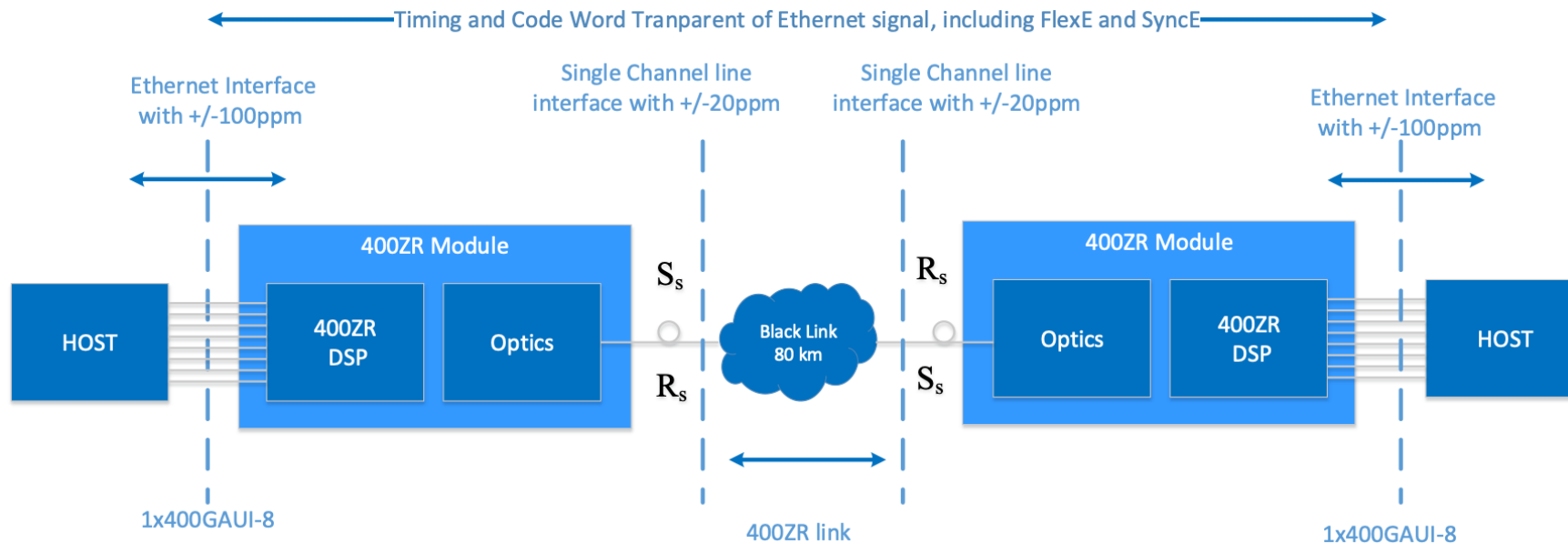




400ZR, 800ZR, Multi-Span Coherent Pluggables Interoperability Demo OFC 2025

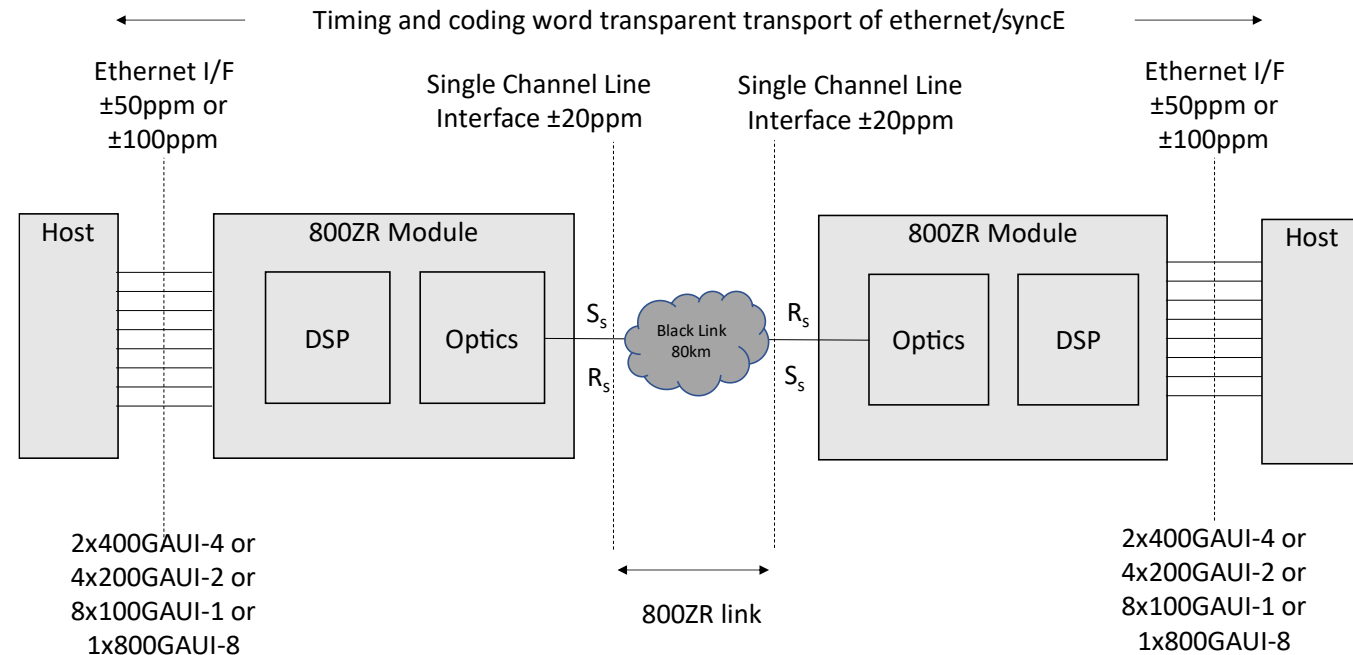
What is 400ZR?

- 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 $<1.0E-15$. $>80\text{km}$. Form-factor agnostic.



What is 800ZR?

- 800ZR is an interoperable, cost-effective, 800Gb/s interface based on single-carrier coherent DP-16QAM modulation, low power DSP supporting non-differential phase encoding/decoding, and OFEC with a post-FEC error floor $<1.0E-15$. >80 km. Form-factor agnostic.



