ORACLE DATA SHEET

Oracle Flash Accelerator F320 PCIe Card

Oracle Flash Accelerator F320 PCIe Card is designed by Oracle for enhancing the performance and reliability in real-world database workload environments and ”flash-aware” file systems like ZFS. This card forms the building block of the flash complex in Oracle Exadata Database Machine, Oracle Database Appliance, and Oracle Exalytics In-Memory Machine. This card interfaces with the server directly over PCI Express (PCIe) and provides a high-bandwidth, low-latency, flash-based caching tier for various enterprise workloads. Oracle servers configured with Oracle Flash Accelerator F320 PCIe Card can provide more than 2 million IOPS to relational database management systems (RDBMS) platforms. Oracle coengineered the systems BIOS (x86) and OpenBoot PROM or OBP (SPARC) along with Oracle Integrated Lights Out Manager (Oracle ILOM) to maximize performance and reliability of this flash subsystem. In addition, Oracle-specific modifications are made to the device drivers in Oracle Solaris and Oracle Linux to minimize CPU overhead and latency for higher levels of software performance.

KEY FEATURES

- 3.2 TB NVMe device
- Eight-lane PCIe Gen 3 interface
- 520 K random IOPS (8 K), 5.5 GB/sec throughput performance
- 20 microsecond write latency (4 K transfer size)
- Advanced write endurance and proactive health monitoring
- Enterprise quality and reliability

KEY BENEFITS

- Optimize performance with Oracle systems and Oracle Database
- Increase application performance,

Non-Volatile Memory Express (NVMe) Design

Oracle Flash Accelerator F320 PCIe Card is a Non-Volatile Memory Express (NVMe)-based flash card. This card connects to the server using eight lanes of PCIe Gen 3 to connect directly to the flash bank, resulting in 5.5 GB/sec throughput, more than five times that of cards for traditional SATA/SAS-3-based flash and twice the bandwidth of the prior generation Oracle Flash Accelerator F160 PCIe Card.

Oracle Unique High Performance and Reliability

Oracle Flash Accelerator F320 PCIe Card is designed with high-endurance enterprise NAND flash memory. With PCIe Gen 3 support and NVMe queuing interface, the 3.2 TB NVMe PCIe card delivers excellent sequential read performance and sequential write speeds. Oracle Flash Accelerator F320 PCIe Card delivers very high random read and write IOPS. Sophisticated algorithms provide advanced error correction, overprovisioning, and wear leveling for improved efficiency and data integrity. Battery-less power fail protection circuitry provides end-to-end data protection and fast (five seconds) power fail recovery. Proactive heath monitoring features provide an added level of durability.

productivity, and business response

- Eliminate I/O bottlenecks
- Improve server efficiency

ORACLE FLASH ACCELERATOR F320 PCIE CARD SPECIFICATIONS

Capacity	
Useable Capacity	3.2 TB
Domains	Single domain
NAND Type	V2 128 Gb NAND flash memory
Performance *	
Random Read IOPS (8 K)	520,000
Random Write IOPS (8 K)	65,000
Read Bandwidth (1 M)	5.5 GB/sec
Write Bandwidth (1 M)	1.8 GB/sec
Drive Writes per day	5
Write Latency (4 K)	20 microseconds
Read Latency (4 K)	90 microseconds
Technology	
Interface	PCI Express 3.0 (x8)
Flash Controllers	NVMe Controller ASIC
Form Factor	Low-profile PCIe Gen 3 (2.7 inches x 6.6 inches)
Reliability	
MTBF	2 M hours
Power	
Max Power	25 W max (4 W idle)
Compatibility	
Servers and Operating Systems	Qualified Oracle servers and operating systems

* Using compressible data (1.25:1)

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CONTACT US

For more information about Oracle Flash Accelerator F320 PCIe Card, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

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