

OIF

OIF 400ZR Interoperability Demo

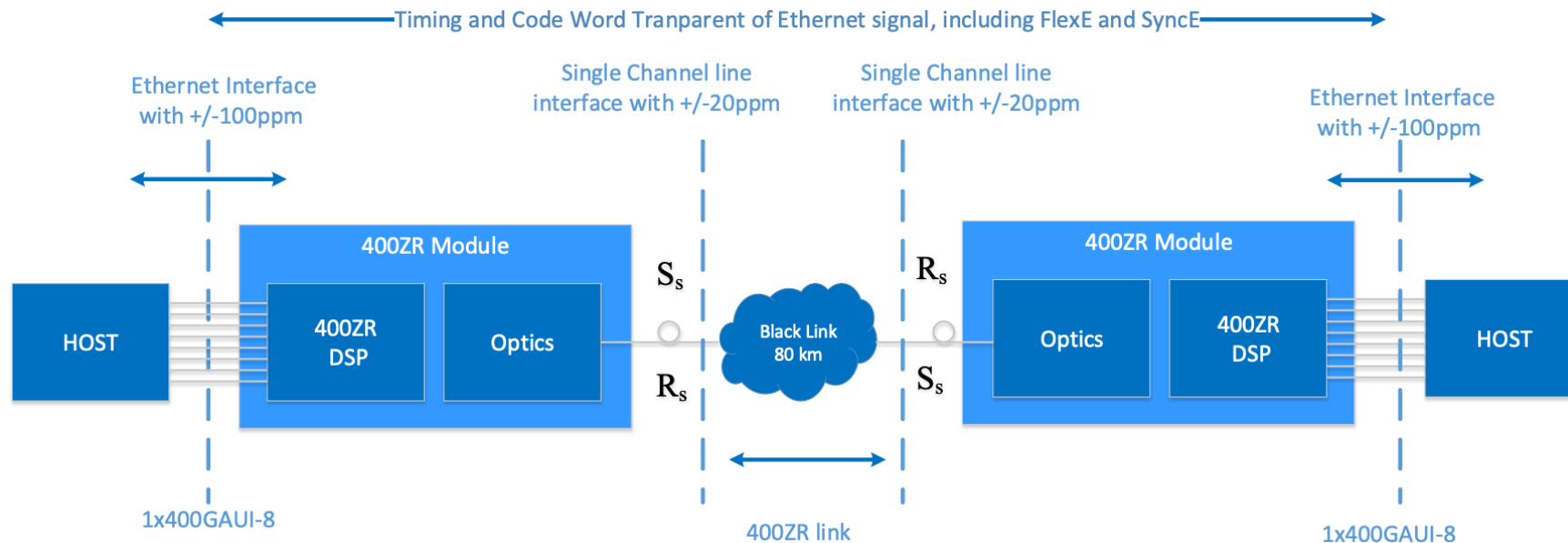
OFC 2022

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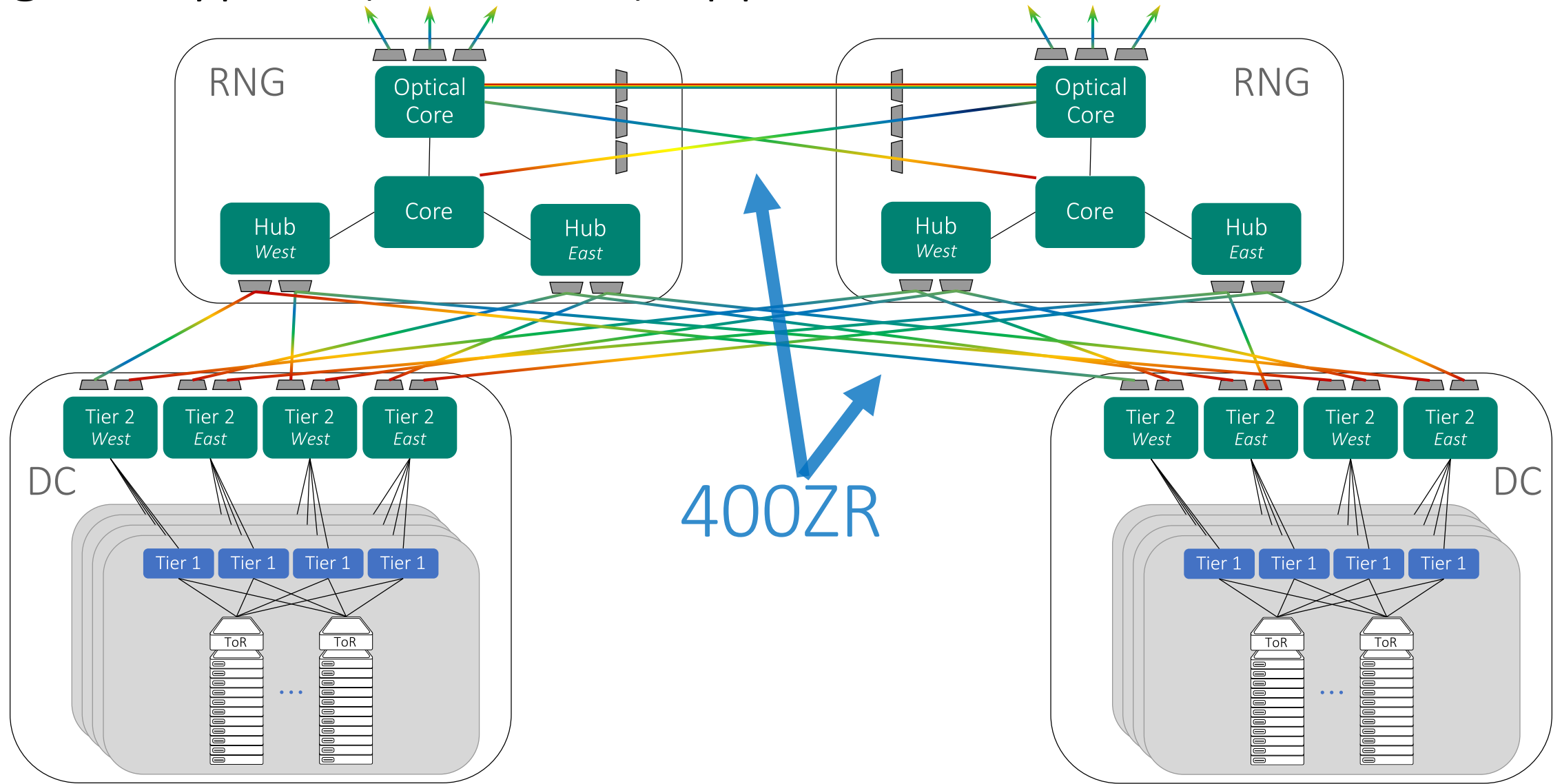


What is 400ZR?

