



Point to Multi-Point Coherent for Aggregation Networks

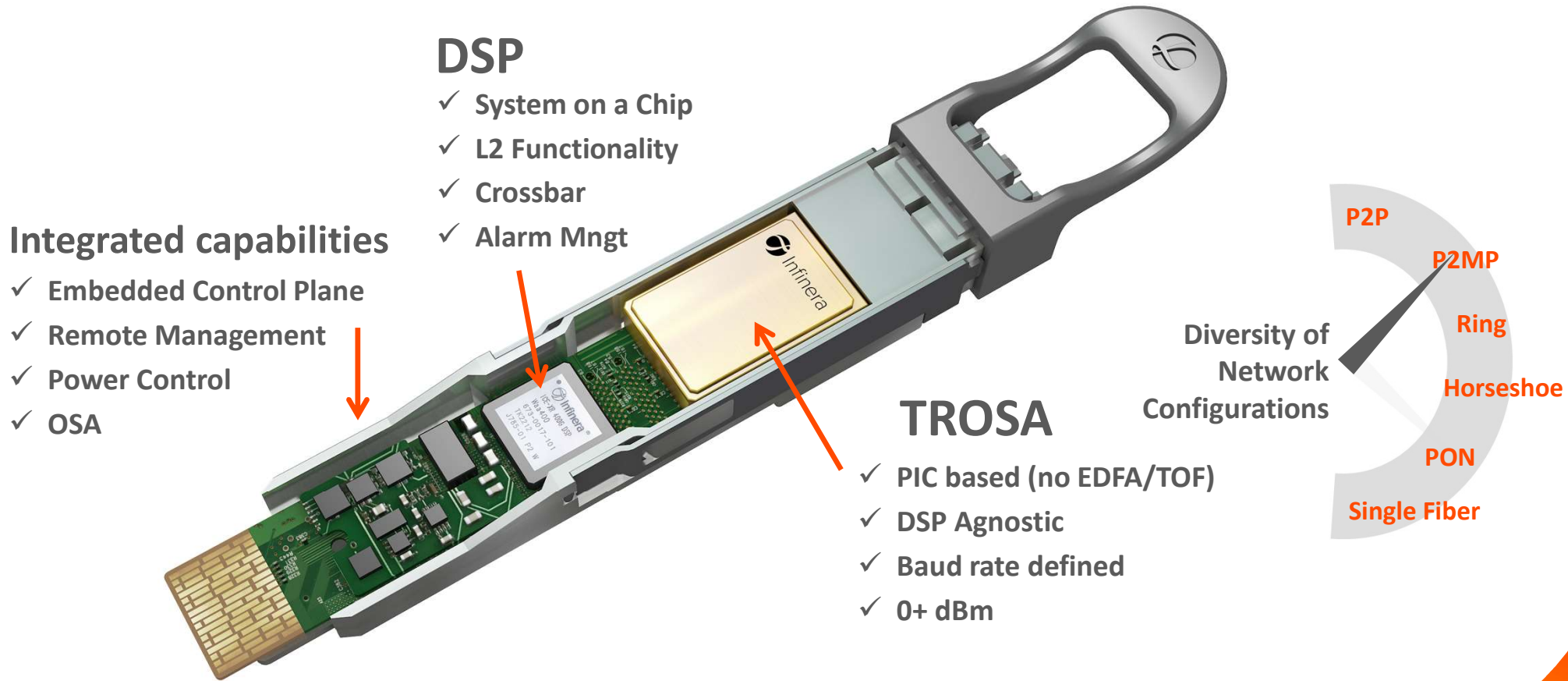
Dave Welch, Ph.D.

