Marvell Powers Toshiba's Industry-Leading 16TB Enterprise Capacity

Marvell's Cutting-Edge HDD Controller and Preamplifier Enable Exceptional Storage Density for the Data Center of Tomorrow

SANTA CLARA, Calif., March 13, 2019 /PRNewswire/ -- Marvell (NASDAQ: MRVL), a leader in infrastructure semiconductor solutions, today announced that its hard disk drive (HDD) controller and preamplifier are shipping in Toshiba Electronic Devices & Storage Corporation's 16TB Enterprise Capacity HDD family of products.

Toshiba's 16TB HDD product offering, unveiled in January of this year, is the industry's first 16TB capacity conventional magnetic recording (CMR) HDD adapted for both cloud and traditional data center applications. The Toshiba® 16TB HDD product delivers unrivaled CMR data storage capacity by utilizing advanced two-dimensional magnetic recording (TDMR) technology and advanced signal processing enabled by Marvell. Addressing the exacting demands of modern data center and cloud storage infrastructure deployments, these HDDs offer the flexibility to cope with a diverse array of different workloads while meeting the TCO objectives required by cloud-scale data center customers.

The Marvell® HDD controller offers best-in-class Read Channel technology, leading error correction code IP and enhanced power efficiency while the preamplifier enables advanced TDMR recording head technology and supports Toshiba's industry-leading 9-disk architecture. By closely coupling the HDD controller and preamplifier designs, Marvell is able to develop a comprehensive chipset solution that delivers HDD capacity leadership.

"Marvell's cutting-edge HDD controller and preamplifier devices have proved pivotal in bringing our 16TB HDD to market. This well-matched combination provides the elevated performance and expansive feature sets needed to develop the world's largest enterprise capacity HDD using conventional magnetic recording," said Kyle Yamamoto, vice president of HDD Operations and Marketing Americas for Toshiba America Electronic Components, Inc. "The Marvell engineering team helped us achieve best-in-class capacity while meeting our performance, reliability, power consumption and signal integrity requirements."

"With compelling HDD controller and preamplifier products supporting the growing data center segment, Marvell is well positioned to support the increasing exabyte demand that our HDD customers require," said Matt Kim, senior director, HDD Product Marketing at Marvell Semiconductor, Inc. "This design achievement with Toshiba is a major endorsement of Marvell's leading HDD IP capabilities, highlighting the value of our engineering expertise and trusted partnership. Marvell is committed to continuing to invest in HDD technology in order to extend our market leadership."

Marvell's HDD solutions will be on display at the OCP U.S. Summit 2019 in San Jose, Calif. (booth A5) from March 14-15.

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, processing, networking, security 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: https://www.marvell.com

Marvell and the M logo are registered trademarks of Marvell and/or its affiliates in the US and/or elsewhere. Other names and brands may be claimed as the property of others.

Marvell Media Relations

Kristin Hehir Senior Manager, Public Relations 408-222-8744 kristinh@marvell.com

Hanna Kang Senior Manager, Public Relations 408-222-3780 hhkang@marvell.com **SOURCE Marvell**

 $\underline{https://investor.marvell.com/2019-03-13-Marvell-Powers-Toshibas-Industry-Leading-16TB-Enterprise-Capacity-\underline{HDD}$

C