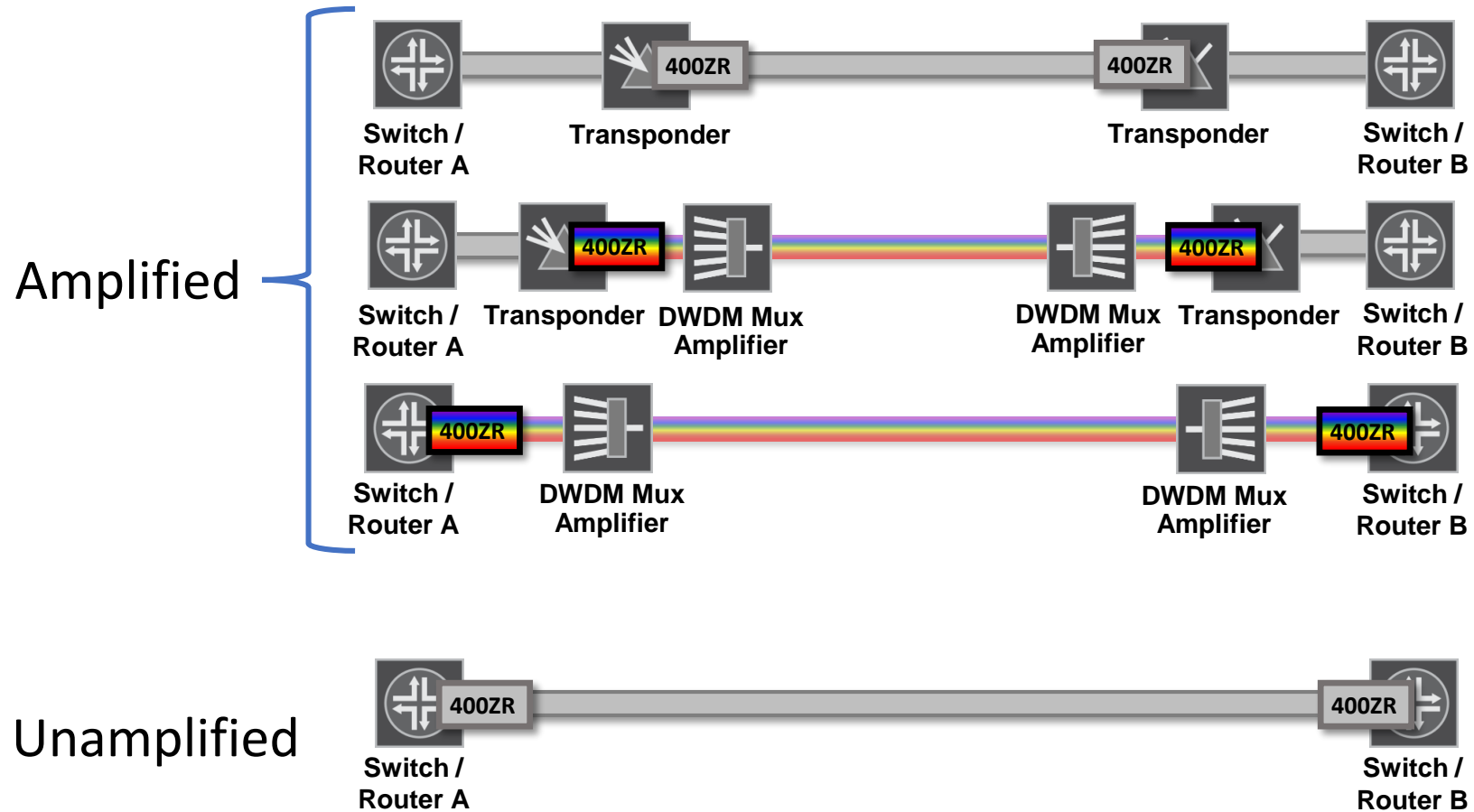
- 400ZR is an interoperable, cost-effective, 400Gb/s interface based on single-carrier coherent DP-16QAM modulation, low power DSP supporting absolute (Non-Differential) phase encoding/decoding, and a Concatenated FEC (C-FEC) with a post-FEC error floor $<1.0E-15$.
- 400ZR operates as a 400GBASE-R PHY.



Original/Typical (Microsoft) Application



400ZR Point-to-Point Use Cases



400ZR Benefits

- 400ZR enables the DCI application to happen without requiring significant additional equipment (size, space, power, expense).
- 400ZR interoperability supports an IPoDWDM infrastructure where switches are optically linked to each other over an open line system(OLS) using 400ZR modules.
 - Significant cost, space, and power savings by skipping grey optics and transport chassis.
- DCI network architectures built around OLS and 400ZR give data center operators and carriers greater choice in the equipment/components they use to build them.
- Low cost 400ZR allows data centers to be distributed across a region, providing more agility and scalability than the mega data center.

