



NEC EXPRESS5800/320Ma FAULT TOLERANT SERVER

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Fault tolerance for your enterprise applications

- Up to 99.999% continuous uptime
- Single or dual Intel® Xeon™ CPUs
- More reliable and easier to service
- 100% redundant and hot-swappable hardware modules



Empowered by Innovation

NEC

NEC's Fault Tolerant servers deliver high performance, reliability, and new functionality.

NEC's Express5800/320Ma is a third-generation Fault Tolerant (FT) server that delivers high performance and added protection against downtime caused by hardware or software failure. NEC's new FT system offers the redundancy required to support planned downtime among enterprises that implement software updates regularly. Enterprises running mission critical Microsoft® Windows® or Red Hat® Enterprise Linux®* applications will benefit from high performance Intel® Xeon™ processors, while achieving high availability. NEC's FT servers meet the most demanding server requirements, delivering maximum possible speed, storage capacity, and uptime.

HIGH SPEED PROCESSING

NEC's Express5800/320Ma is a high-performance server for any enterprise with demanding, mission critical applications. Designed with Dual Modular Redundancy (DMR), NEC's Express5800/320Ma FT servers feature dual Hyper-Threading enabled Intel Xeon processors. With this technology, data instructions are handled in parallel instead of sequentially, thus heavy workloads can be accommodated, thereby delivering greater overall performance. The Express5800/320Ma features fast processing speeds with a single socket Intel Xeon 3.2GHz CPU and dual Intel Xeon CPUs (3.2GHz or 2.8GHz dual-core).

HIGH AVAILABILITY FAULT TOLERANT TECHNOLOGY

In many industries, avoiding even minutes of downtime over the lifespan of a server saves enough money to pay for the server itself. By using fully redundant and hot-swappable hardware components—including redundant memory—operating in lockstep across two server modules, the Express5800/320Ma achieves up to 99.999% continuous uptime. In the event that a hardware component fails, the active spare components continue functioning, allowing for repair of the affected module without interrupting server operations. Since failover is virtually instantaneous, and there is no single point of failure, downtime is nearly eliminated. Because the Express5800/320Ma is a hardware-based fault

tolerant solution, there is no performance penalty for fault tolerance and no complex software setup, unlike software-based solutions.

Active Upgrade™, available with the Express5800/320Ma, allows for software updates with minimal interruption of service. One module can be administered offline while the second module continues to handle the operational load. When updates are completed, the two modules synchronize data and return to full redundant operation. A rollback feature is integrated into Active Upgrade in order to return the server to its previous state in the event there is a problem with the software update.

INCREASED APPLICATION MONITORING

NEC's ExpressCluster® Self Recovery Edition (SRE) software, included with the Express5800/320Ma, monitors the performance of application processes. In the event of application failure, SRE will restart applications as necessary, or restart the server after a customer-specified number of attempts.

SIMPLIFIED SETUP AND MANAGEMENT

Offering the highest level of remote management, NEC's Express5800/320Ma comes with the new Virtual Technician Module. NEC installation software and remote monitoring and management software are included for easier setup and system management. Microsoft certified drivers and Microsoft Operations Management, which support duplex and hot-swap operations and



provide diagnostic capabilities, are also included. Failure notifications can be sent to email accounts or directly to the console. Red Hat certified drivers and management capabilities are also available.

EFFICIENT DESIGN SAVES SPACE AND TIME

In a standard 19-inch rack, the Express5800/320Ma takes up only 4U of rack space. The system is able to accommodate space constraints while providing an all-hardware, single-server solution with increased application monitoring and high availability technology. For office and remote environments, an optional tower case is available for an even smaller footprint if rack-mounting is not necessary. As an all-in-one solution with management and installation software, the Express5800/320Ma reduces the high support and maintenance costs typically associated with multiple-server solutions and cluster configurations.



AMPLE INTERNAL AND EXTERNAL STORAGE CAPACITY

The Express5800/320Ma provides ample storage internally with three logical Enterprise SATA drive bays for a combined maximum capacity of 480GB (with the use of 160GB hard disk drives). If more space is required, the Express5800/320Ma supports connection to a variety of storage options from NEC and other leading storage providers. NEC's S-Series storage arrays provide up to 55TB of storage and 16GB of cache over 8 fibre channel ports, as well as RAID 6 double-parity technology for greater reliability and performance.

Key Features

- Microsoft Windows Server® 2003 Enterprise Edition or Red Hat Enterprise Linux Advanced Server
- Single or dual logical 3.2GHz, or dual-core 2.8GHz Intel Xeon processors for high-speed performance
- Active Upgrade for planned software maintenance
- Application monitoring and automatic restarting via ExpressCluster SRE
- Virtual Technician for extensive remote monitoring
- Compact 4U footprint saves space in either rackmount or tower configuration
- Internal support for up to 480GB of enterprise class SATA storage
- Simplified disaster recovery between FT servers over LAN or WAN

Express5800/320Ma Fault Tolerant Specifications

FOR ADDITIONAL INFORMATION:

Contact your NEC reseller or an NEC Corporation of America representative at (888) 632-8701 or visit us at www.necam.com

Logical Processors

- Single 3.2GHz Intel Xeon
- Dual 3.2GHz Intel Xeon
- Dual 2.8GHz dual-core processors

Cache

- 1MB iL2 (3.2GHz Models)
- 2MB iL2 (2.8GHz Model)

Memory

- 1GB – 8GB ECC SDRAM (3.2GHz Models)
- 1GB – 16GB ECC SDRAM (2.8GHz dual-core Model)

Front Side Bus

- 800 Mhz

User PCI Slots Total

- 1 x 64/100MHz PCI-X (3.2GHz Models)
- 3 x 64/100MHz PCI-X (2.8GHz dual-core Models)

Min/Max Internal Storage

- 74GB – 480GB Internal SATA
- Up to 3 x 160GB Enterprise SATA Maximum

External Storage

- NEC S-Series Storage or any SAN using NEC approved HBA cards

Systems Management

- Microsoft Operations Management
- Virtual Technician Modules (Select Models)
- Dedicated Ethernet Port
- Optional Remote Management

Integrated Ethernet

- Dual 10/100/1000Mb

CD-R/DVD+RW

- 1X Read/Write CD-R/DVD+RW

Video

- CT6900 w/2MB RAM

External I/O Ports

- 3 x USB 2.0
- 2 x Serial

Operating System

- Windows Server 2003 Enterprise Edition
- Windows Server 2003 Enterprise Edition R2
- Red Hat Linux Advanced Server 4 Update 4

Power Supply

- 110/240 VAC, 50/60Hz (Integrated into each module)

System Form Factor

- 7.0' (4U) x 17.75" (19" including rack rails) x 30"

Basic Warranty Coverage

- 1 Year limited hardware warranty
- 9x5 toll free technical support
- 72 hour defective CRU replacement

Extended Warranty Coverage (Optional)

- 24x7 toll free technical support
- 24x7 Alert Monitoring
- Next day advanced CRU replacement

Professional Services (Optional)

- Installation services
- SRE script implementation
- Active Upgrade implementation and support
- Yearly FT software maintenance agreements

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