

Experiences with Smartoptics DCI

8th October 2020



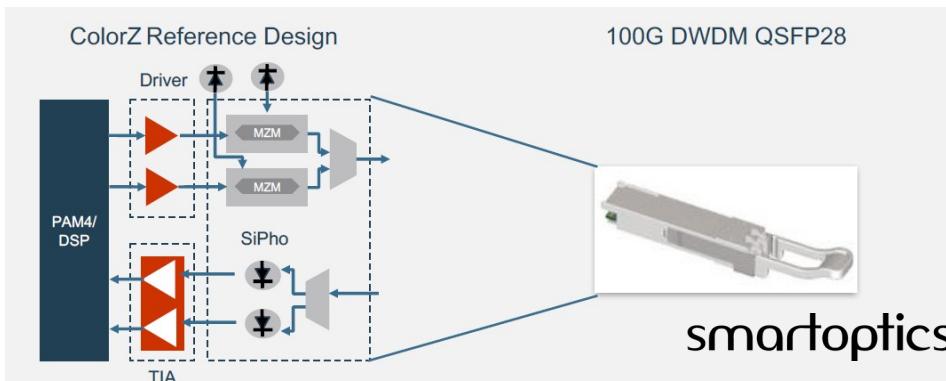
PAM4 DWDM QSF28 transceiver

100G DWDM Transceiver

- 2 wavelengths (lanes) on a 50GHz grid
- Transceiver output power -11 dBm
- Minimum required input power -2 dBm
- Dispersion tolerance +/-6 km on G.652 fiber
- High OSNR required (>31 dB)

Requires an active line system to address these parameters

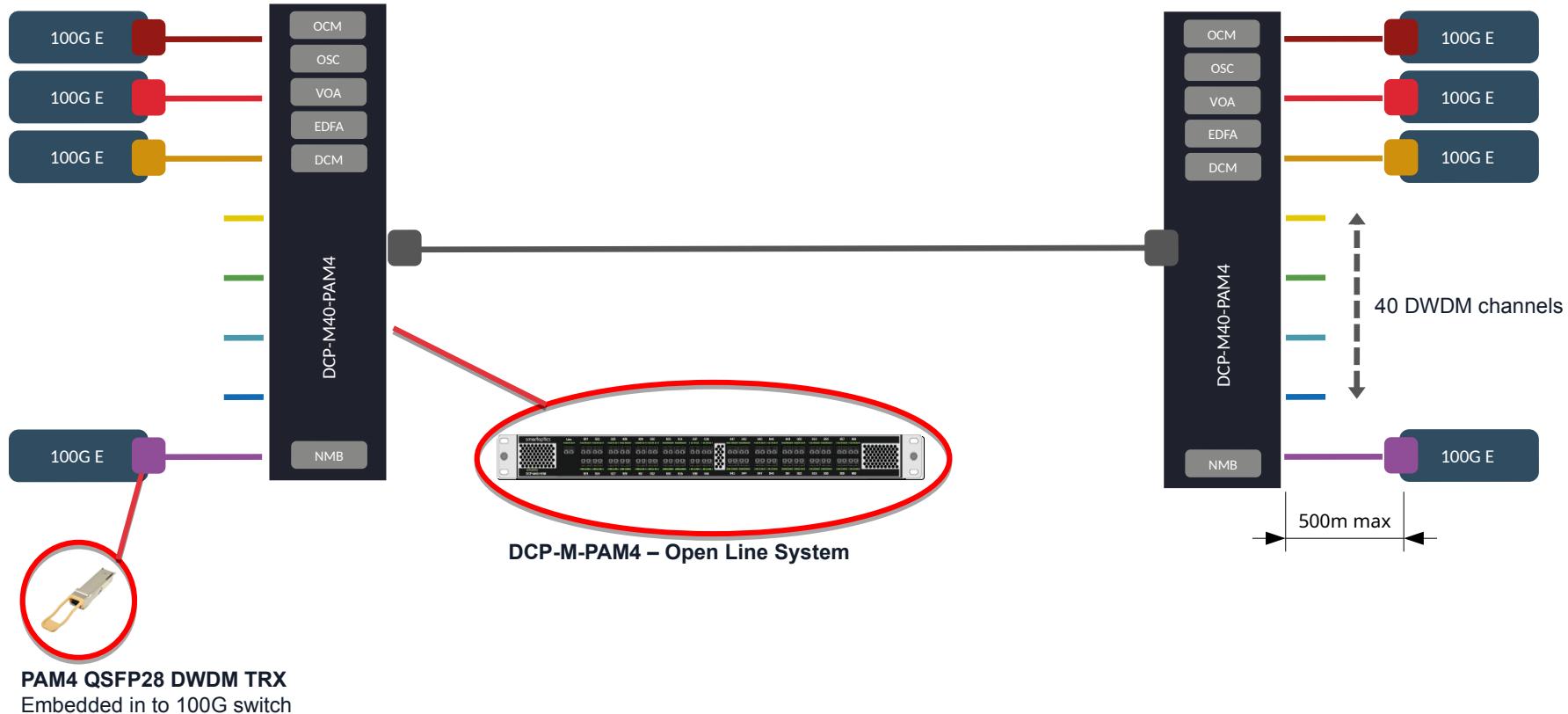
Can be plugged directly into standard switches and NICs