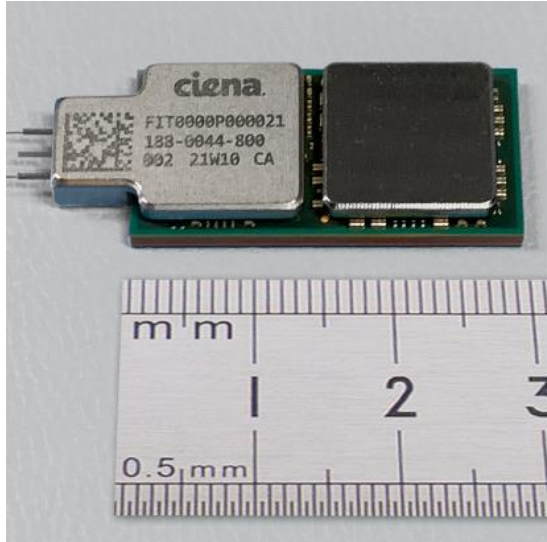


400ZR Key Optical Specifications

- DWDM Transmitter and Receiver specs: Optical Device Performance
 - OSNR \leq 26dB
 - TX output power \geq -10dBm
 - Received optical power \geq -12dBm
- Transmission link penalty: DSP+Optics impairments
 - CD \geq 2000 ps/nm with \leq 0.5dB OSNR penalty
 - PMD \geq 10 ps with \leq 0.5dB OSNR penalty
 - PDL \geq 3.5dB with \leq 1.3dB OSNR penalty
 - SOP \geq 50 rad/ms with \leq 0.5dB OSNR penalty

