



# Samsung Enterprise Solid State Drive

Delivers Lowest TCO & Best "Green" Solution



www.samsungssd.com

Samsung's Enterprise SSD utilizes SLC NAND flash to achieve fast, frequent access, delivering the best overall performance for enterprise applications.

## Delivers Optimal Balance of Reliability and Performance for Server and Storage Applications

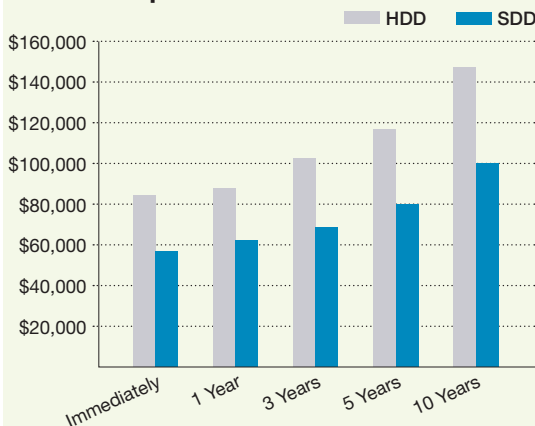
In an era when performance must go up while costs go down, Samsung's Enterprise Solid State Drive (SSD) is the optimal solution for server and storage applications. It offers a compelling Total Cost of Ownership (TCO) equation compared to hard disk drives through a combination of competitive price with low maintenance, repairs and electricity costs. In addition, the Samsung Enterprise SSD consistently receives high ratings from the top OEMs based on its performance, quality and reliability.

This performance-optimized, SLC NAND flash storage device was designed for fast, frequent access to deliver the highest performance in real-

world enterprise workloads. Samsung's Enterprise SSD is a SATA 3Gb/second device and enables reliable 24x7 performance. Compared to traditional enterprise-class hard drives, Samsung's 2.5-inch SSD achieves several important improvements. In an independent test, the flash drive had an average of 35 times better performance than several of the fastest 15K rpm SAS and Fibre-Channel HDDs. As reported by leading server vendors, the SSD offers significantly better reliability and dramatically reduces power requirements—using 98% less energy in one vendor's test.

Recently added to its feature list is a capacitance feature in which data is continuously written from the cache during power outages. This prevents data corruption and is ideal for mission-critical applications.

### TCO Comparison<sup>1</sup>

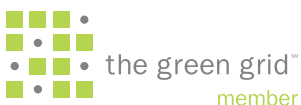


### Benefits of Optimized SSD/HDD Configuration

Purchase Price	32% decrease
IOPS	74% increase
Power Consumption	36% decrease

A leading OEM reconfigured its high-performance storage to optimize TCO and realized significant improvements. Since Samsung Enterprise SSDs provide higher IOPS and greater reliability than the fastest HDDs for the same price, the OEM used a combination of SSDs and 7200 rpm and 15k rpm HDDs to achieve these TCO benefits.

<sup>1</sup> TCO based on tier-1 OEM's high-performance storage system. **Original configuration:** 240 HDDs (300GB, 15K rpm); **Improved configuration:** 8 SSDs (100GB); 136 HDDs (300GB, 15K rpm); 24 HDDs (1TB, 7200 rpm)





**Samsung's Enterprise SSD is ideal for blade servers, helping cut cooling and power requirements while maximizing performance and reliability.**

## Enterprise SSD Optimized for Many High-Performance Storage Applications

With its performance and reliability advantages, Samsung's enterprise SSD can benefit a wide range of I/O storage applications such as video on demand, web serving, OLTP and more. For video-on-demand applications, a leading OEM said Samsung SSDs realize 70% power savings while cutting space requirements by 80% compared to HDDs. For web serving, one vendor's test showed that Samsung SSDs deliver 25% better reliability while using less than one quarter the amount of power compared to 2.5-inch SAS HDDs. In addition, the flash drives achieved nearly 10 times better performance.

Virtualization is another promising area for SSDs. Today, the average server utilization is less than 30%. However, Samsung's SSD is enabling leading OEMs to produce virtualized servers and virtualized storage to affordably eliminate data-center performance bottlenecks. Critical for virtualized storage is the ability of the Samsung Enterprise SSD to keep the storage sub-system from starving data-center performance. CIOs face data-center charge-back costs based on square footage and the amount of power consumed. Samsung's SSD provides relief via significantly higher performance per watt with a very low heat load on the air-conditioning system.

## SSDs Help Shrink Carbon Footprint

With data centers identified as one of the largest sources of greenhouse gas emissions, companies are looking for new approaches. Switching even

10% of the world's enterprise HDDs—those in the highest -performance environments—to space and energy-efficient enterprise SSDs would not only cut costs but would create a much-improved storage footprint and slow down the data center expansion rate. In addition, this approach reduces electronic waste as fewer drives are discarded or recycled.

	Samsung SSD	15K rpm 2.5" SAS HDD
Capacity	100 GB	73 GB
Max. Read	230 MB/s	108 MB/s
Avg. IOPS	12,130	317
Active Power	2.0 W	8.3 W
IOPS/W	6065	38

## Key Features & Benefits

### Reduced Power Requirements

- Super-low operating and standby power needs
- Uses <20% of a typical enterprise HDD's power

### Fast Performance

- No spin up, rotational latency or seek time
- Sustained high-speed data transfers

### High Reliability

- No moving parts to fail
- Greater resistance to shock & vibration
- Predictable failure = reduced IT costs

### Improved Operation

- Noise free
- Virtually no heat emissions

### Product Offerings

- 2.5" SATA 3Gb/s, 50/100GB

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