Founder and Chief Innovation Officer

ECOC 2022

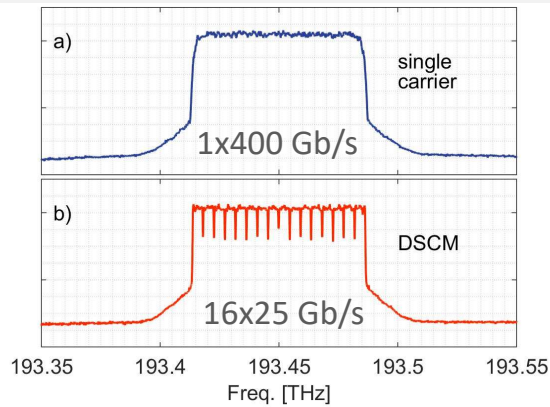
Sep 19th, 2022

XR Optics - Intelligent Coherent Pluggables – QSFP-DD

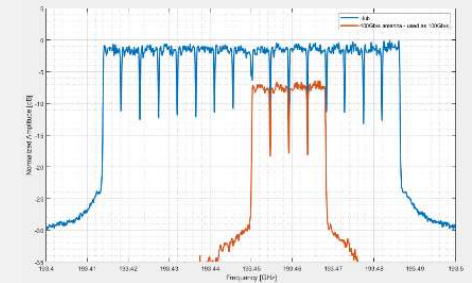
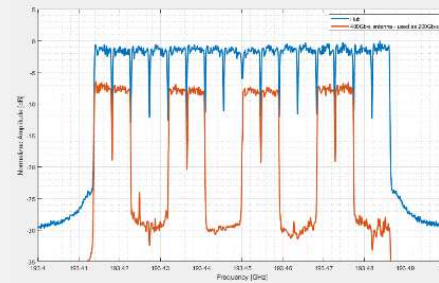


XR Optic Subcarrier Flexibility

DSP for Single / Multi carrier



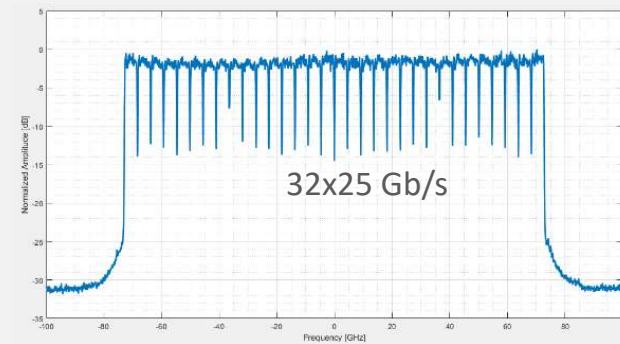
Configurable Bandwidth



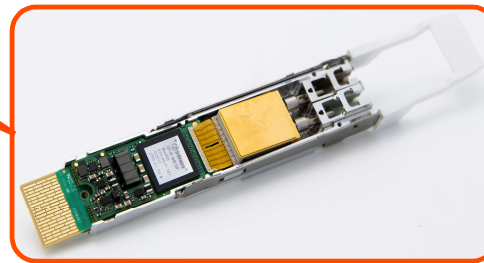
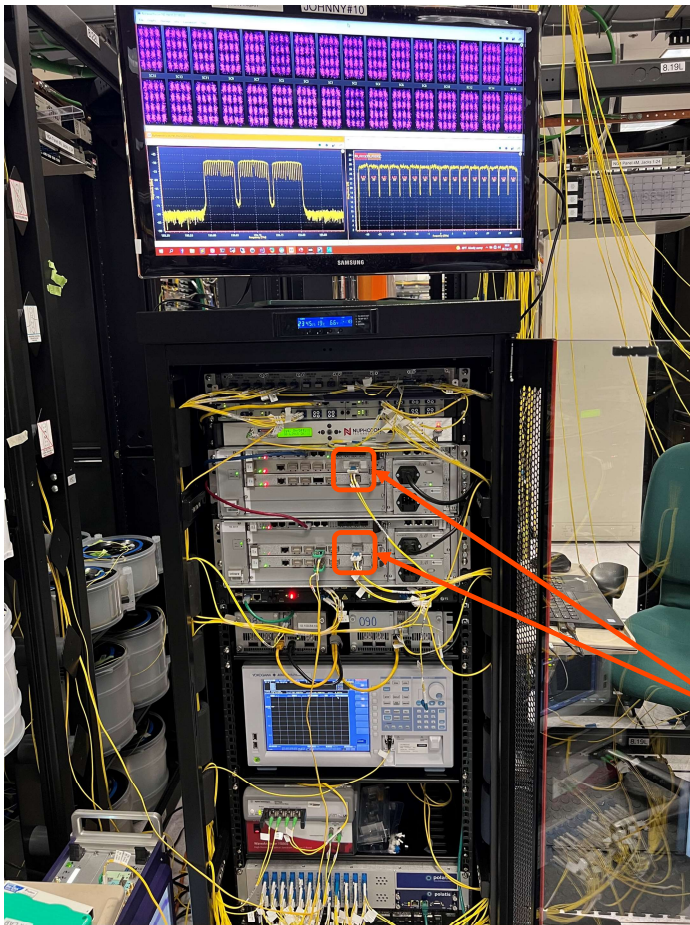
Independent Management Channel