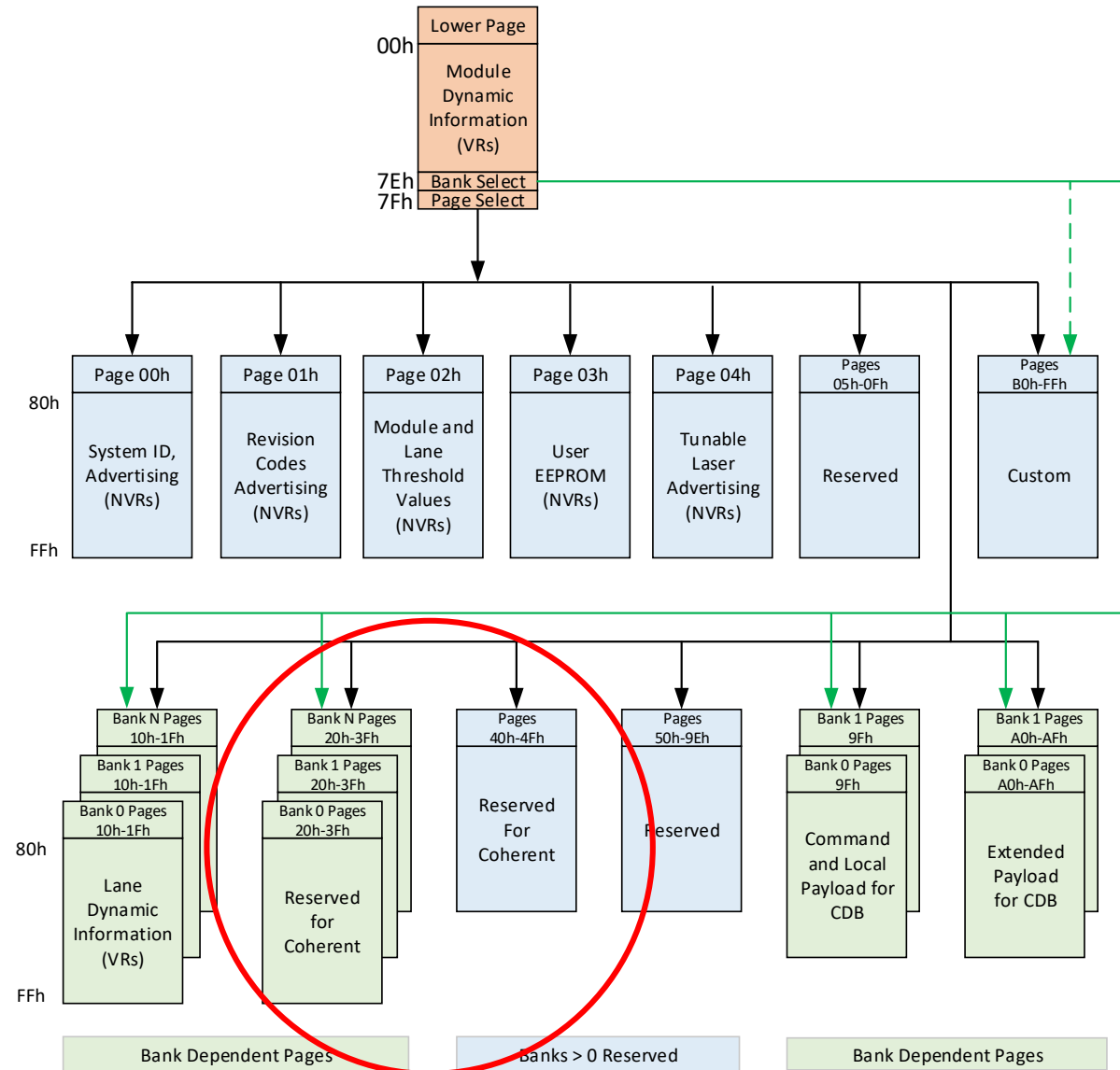


Typical 400ZR Module (QSFP-DD)

