Applicability of Abstraction and Control of Traffic Engineered Networks (ACTN) to Packet Optical Integration (POI)

draft-ietf-teas-actn-poi-applicability-08

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I-D Use Cases

1. Inventory, Service and Topology Discovery

- Inter-domain link discovery
- Multi-layer IP Link discovery
- Inventory discovery
- TE paths discovery

2. Establishment of L2VPN/L3VPN with TE requirements

- Optical Path Computation
- Multi-layer IP Link Setup and Update
- TE Path Setup and Update

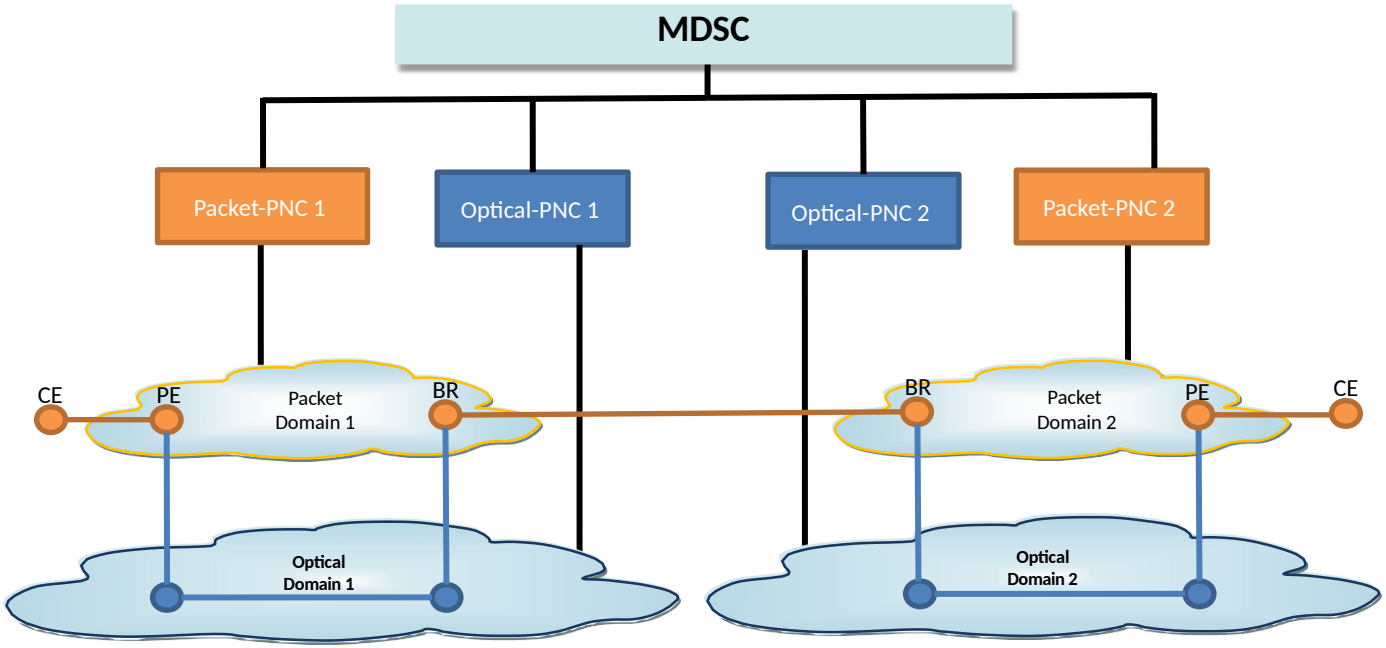


Figure 1 - Reference Scenario

Status

- Updates in version 08
  - Generalized description of SR-TE path discovery, setup and update: applicable to any technology to which IETF TE Tunnel model can be used at the MPI
    - MPLS-TE and SR-TE are just examples of technology-specific augmentations
    - SR-TE covers both SR-MPLS and SRv6
    - BGP-LU inter-domain option (RFC3107) outside the scope
  - Editorial updates
- Issue tracking and current version available on Git
  - https://github.com/FabioPeruzzini/actn-poi/issues
  - Most of them just requires writing text
  - Few requires feedbacks from TEAS WG: see next slides