Future Compatible Architecture



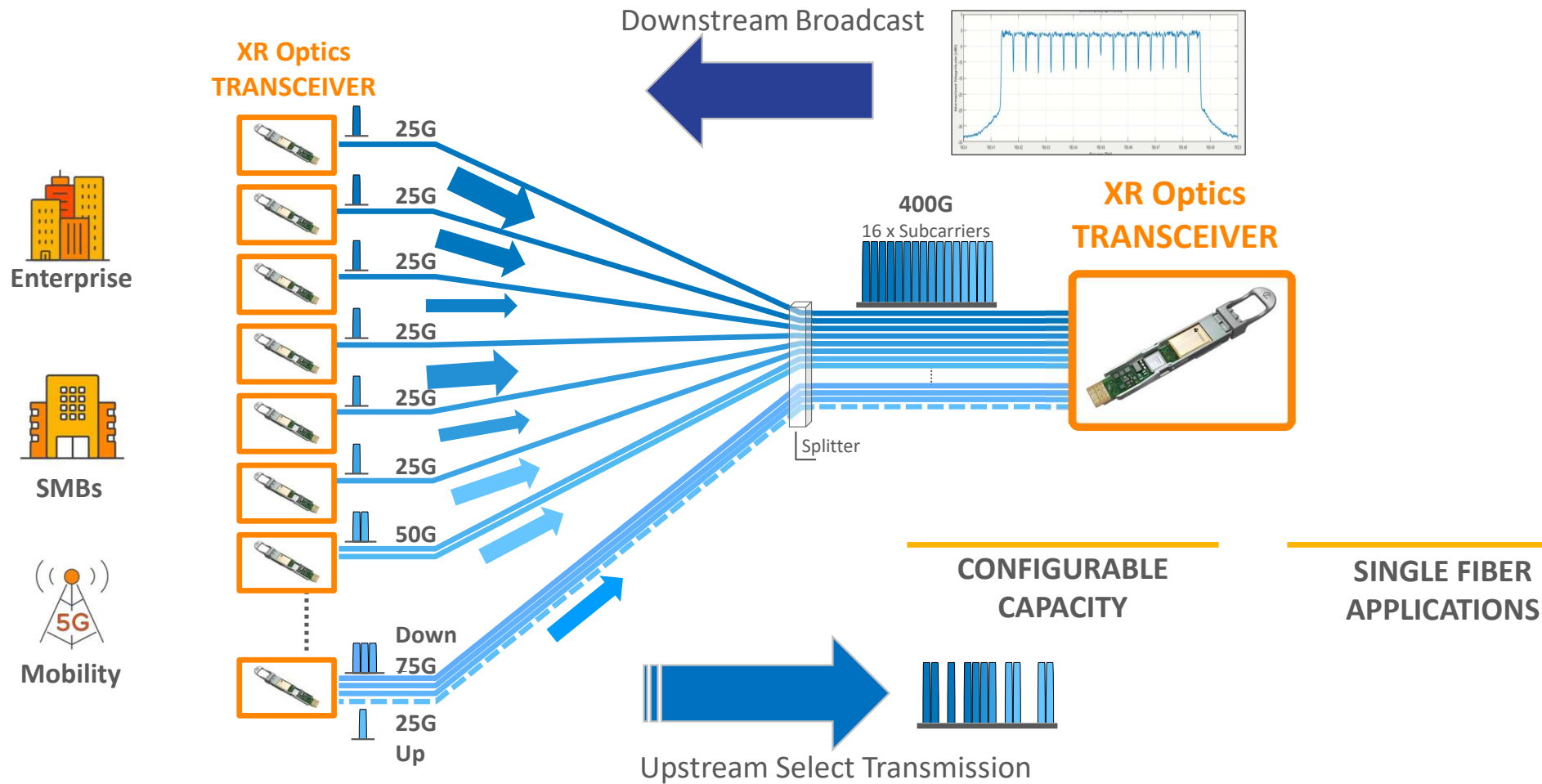
High Performance Point-to-Point : Tier 1 Service Provider Trial:



- 400GbE at **0 dBm** over a 3rd party OLS
- 75GHz optical line system
- Multiple ROADM sites
- **1440km** of ULL fiber
- **1060km** of LEAF

Error free operation with optical performance margins

Coherent to the Edge – Point-to-Multipoint Aggregation



Real-Time Data Using XR400 DSP + TROSA

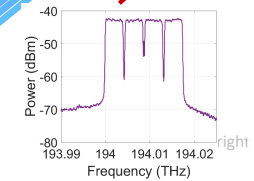
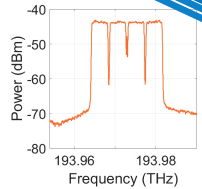
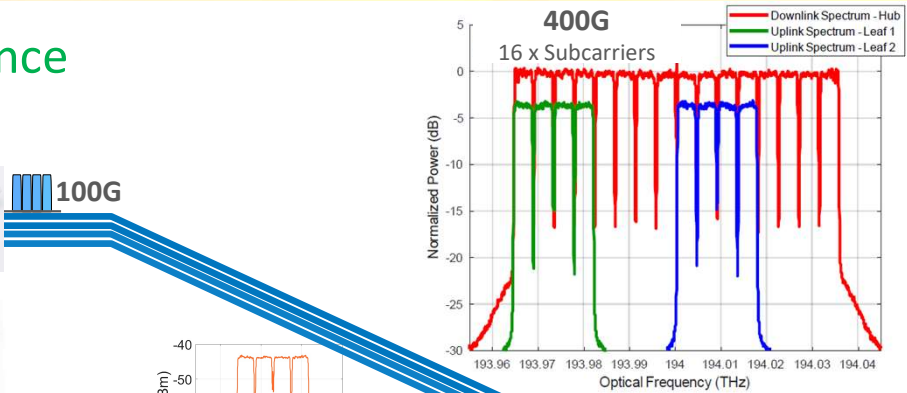
✓ Error free performance

XR Optics
TRANSCIVER

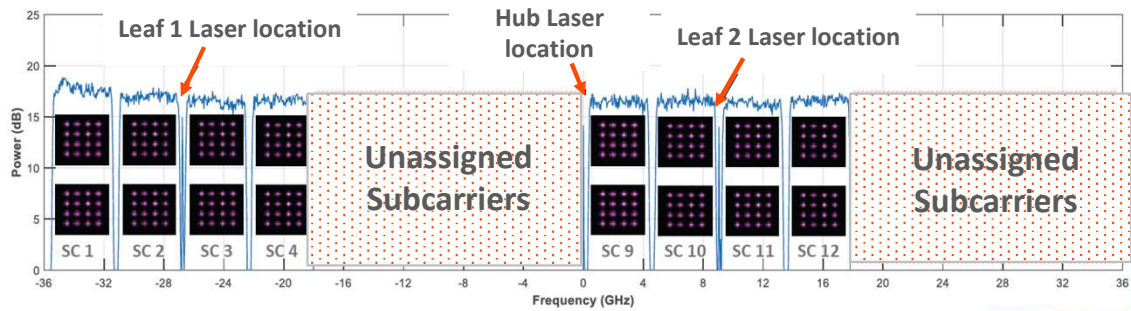
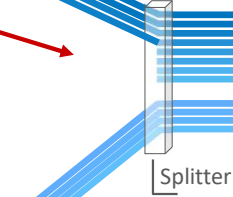


