



Infinera Announces XR Optics – Game-changing Technology for Transport Network Transformation

Sunnyvale, Calif. – September 23, 2019, 3:00 a.m. EDT– Infinera (NASDAQ: INFN) today introduced XR optics, the industry’s first point-to-multipoint coherent optical subcarrier aggregation technology optimized for hub-and-spoke traffic patterns. XR optics is engineered to break the inherent limitations of traditional point-to-point optical transmission solutions and paves the way for disruptive network economics and a paradigm shift in transport architectures.

Powered by independently routable Nyquist subcarriers and coherent optical aggregation capabilities, XR optics will enable network operators to design more efficient, flexible, and cost-effective transport networks optimized for the applications driving network growth.

Connections in optical transport networks have historically been implemented using point-to-point technology, which requires matching transceivers of identical speed on each end of the fiber link. These point-to-point solutions are extremely inefficient at handling hub-and-spoke traffic flows, which dominate traffic patterns in aggregation networks. The result is increased CapEx and OpEx stemming from an extremely large number of transceivers, increased space and power requirements, and “rip and replace” truck rolls as traffic requirements grow. In addition, as networks scale, additional digital aggregation devices are required at intermediate locations to support the conversion to higher speeds. Operational costs and complexity are compounded as operators brace for the significant increase in traffic demand coming from 5G, fiber deep, and new cloud-based business services and applications.

With coherent subcarrier aggregation (CSA) capabilities, XR optics technology enables a single high-speed transceiver to simultaneously send and receive independent data streams to/from numerous low-speed transceivers. By leveraging these capabilities, network operators will be positioned to significantly reduce the number of transceivers in the network, eliminate the need for costly intermediate aggregation devices, and more efficiently optimize transport infrastructure for hub-and-spoke end-user traffic flows. XR optics is designed to be integrated into a variety of form factors, including industry-standard pluggables, from low-speed interfaces with a single subcarrier to high-speed (400G+) interfaces with numerous subcarriers.

“We’re excited to introduce the revolutionary concept of coherent subcarrier aggregation, one that will redefine the cost structure of next-generation transport networks,” said Dr. Dave Welch, Founder and Chief Innovation Officer. “XR optics addresses a fundamental deficiency in optical communications technology and is expected to have a significant impact on any network that implements an aggregation function.”

“Developing 400ZR solutions demands a large investment, and companies are looking for ways to leverage these investments by broadening their addressable market. Infinera has gone a step further in a big, bold move: it is combining its unique expertise in photonics, silicon, and network management to yet again create a truly differentiated approach to solve the engineering challenges faced by network operators,” said Andrew Schmitt, Directing Analyst, Signal AI.

“We are excited about XR optics and its potential to make optical networks more efficient,” said Beck Mason, SVP and General Manager Telecom Transmission, Lumentum. “Our market-leading coherent transmission products, based on high-performance indium phosphide photonic



integrated circuits, are well proven and deployed in volume in coherent transmission applications, including those employing digital subcarriers, the innovative technology upon which XR optics is based.”

“Optical aggregation with XR optics is a compelling new architecture for aggregating edge nodes such as 5G radios into high-speed 400G router ports without requiring active aggregation devices in the field. We welcome this multi-vendor effort to fundamentally reduce the complexity and operational cost of aggregation networks,” said Christophe Metivier, VP of Manufacturing and Platform Engineering, Arista Networks.

“We see tremendous operational advantages in XR optics’ ability to avoid having to ‘rip and replace’ successive generations of optics in order to scale network capacity, as well as its ability to flexibly interoperate across a range of transmission speeds given the diverse and evolving connectivity demands in our transport network,” said Andrew Hankins, Head of Architecture & Strategic Engineering, International Networks at Telstra.

Learn More

- Join industry experts at ECOC 2019 for a panel discussion, “XR Optics: Point-to-Multipoint Coherent Connectivity and the Future of Transport Network Architectures,” on Wednesday, September 25 at 10:30 a.m. in Room Dodder B.
- Join a Lightwave-hosted webinar, “The Role of Digital Subcarriers in Next-Generation Aggregation Network Architectures,” by registering [here](#).
- For more information on the benefits and applications of XR optics, click [here](#).

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About Infinera

Infinera is a global supplier of innovative networking solutions that enable carriers, cloud operators, governments, and enterprises to scale network bandwidth, accelerate service innovation, and automate network operations. The Infinera end-to-end packet-optical portfolio delivers industry-leading economics and performance in long-haul, subsea, data center interconnect and metro transport applications. To learn more about Infinera, visit www.infinera.com, follow us on Twitter @Infinera, and read our latest blog posts at www.infinera.com/blog.

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This press release contains forward-looking statements including, but not limited to the potential technical, operational and financial benefits that XR optics may provide. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual results may vary materially from these expectations as a result of various risks and uncertainties. Information about these risks and uncertainties, and other risks and uncertainties that affect Infinera’s business, is contained in the risk factors section and other sections of Infinera’s Quarterly Report on Form 10-Q for the Fiscal Quarter ended June 29, 2019 as filed with the SEC on August 8, 2019, as well subsequent reports filed with or furnished to the SEC. These reports are available on



Infinera's website at www.infinera.com and the SEC's website at www.sec.gov. Infinera assumes no obligation to, and does not currently intend to, update any such forward-looking statements.