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Marvell Announces Dual Port 100Gbps Ethernet Transceiver Fully Compliant to IEEE 802.3bj Standard

Marvell expands Alaska C family with 88X5121 transceiver to support data centers adopting 25 to 100Gbps Ethernet solutions

SANTA CLARA, Calif., Oct. 26, 2015 /PRNewswire/ -- Marvell (NASDAQ:MRVL) — a worldwide leader in providing complete silicon solutions from storage to Internet of Things (IoT), cloud infrastructure, digital entertainment, in-home content delivery and Kinoma® software enabling the "Smart Life and Smart Lifestyle"— today announced its integrated dual port 100 Gigabits per second (Gbps) Ethernet PHY transceiver fully compliant to the IEEE 802.3bj standard, the Marvell® Alaska® C 88X5121 transceiver. The 88X5121 performs all physical layer functions required to drive 100Gbps Ethernet over a variety of media including optics, backplanes and passive copper cables. The transceiver also supports 25 Gigabit Ethernet (GbE) applications, as well as non-Ethernet applications such as Fibre Channel. The Marvell Alaska 88X5121 currently is sampling to Marvell's global customers.

"The tidal wave of transition from10GbE to 25GbE and 40GbE to 100GbE is gaining speed, and Marvell's 88X5121 transceiver provides a standards-compliant PHY solution that's required to enable this transition in datacenters," said Michael Zimmerman, Vice President and General Manager, Connectivity, Storage and Infrastructure (CSI) BU, Marvell. "The 88X5121 builds on Marvell's legacy of providing best-in-class features that enable customers to expand their Ethernet applications across a broad range of applications and implementations."

"The market transition to higher speeds of 25GbE and 100GbE is underway and it's vital for vendors to address this need by offering standards-compliant solutions," said Bob Wheeler, Principal Analyst, The Linley Group. "Marvell's 88X5121 transceiver is an ideal fit for the data center market with its expansive feature set and flexibility."

According to analyst firm, Dell'Oro Group, cloud providers are entering an expansion and mega-upgrade cycle, driven by increased demand for capacity and aging infrastructure, that will be served by 25 Gbps server technology and 100 Gbps switch technology. With the 88X5121, Marvell has delivered a high-performance, scalable solution to enable this transformation within datacenters. Manufactured with 28 nanometer (nm) lithography, in a 17milimeter (mm) by 17mm package footprint, the Marvell 88X5121 enables QSFP28-based high density 100GbE and 25GbE line card designs. The line interface of the 88X5121 is fully compliant to the IEEE 802.3bj standard that defines the physical layer specifications for 100Gbps Ethernet transmission over backplanes and copper cables. The device supports

Reed-Solomon Forward Error Correction (FEC) function required for 100G-CR4 and 100G SR4 operation, as well as auto-negotiation and coefficient training protocol required by the IEEE 802.3 standards. The 88X5121 connects to a MAC or switch on its host interface over a 4x25Gbps CAUI-4 link. The transmit drive and receiver equalization capabilities of the host interface are compliant to OIF CEI-25G LR specifications, significantly exceeding CAUI-4 requirements. On the line interface, the device supports a variety of media types including single mode and multimode optical modules, passive and active copper direct attach cables and copper backplanes.

For applications not requiring the FEC functionality, the device also supports a low latency repeater mode where the functionalities associated with the Physical Coding Sublayer (PCS) and FEC are bypassed. In the repeater mode, the device can be used to drive backplanes and cables for non-Ethernet traffic types such as OTN and Fibre Channel. The eight lanes of the device can operate independent of the others in this mode, enabling simultaneous support for multiple standards. The 88X5121 wide band of operation (from 1.25Gbps to 28.05Gbps) supports a wide variety of standards and rates.

Key features of Marvell's 88X5121:

- Fully compliant to IEEE 802.3bj and 803.3bm standards for 100GbE transmission over optical media, passive copper cables and backplanes
- Octal 25Gbps mode for IEEE 802.3by 25GbE non-FEC low latency links between servers and Top of Rack switches
- Integrated IEEE 802.3bj Reed-Solomon FEC functionality to drive 100G-CR4 cables, 100G-KR4 backplanes and 100GSR4 optical modules
- Integrated auto-negotiation and training protocol to provide seamless interoperability with IEEE-compliant devices from other vendors
- Fully autonomous equalizer adaptation which does not require intervention from host software

For further information about Marvell's 88X5121 and the rest of the Marvell Alaska family of Ethernet PHY transceivers, visit: http://www.marvell.com/transceivers/.

About Marvell
Marvell (NASDAQ: MRVL) is a global leader in providing complete silicon solutions and Kinoma software enabling the "Smart Life and Smart Lifestyle." From storage to Internet of Things (IoT), cloud infrastructure, digital entertainment and in-home content delivery, Marvell's diverse product portfolio aligns complete platform designs with industry-leading performance, security, reliability and efficiency. At the core of the world's most powerful consumer, network and enterprise systems, Marvell empowers partners and their customers to always stand at the forefront of innovation, performance and mass appeal. By providing people around the world with mobility and ease of access to services adding value to their social, private and work lives, Marvell is committed to enhancing the human experience.

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For Further Information Contact:
Marvell Media Relations

Sue Kim
Director, Corporate Communications & PR
408.222.1942
suekim@marvell.com

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