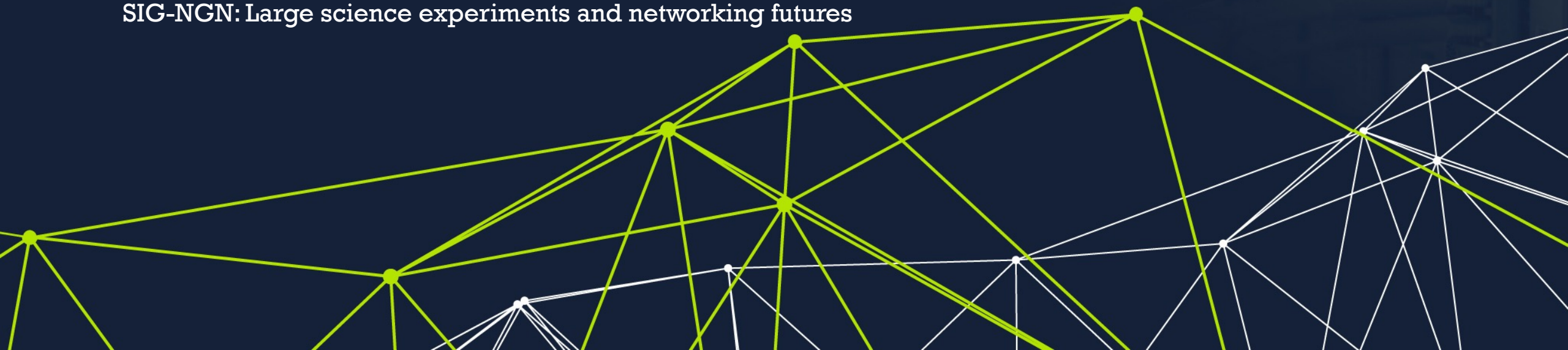


CERN – CNAF DCI using SCS

Paolo Bolletta, Matteo Colantonio

April 20th, 2023

SIG-NGN: Large science experiments and networking futures



GEANT project and The Spectrum Connection Service (SCS) team

GÉANT network is being upgraded and will be completed in 2023.

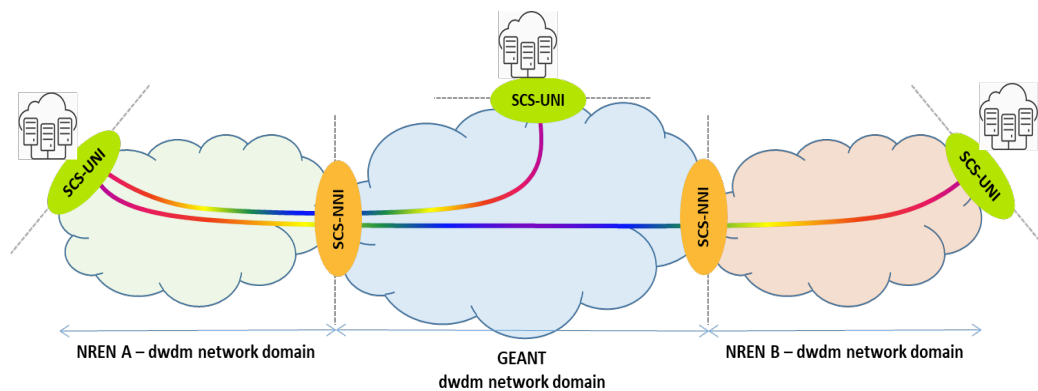
A new Spectrum Connection Service (SCS) has been proposed in the GÉANT Network Evolution Plan

Activity started in GN4-3 WP7-T2 (SCS) and taken over in GN5-1 (NDS)

The SCS team

- has defined a service description
- is running field trials
- engages Users to run service pilots

