® processor E7-8893v3 (4C/8T, 3.2GHz, TLC:45MB, Turbo: Yes, Mem bus: 140W)</td>
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</tr>
</tbody>
</table>

## Memory notes
Memory modules are delivered in units of 2 DIMMs per order code

## Memory Scaleup Board
Max. two Memory Scaleup Board

<table>
<thead>
<tr>
<th>Memory slot</th>
<th>Memory slot type</th>
<th>Memory capacity (min.- max.)</th>
<th>Memory protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>96</td>
<td>DDR4</td>
<td>16GB-6TB</td>
<td>Same memory protection as System Board</td>
</tr>
<tr>
<td>Memory Module</td>
<td>All memory modules available for System Boards are available for Memory Scaleup Board</td>
<td></td>
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<td>---------------</td>
<td>----------------------------------------------------------------------------------</td>
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</tbody>
</table>

**Drive bays**

Disks can be mounted in max. two System Boards and in max. two Disk Units

**Hard disk bay configuration**
- Internal storage: Max. 16 x 2.5-inch for SAS
- External storage: Max. 576 x 2.5-inch for SAS

**Hard disk drive**
- 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

**RAID Controller**
PRAID EP420i (2GB cache) RAID 0/1/10/5/6/0 and hot spare supported
Optional FBU, License Activation Key for CacheCade 2.0 and FastPath for PRAID EP420i

**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 (RJ45) ports for IOU 10GbE

**Graphics (15-pin)**
1 per System Board

**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 slots for IOU 1GbE
- 1 low profile PCIe 3 slots and 2 PCIe 3 full height slots for IOU 10GbE

**Note**
Expandable to 56 slots when using PCI Boxes

**Drive bays**
Storage drive bays 2.5-inch hot-plug SAS
Storage drive bay configuration Max. 16 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-T LAN Card
- Dual Channel 10G BASE LAN Card
- 10GBASE-SR SFP+ Optical Module

FcoE Cards
- Dual Channel FCoE Card (10Gbps)
- Dual Channel FCoE Card (40Gbps)

InfiniBand controllers
- Single Channel 56Gbps Infiniband card
- Dual Channel 56Gbps Infiniband card
- Single Channel 100Gbps Infiniband card
- Dual Channel 100Gbps Infiniband card

SAS Controllers
- Dual Channel SAS RAID control card
- Dual Channel SAS control card

PCle SSD
- PCIe SSD card (800 GB)
- PCIe SSD card (1.2 TB)
- PCIe SSD card (2.0 TB)

Optional Software
Server Management
ServerView Suite

Operating System
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
- Novell SUSE Linux Enterprise Server 12

VMware
- VMware vSphere 5.5
- VMware vSphere 6

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
Problem prevention
- eMCA Gen2

Redundant components
- Memory (memory mirroring), HDD (RAID0/1/1E/5/6/10), Power Supply Unit (option), PCI card (option), FAN, System Board (Reserved System Board), Management Board (option), Dual Power Supply to server (option),
<table>
<thead>
<tr>
<th>Processor core degradation</th>
</tr>
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<tbody>
<tr>
<td><strong>Online maintenance</strong></td>
</tr>
<tr>
<td>Online replacement of IO Units is available using Dynamic Reconfiguration and Red Hat Enterprise Linux 6.</td>
</tr>
<tr>
<td>Online replacement of System Boards is supported as hardware level.</td>
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<tr>
<td>Online replacement of PCIe slots in PCI Box is available.</td>
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<tr>
<td><strong>Online upgrade</strong></td>
</tr>
<tr>
<td>Online addition of System Boards and IO Units is available using Dynamic Reconfiguration and Red Hat Enterprise Linux 6</td>
</tr>
<tr>
<td><strong>Quick Path Interconnect</strong></td>
</tr>
<tr>
<td>Data transferred between system boards protected by system interface error detection, re-transmission, and degradation.</td>
</tr>
<tr>
<td><strong>Cable-less Design in chassis</strong></td>
</tr>
<tr>
<td>Removes cabling errors, cabling work and cable problems when changing partition configurations.</td>
</tr>
<tr>
<td><strong>Dimensions / Weight</strong></td>
</tr>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>Rack-mount (W x D x H)</td>
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<tr>
<td><strong>Environment</strong></td>
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<tr>
<td>Noise emission</td>
</tr>
<tr>
<td>Operating ambient temperature</td>
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<tr>
<td>Operating relative humidity</td>
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<tr>
<td>Operating relative altitude</td>
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<tr>
<td>Operating environment</td>
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<tr>
<td><strong>Electrical values</strong></td>
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<tr>
<td>Rated operating range</td>
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<tr>
<td>Rated frequency range</td>
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<tr>
<td>Active power max.</td>
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<td>Heat emission</td>
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<tr>
<td>Rush currency</td>
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<td><strong>Compliance</strong></td>
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<td>Europe</td>
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<td>USA/Canada</td>
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<td>Japan</td>
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<tr>
<td><strong>Service link</strong></td>
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<td>Service link</td>
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More information

Fujitsu platform solutions
In addition to Fujitsu PRIMEQUEST 2400E2, 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

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/

More information
Learn more about Fujitsu PRIMEQUEST 2400E2, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/primequest/

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