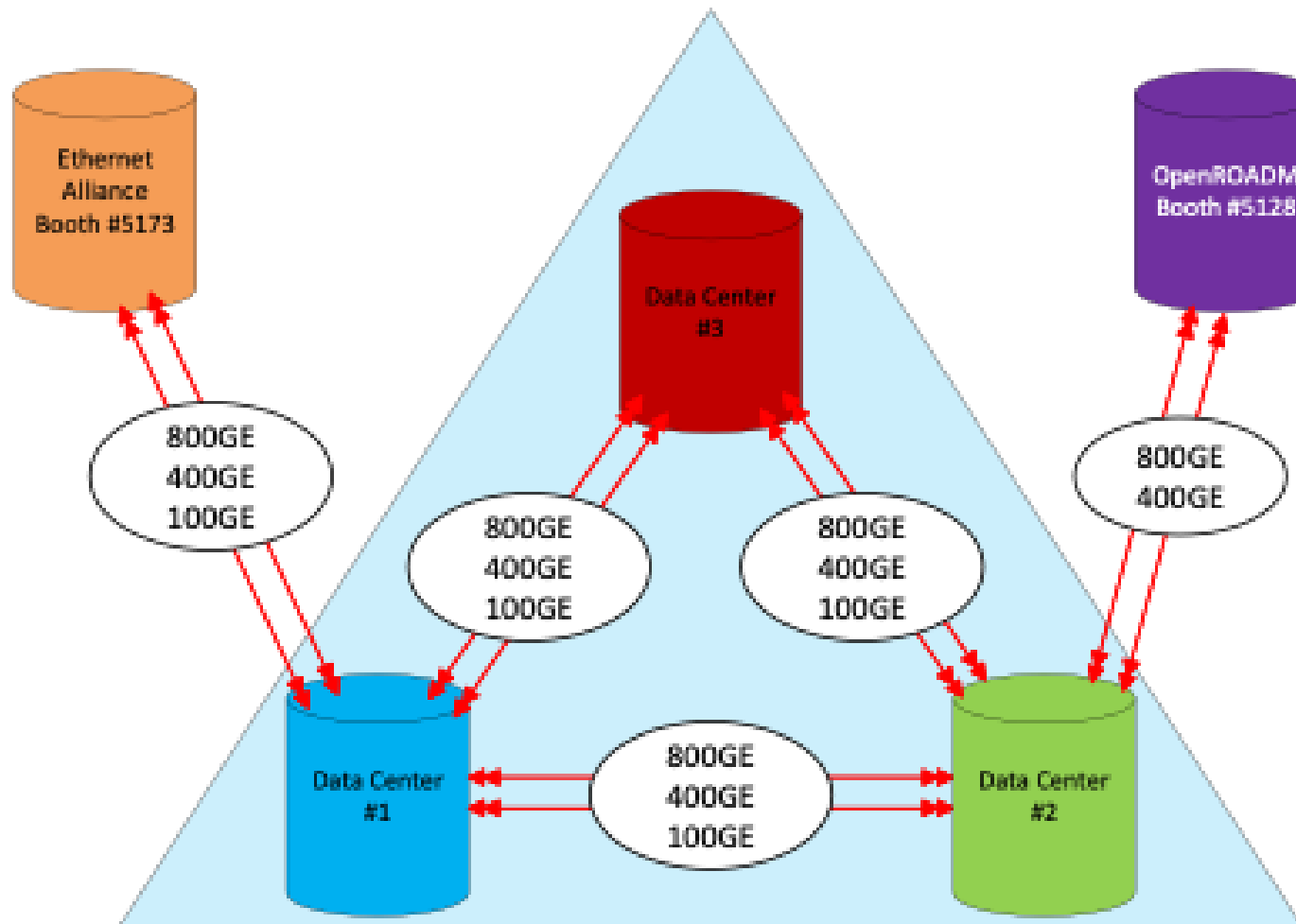
What is ZR+?

- X00ZR+ is a generic term for “more capable than X00ZR” and is not standardized across the ecosystem.
- OpenZR+ MSA is the product of an MSA designed to address extended reaches, including flexible Ethernet rates and modulation types. High Tx output power (0 dBm) added in v3.0 (9/2023).
- OpenROADM refers to the product of the OpenROADM MSA and supports both Ethernet and OTN traffic. Since it is similar, we’ve included it in our demo.
- At 800G, the OpenROADM MSA has specified interoperable Probabilistic Constellation Shaping (PCS) to enable even longer reaches.

What is 100ZR?

- 100ZR is the trade name for an interoperable, cost-effective, 100Gb/s interface based on single-carrier coherent DP-QPSK modulation, low power DSP supporting Staircase FEC per IEEE Std. 802.3-2022 100GBASE-ZR or ITU-T G.709.2, and a reach of up to 80km (unamplified) and 300k (amplified). Line side specifications are aligned with IEEE Std. 802.3-2022 & ITU-T G.698.2. Form-factor agnostic.