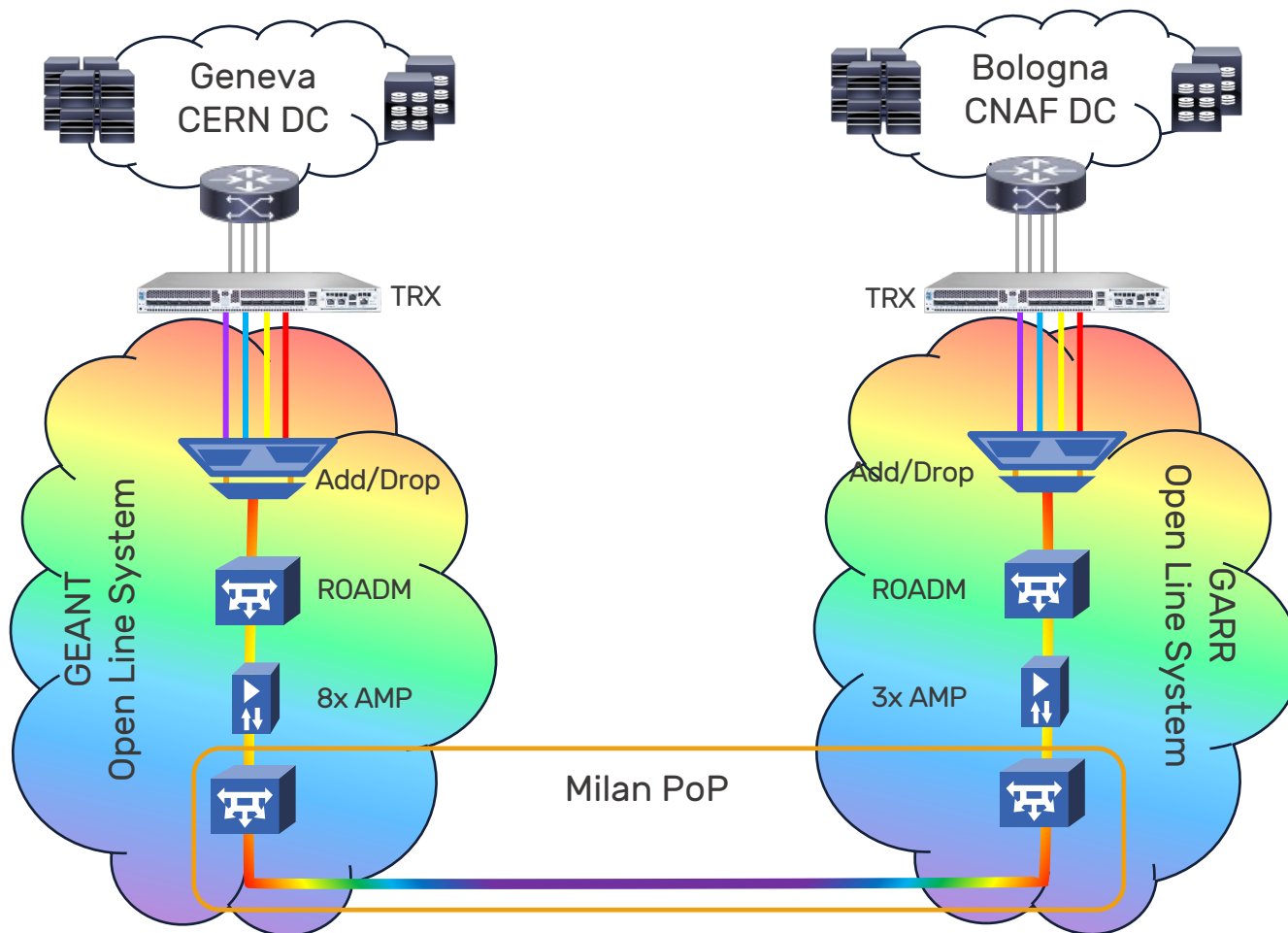
The participating NRENS are:



Real Use Case CNAF-CERN:



