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Marvell Launches Industry's First Native NVMe RAID Accelerator

New Accelerator will be Offered by Hewlett Packard Enterprise (HPE) in an NVMe OS Boot Device for High Availability Server Deployments

SANTA CLARA, Calif., Oct. 6, 2020 /PRNewswire/ -- Marvell (NASDAQ: MRVL) today introduced the industry's first native NVMe RAID 1 accelerator, a state-of-the-art technology for virtualized, multi-tenant cloud and enterprise data center environments which demand optimized reliability, efficiency, and performance. Hewlett Packard Enterprise (HPE) is the first of Marvell's partners to support the new accelerator in the HPE NS204i-p NVMe OS Boot Device offered on select HPE ProLiant servers and HPE Apollo systems.



As the industry transitions from legacy SAS and SATA to NVMe SSDs, Marvell's offering helps data centers fast-track the move to higher performance flash storage. The innovative accelerator lowers data center total cost of ownership (TCO) by offloading RAID 1 processing from costly and precious server CPU resources, maximizing application processing performance. IT organizations can now deploy a "plug-and-play," NVMe-based OS boot solution, like the HPE NS204i-p NVMe OS Boot Device, that protects the integrity of flash data storage while delivering an optimized, application-level user experience.

The NVMe RAID 1 accelerator is compatible with Windows, Linux and VMware native OS NVMe host drivers and is based on a DRAM-less architecture which lowers power consumption. The NVMe RAID 1 accelerator is ideal for enterprise-class SSD boot applications as it naturally provides operating system and recovery data protection that is physically isolated in the server from volume user data. This isolation is critical for virtualized, software-defined storage and hyperconverged infrastructure (HCI) deployments that demand reliable access to logs and boot programs with no chance of being corrupted by user data. To meet high availability requirements, operating systems like VMware ESXi have traditionally relied on taxing the CPU for RAID 1 processing across two separate drives, consuming two server storage bays. The NVMe RAID 1 accelerator in the HPE NS204i-p NVMe OS Boot Device solves this problem by offloading RAID 1 processing to hardware and directly connecting to two NVMe SSDs allowing the HPE solution to consume a single PCIe slot.

"We are delighted to bring the industry's first hardware-accelerated, native NVMe RAID 1 to volume production together with the HPE NS204i-p NVMe OS Boot Device," said Thad Omura, vice president of marketing, Flash Business Unit at Marvell. "HPE is the first to bring reliable, self-contained NVMe OS boot capability to end users thanks to our RAID 1 offering that is easily deployed in volume with native OS NVMe host driver compatibility."

HPE has implemented a customized version of the NVMe RAID 1 accelerator and is the first to offer enterprise and hybrid-cloud providers this OS boot solution as part of its server infrastructure offering. The HPE NS204i-p NVMe OS Boot Device is a single PCIe card that includes two 480GB NVMe M.2 SSDs and enables customers to mirror their OS through dedicated hardware RAID 1. This "plug-and-play" OS boot device also has native OS NVMe host driver support for VMware, Windows, RHEL and SLES operating systems for simple deployment on HPE ProLiant servers and HPE Apollo systems.

"HPE has a decades-long collaboration with Marvell in delivering joint solutions that optimize storage, server and networking technologies to help customers transform their data centers and target growing workload needs," said Krista Satterthwaite, vice president, HPE Compute Product Management. "We look forward to continuing this collaboration by being the first to support Marvell's new accelerator solution in our state-of-the-art NVMe OS Boot Device, which is offered on the HPE ProLiant servers and HPE Apollo systems to target a range of workloads such as virtualization, AI, analytics, HPC, and HCI."

The HPE NS204i-p NVMe OS Boot Device is available today for select HPE ProLiant Gen10 and Gen10 Plus servers and HPE Apollo Gen10 and Gen10 Plus systems. For more information, please visit: www.hpe.com/info/serverstorage

"Marvell's approach at designing a hardware-optimized NVMe RAID 1 accelerator centers on an incredible level of optimization, providing accelerated performance coupled with lower power footprint compared with existing SATA/SAS RAID offerings," said Scott Sinclair, senior analyst at ESG. "This NVMe RAID 1 accelerator should be a top consideration for the mission-critical data center, mainly in cluster architecture, such as HCI, which requires high availability and quick recovery of data."

More information about Marvell's 88NR2241-B, the silicon device that powers the NVMe RAID 1 accelerator, is located [here](#).

About Marvell

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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