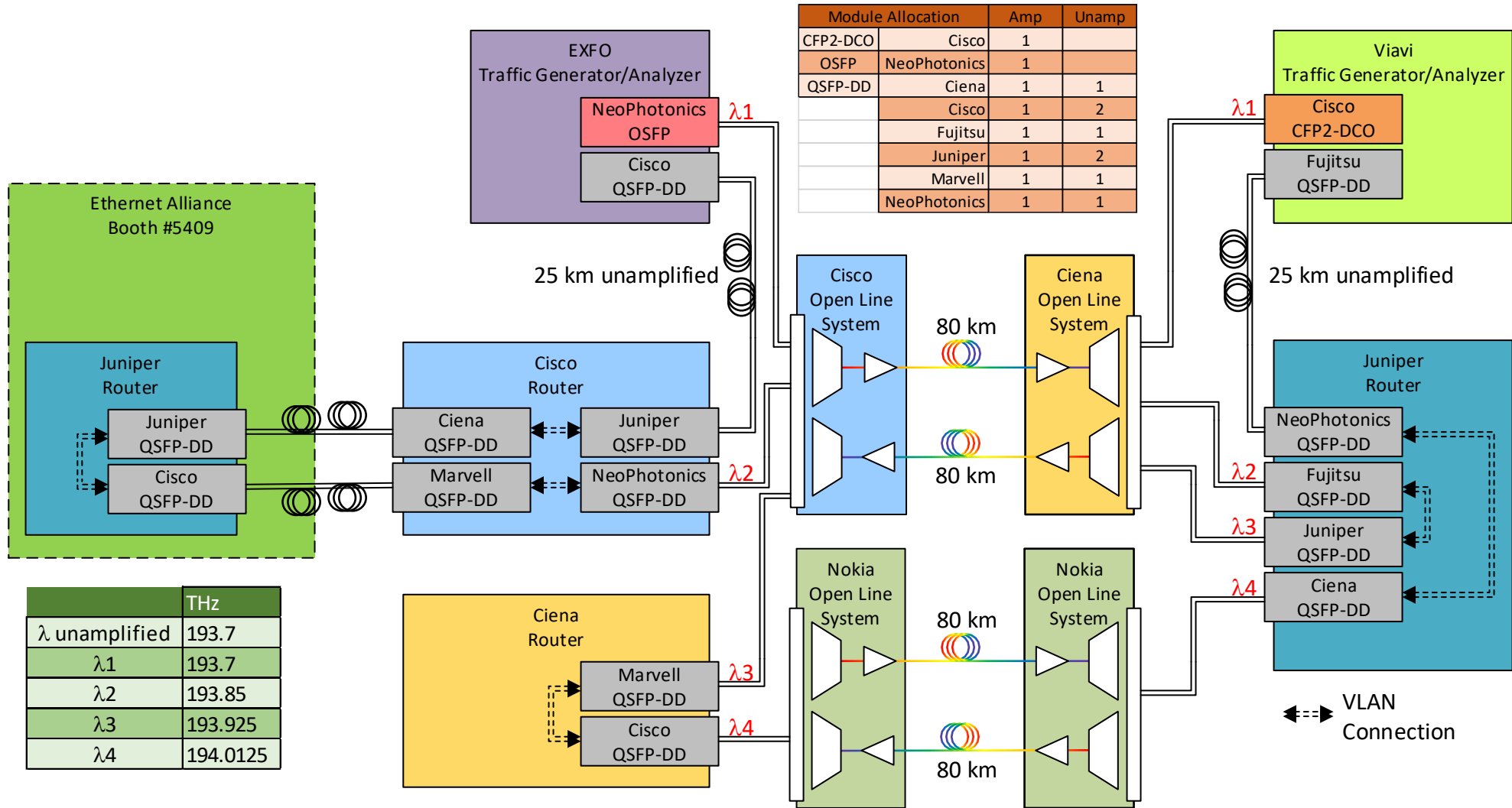


Coherent CMIS

- Defines the additions required to the Common Management Interface Specification (CMIS) to manage a coherent module.
- See more at the OIF CMIS demo!

