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Marvell Introduces Industry's First NVMe Chipset Solutions to Address Emerging Data Center SSD Requirements

Intelligent 88NR2241 NVMe Switch, 8-Channel 88SS1098 NVMe SSD Controller and 16-Channel 88SS1088 NVMe SSD Controller Enable Workload-Optimized SSD Offerings

SANTA CLARA, Calif., March 20, 2018 /PRNewswire/ -- Marvell (NASDAQ:MRVL), a leader in storage, networking and connectivity semiconductor solutions, today announced that it is launching innovative NVM Express® (NVMe™)-based chipset solutions that will accelerate the time to market for application-optimized data center SSD implementations. These new, highly-versatile building blocks can optimally address current and emerging workload storage requirements, spanning capacity, latency, performance, power and cost, to enable tailored SSD solutions for specific cloud and enterprise workloads.

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The proliferation of cloud services and new technologies, such as artificial intelligence and machine learning, is driving various workloads in the data center. These evolving and expanding workloads can have differing storage requirements that emerging SSD form factors are targeted to address. Marvell has developed innovative NVMe chipsets capable of powering the larger Enterprise Data Storage Form Factors (EDSFF), Next Generation Small

Form Factors (NGSFF) and various customized form factors, providing the ability to increase storage capacity, performance and overall workload efficiencies.

The Marvell® 88NR2241 intelligent NVMe switch allows data centers to aggregate and manage resources between multiple NVMe SSD controllers and workload-offload accelerators. The switch enhances multi-tenant, virtualized cloud and enterprise data center environments by offering high quality of service and predictable storage performance using integrated virtual functions. The 88NR2241 can provide up to 6.4 GB/s of throughput and up to 1.6M random input output per second (IOPS), thereby enabling the industry's most flexible SSD architecture for optimal workload efficiencies around power, performance and cost.

The 88SS1098 and 88SS1088 are Marvell's latest PCIe Gen3x4 NVMe SSD controllers supporting single and dual port functionality, the NVMe 1.3 standard, and open channel architectures. Both controllers are powered by Marvell's fourth generation of NANDEdge™ LDPC error correction technology, which provides support for the latest 3D NAND TLC and QLC technologies, extending SSD lifetime while maintaining best-in-class latency and performance consistency. These controllers leverage Marvell's highly advanced and proven system-on-chip (SoC) processor architectures to enable up to 3.6 GB/s of throughput and up to 800k of random read IOPS, supporting up to 16 NAND channels and 16 GB DRAM.

These Marvell chipsets can support up to industry-leading 32 TB capacities, allowing support of a full range of cloud and enterprise SSD solutions - including M.2, NGSFF, U.2, PCIe add-in-cards, EDSFF and custom-built. The chipset architectures present data center storage architects with new building blocks through which to innovate and optimize their cloud services and workloads with emerging memories, offload accelerators and new data center infrastructure architectures.

Nigel Alvares, vice president of SSD and Data Center Storage Solutions at Marvell, said, "Cloud and enterprise data centers are increasingly highly-virtualized, multi-tenant environments supporting a growing number of different workloads with varying storage requirements. To help data center operators address and scale while not compromising quality of service, Marvell has built upon its storage technology expertise to develop industry-first NVMe chipsets that will deliver new scalable SSD architecture solutions optimized for data center workloads."

"The cloud and enterprise data center SSD segments are experiencing rapid growth, with NVMe-based SSDs forecast to expand at a CAGR of 42% out to 2022," said Gregory Wong, founder and principal analyst at Forward Insights. "Marvell's innovative NVMe chipset solutions are well-positioned to capitalize on this growth trend and address emerging requirements with best-in-class building blocks for data center scale and efficiencies."

"LITEON and Marvell have a long history of collaborating to deliver innovative SSD storage solutions, such as the new NVRAM Hybrid drive that we announced at OCP 2018," said Darlo Perez, managing director, Americas Region, Storage Strategic Business Group at LITEON. "This latest SSD is a great example of how Marvell's NVMe chipsets and LITEON's storage system expertise are coming together to help customers address emerging cloud and data center challenges."

"Marvell and Toshiba Memory Corporation have a long-standing relationship to enable emerging SSD solutions," said Hiroo Ohta, technology executive at Toshiba Memory Corporation. "As NAND technologies scale, Marvell's NANDEdge™ technology and

associated chipsets will be key solutions to address the latest data center SSD workload requirements."

Marvell is showcasing its new NVMe chipset solutions for data center SSDs at the OCP U.S. Summit 2018 in San Jose, Calif. from March 20-21. Nigel Alvares will present during an Executive Track session at the Summit, "Using 'Open' Building Blocks to Enable Emerging SSD Form Factors" on March 20 at 2:35 p.m.

For further information on the Marvell 88NR2241 NVMe switch, please visit http://www.marvell.com/storage/system-solutions/nvme-switches/. For further information on the Marvell 88SS1098 and 88SS1088 NVMe SSD controllers, please visit http://www.marvell.com/storage/ssd/88ss10x8/. These Marvell chipsets are available now.

About Marvell

Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, networking and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. To learn more, visit: www.marvell.com

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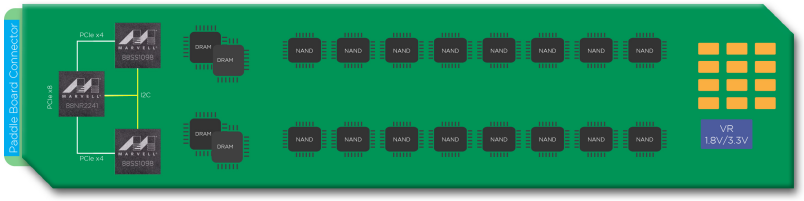

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