Open Issue #45 – SRLGs

- The SRLG value does not provide information about the type of risk (e.g., Conduit SRLG, Transponder SRLG, ROADM degree SRLG or ROADM node SRLG)
  - Not an issue for the SRLG disjointness path computation
  - But there are cases where the operator is willing to know the type of SRLG for other management purposes
- The ietf-te YANG model defines named SRLGs
  - Could this construct be used to address the issue?
  - Not clear the definition of the cost associated with a named SRLG

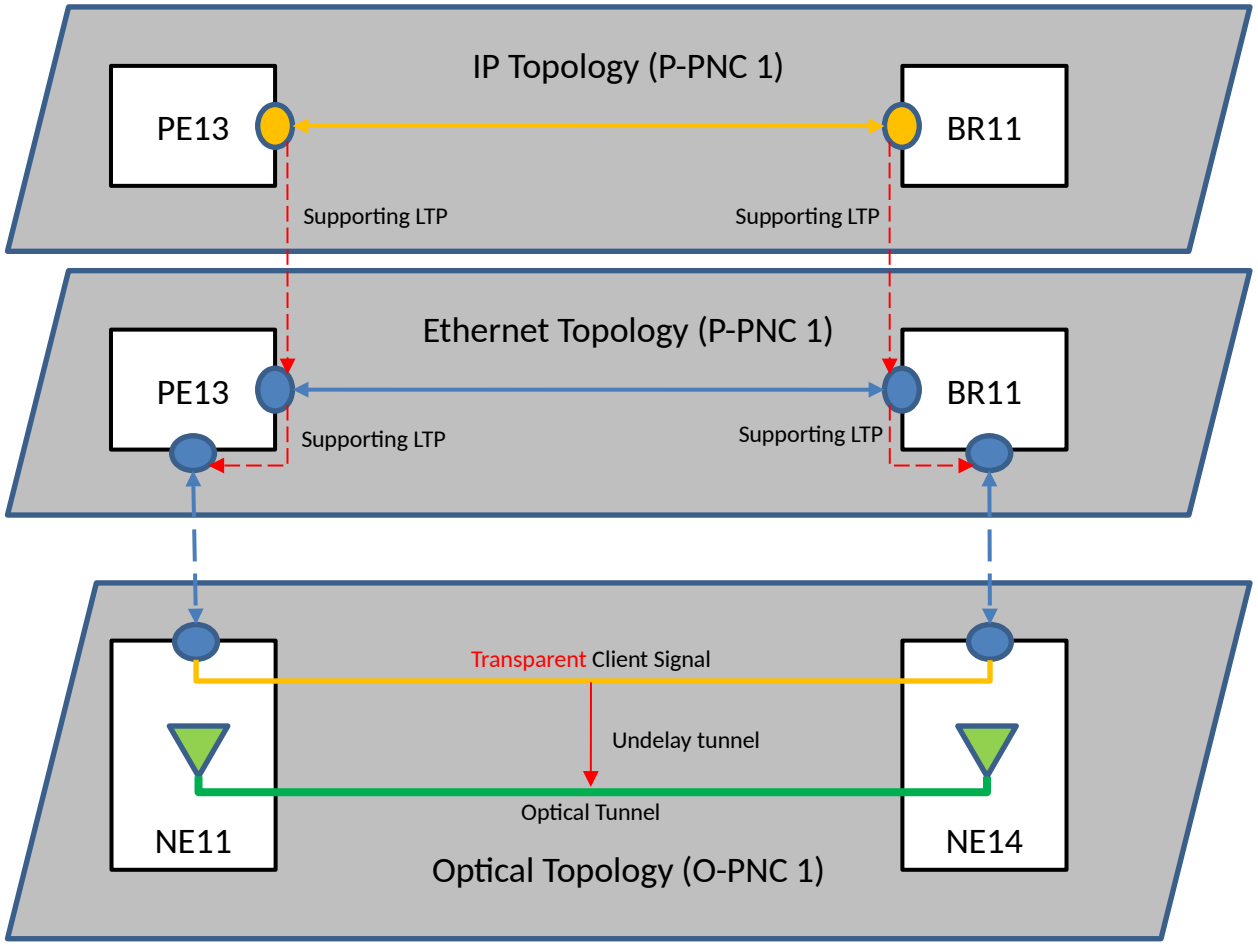
- Proposal: describe this as a gap to be addressed in another document

