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Press Release

Toshiba Memory Achieves VMware vSAN™ Certification for PM5 Series of Enterprise SAS SSDs

New 12Gb/s PM5 Series Approved for vSAN 6.7 Customers and Ensures Compatibility for Flash Storage as either Capacity or Caching

Düsseldorf, Germany, 28th February 2019 – Toshiba Memory Europe GmbH today announces that the newly released PM5 Series of 12Gb/s enterprise SAS SSDs has earned VMware vSAN™ 6.7 certification, enabling these flash-based storage devices to be shared across connected hosts in a VMware vSphere® cluster. With vSAN 6.7 certification, users can pool PM5 Series SSDs together in

a single, distributed, shared data store. This enables users to define the storage capabilities required (such as performance, capacity and availability) for each connected virtual machine (VM) within the VMware vSAN cluster. These capabilities not only further hyper-converged infrastructure (HCI) options in virtual environments, but also ensures that storage policies are administered and maintained within the PM5 Series with the utmost vSAN compatibility.

The certification of the PM5 Series enables VMware vSAN support for both hybrid and all-flash configurations using a two-tier storage architecture (capacity tier and cache tier). All write operations are sent to the cache tier and are subsequently de-staged to the capacity tier over time. When a PM5 Series SSD is deployed within a hybrid configuration, its cache tier is used as both a read and write cache, keeping hot data to improve performance. In an all-flash configuration, 100 percent of the cache tier is used for the write buffer. Given the benefits of tiered storage, PM5 Series SSDs are capable of meeting the demanding requirements of both enterprise and data center customers.

Built with Toshiba Memory's 64-layer BiCS FLASH™ TLC (3-bit-per-cell) 3D flash memory, the PM5 Series offers up to 15.36TB[1] capacities in a 2.5-inch form factor, and supports a full range of endurance and capacity ranges. It also utilises the industry's first[2] MultiLink SAS™ architecture that delivers the fastest[3] SAS SSD sequential performance to date[4]. In addition, PM5 Series SSDs support multi-stream write technology – a feature that intelligently manages and groups data types together to minimise write amplification and garbage collection, which in turn, translates into reduced latency, improved endurance, increased performance and better Quality of Service (QoS).

"We are pleased to be collaborating closely with Toshiba Memory to jointly certify flash innovations for the fast-growing hyper-converged infrastructure market," said Lee Caswell, vice president products, Storage and Availability Business Unit, VMware. "Now that database applications represent the top workload for VMware vSAN, flash performance, such as the jointly certified Toshiba Memory PM5 12Gb/s SAS SSDs, is critical for customers looking for proven compatibility and interoperability."

"Enterprise and datacenter customers can now not only benefit from the higher capacity, reliability and performance of our PM5 SAS SSDs. Achieving the vSAN 6.7certification in co-operation with VMware enables customers to pool these devices together in one single, shared vSAN data storage solution." Paul Rowan, Vice President SSD Business Unit, Toshiba Memory Europe GmbH.

The PM5 Series of 12Gb/s SAS SSDs with VMware vSAN 6.7 and VMware ESXi™ 6.7 certification is shipping now and includes customised server OEM models also approved for vSAN all-flash capacity tier, all-flash caching tier and hybrid caching tier implementations.

Notes:

MultiLink SAS is a trademark of the SCSI Trade Association. VMware ESXi, VMware vSAN and VMware vSphere are trademarks or registered trademarks of VMware Inc. in the United States and/or various jurisdictions. All other trademarks or registered trademarks are the property of their respective owners.

[1] Definition of capacity: Toshiba Memory Corporation defines a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2^{30} bytes = 1,073,741,824 bytes, 1TB = 2^{40} bytes = 1,099,511,627,776 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[2] As of August 7, 2017, this claim is based on industry-published specifications and a Toshiba Memory Corporation survey.

[3] As of today's announcement, this claim is based on industry-published specifications.

[4] Read and write speed may vary depending on the host device, read and write conditions, and file size.

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About Toshiba Memory Europe GmbH

We, Toshiba Memory Europe GmbH, are the European business of Toshiba Memory Corporation. Our company offers a broad product line of flash memory products, including SD Cards, USB flash drives, and embedded memory components, in addition to solid state drives (SSD). Our company maintains offices in Germany, France, Spain, Sweden and the United Kingdom. President is Masaru Takeuchi.

For more information on the full range of our memory and SSD products please visit:
https://business.toshiba-memory.com/en-emea/top.html

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