

## Seagate Finally Unveils SSD Offering



# OBJECTIVE ANALYSIS SEMICONDUCTOR MARKET RESEARCH



## Pulsar Aimed at Enterprise Market

Seagate Technology on December 8, 2009, finally publicly announced a project that has been the subject of rumors for almost two years. The company has unveiled its Pulsar brand of solid state drives for the enterprise.

This drive, which Seagate calls "The first of many to come," has 100 times the IOPS (Input/Outputs Per Second) of an enterprise HDD and a sequential access over twice that of its HDD counterpart, and is furnished in a standard HDD form factor to support early adopters. This 2.5" 7mm-thick device stores as much as 200GB of SATA capacity. With an annual failure rate (AFR) of 0.44%, Seagate says that this SLC SSD's reliability is equal to or higher than the company's own enterprise HDDs, and offers a 5-year warranty to back that claim.

Seagate explains that the target market for the Pulsar is in the 5-10% of storage that is I/O intensive, and argues that its inherent speed will foster growth in data storage requirements. The Pulsar is aimed at what Seagate calls the "Enterprise Standard" market, which consists entirely of DAS systems, leaving open the question of what the company will do in the future to support SAN.

Unlike many other SSDs, the Pulsar has been designed to have roughly equivalent read and write performance. This fine point is of key importance in the enterprise, which differs from client computing, since the enterprise is likely to have a more even read/write balance while clients' disk usage is most often highly read-intensive.

The company argues that SSDs will not compete against HDDs but will expand the overall storage market. Although we agree that there is no reason for mainstream HDDs to be threatened by SSDs, Objective Analysis and several industry participants (OEMs as well as makers of both SSDs and HDDs) believe that the enterprise HDD market will decline as a combination of SSDs and capacity HDDs satisfies the need currently filled by enterprise HDDs. In short, it may not be too long before SSDs render enterprise HDDs obsolete.

Since SSDs are destined to replace enterprise HDDs, it is extremely important that Seagate, manufacturer of over 60% of the world's enterprise HDDs, should participate in the SSD market. If Seagate were to ignore SSDs, then the enterprise market, a market that the company has dominated for 15 years, would slip through the company's fingers. Today Enterprise HDDs are the more profitable part of Seagate's business.

The company explains that it is a "Storage Solutions Company" and will offer their customers whatever is best for them, regardless of technology.

Perhaps the most important sales point of the Seagate Pulsar is that it was designed and is manufactured and supported by Seagate. This is a company that understands the needs of the enterprise OEM and of that OEM's customers. Seagate has a very strong grasp of reliability requirements and qualification tests. This will be a significant factor for many OEMs when deciding which brand of SSD to use.

Something that separates Seagate from other HDD makers is that the company has

internally designed its own SSDs. Western Digital became an SSD manufacturer through the acquisition of SiliconSystems. Hitachi is entering the SSD market by adding enterprise-class interfaces to Intel's basic SSD design. Toshiba-Fujitsu manufactures and sells SSDs through the Toshiba's semiconductor group, but there appears to be little interaction between that business and Toshiba's HDD division. Only in Seagate is there a seamless connection of the HDD group and the SSD group.

Although Seagate is a very late entrant to the enterprise SSD market, Objective Analysis believes that the company will be a force to contend with once it reaches its stride.

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