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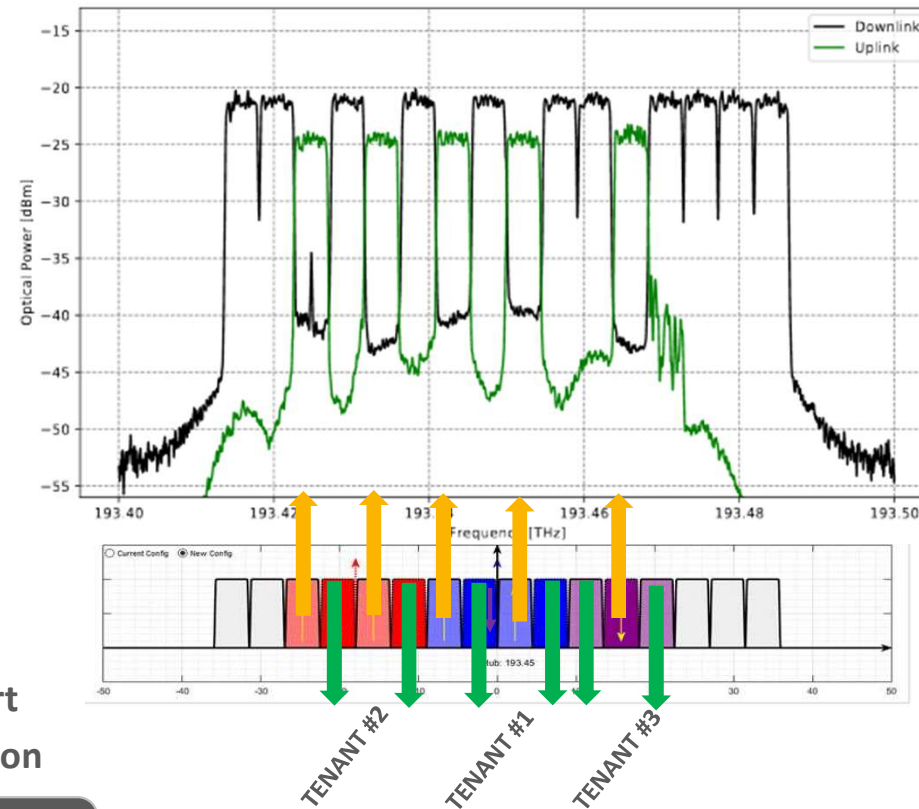