CERN – CNAF Data Center Interconnection

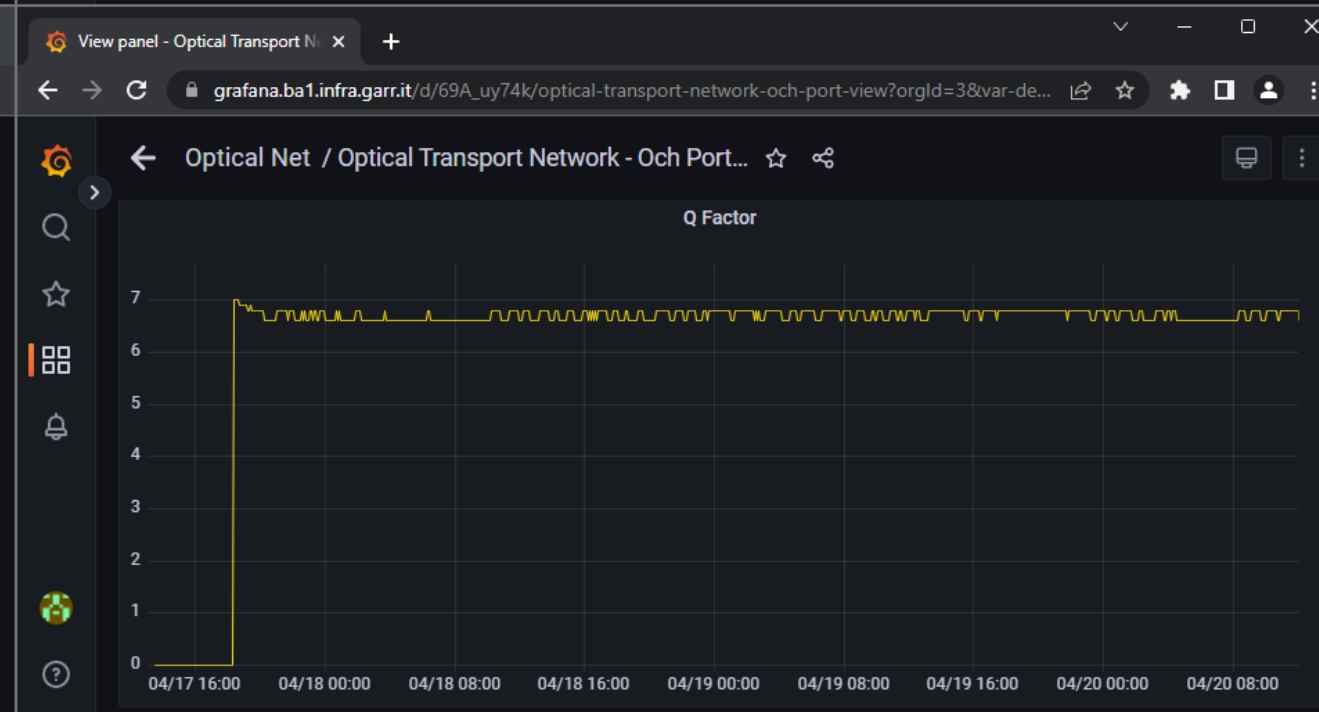
