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Marvell Announces Industry's Most Comprehensive 3nm Data Infrastructure IP Portfolio

SANTA CLARA, Calif., Oct. 20, 2022 /PRNewswire/ -- Marvell Technology, Inc. (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, today announced a comprehensive 3nm silicon platform to advance its industry-leading products across the cloud data center, carrier, enterprise, and automotive markets. Leveraging Marvell's success in 5nm, which includes the industry's first 5nm Data Processing Unit (DPU) – the OCTEON® 10 platform, this suite of advanced technology enables cutting-edge monolithic and multi-die solutions for its customers in the industry's most advanced process node, delivering the performance, power, and density (size) necessary to meet most demanding infrastructure requirements for compute, next generation 100T Ethernet switching, and 5G Advanced baseband processing.

The new 3nm Marvell silicon, which is now in fabrication with Taiwan Semiconductor Manufacturing Company (TSMC) on its 3nm shuttle, is available for new product designs and includes foundational IP building blocks such as long reach SerDes, PCIe Gen6 PHY, and several standards-based die-to-die interconnect technologies for managing data flow across the data infrastructure. This 3nm development follows numerous 5nm solutions from Marvell – in production or development – that span its unrivaled portfolio of electro-optics, switch, PHY, compute, 5G baseband, and storage products, as well as a wide range of custom ASIC programs.

Additionally, this IP portfolio is compatible with 2.5D packaging technologies such as TSMC's leading-edge 2.5D Chip-on-Wafer-on-Substrate (CoWoS) and will enable Marvell to develop some of the most advanced multi-die, multi-chiplet systems-in-package (SiP) for its industry-leading infrastructure products and co-development of custom ASIC solutions optimized for some of the most challenging infrastructure use cases, such as machine learning.

Silicon Advancing the Cloud

With data and internet traffic approximately doubling every two years, cloud service providers, software-as-a-service (SaaS) companies, and telecommunication carriers are increasingly relying on silicon optimized by semiconductor providers to deliver breakthrough performance and bandwidth while minimizing power consumption, emissions, and cost. Achieving these objectives, particularly for hyperscale cloud providers, requires silicon partners to move quickly to the most advanced process node available to take advantage of the inherent scaling benefits in power, performance, and density.

Marvell delivers a wide range of industry-leading standard products for cloud infrastructure including electro-optics, processors, accelerators, optical modules, Ethernet switches, storage controllers and PHY chips, and offers customized products through Marvell's ASIC

portfolio. By developing and validating each of the critical IP blocks in silicon early in the availability of the 3nm process, Marvell can significantly accelerate customers' time-to-market while reducing the design risk and verification efforts associated with its complex monolithic or multi-die SoC designs.

"Marvell teamed with TSMC to provide our customers with the power to build high-performance, cloud-optimized solutions for the most demanding applications requiring the industry's first 3nm IP on silicon," said Raghib Hussain, President of Products & Technologies at Marvell. "The 3nm platform provides advantages for a wide range of solutions, from standard and application-specific SoCs to highly custom chips with unique and innovative designs."

"TSMC is pleased to collaborate with Marvell in taping out a chip on our 3nm shuttle to validate critical cloud-focused IPs," said Yujun Li, Director of High Performance Computing Business Development at TSMC. "TSMC is looking forward to our continued collaboration with Marvell in the development of leading-edge multi-die SoCs utilizing TSMC's process and packaging technologies."

"The cloud will play an outsized role in transforming healthcare, curbing emissions, and taking on other real-world challenges, but only if cloud providers can continue to increase the overall performance and efficiency of their infrastructure," said Alan Weckel, co-founder of the 650 Group. "Marvell's collaboration with TSMC and its strategy of optimizing silicon building blocks for a wide spectrum of devices and applications is poised to play a critical role in allowing cloud providers to fulfill that promise."

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 over 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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