SAS SSDs for Enterprise: High Performance with Extreme Reliability

SM1625 Enterprise Series

IT organizations can face big challenges when the volume, velocity and variety of their data needs exceed storage and computing capacity. To address these issues, CIOs and IT managers are intently focused on finding the optimal solutions with which to maximize and streamline their mission-critical enterprise applications.

Avoiding performance bottlenecks is of tantamount importance when evaluating storage alternatives for supporting extended access to data and applications. For several years, hard disk drives (HDDs) have been a common storage technology mainstay. However, HDD performance is limited by the rotational speed of the disk, which results in storage bottlenecks for I/O intensive applications, and the wear and tear of moving mechanical parts, which contributes to a drop in HDD reliability. For these reasons, IT professionals are investing in solid-state technology, thus changing the computing experience rather dramatically.

Solid-state drives (SSDs) address the need for maximum efficiency, thus narrowing the gap between server and storage performance. No more rotating magnetic media. SSDs reliably write data onto the integrated circuits of nonvolatile NAND flash memory. When it comes to your data, reliability is just as important as performance. All the speed in the world means little if you can't trust the device holding your information. Additionally, the type of application (heavy read versus heavy write) plays a major role in deciding which type of SSD to upgrade to.

SAMSUNG

PRODUCT OVERVIEW

SAS SSDs for the Enterprise: High Performance + Extreme Reliability

High Performance with Extreme Reliability

To help IT organizations move to a whole new level of performance and reliability, Samsung has introduced the extremely reliable SM1625 storage solution with SAS interface. Samsung's new SM1625 enterprise-class SSD is the optimal choice for external storage enclosures. Also, it is primarily suited to handle high volume write-intensive applications such as online transaction processing (OLTP), mail and video servers, and other enterprise applications. Samsung SM1625 SAS SSDs offer unmatched performance with controlled latency, extreme endurance and exceptional reliability compared to similar enterprise-class SSDs. The SM1625 SSD is available in densities from 100–800 GB, making it easy to integrate into new or existing enterprise storage solutions, including blade servers, as well as direct and network-attached storage.

Samsung's new SM1625 Enterprise Series SSDs perform up to 250 times faster than conventional HDDs. Investing in Samsung enterprise-class SSDs supports the demands of heavy write-intensive workloads—improving performance and energy efficiency in the data center while helping to reduce total cost of ownership and environmental impacts.

Access Data Quickly

The flash storage capabilities of Samsung SM1625 enterprise-class SSDs boosts performance by enabling fast access to data. SM1625 SSDs feature high-level of sequential reads (up to 925 MB/s), and sequential writes (up to 595 MB/s) compared to similarly-classed SSDs, as well as random reads up to 101,000 IOPS, and random writes up to 38,000 IOPS.

Extreme Reliability

SM1625 enterprise-class SSDs use specially engineered NAND flash memory to maximize write endurance, with up to 10,200 Terabytes Written in a random workload environment, providing **more than 170 times** the endurance of a typical MLC-based SSD. This translates into long-lasting, sustained performance for your blade servers and enables outstanding reliability through the use of advanced wear-leveling and garbage-collection algorithms.

SM1625 Deluxe Enterprise Series High-write Environments	
Form Factor	2.5 inches
Capacity	100/200/400/800 GB
Host Interface	SAS (6 Gb/s)
MTBF	2,000,000 hours
Uncorrectable Bit Error Rate (UBER)	1×10^{17}
Power Consumption (Active)	9 W
Power Consumption (Idle)	4 W
Cache Power Protection:	Yes
Random Read	Up to 101,000 IOPS
Random Writes	Up to 38,000 IOPS
Random Terabytes Written (TBW)	Up to 10,200 TBW Up to 10 WPD*
Sequential Read	Up to 925 MB/s
Sequential Writes	Up to 595 MB/s
Sequential Terabytes Written (TBW)	Up to 26,500 TBW Up to 18 WPD*
Physical Dimensions	100 x 70 x 15mm
Weight	169g

*WPD = Drive Writes Per Day for 5 Years

Samsung SSD activated

For more information, visit:
www.samsung.com/flash-ssd

For specific sales inquiries, contact us via email at: ssd@ssi.samsung.com