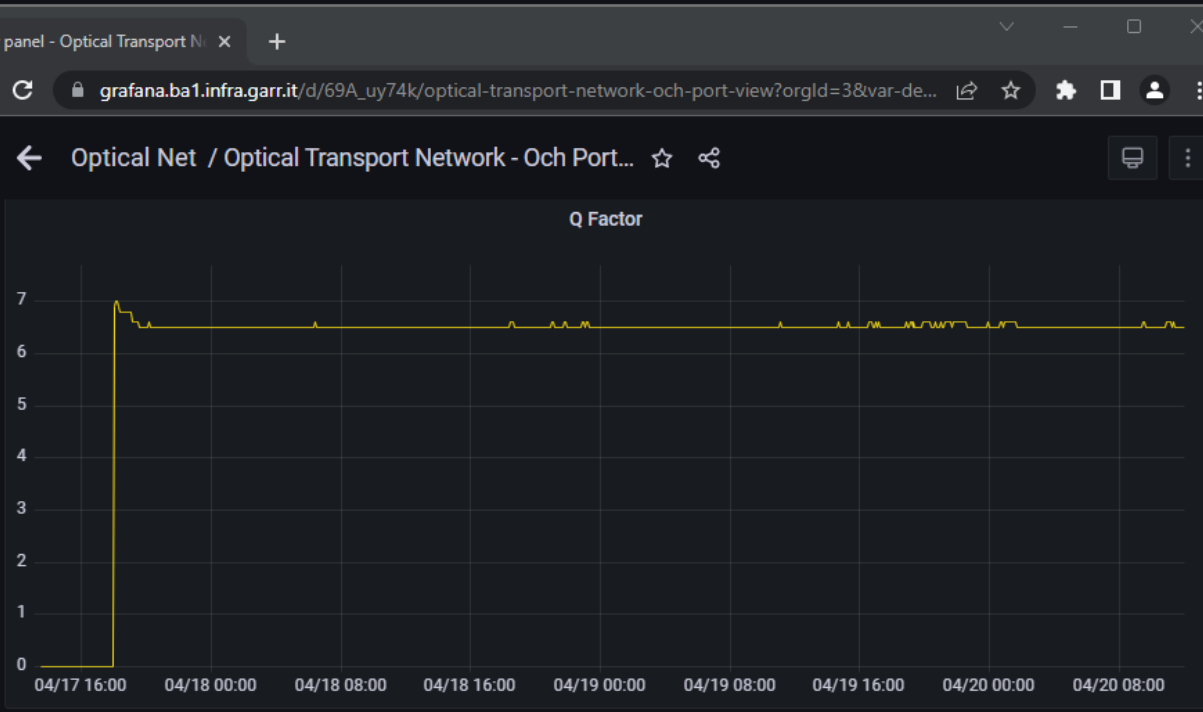
