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Marvell Announces Dual 400GbE MACsec PHY with Class C PTP Timestamping for Data Center and 5G Infrastructure

Extends Marvell Leadership in Optical PHY and SerDes Technology

SANTA CLARA, Calif., Feb. 4, 2020 /PRNewswire/ -- Marvell (NASDAQ: MRVL) today announced its dual 400GbE (Gigabit Ethernet) MACsec PHY transceiver with 256-bit encryption and Class C compliant precision time protocol (PTP) timestamping, bringing advanced performance, security and transfer speeds for next-generation networking infrastructure. Hardware-based point-to-point encryption encompassing Ethernet speeds up to 400G is being deployed in cloud, carrier and enterprise networks to address the market demand for enhanced data security. In addition, the stringent timing requirements of 5G radios are driving the timing accuracy that needs to be delivered by networks supporting these services. The new 400GbE PHY device incorporates Marvell's industry-leading 56G PAM4 SerDes technology, IEEE 802.1AE 256-bit MACsec encryption and highly accurate PTP timestamping. This comprehensive and innovative feature set enables network equipment manufacturers to deliver solutions with increased throughput, enhanced security and timing precision for hyperscale data center, edge, enterprise and 5G infrastructure applications.



Data centers require new technologies to support composable infrastructure and the new era in connected intelligence and edge computing. With support for all Ethernet speeds from 400GbE down to 1GbE, Marvell's dual 400G MACsec PHY, the 88X7121P, in combination with the breakthrough Marvell® Prestera® CX 8500 400GbE switch, allows data to be

securely moved to the smart edge to meet the bandwidth and latency demands for critical applications enabled by 5G and artificial intelligence.

"The launch of our dual 400GbE MACsec PHY integrating our industry-leading 56G PAM4 SerDes solution in advanced FinFET process extends our leadership in both high-speed Ethernet PHYs and high-speed SerDes technology," said Faraj Aalaei, executive vice president of the Networking Business Group at Marvell Semiconductor, Inc. "Marvell's new PHY is optimized for differentiated, innovative solution deployments to address the distinctive security and performance requirements of hyperscale data centers, enterprise networks and 5G infrastructure."

"We see an uptrend in data centers transitioning to 100GbE, 200GbE and 400GbE to meet ever-increasing processing and I/O bandwidth demands, particularly as artificial intelligence and machine learning workloads ramp. Enhanced protection and security of data is also becoming a key requirement for cloud operators and network-equipment vendors," said Bob Wheeler, principal analyst for networking at The Linley Group. "Marvell's new 400GbE PHY addresses the imperative requirement of enhanced MACsec security for data-center interconnects while offering the proven high-speed data performance that network-equipment vendors demand."

The 88X7121P, the latest addition to Marvell's Alaska[®] C family of Ethernet transceivers, supports both retiming and gearboxing applications and is footprint- and software-compatible to Marvell's 88X7120 PHY, providing design flexibility for customers. The new device is fully compliant to IEEE standards for 400GbE, 100GbE and 50GbE, and exceeds the electrical specifications to interface with QSFP-DD and OSFP optical modules. The 88X7121P's 256-bit MACsec-based encryption for point to point links provides enhanced security and allows for flexible deployment of MACsec encryption without incurring the cost and power burden of including this functionality in the switch ASIC. Highly accurate Class C PTP timestamping incorporated in the device enables enhanced timing precision required for carrier, wireless backhaul and 5G infrastructure applications.

The Marvell 88X7121P is currently sampling.

For further information, please visit <https://www.marvell.com/transceivers/alaska-c-gbe/88x7121p/>.

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/>

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