SDN architecture for Open Optical Networks

Juan Pedro Fernandez-Palacios, Telefónica GCTIO
EPIC Online Technology Meeting on Datacenter Interconnects
4th November 2020
Open Optical Networks

Optical disaggregation will bring a flexible and modular network element architecture

**Interoperability through standard interfaces**

**SDN Control Plane capabilities, based on standard models, to glue multivendor solutions**

Two key aspects to make **Open Optical Networks** a reality

- Nowadays, network operators deploy optical nodes provided as an **end-to-end closed solution**
- DCI solutions are only applicable in mono vendor scenarios

• Open Terminals (OTs) and OLS can be supplied by different vendors.
• New Optical DCI solutions could be deployed over existing OLS while keeping carrier class functionalities in terms of restoration, performance, fault management, discovery, etc

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Partially disaggregated SDN architecture

SDTN Controller

Vendor A (Optical White Box)
Vendor C
Vendor D
Vendor E
Vendor F

Vendor A
Vendor B
Vendor C
Vendor D
Vendor E

RESTCONF TAPI
T-API
RESTCONF NBI
OTN/WDM SDN Transport Domain Controller

OLS Segment

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Open Transport SDN- Whitepaper

• Main agreements
  o Reference architecture
  o Use case driven methodology
  o Identification of standards
  o Use cases Taxonomy
  o The whitepaper is the foundation of a New working group in TIP named MUST

• The list of use cases will be reported in the periodic incoming deliverable within TIP MUST.

https://telecominfraproject.com/6-major-operators-to-drive-sdn-for-transport-adoption-and-acceleration-through-telecom-infra-project/

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Conclusions

— Current Optical DCI solutions are only applicable in monovendor networks

— Third-party DCI channels are manually configured and are only applicable in point to point links

— Open SDN Architecture enables multivendor interoperability and automated operation