[Credits: Smartoptics]

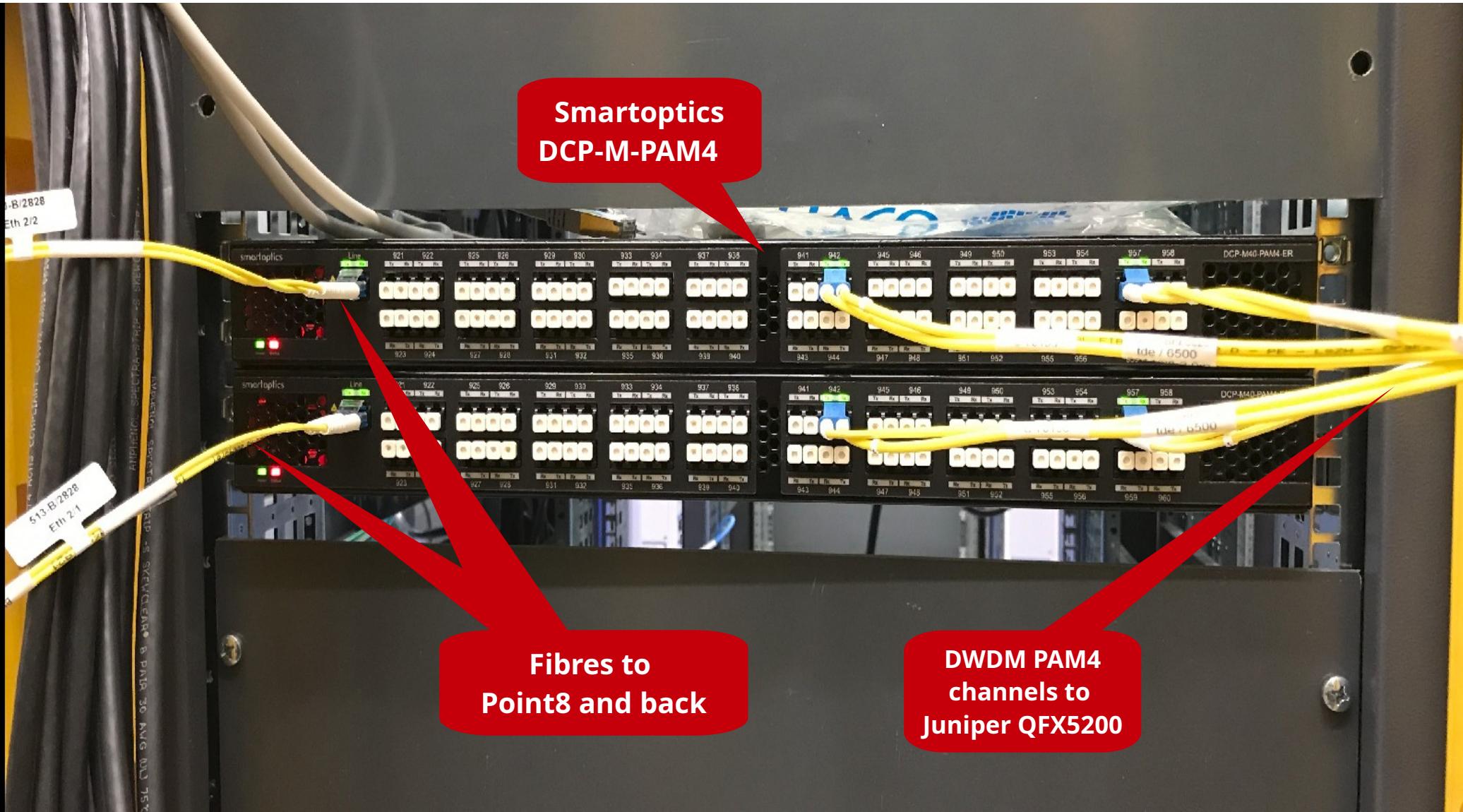
Smartoptics PAM4 DCI application

100G p-t-p embedded over <80km distance based on a **cost effective solution**



[Credits: Smartoptics]