Open Issue #36 – Optical Transparent Services

- Current draft text assumes that the Optical Network provides Ethernet frame-based service
  - In most of the existing deployments the Optical Network provides Transparent CBR services
- Not sure the description can be generalized to cover both frame-based and transparent services (see next slide)

- Proposal: try to generalize the description, if possible, otherwise describe the transparent services cases

Multi-layer Intra-domain IP Link setup



4) The IP link is created by the MDSC but fully configured by P-PNC1

3) The multi-layer ETH link is either discovered by P-PNC1 or configured by the MDSC

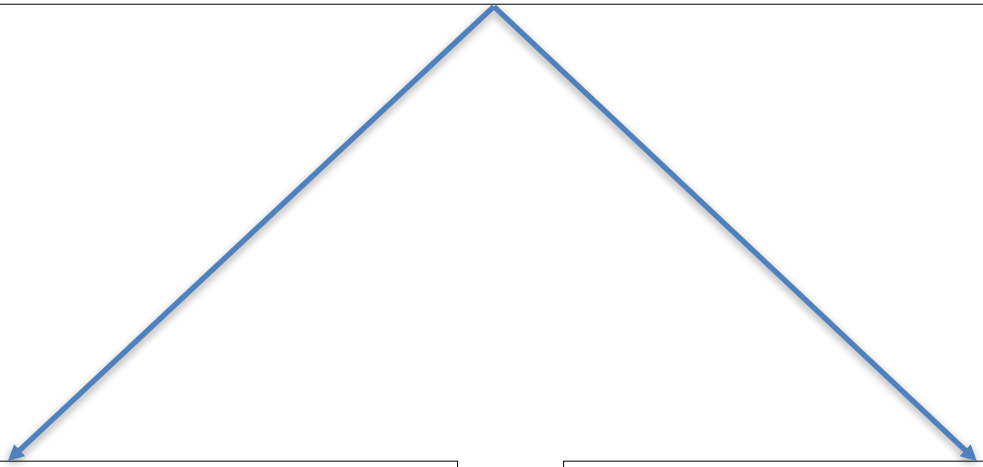
2) The Transparent Client Signal is configured by the MDSC and NEs are properly configured by O-PNC1

1) The Optical Tunnel is configured by the MDSC and setup by O-PNC1

No Ethernet Topology exposed by O-PNC

ACTN POI Next Steps - Overview

ACTN POI (step 1)
- Inventory, Service and Topology Discovery
- Establishment of L2VPN/L3VPN with TE requirements



ACTN POI (step 2a) – service assurance
- Optical Network failures and degradation
- IP/Optical Edge failures

TEAS WG

ACTN POI (step 2b) – pluggable
- Pluggable WDM interfaces on routers
- Same scenarios as in step 1

CCAMP WG

Next Steps for this draft

- Planned updates to the document
  - Update the text to address all the open issues
  - Editorial and terminology clean-up
  - Improve Security section

- Resuming weekly ACTN POI calls after IETF 116
  - Starting from April 4 (slot 2)
  - Working also in parallel on steps 2a and 2b

- Be ready for WG Last Call before IETF 117