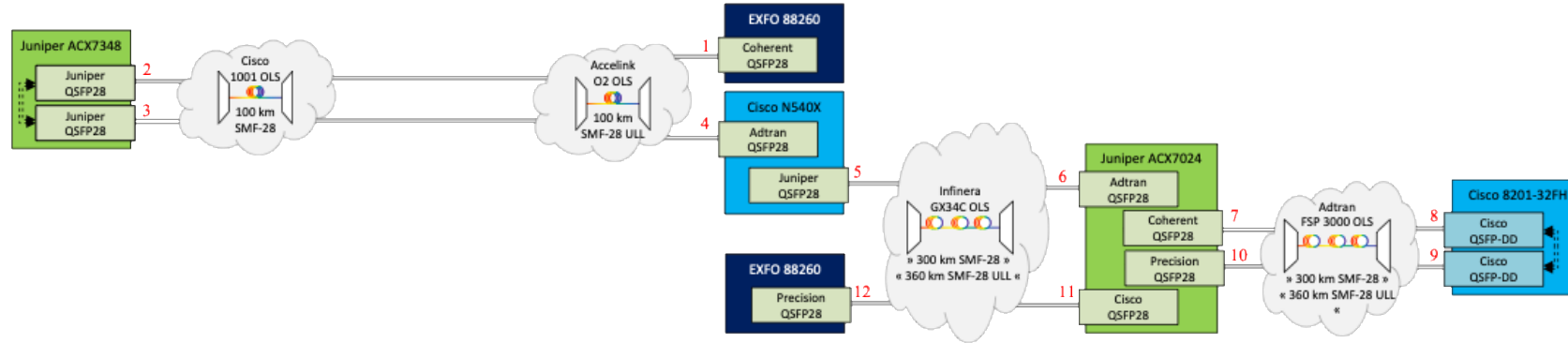
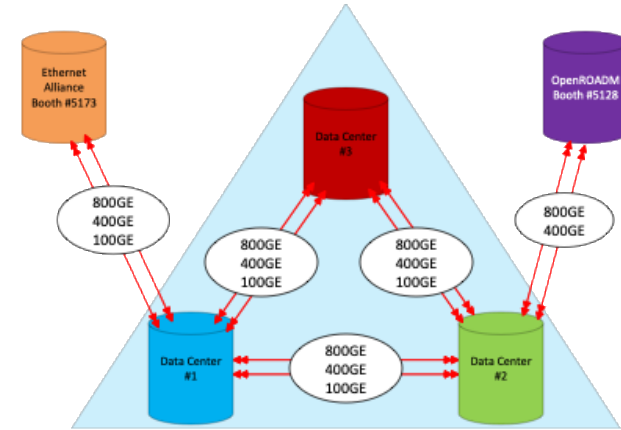
Top-level view of OIF demo