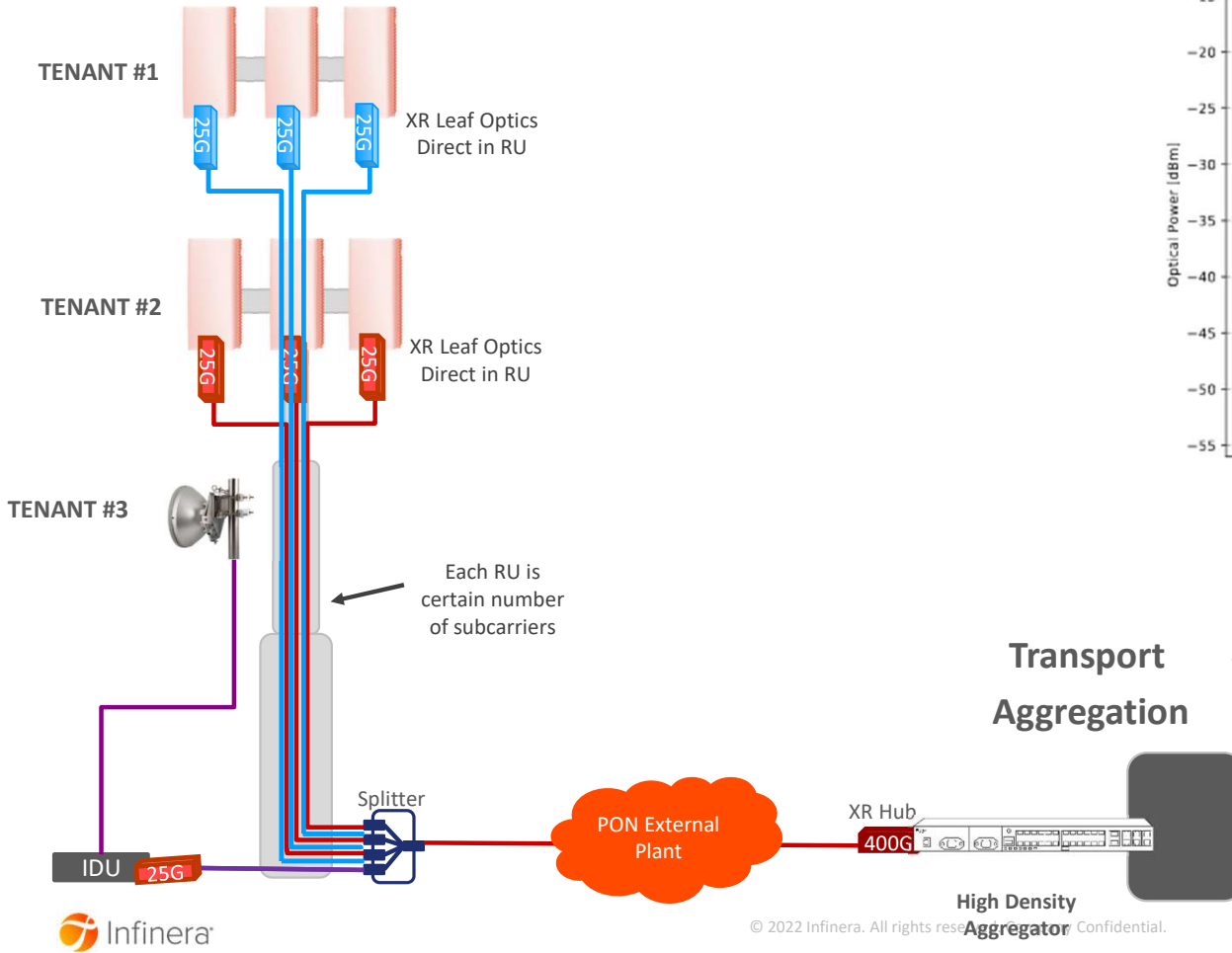
XR Optics
TRANSCIVER



