

# WHY SOLID STATE DRIVES?

The Cost of Ownership Improvements Using SSDs

## IMPROVED PERFORMANCE

A transaction workload of up to 100 hard drives can be handled by one SSD. While one Enterprise SSD can deliver up to 80,000 IOPS, a single Enterprise HDD can deliver a maximum 350 IOPS.

## SPACE REDUCTION

The combination of IOPS performance and capacity utilization requires fewer number of drives in a system. This translates directly into space savings for data centers.

## POWER SAVING

Since fewer drives are required to meet the same operational performance, SSDs will significantly reduce the high cooling and electricity cost associated with operating HDDs.

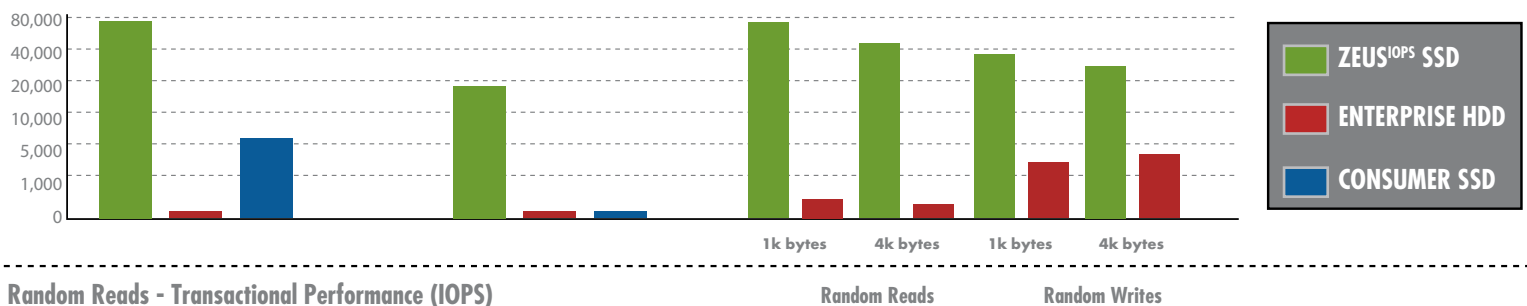
## ENHANCED RELIABILITY

SSDs will never experience a head crash! This translates to improved reliability, more uptime for end users and therefore increasing productivity.

### I/O METER WEB SERVER WORKLOAD SIMULATION

### I/O METER FILE SERVER WORKLOAD SIMULATION

### REAL WORLD SQL DATABASE IO TEST BETWEEN ZEUS<sup>IOPS</sup> VS. HDD



Random Reads - Transactional Performance (IOPS)

Random Reads

Random Writes

## IDEAL APPLICATIONS FOR SSDs

### DATABASE & OLTP

Corporate databases and On-Line Transaction Processes (OLTPs) show significant delays in responses to queries as the volume of data and users increase. Access time to database queries, reports and batch jobs can be dramatically improved by strategically placing a minimal number of Enterprise SSDs within the storage architecture. In a data tiering strategy that utilizes SSDs, the most in-demand data is stored on the highest performance storage tier while data in less demand can be relegated to HDDs. This results in overall improved response time.

### EMAIL

Email Servers are an ideal application for Enterprise SSDs because they require quick response times in order to maintain user productivity and satisfaction. SSD utilization can support such requirements thereby improving response time, reducing wait times and ultimately increases user satisfaction.

### VIRTUALIZATION

Virtualization dramatically increases the I/O demands on the corporate network through consolidation of multiple applications onto one system. The high I/O demands in a data center can function and be supported without unnecessary delays when deployed with SSDs. These benefits translate directly to a reduction in boot storms and log-in storms.

### CLOUD COMPUTING

Cloud computing enables multiple users to access applications hosted over the internet. The cloud computing architecture demands faster transactional response times than the traditional method of hosting applications because multiple users are serviced by a single host system. The incorporation of Enterprise SSDs into the storage architecture will enable the host to meet the high performance required to service multiple users.

# WHY STEC?

Proven Results in Diverse Industries

## THE CHALLENGE

An MIS Director at a multinational technology company wanted to address employee complaints regarding reoccurring performance slowdown on email servers.

An executive at a leading financial institution required faster transaction on credit card and ATM authorizations.

A CIO for a leading telecommunication company needed to implement a new billing application that is known to be very disk-intensive.

## THE SOLUTION

The MIS director implemented 6 Fibre Channel SSDs into the existing email sever storage architecture.

Zeus<sup>IOPS</sup> drives were implemented into a performance partition in the front of the storage system architecture for the most accessed data.

To support this disk intensive application and improve accessibility, the company replaced 4% of HDDs with STECs Enterprise SSDs.

## THE ADVANTAGE

Response time was improved by 75% while daily backup time was reduced from 6 hours to under 2 hours. This increased overall employee satisfaction and reduced the number of complaints.

The implemented solution cut the batch duration by 23%. This increased the application I/O rate by more than 50% while reducing response time by more than 50%.

As a result, users benefited from approximately 7X reduction in response time for both online and nighttime batch processing.

## TWO DECADES OF PROVEN ENTERPRISE EXPERIENCE WITH TOP INDUSTRY OEMs



STEC designs and manufactures the preferred SSDs for enterprise storage environments. With an arsenal of features, extreme performance improvements, overall power savings, and superior reliability, it is no wonder that the world's top OEMs depend on STEC for their solid state storage needs.

### SOLID FOUNDATION

- Most design wins with industry leading OEMs for enterprise products
- Solid track record for delivering enterprise level solutions since 1990
- Worldwide sales and support

### TECHNOLOGY LEADERSHIP

- Industry's most experienced SSD engineering team
- In-house developed controller technology for optimal cost, performance and reliability
- Highest quality components sourced from world's technology leaders
- Proprietary test systems and processes designed to ensure optimal product quality
- Time to market leadership with FC, 3Gb SAS, and 6Gb SAS
- Industry's most extensive portfolio of SSD product offerings:
  - Capacities: 4GB to 1TB
  - Interfaces: SATA, PATA, SAS, Fibre Channel, PCIe
  - Form Factors: sub 1.8", 1.8", 2.5", 3.5"
  - Industrial temperature support