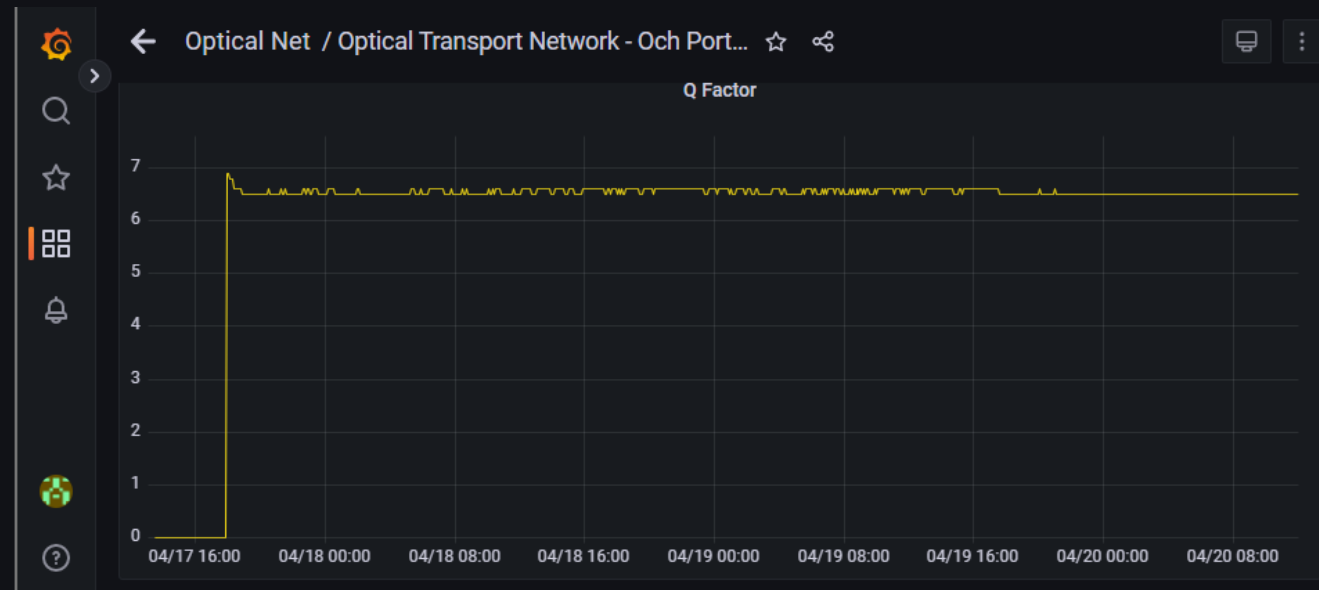
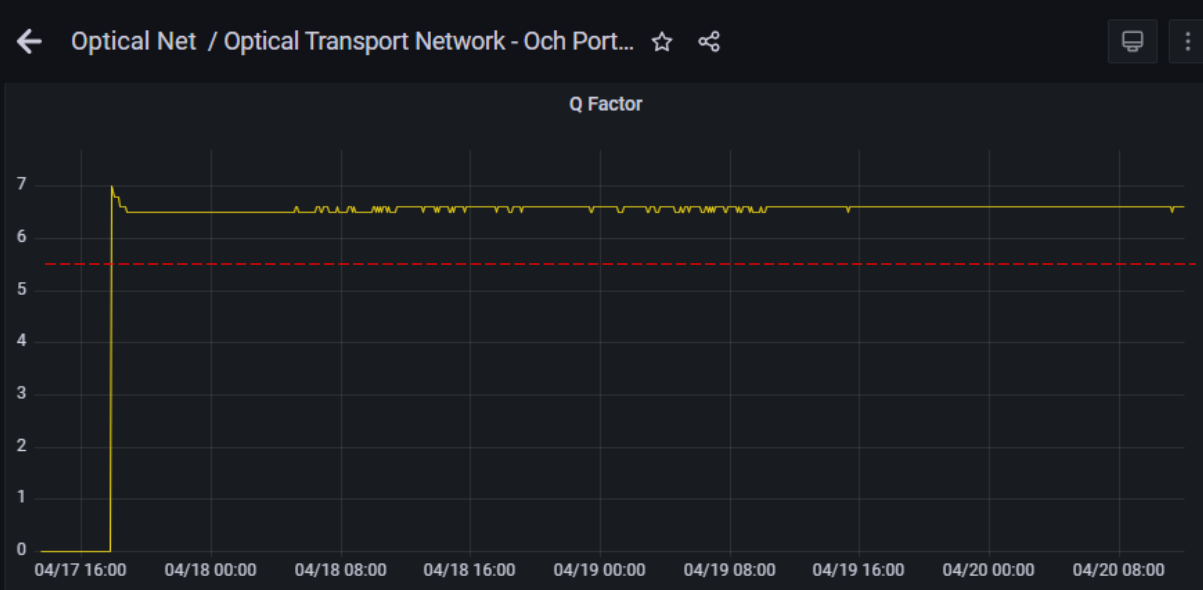