XR Optics
TRANSCIVERS

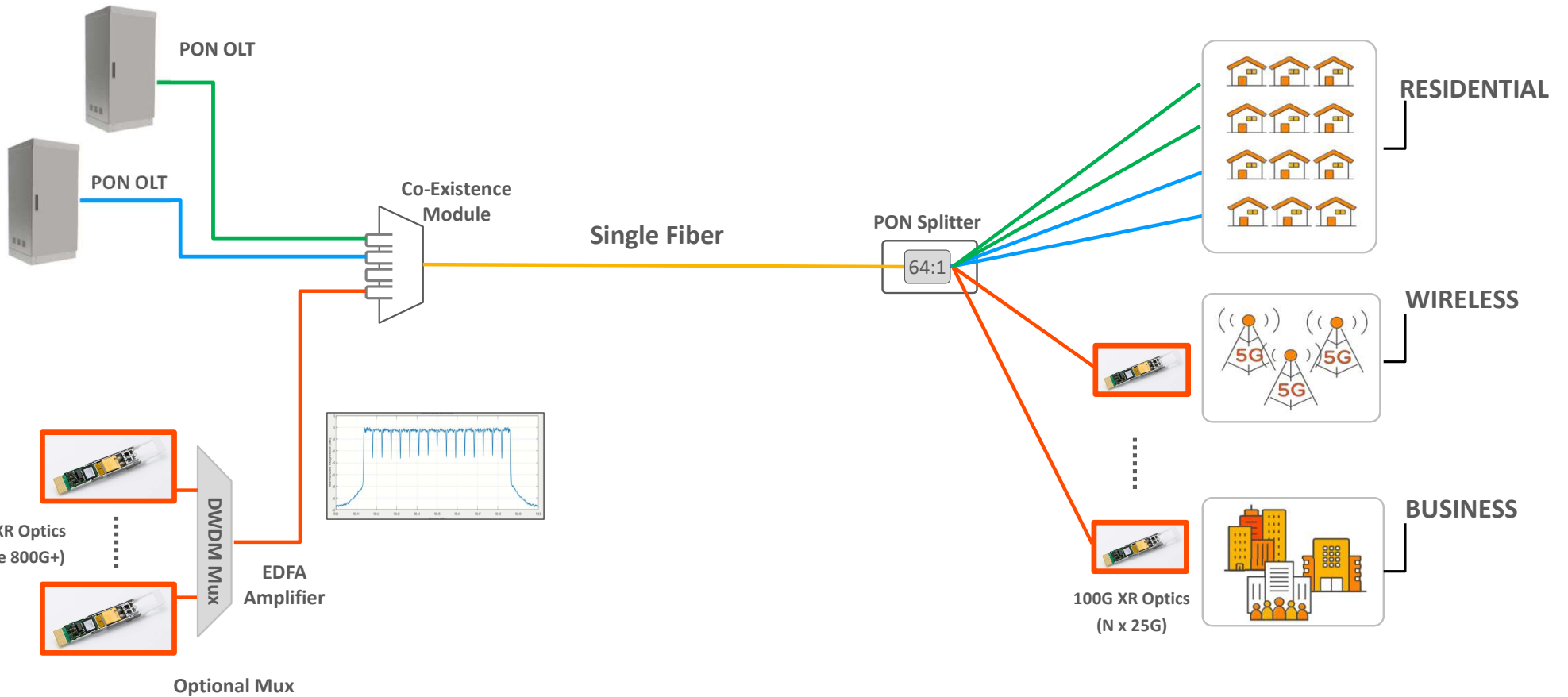


Multiple Direct Connect Tenants with XR Optics



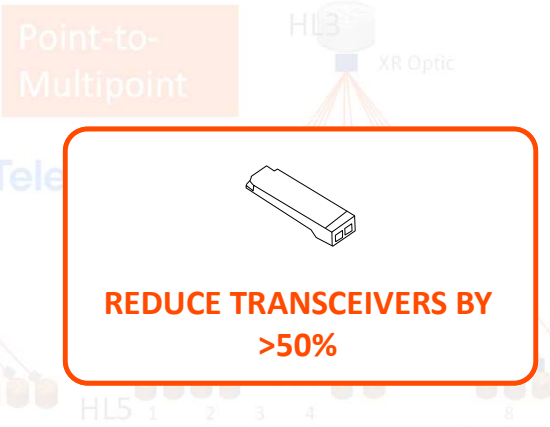
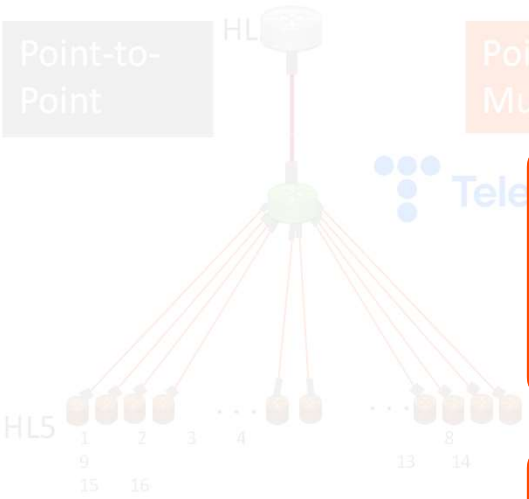
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XR Optics PON Network Overlay

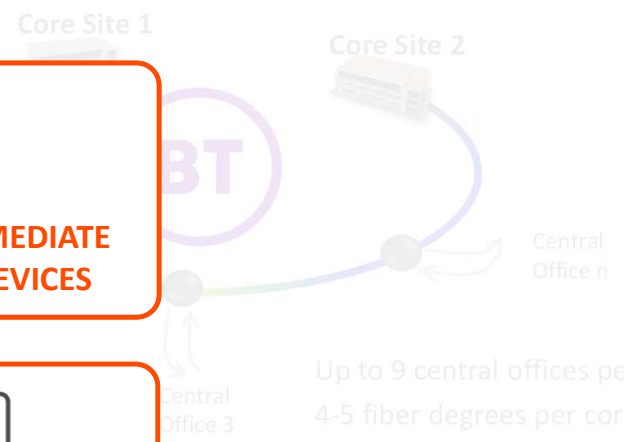
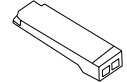


