# Hitachi ships the industry's first 25-nanometer SLC NAND flash enterprise-class SSDs

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Demonstrating its commitment to delivering leading-edge technologies and solutions for enterprise-class servers and storage systems, Hitachi Global Storage Technologies (Hitachi GST) today announced that its Ultrastar enterprise-class solid state drive (SSD) family is the industry's first to use 25-nanometer (nm) single-level cell (SLC) NAND flash. The Ultrastar SSD400S.B family combines Hitachi's proven enterprise hard disk drive (HDD) expertise with Intel's extensive capabilities in developing high-endurance SLC NAND flash memory and advanced SSD technology. The drives also conform to the Trusted Computing Group's Enterprise A Security Subsystem Class encryption specification, helping customers protect sensitive data, and reduce the costs associated with drive retirement and reuse.

"Security is a growing concern among enterprise customers, especially those in financial services, e-commerce and online transaction

processing," said Brendan Collins, vice president of product marketing, Hitachi GST. "Our solid state drives are designed to deliver the highest level of performance, while reducing total cost of ownership. With our new 25nm SLC SSDs, our enterprise customers now have the highest level of data protection in an SSD without compromising system performance, reliability and endurance."

The new Ultrastar SSD400S.B family is available in 100GB, 200GB and 400GB capacities, and features 2.5-inch 6Gb/s Serial Attached SCSI (SAS) interface. This provides unique value to customers who are increasingly looking to tiered storage as a method of managing today's datacenters.

Working in collaboration with Intel, the Ultrastar SSD400S.B family combines enterprise-grade NAND flash, proprietary endurance firmware and power loss management techniques to extend the reliability, endurance and sustained performance of the new SSD family. The 400GB SSD can endure up to 35 petabytes (PB) of random writes over the life of the drive, which is the equivalent of writing 19.2TB/day for five years, ensuring greater utilization and reliability in the most demanding enterprise environments. For complete end-to-end data protection and reliability, the Ultrastar SSD400S family includes advanced data integrity and power loss management technologies that are tied with industry standards to ensure compatibility in multi-tiered SSD/HDD system designs.

"The transition to the latest 25nm SLC NAND from Intel reinforces the commitment of both companies to deliver outstanding performance and endurance in the Ultrastar SSD400S.B family," said Rob Crooke, Intel vice president and general manager of the Intel Non-Volatile Memory Solutions Group. "Our collaboration with Hitachi GST continues to deliver leading enterprise-class SSD solutions that are critical to building Tier 0 solutions for the enterprise."

The new Ultrastar SSD400S.B family delivers the industry's highest SSD sequential throughput, up to 536MB/s read and 502MB/s write throughput with 6Gb/s SAS. The new drive also delivers up to 57,500 read and 25,500 sustained write IOPS, reaching speeds 100 times faster than traditional hard drives, resulting in rapid response times for real-time transaction processing access to "hot" enterprise data for improved productivity and operational efficiency. As fewer SSDs are required to achieve the same HDD ultra-high performance, the new Ultrastar SSD400S.B family offers significant value in terms of IOPS per Watt, while reducing TCO through low power consumption, efficient cooling and reduced space requirements.

Hitachi's optional self-encrypting drives (SEDs) provide hardware-based data security and enhanced secure erase capability. Self-encrypting drives scramble data using a key as it is written to the disk, and then descramble it with the key as it is retrieved, giving users the highest level of data protection available. It also speeds and simplifies the drive re-deployment process. By deleting the encryption key, the data is rendered unreadable, eliminating the need for time consuming data-overwrite. This enables enhanced scalability in multi-drive scenarios because encryption is handled by the drive, eliminating the performance bottleneck of traditional solutions. Further, system performance is improved because the encryption workload is moved off the processor and chipset and onto the drive.

Hitachi GST leads the industry with the broadest HDD and SSD storage family for tiered storage needs in the enterprise. Hitachi's full line of HDDs and SSDs support the entire enterprise ecosystem where HDDs and SSDs have to integrate seamlessly, side by side in tiered storage environments. The synergistic relationship between Hitachi's new throughput-enhancing SSDs and traditional HDDs provides cost effective, end-to-end enterprise-class storage solutions, delivering reliability, compatibility, capacity, cost and system performance. This

combination makes Hitachi GST a leading HDD/[SSD](#) provider with the experience and technology needed to meet escalating reliability, endurance, and performance in the most demanding enterprise environments

[Hitachi](#) GST has already shipped and is currently qualifying its Ultrastar SSD400S.B drives with select OEMs. Broader qualification samples are now available with product ramp scheduled in 1H12. The Ultrastar SSD400S.B comes with or without an encryption option and is backed by a five-year limited warranty, or the maximum petabytes written (based on capacity).

Source: Hitachi, Ltd.