Adaptec® SmartRAID 4300 Series of Accelerators Deliver Scalable, Secure NVMe® RAID Storage Solutions

Microchip's disaggregated architecture leverages host CPU and PCIe® infrastructure to overcome traditional storage bottlenecks

CHANDLER, Ariz., Aug. 05, 2025 (GLOBE NEWSWIRE) -- To better support server OEMs, storage systems, data centers and enterprise customers, Microchip Technology **(Nasdaq: MCHP)** has launched the **Adaptec® SmartRAID 4300** series of NVMe® RAID storage accelerators. The new family is a feature-rich, secure, RAID-enabled, high-performance Software-Defined Storage (SDS) solution for NVMe deployments. The accelerators are especially suited for modern AI data center environments where accelerating access to NVMe storage is critical for supporting demanding workloads and maximizing overall system performance.

The SmartRAID 4300 family takes a new approach to NVMe RAID by disaggregating Microchip's Smart Storage platform into separate software and hardware components. Leveraging Microchip's PCIe® storage controllers as the underlying hardware to provide a supporting role for CPU offload and RAID acceleration, the accelerators separate the storage software stack to utilize the expanded host PCIe infrastructure for optimized data flows and connectivity. In extensive internal testing, the SmartRAID 4300 family has shown up to 7x increase in input/output (I/O) performance gains compared to previous generation offerings.

With Smart Storage software operating on the host CPU, I/O data flows maximize performance with writes occurring directly from the host CPU to the NVMe endpoints at their respective PCIe generational speeds, while parity-based redundancy (XOR) is offloaded from the host CPU to the accelerator hardware. This architecture addresses bottlenecks inherent to traditional in-line storage solutions and helps the SmartRAID 4300 accelerator to enable high levels of scalability, flexibility and support for Gen 4 and Gen 5 PCIe host CPUs with up to 32 CPU-attached x4 NVMe devices and 64 logical drives/RAID arrays.

"Our innovative solution with separate software and hardware addresses the limitations of traditional architectures that rely on a PCIe host interface slot for all data flows," said Brian McCarson, corporate vice president of Microchip's data center solutions business unit. "The SmartRAID 4300 series allows us to enhance performance, efficiency and adaptability to better support modern enterprise infrastructure systems."

The SmartRAID 4300 family supports NVMe and cloud-capable SSDs, allowing for tailored solutions that are designed to meet a diverse range of enterprise needs. Specific architectural and semiconductor design techniques, including automatic idling of processor cores and autonomous power reduction capabilities, optimize power efficiency and multiple safeguards help maintain end-to-end data integrity. The accelerators are designed with security features including hardware root of trust, secure boot/update, attestation and Self-Encrypting Drive (SED) support for enterprise-class data protection.

The SmartRAID 4300 series maintains the advanced features, functionality and hardware offload of Microchip's previous-generation of in-line enterprise storage products, while delivering high performance that scales with the host, interconnect and CPU-attached NVMe endpoints. Visit the website to learn more about the company's full portfolio of **data center solutions**.

Configuration and Management Tools
The SmartRAID 4300 series is supported by a suite of host tools, that include the Adaptec maxView™ tool with its HTML5-based web GUI, ARCCONF CLI and plug-ins for remote and local management of enterprise and data center server platforms. These tools support in-band network management and are accessible via standard desktop and mobile browsers and maintain compatibility with Adaptec SmartRAID tools for ease of integration. For out-of-band Baseboard Management Controller (BMC) management, the SmartRAID 4300 series has support for Distributed Management Task Force (DMTF) standards-based management, Platform-Level Data Model (PLDM) and Redfish® Device Enablement (RDE) via MCTP protocol.

Pricing and Availability
Adaptec SmartRAID 4300 accelerators are available for production integration. Contact a Microchip **sales representative or authorized worldwide distributor** for details.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: **https://www.flickr.com/photos/microchiptechnology/54670078596/sizes/o/**
- Diagram: **https://www.flickr.com/photos/microchiptechnology/54670316879/sizes/o/**
- Sell Sheet:
  https://ww1.microchip.com/downloads/aemDocuments/documents/DCS/ProductDocuments/Brochures/Adaptec-

SmartRAID-4300-Series-DS00005986.pdf

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