OIF

OFC 2025 Interoperability Demonstration

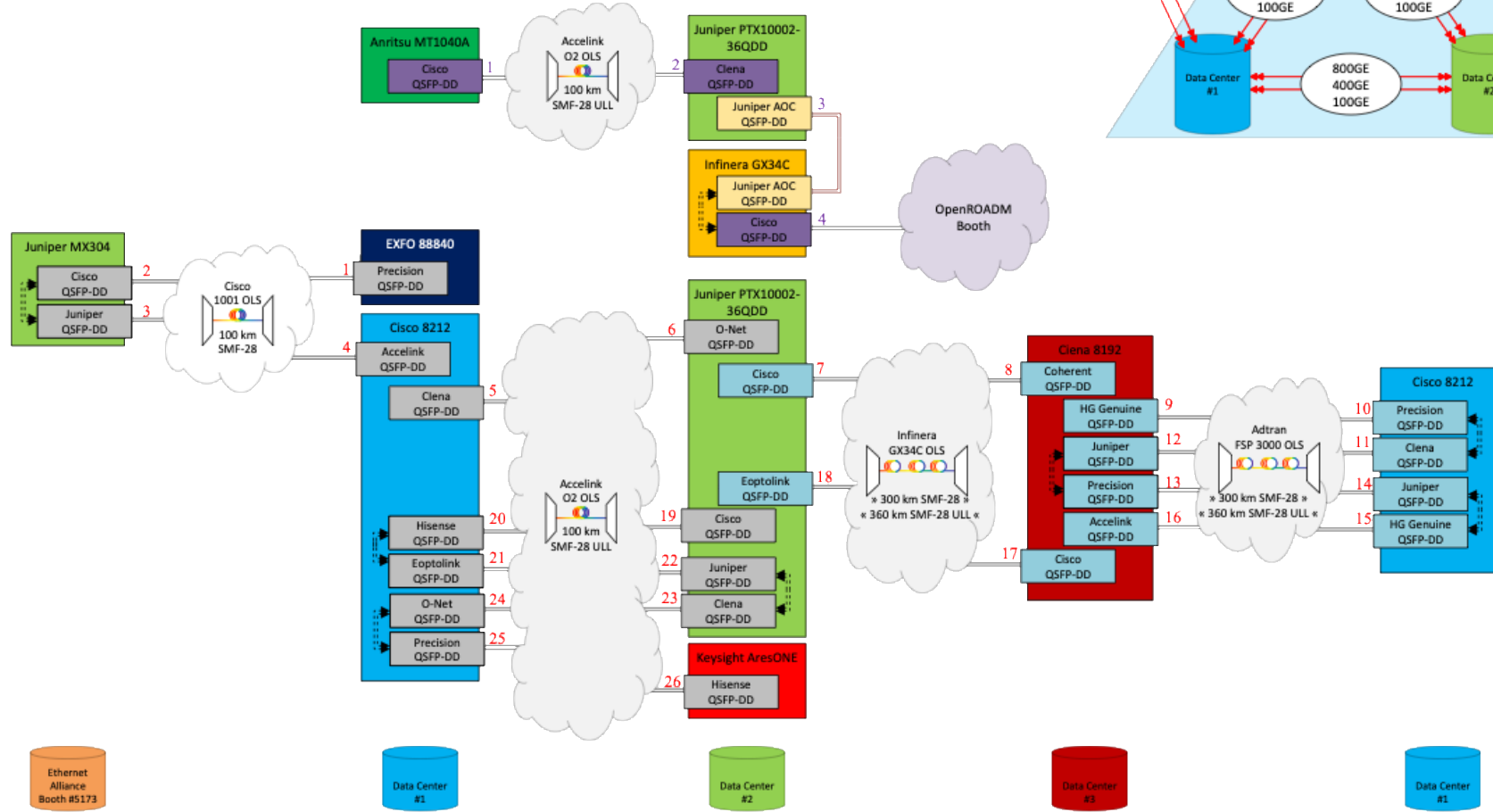
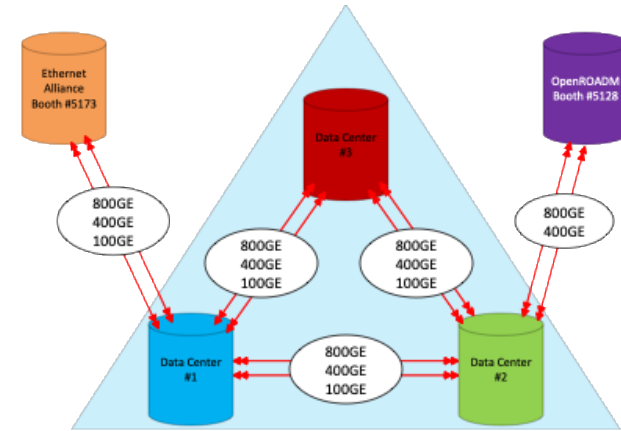
100G





