Silicon Motion Launches Complete 16-Channel PCIe 4.0 NVMe Turnkey Enterprise SSD Controller Solution

November 17, 2020

The SM8266 accelerates customers' time-to-market with a development platform that includes turnkey firmware stack and reference design kit

TAIPEI and MILPITAS, Calif., Nov. 17, 2020 /PRNewswire/ -- Silicon Motion Technology Corporation (NasdaqGS: SIMO) ("Silicon Motion"), a global leader in designing and marketing NAND flash controllers for solid-state storage devices, today announced the SM8266, a complete enterprise-grade 16-channel PCIe 4.0 NVMe hardware plus firmware turnkey SSD controller solution. Customers can rapidly develop and bring to market enterprise SSDs for data centers by using our complete development platform that includes a turnkey NVMe firmware stack and hardware reference design kit.



"Our solution is the only complete PCIe Gen4 turnkey solution available today from an established merchant controller supplier," said Nelson Duann, Silicon Motion's Senior Vice President of Marketing and R&D. "Since the introduction of our PCIe Gen3 turnkey solution, we have established a longer track record of supplying turnkey solutions in terms of customer adoption and sale volume than any other company. Our Shannon Systems team is already custom designing enterprise-grade NVMe, Open-Channel and Key-Value SSDs using SM8266 for hyperscale customers' data centers with production expected in 2021."

Advanced turnkey enterprise SSD controller solution

The SM8266 controller solution features Silicon Motion's state-of-the-art firmware and hardware technology to provide consistent, low latency QoS domains. Offering capacity up to 16TB with 16 NAND flash channels, the SM8266 is designed to support the latest 3D TLC and QLC NAND flash technologies. To ensure enterprise level reliability, data integrity and retention at PCIe Gen4 performance, the SM8266 is equipped with Silicon Motion's proprietary technologies including:

- 6th generation NANDXtend™ technology, which incorporates machine learning algorithms supporting Silicon Motion's proprietary high-performance LDPC error correction code (ECC) engine with RAID, ensuring better data integrity even in extreme operating environments.
- End-to-end data path protection, which applies ECC to the SSD's SRAM and DRAM buffers as well as to the primary NAND flash memory array. This maintains data integrity as data is transmitted between the host and the SSD, and between buffer memories and NAND flash.
- Power loss protection, which eliminates the risk of data loss in the event of an unexpected power outage.

Other features of SM8266 include:

- High performance PCIe Gen4 x4 & NVMe 1.4 compliance
- Turnkey stacks enable standard NVMe SSD as well as proprietary Open-Channel and Key-Value SSD implementations
- Support for up to 16TB of physical NAND capacity

- Low and consistent latency enabled by physical and logical isolation
- Ultra-high sequential read performance of up to 6.5GB/s and 950K sustained random read IOPS
- Data security with AES 256-bit hardware supporting SED, Secure Boot and TCG Opal

Silicon Motion will showcase SM8266 at SC Virtual from November 17 to 19. https://cdmcd.co/5YAKp6

SM8266 video: https://www.youtube.com/watch?v=GM_OLtymubw

About Silicon Motion:

We are the global leader in supplying NAND flash controllers for solid state storage devices and the merchant leader in supplying SSD controllers. We have the broadest portfolio of controller technologies and our controllers are widely used in storage products such as SSDs and eMMC+UFS devices, which are found in data centers, PCs, smartphones, and commercial and industrial applications. We have shipped over six billion NAND controllers in the last ten years, more than any other company in the world. We also supply customized high-performance hyperscale data center and industrial SSD solutions. Our customers include most of the NAND flash vendors, storage device module makers and leading OEMs. For further information on Silicon Motion, visit us at www.siliconmotion.com.

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