

# SUN FLASH ACCELERATOR F20 PCIe CARD

## HIGH PERFORMANCE, HIGH RELIABILITY, HIGH EFFICIENCY

### KEY FEATURES

- Over 100K IOPS Performance
- Over 1,000 MB/s Bandwidth
- 96GB user capacity
- Embedded Flash controllers for high performance and compatibility
- Highly reliable, high endurance Sun FlashFire technology
- Compact Low-profile PCIe form factor to fit most servers

### KEY BENEFITS

- Increase application performance and business response
- Eliminate I/O bottlenecks
- Improve server efficiency
- Reduce power and space

### RELATED PRODUCTS

For more performance and scalability, the Sun Storage F5100 Flash Array offers world record 1.6 million IOPS in just 1RU of space.

*Oracle's Sun Flash Accelerator F20 PCIe Card is a high performance, high reliability solid-state Flash card designed for accelerating I/O intensive applications and improving business response by reducing storage latencies and I/O bottlenecks. Designed with Sun's high endurance enterprise FlashFire technology, the F20 delivers the IOPS performance of over 300 disk drives to help servers and applications run faster and more efficient while reducing space and power requirements.*



The Sun Flash Accelerator F20 PCIe Card accelerates application, improves response times, and improves server efficiency

### High Performance

The Sun Flash Accelerator F20 delivers maximum read and write performance with minimum space, power, and cost. Its high performance, high efficiency, independent quad controller design delivers maximum IOPS/GB performance density for accelerating I/O intensive applications (such as databases) by reducing their latencies and eliminating storage I/O bottlenecks. With over 100K random IOPS on a single low-profile PCIe card, the F20 delivers the performance of more than 300 disk drives with only a fraction of their power, space and cost. It allows applications to run faster, servers to be more efficient and businesses to be more responsive with greater throughput, more productivity and higher eco-efficiency.

### High Reliability

The F20 is designed for the enterprise with the highest level of endurance, reliability and data integrity. Based on Sun FlashFire technology, the F20 uses the highest endurance

enterprise SLC NAND flash technology along with advanced wear-leveling, ECC and bad-block mapping to provide maximum reliability and durability. Super capacitor based ESM (Energy Storage Module) provides backup power in case of sudden power loss to ensure the highest levels of protection, data integrity and end to end write-through persistency.

### Ease of Use and Compatibility

The F20 is easy to use and is fully compatible with most applications and computing environments. Its compact low-profile PCIe form factor fits inside qualified Sun servers and its disk emulation allows it to be used as a normal storage device without the need of special drivers or application tuning. Imbedded on-board controllers (4) provide the highest level of performance without burdening host server resources. Four independent domains provide configuration flexibility and data protection.

### The Sun Flash Accelerator F20 PCIe Card Specifications

<b>Performance</b>	
Random Read (4K)	101 K IOPS
Random Write (4K)	88 K IOPS
Sequential Read (1M)	1.1 GB/sec
Sequential Write (1M)	567 MB/sec
IO service time (latency +4K transfer)	0.22 ms
<b>Capacity</b>	
Capacity - User	96 GB
Capacity - Raw <sup>1</sup>	128 GB
Domains (FMods)	4
<b>Technology</b>	
Solid-state NAND	Enterprise SLC, Sun FlashFire technology
Controllers	4 embedded SAS SSD controllers (1/domain)
Drivers	No special drives required (disk emulation)
<b>Reliability</b>	
MTBF	Over 2M hours per Fmod (domain)
Write Endurance	Sun FlashFire Technology with advanced wear-leveling, page sparing and write endurance
Power Backup	Super capacitor based ESM for ensuring data integrity and write-through persistency
<b>Power</b>	
Power consumption	16.5 Watts
DC power requirement	PCI Express, DC Voltage 3.3V, 12 V
<b>Dimensions</b>	
PCIe	PCIe low-profile (with half and full height brackets)
Height	2.6 in. (67 mm)
Length	6.6 in. (167 mm)

Environmental	
Ambient temperature	32 to 131 F (0 to 55 C), with forced airflow
Relative humidity	10 to 90%, non-condensing
Altitude	Up to 9840 ft (3,000 m)
Supported Server Platforms	
Sun Servers	<p>Refer to the Sun server Web pages on Oracle.com for the latest. Current list includes.</p> <ul style="list-style-type: none"> <li>• Sun SPARC Enterprise T5120, T5220, T5140, T5240, T5440</li> <li>• Sun SPARC Enterprise M4000/M5000/M8000/ M9000</li> <li>• SunFire X4170M2, X4270M2, X4470, X4540</li> <li>• Sun SPARC T3-1, T3-2</li> </ul>
Operating System Support	
OS/SW	<p>Server specific. Refer to the Sun server Web pages on Oracle.com for the latest. Current list includes.</p> <ul style="list-style-type: none"> <li>• Solaris 10 u8/u9</li> <li>• Oracle Enterprise Linux 5.4/5.5/5.6</li> <li>• REHL 5.4/5.5/5.6</li> <li>• Linux SuSE SLES 10SP3, SLES 11</li> <li>• Microsoft Windows 2008, 2008 SP2</li> <li>• Oracle 11gR2 Database Smart Flash Cache</li> </ul>
Ordering Information	
Part Numbers	<p>TA-FAS-S3IE96GB-N (factory configure) XTA-FAS-S3IE96GB-N (x-option)</p>

1 Without provisioning for advanced wear leveling and block sparing

## Contact Us

For more information about the Sun Flash Accelerator F20 PCIe Card, visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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