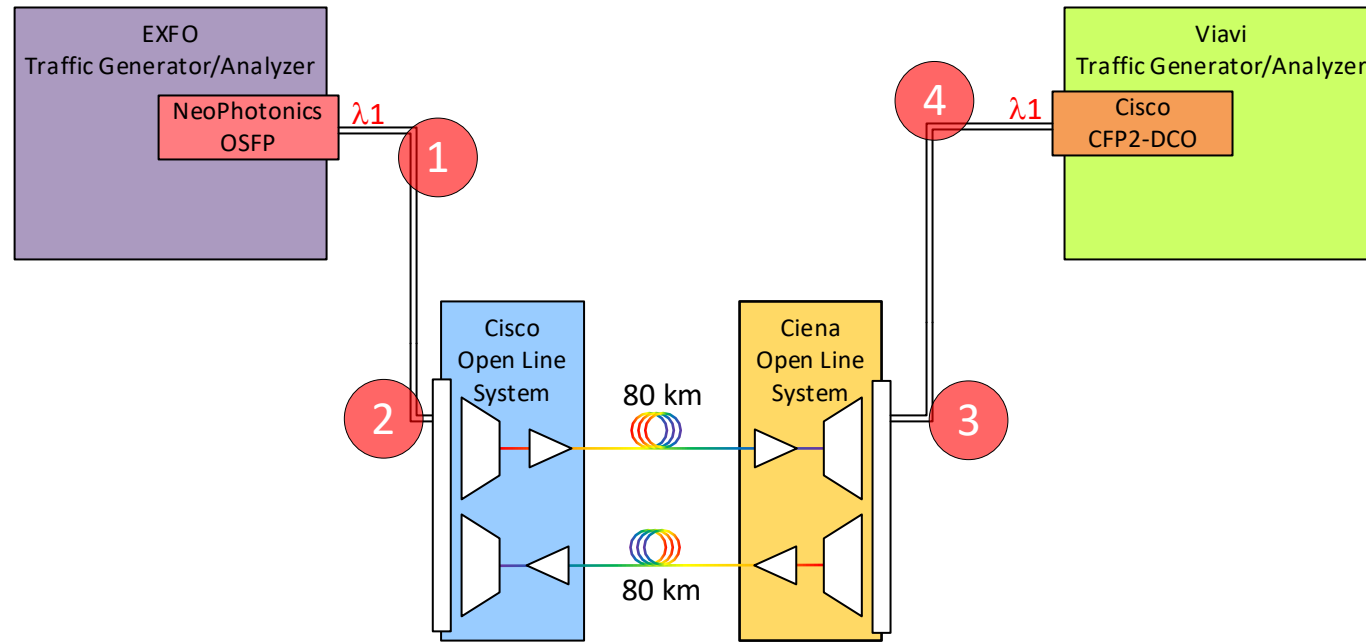


400ZR Block Diagram

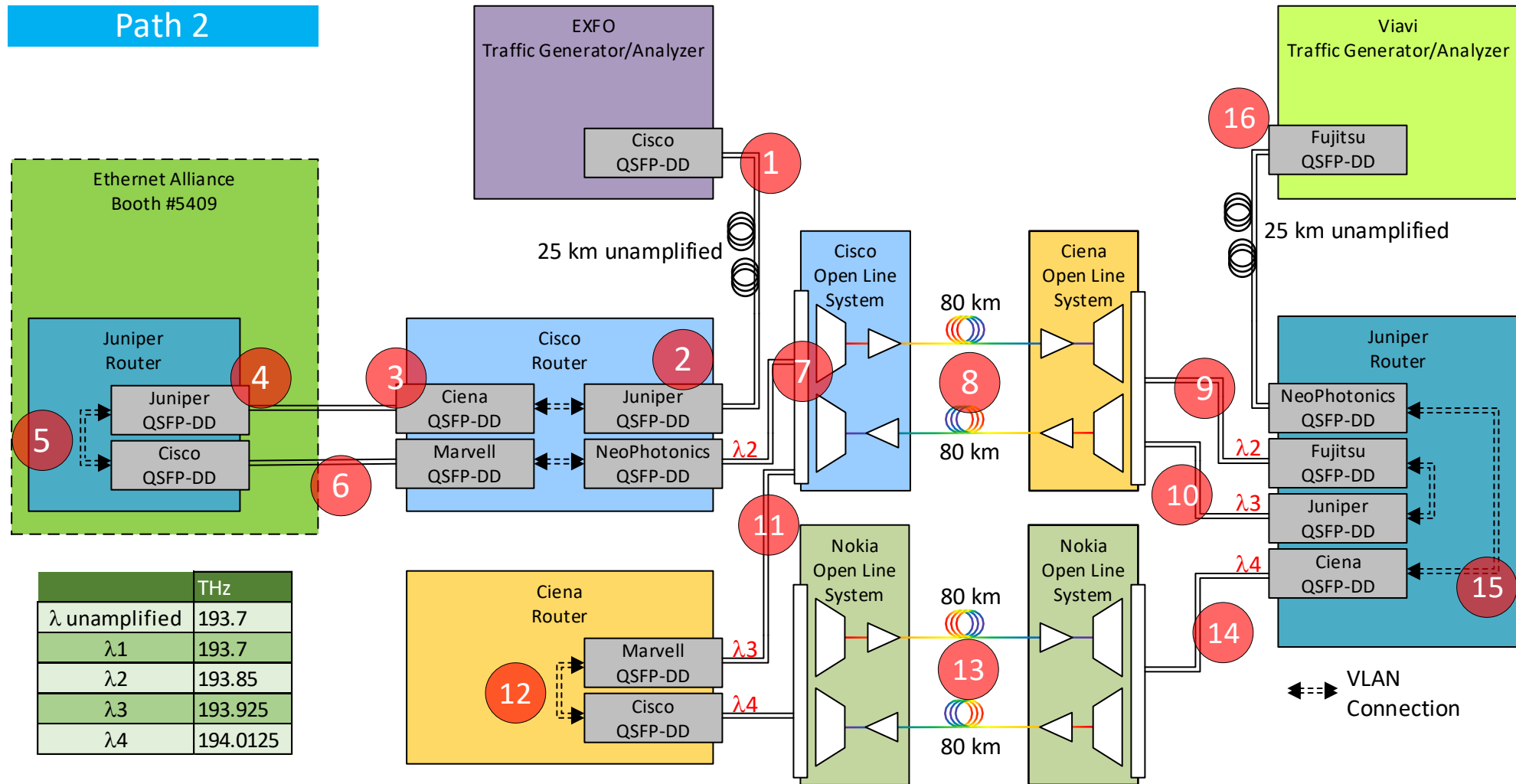


400ZR: 400GE to Transport DWDM Link

Path 1



400ZR: Daisy Chain Using Unamplified and DWDM Links





PLL INTEROP DEMO
OFC 2022

