Applicability of ACTN to support Packet and Optical Integration

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Agenda

• Scope of the draft:
  • Applicability of ACTN to Packet Optical Integration (POI)
  • POI in the context of L2/L3VPN service provisioning
  • Service and network orchestration

• Definition of POI reference architecture including ACTN components as well as non-ACTN components that are necessary for the end-to-end service fulfilment.

• TE & Service mapping function:
  • “One of the important functions the MDSC performs is to identify which TE Tunnels should carry the L3VPN traffic and to relay this information to the domain SDN controllers to ensure proper VRF table be populated according to the TE binding requirement for the L3VPN. This function is referred to as TE & service mapping function.”
Recap of ACTN and L2/L3VPN services

Service Orchestration
CNC
H-SDN NBI

IETF L2/L3SM
IETF ACTN CMI
Hierarchical SDN

VPN service
MDSC

Domain SDN 1
VPN Service
PNC
SBI

Domain SDN 2
VPN Service
PNC
SBI

1. Service – Network Model
2. Service – Device Model
3. Infrastructure/TE - IETF ACTN MPI

Network provisioning function
TE & Service Mapping function
VPN service request with TE requirements using ACTN CMI models (VN+TE&service mapping and non ACTN models (e.g. L3SM)
POI with multiple packet and optical domains - workflow

Optical tunnel creation/reuse (hard isolation vs sharing). Reporting to MDSC.
Service configuration function to identify interfaces/labels on PE nodes and convey the info to SDN controllers for VPN configuration (BGP and VRF)
Conclusion & Next steps

• Issues addressed:
  • Applicability of ACTN to VPN with Packet Optical Integration
  • Role of POI in hard and soft isolation scenarios

• Open points:
  • Split VPN applicability from POI? VPN could be moved to TE & Service Mapping draft?
  • Add more POI use cases?

• Further topics that need to be addressed/expanded?