



High-Density Optical I/O Demonstration

Nubis Communications is participating in OIF's EEI demonstration at OFC2024. The mechanical layout of 5 XT1600™ optical engines with their associated external lasers demonstrates how HDI/O optics can fit 8 Tbps full duplex on the front of a PCIe M.2 form-factor accelerator card.

XT1600 High-Density Linear Optical Engine

A highly integrated low-latency 1.6-Tbps optical engine designed for ML/AI applications

Key Features:

- 16 full-duplex lanes of high-speed data anywhere from 25Gbps NRZ up to 112Gbps
- Linear operation minimizes power consumption and incurs <1 ns latency
- Wide range of data rates and protocols supported

EEI application benefits:

- **Topology Flexibility:** 16 pairs of SMF fiber allow full flexibility of fiber breakout and routing of each lane to meet the ML/AI need for network topology innovation
- **Latency Minimization:** Exceptional electrical signal integrity over long electrical traces and advanced optical packaging work hand-in-hand to further minimize the need for latency-creating electrical retiming
- **2D Scaling for Maximum Bandwidth:** The XT1600 uses a 2D fiber array which enables greater per-engine linear and areal density than edge-coupled optics. In addition, multiple XT1600 engines can be 2D tiled around the ASIC to further increase edge density.



www.oiforum.com

About Us

Nubis innovates across photonics, electronics, packaging, and manufacturing to create optics with significantly better scalability, density, and power efficiency than existing AI, and machine learning.