1.6 Tbps

4 carriers

- DP-16QAM
- 27% SD-FEC
- 69 Gbaud
- 100 GHz

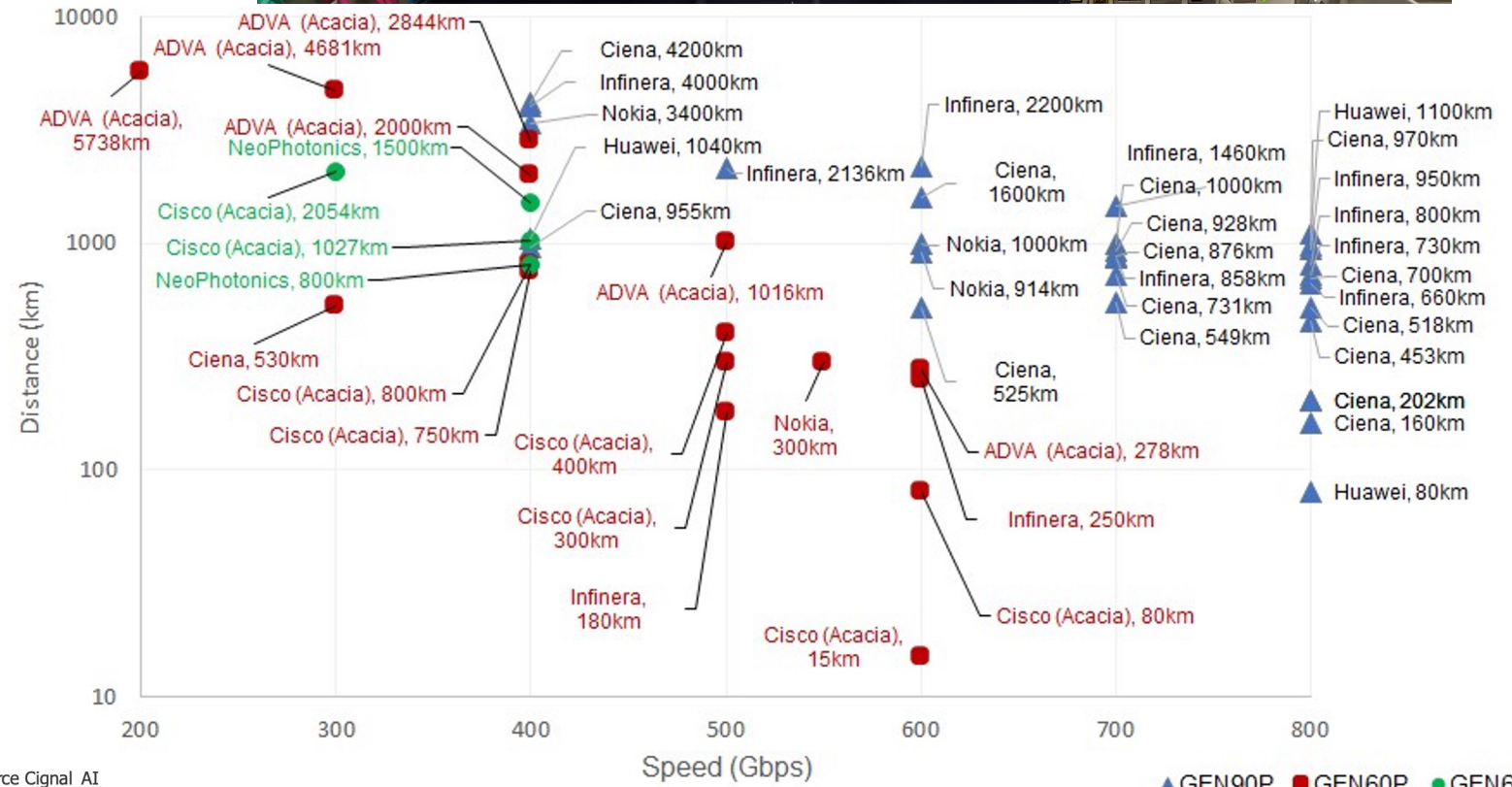
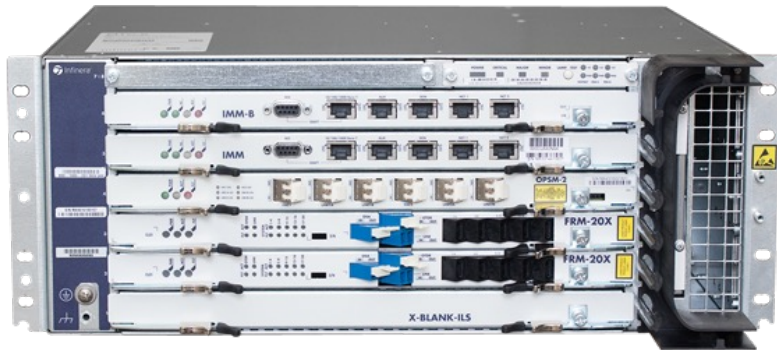
Quality of Transmission



Enabling Technology

Disaggregated optical network:

- Open Optical Line System (~10y life span)
- Coherent optical interfaces (~3y life span)
 - Transponders boxes
 - Pluggable transceivers




Thank you! Questions?

More details:

<https://www.cesnet.cz/events/cef2023/?lang=en>

https://indico.geant.org/event/1/contributions/15/attachments/57/123/TNC22_LightingUpNRENSpectrum_v2.1.pdf

A network diagram consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, and the lines represent connections between them. The diagram is rendered in a light green color against a dark blue background.

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