P2MP = Point to Multipoint

Network Savings



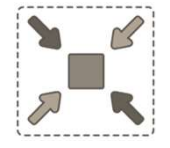
226 DUAL-HUBBED HORSESHOES

**REDUCE TRANSCEIVERS BY
>50%**



**ELIMINATE INTERMEDIATE
AGGREGATION DEVICES**



IMPROVE ROUTER EFFICIENCY

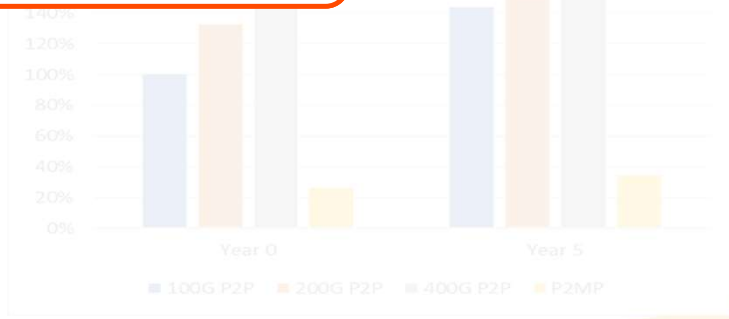


**REDUCE TRUCK ROLLS
FOR UPGRADES**

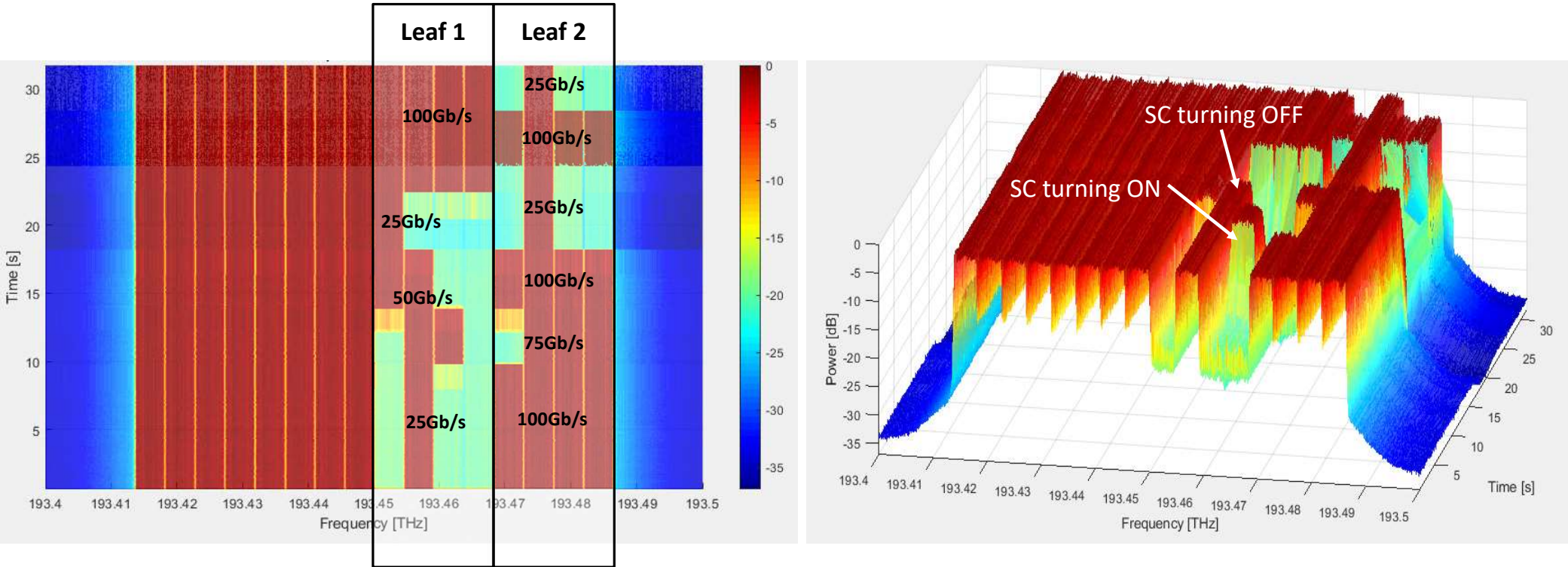
Up to 9 central offices per link
4-5 fiber degrees per core site

Cumulative CAPEX $\Delta = 76\%$

COMPARISON OF TOTAL SPENDING FOR



Hub Optical Spectrum with SCs turning ON and OFF



Enhancing Multi-Sourcing

OPEN XR
FORUM



2021

2022

2023

Service Providers



Equipment Providers



Component Manufacturers



- ✓ Industry Eco System run by the Service Provider Eco System
- ✓ MSA and Standards Based
- ✓ Establishing a High Valued Industry Standard Technology



Thank You