Open-line system



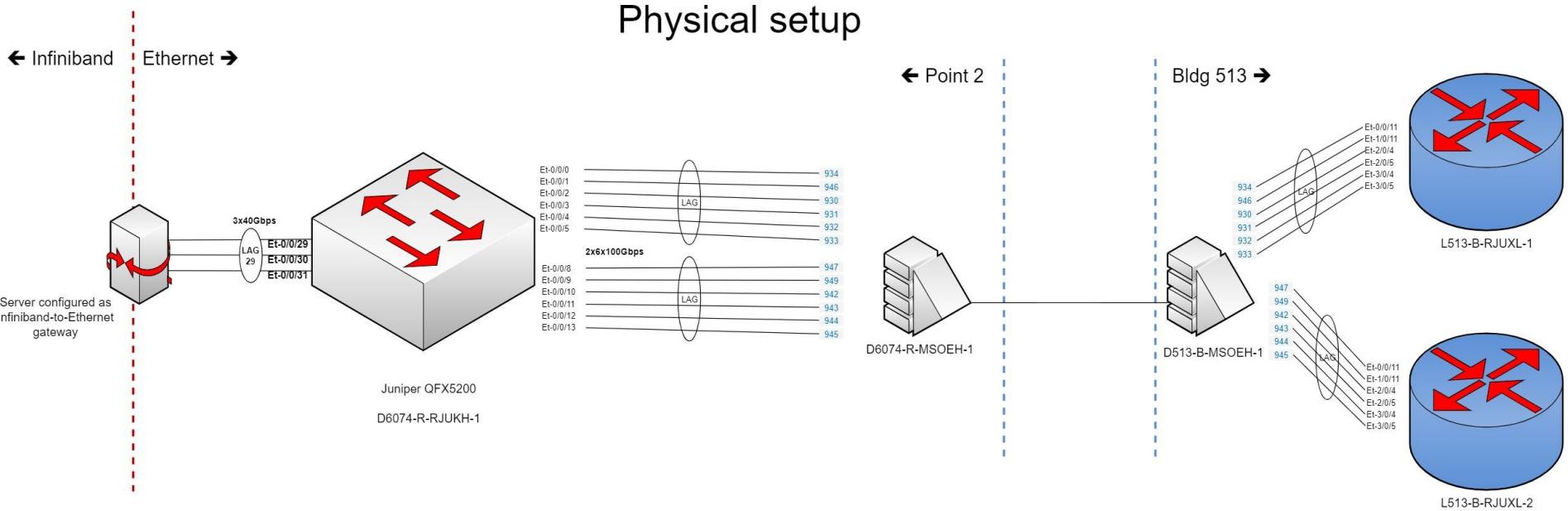
Findings with LHCb remote-DQA trial

Smartoptics PAM4 optics worked well on Juniper QFX5200

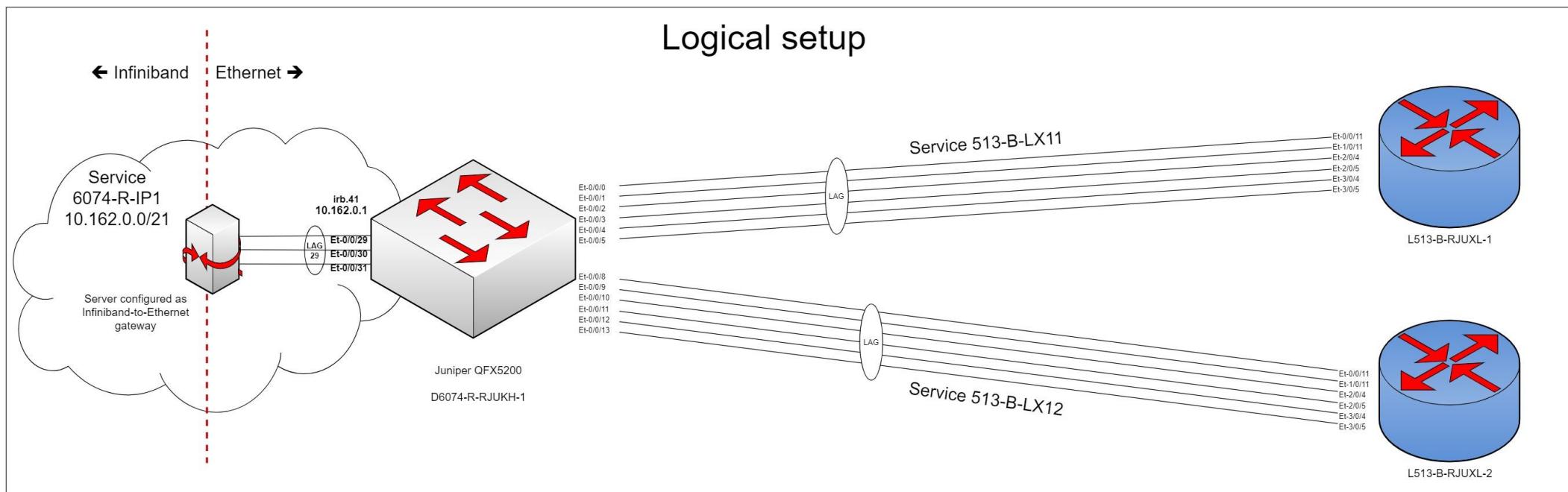
On the QFX5110 the optics were recognized, but lasers couldn't be turned on. Support for high power consumption optics is mandatory (similar case to ER4)

PAM4 optics are not tuneable

IT-Datacentre to ALICE - physical



IT-Datacentre to ALICE - logical



IT-Datacentre to ALICE – 100G servers

Overview