OFC 2025 Interoperability Demonstration

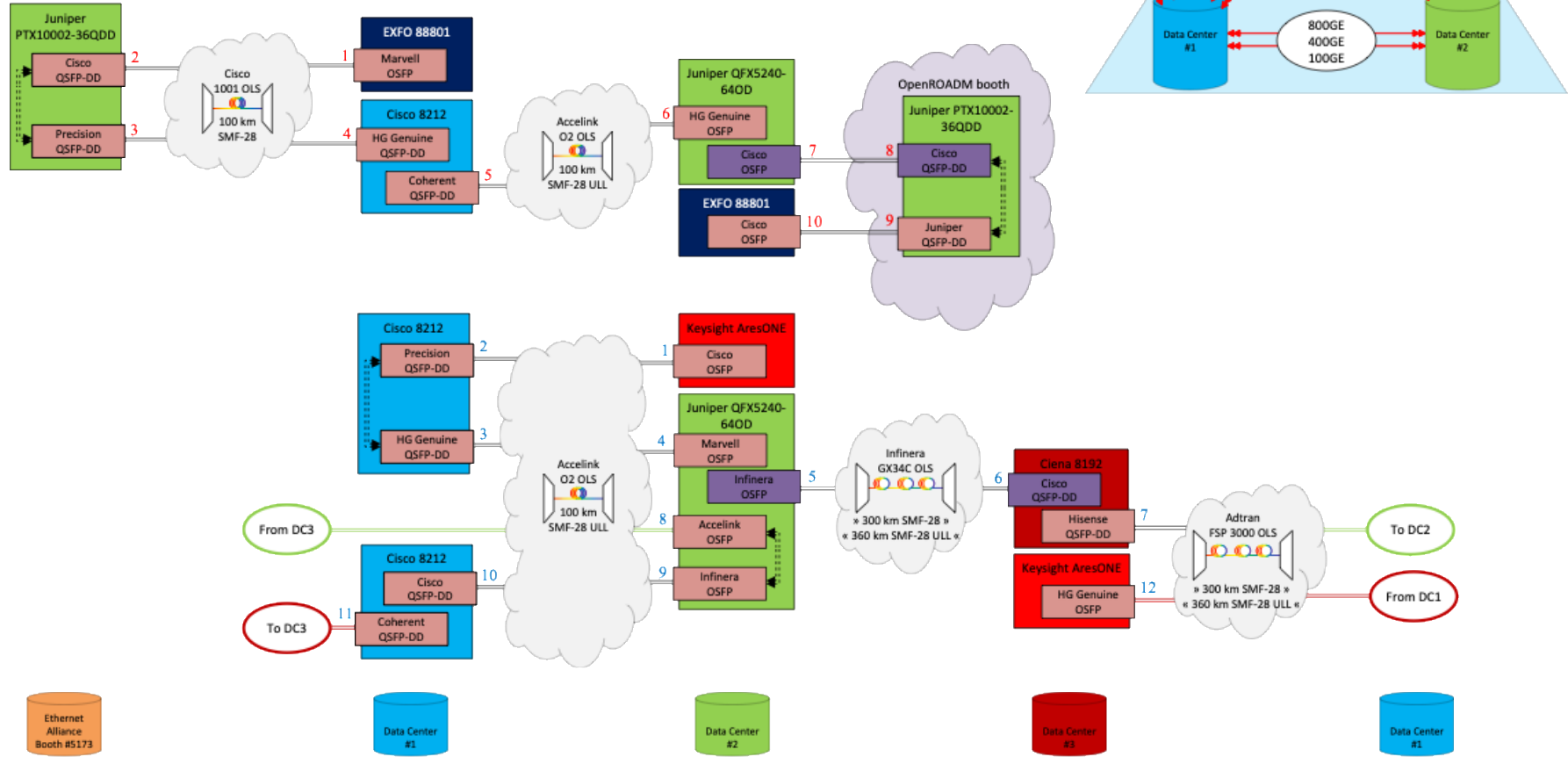
400G



OIF

OFC 2025 Interoperability Demonstration

800G



Measurement Plugfest!

- The OIF held a Measurement Plugfest prior to OFC 2025 with the goals of measuring the required OSNR between module pairs for all participating 400ZR and 800ZR vendors. This was successfully completed with the process and results documented in two white papers (see QR code).
- A second goal was to collect transmitter data correlating to the OSNR data as the OIF works with the IEEE and ITU-T to develop and validate a Transmitter Quality Metric. We were less successful with this measurement but are executing a recovery plan and expect to publish the results, including raw data soon (same QR code).

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