

Consumer SSDs vs HDDs Prerequisites for Wide Adoption of SSDs

Comparison, Education and Demonstration of Consumer 2.5" SATAII SSDs

What is The Demo depicting?

We are showcasing consumer class Solid State Storage Drives in side-by-side demonstrations of 2.5" SATAII solid state (SSD) and hard disk (HDD) mass storage devices. The purpose of the demonstration is to provide comparisons of SSDs and HDDs on identical hardware platforms while running proprietary and public domain synthetic performance tests, end user software applications and programs, and digital entertainment and content played on SSDs. An additional SSD educational station is showcasing a compendium of industry alliance produced slide shows, short video comparisons, lectures and other educational materials.

Issues Facing Consumer SSD

The emergence of SSD consumer class storage faces challenges associated with the transition from vertical milspec, health and imaging markets to broader consumer electronic, mobile internet device, and personal laptop and netbook applications. The key to this potential widespread penetration and adoption of consumer SSDs will be the ability to respond to traditional performance and reliability issues and to provide clear ways to demonstrate the added user value. It is also important to properly address primary concerns regarding cost per gigabyte (GB), but also, secondary consumer concerns regarding, Input Output Operations per Second /Watt (IOPSs/W) and cost of IOPS (IOPS/\$). A major challenge to consumer SSD acceptance, and a critical mission of the SNIA SSSI and its partners, will be to collaboratively establish common protocols and metrics to create industry wide performance, endurance, qualification and acceptance criteria for consumer SSDs, in order to ensure a seamless transition and adoption of this new and exciting memory storage technology to PC and consumer electronic OEMs.

2.5" SATAII Test Platform



SSDs & HDDs run on identical Industrial PCs

Demonstration Setup

The 4 slot SATAII hardware platform is accommodating (4) 2.5" SATAII devices (SSD or HDD). Each slot supports identical Industrial PC's with VGA output to dedicated 19" flat screen monitors or laptops. The goal of the SSSI demonstration is to show a comparison of consumer HDD and SSD under a variety of conditions, including: applications and programs, comparative test performance graphs and results, educational SSD vs HDD videos and other streaming HD DVD movies, content and applications.

SSD vs HDD

The demonstration set up enables demonstration of a specific HDD and SSD device being simultaneously tested at the physical level to display metrics such as IOPS and IOPS/W. The tests operating under Linux are intended to remove OS overhead layers and other contributors to the test and performance measurements.

Performance Tests

Any SATAII slot may be booted to Windows XP or Linux to run either public domain or proprietary performance tests. While tests provide synthetic work loads and results may include contributions from the system architecture, overhead and component specifications, the use of identical hardware and software is providing meaningful relative indicators of performance, since all (4) bays are identical.

Four 2.5" SATAII Devices



SSDs or HDDs running on Linux or XP OS

Applications & Programs

Entertainment applications, programs and videos are played from another SSD slot showing high definition DVD movies, video streams, user application boot up and operation, desktop publishing demands and multi size digital image slide shows.

Education

The SSD education station is dedicated to providing a compendium of SSD industry and solid state storage education and awareness to the widest range of audiences, from the design engineer to the end user. Video shorts, educational lectures, powerpoint presentations and white paper graphics are completing this comprehensive demonstration in order to assist consumers and users understand the positioning and role of various consumer mass storage devices under different application, user and cost parameters.

The SNIA Solid State Storage Initiative

Members of the SSSI staff are available at the booth to provide information and present and discuss results of recent "blind" studies that have been run on newly released SSD products with the scope of helping you understand the breadth and scope of alternatives available to the user public. For more information about the SSSI, please visit <http://www.snia.org/sssi>.