

# SSD, Hard Drive or Hybrid

Marketing Bulletin

## How do you choose?

Up until just a few years ago, the hard disk drive (HDD) was the de facto choice for storage in a laptop or desktop computer. Today computer users have more options to fine-tune storage to exactly what they need. Solid state drives (SSD) and newer solid state hybrid drives (SSHD) can enhance the performance of your computer compared to using a traditional hard drive. So whether it's a new computer or an upgrade to your existing system, how do you choose the right storage option for you?

There are a number of factors for possible consideration when choosing between a traditional HDD, an SSHD or an SSD. The easiest and most common way to evaluate the differences between these storage devices is to compare cost, performance and total capacity tradeoffs. HDDs still offer massive capacity and lowest prices. SSDs are extremely fast, but are more expensive, especially at capacity points above 128GB. SSHDs combine some of the best aspects of both HDD and SSD but may not be the top performers for every criteria.

Choose the Seagate® drive that is right for your laptop or desktop computer by looking at the following key features.

### Speed

SSDs provide peak performance for booting and high read/write performance to support computing that requires enhanced multitasking capabilities. On the other hand, an SSHD can provide near-SSD performance for booting, launching and loading data. HDDs usually provide ample performance for the majority of PC platforms shipping today.



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## Capacity

HDDs are still the workhorses when it comes to sheer capacity and the amount of data that can be stored. SSHD technology also offers large capacity points at affordable price points. SSDs are available at various capacity points, but are more expensive above 240GB.

## Price

At a system level, low-capacity SSDs, such as those in the 32GB to 240GB range, can be affordable. But higher-capacity SSDs are more expensive, especially when measured by cost per gigabyte. HDDs provide the lowest cost per gigabyte. SSHDs provide a cost per gigabyte that's just slightly higher than HDDs.

## Reliability

Failure rates for the three technologies have very similar ratings. However, SSHD has the potential to demonstrate improved reliability, as the combined use of SSD and HDD in an integrated system can draw on the strengths of each.

## Form Factor

SSD products are not limited by the spinning platters used by HDD and SSHD products, so they have the most flexibility in terms of physical size. For standard laptops and Ultrabooks, SSDs are available in 5mm and 7mm heights. HDDs and SSHDs are available in standard 7mm and 9.5mm designs, and 5mm designs will be available in 2013.

## Durability

SSDs are viewed as more durable simply because of their solid state design. But practically speaking, other components in a laptop or desktop, such as the display or processor, are more likely to be damaged due to shock, damage or temperature extremes.

## Battery Life

In general, storage has minimal impact on battery life in a laptop computer—less than 10% of overall system power usage. The display and processor are much more significant. When compared, SSD is the most power-efficient, with SSHD and HDD following close behind.

## Summary

Thinking through all of these criteria can definitely help you prioritize your needs for storage and ultimately help you make a decision that will set your mind at ease and result in a great experience with your next computer.

### Laptop Storage Selection Criteria

	 Speed	 Capacity	 Price	 Reliability	 Form Factor	 Durability	 Battery Life
HDD	★	★★★	★★★	★★★	★★	★★	★★
SSHD	★★	★★★	★★	★★★	★★	★★	★★
SSD	★★★	★	★	★★★	★★★	★★★	★★★

KEY: ★ = Good   ★★ = Better   ★★★ = Best

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