January 24, 2019

Microchip and Acacia Communications Collaborate to Enable First Flexible Rate Optical Transmission Up to 600G

FlexE and OTUCn Ecosystem Designed to Enable Market Transition to Flexible Optical Networks

CHANDLER, Ariz. and MAYNARD, Mass., Jan. 24, 2019 /PRNewswire/ -- As optical networks are transitioning from 100G to flexible transmission rates that scale up to 600G to support hyper-connected architectures, new flexible multi-rate optical transmission devices and software are needed. Microchip Technology Inc. (Nasdaq: MCHP), through its wholly-owned subsidiary, Microsemi Corporation, and Acacia Communications, Inc. (Nasdaq: ACIA) are supporting this critical transition with the demonstrated interoperability between Microchip's **DIGI-G5 Optical Transport Network (OTN) processor** and Acacia's **AC1200 Coherent Module**. The objective of the companies' collaboration is to enable the industry's first flexible rate system architectures with an established ecosystem to support the market's transition to 200G, 400G, 600G and flexible rate OTN networks built with new Flexible Ethernet (FlexE) and OTUCn protocols.

By helping enable the market's transition from 100G to flexible transmission system architectures, service providers could deploy higher bandwidth Ethernet connectivity at a faster rate and at a lower cost with Optical Internetworking Forum's (OIF) FlexE protocol. FlexE was designed to provide up to 30 percent greater bandwidth efficiency compared to traditional Ethernet link aggregation (LAG) with fewer limitations. Combining it with OTUCn and tunable fractional dense wavelength division multiplexing (DWDM) transmission brings service providers the potential to improve their OTN network capacity by up to 70 percent.

As the first OTN processor to support FlexE and OTUCn protocols, Microchip's DIGI-G5 delivers the silicon and software required to launch new terabit scale line cards with flexible rate optical interfaces for packet optical transport platforms. By combining the DIGI-G5 and AC1200, next generation architectures will help to support the market's growing demand for metro and data center interconnect networks requiring 100G+ connectivity that can be rate adjusted to maximize bandwidth.

"DIGI-G5 allows our optical transport system partners to deliver terabit-class OTN switching line cards at 50 percent less power per port while enabling flexible rate ports and protocols up to 600G," said Babak Samimi, vice president for Microchip's Communications business unit. "Demonstrating interworking of the DIGI-G5 with Acacia's AC1200 coherent module highlights that the ecosystem is ready to support the market transition to these new protocols, rates and multi-terabit architectures."

While the DIGI-G5 processes client traffic into OTN, the 1.2T AC1200—powered by Acacia's Pico digital signal processor (DSP) ASIC—on the line card will enable the OTN connections over two 600G tunable DWDM wavelengths with flexible transmission three-dimensional (3D) shaping features. These features, which include fractional quadrature amplitude modulation (QAM) and adaptive baud rate optimize transmission reach and capacity, approaching theoretical limits on a wide range of network configurations, in a power efficient manner.

"In addition to high capacity and density, our AC1200 module introduces several key features designed to enable network operators to optimize capacity, reach and spectral efficiency —making flexible transmission solutions up to 600G a reality," said Benny Mikkelsen, Chief Technology Officer of Acacia Communications. "With Microchip's DIGI-G5 scaling up capacity and reducing power at the same time, and the optical performance provided by our AC1200, we believe that Acacia and Microchip are helping to enable the market to scale network capacity with improved efficiency."

Additional Resources
For more information, visit **www.microsemi.com/digi-g5** or email **sales.support@microsemi.com**.
For more information about the overall OTN product portfolio from Microchip's Microsemi subsidiary, visit **https://www.microsemi.com/product-directory/optical-networking/3659-otn.** To learn more about Acacia AC1200 coherent module, visit **acacia-inc.com/ac1200.**

About Microchip Technology
Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com.**

About Acacia Communications
Acacia Communications develops, manufactures and sells high-speed coherent optical interconnect products that are designed to transform communications networks through improvements in performance, capacity and cost. By leveraging silicon technology to build optical interconnects, a process Acacia Communications refers to as the "siliconization of optical interconnect," Acacia Communications is able to offer products at higher speeds and density with lower power consumption, that meet the needs of cloud and service providers

and can be easily integrated in a cost-effective manner with existing network equipment. For more information about Acacia, visit **www.acacia-inc.com** or follow on Twitter at @AcaciaComms.

Note: The Microchip name and logo, and the Microsemi name and logo are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. The Acacia name and logo and the Acacia logo are registered trademarks of Acacia Communications, Inc. in the U.S.A. and other countries.

C View original content to download multimedia:http://www.prnewswire.com/news-releases/microchip-and-acacia-communications-collaborate-to-enable-first-flexible-rate-optical-transmission-up-to-600g-300783309.html

SOURCE Microchip Technology Inc.