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Marvell Announces 400G DSP to Proliferate Adoption of Coherent Pluggable Modules from Cloud to Access

Deneb Coherent DSP Enables Open Ecosystem to Disaggregate Optical Infrastructure

SANTA CLARA, Calif., June 7, 2021 /PRNewswire/ -- Marvell (NASDAQ: MRVL) today announced the expansion of its market leading Coherent Digital Signal Processor (CDSP) portfolio with the new Deneb™ ultra-low power, multi-mode 400G DSP. Driving the largest open CDSP ecosystem in the world, Deneb enables the advancement of disaggregated optical architectures for global operators and accelerates the adoption of IP-over-DWDM (IPoDWDM) for optimal data center interconnects (DCIs). Compatible to its predecessor, Canopus™, the industry's first 7nm CDSP for 400G pluggables, Deneb offers customers a seamless upgrade to interoperable pluggables across multiple platforms. Introduced from the recent Inphi acquisition, the CDSP technology extends Marvell's industry leading networking portfolio for hyperscale cloud data centers and 5G carrier infrastructure.

Operators today are seeking disaggregation to evolve their networks from a closed domain to a more open architecture to reduce CAPEX and OPEX. For this to happen, a broad standards based multi-vendor ecosystem of interoperable solutions is required. Building off the leadership of Canopus, Deneb is driving the largest open ecosystem of module partners to enable standards based ITU, Open ROADM and OpenZR+ compliant 100G/200G/300G/400G pluggable transceivers.

The adoption of IPoDWDM is on the rise. This paradigm shift involves adding coherent pluggables in routers and switches to eliminate separate cloud transport boxes. Deneb fuels OpenZR+ compliant coherent pluggables in widely deployed form factors, like QSFP-DD and OSFP, to facilitate interoperability across these routers and switches.

Access networks are also being challenged by the rapid surge in capacity driven by 5G, the transition from 10G to 100G and the expansion of Multi Service Agreement (MSA) networks. This transition places coherent deployments in harsh remote environments with extreme variations in temperature. Deneb is the industry's first CDSP to integrate power and thermal management functionality to support operation over the entire industrial temperature range, from -40^0C to 85^0C.

"The right technology is in place for coherent pluggable optics to take off. Deneb extends the market addressed by Canopus for Marvell and its partners, makes standards-based interoperability a reality, and will propel growth in pluggable coherent-enabled networks," said Andrew Schmitt, Directing Analyst at Cignal AI. "Network operators have the tools and the desire to move forward, and we anticipate that the coherent pluggable optics market will triple year over year between now and 2022."

"Standards-based interoperable CDSPs will be critical to fuel the growth in coherent pluggables that are expected to address the majority of transport applications," said Pranay Aiya, AVP Product Marketing and Customer Applications at Marvell. "Deneb enables our partners to seamlessly augment their Canopus CDSP based solutions with standards-based technology and expand their addressable market with minimal investment."

Strong Open Ecosystem
Deneb is facilitating the largest ecosystem of partners offering standards-based small form factor coherent pluggable modules that enable massive scalable bandwidth in metro, access and DCI transport networks. This will drive supply diversity and accelerate time to deployment.

"InnoLight is excited to partner with Marvell on 400G ZR coherent solutions. Deneb will help us to deliver standard Open ROADM and OpenZR+ compliant 100G/200G/300G/400G CFP2, 400G OSFP and 100G/400G QSFP-DD coherent optics at market leading performance and low power," said Osa Mok, CMO, Innolight.

"Molex offers a wide variety of 400G coherent and direct-detection pluggable transceiver products. Deneb enables Open ROADM and OpenZR+ compliant solutions, which is a key building block to drive future disaggregated networks," said Adit Narasimha, Vice President and General Manager, Molex Optoelectronics. "Our collaboration with Marvell propels our vision to be a market leader in the coherent pluggable space."

"NeoPhotonics is a leader in 400G coherent pluggable solutions based on our high performance and low power optics technology. Deneb helps us build on our portfolio with Open ROADM and OpenZR+ compliant solutions," said Marc Stiller, NeoPhotonics Vice President of Coherent Modules.

"As the data rate increases, the use of coherent modules is moving into shorter reach applications," said James Zhang, Director of Business Development at Eoptolink. "Deneb enables us to develop coherent pluggable modules to address the metro and access networks and DCI market with 400ZR/OpenZR+ compliant solutions."

Availability
The new Marvell Deneb CDSP has been sampling to customers. More information can be found on the Deneb Coherent DSP product page. Additional resources can be found on the media kit page.

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 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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