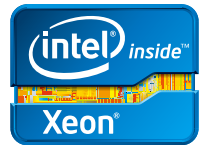# Fault Tolerant Server
NEC Express5800/R320c

DELIVERING THE HIGHEST LEVELS OF AVAILABILITY, AFFORDABLY

HIGHEST AVAILABILITY

OPERATIONAL SIMPLICITY

EASY MAINTENANCE

Highest Levels of Availability

NEC Fault Tolerant (FT) servers provide an innovative solution to address planned and unplanned downtime for your most important applications. The Express5800/R320c servers deliver continuous availability for 99.999% system uptime (5 minutes of downtime per year) through its fully redundant modular hardware featuring 8-Core Intel® Xeon® processors, as sixth generation FT server technology for Intel.

Perfect For Virtualization

The NEC FT servers can deliver continuous availability for VMware and Hyper-V by using internal storage and standard management software. Advantages of virtualization with the NEC FT server include proven scalable vCPU performance, integrated high availability storage for CapEX savings, and simplified virtualization deployment for CapEX and OpEx savings.

Total Cost of Ownership Savings

The FT server can deliver a lower total cost of ownership compared to traditional high availability and traditional server solutions. The FT server only requires one copy of the operating system and application software license and no professional services to setup or configure the server.

Highest Availability

- Lockstep operation maintains memory / CPU state and system integrity protection.
- The Active Upgrade™ feature minimizes the planned downtime required to install security patches and software upgrades.
- The optional EXPRESSCLUSTER X SingleServerSafe, enhances software high availability.

Operational Simplicity

- GeminiEngine™, an NEC-engineered LSI chipset for fault tolerance control delivers simplified hardware high availability, simple operation and easy repair without interrupting operation.
- Compatibility with existing operating systems and applications significantly reduces the complexity associated with other forms of high availability solutions.

Easy maintenance

- The Dual Modular Redundant (DMR) design allows easy replacement of major subsystems without shutting the system down, by supporting hot plug of modules.
- Integrated EXPRESSSCOPE Engine 3 technology provides extensive remote management capabilities regardless of the status of the server's power or operating system.

HARDWARE SPECIFICATION

MODEL	Express5800/R320c-M4	Express5800/R320c-E4
Form factor / height	4U rack	
Number of logical processors	1 to 2	
Processors	Intel® Xeon® Processor E5-2670 (2.60 GHz/8-core/20 MB)	Intel® Xeon® Processor E5-2603 (1.80 GHz/4-core/10 MB)
Chipset	Intel® C602 Chipset with GeminiEngine™	
Memory type	DDR3L-1600 Registered DIMM with ECC, x4 SDDC	
Memory Clock	1333 MHz	1066 MHz
Logical Memory slots	16	
Maximum logical memory	256 GB	
Storage type	Hot plug 2.5-inch SAS HDD, Hot plug 2.5-inch SAS SSD	
Logical hard drive bays	8	
Maximum logical internal storage	9.6 TB	
Optical drive	DVD-RAM drive	
Logical expansion slots	2 Low-profile PCIe x4 Gen 2 2 Full-height PCIe x8 Gen 2	2 Low-profile PCIe x4 Gen 2
Video (VRAM)	Integrated in the server management controller (32 MB)	
Logical network interface	2 10GBASE-T 2 1000BASE-T 1 100BASE-TX for management	2 1000BASE-T 1 100BASE-TX for management
Maximum power consumption	1300 VA / 1290 Watt	
Power supply	800 Watt (1 per module, 80 PLUS® Platinum certified)	
Systems management	EXPRESSSCOPE Engine 3	
External Interface	1 VGA, 4 USB 2.0, 8 LAN (4 per module), 2 management LAN (1 per module)	1 VGA, 4 USB 2.0, 4 LAN (2 per module), 2 management LAN (1 per module)
Dimensions (W x D x H) and maximum weight	483 x 736 x 178 mm / 19.0 x 29.0 x 7.0 in / 51 kg / 112.44 lbs.	
Temperature and humidity conditions (non-condensing)	Operating: 10 to 35 °C / 50 to 95 °F, 20 to 80% Non-operating: -10 to 55 °C / 14 to 131 °F, 20 to 80%	
Software for availability	Active Upgrade™*, Rapid Disk Resync (RDR)* * Active Upgrade™ is for Microsoft® Windows Server® 2008 R2 Enterprise SP1 only, and RDR is supported on Windows operating systems only	
Operating systems	Microsoft® Windows Server® 2008 R2 Enterprise SP1 Microsoft® Windows Server® 2012 Standard / Datacenter Red Hat® Enterprise Linux® 6* VMware® ESXi 5.1 VMware® ESXi 5.1 Update 1 * Xen/KVM (Kernel-based Virtual Machine) is not supported.	

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