

Transport NBI Design Team Update

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Transport NBI DT

- IETF is developing a set of YANG Models that could be used for Transport NBI
 - How existing IETF YANG Models can be used for transport networks?
 - Are there any gaps in the existing IETF YANG Models?
- TNBI DT is currently looking at
 - Use Cases
 - Analysis of how existing IETF YANG models can be used to support these Use Cases
- Working method
 - Mailing list
 - Weekly conference calls on Wednesday at 3:00pm CET
 - GitHub: <https://github.com/danielkinguk/transport-nbi>

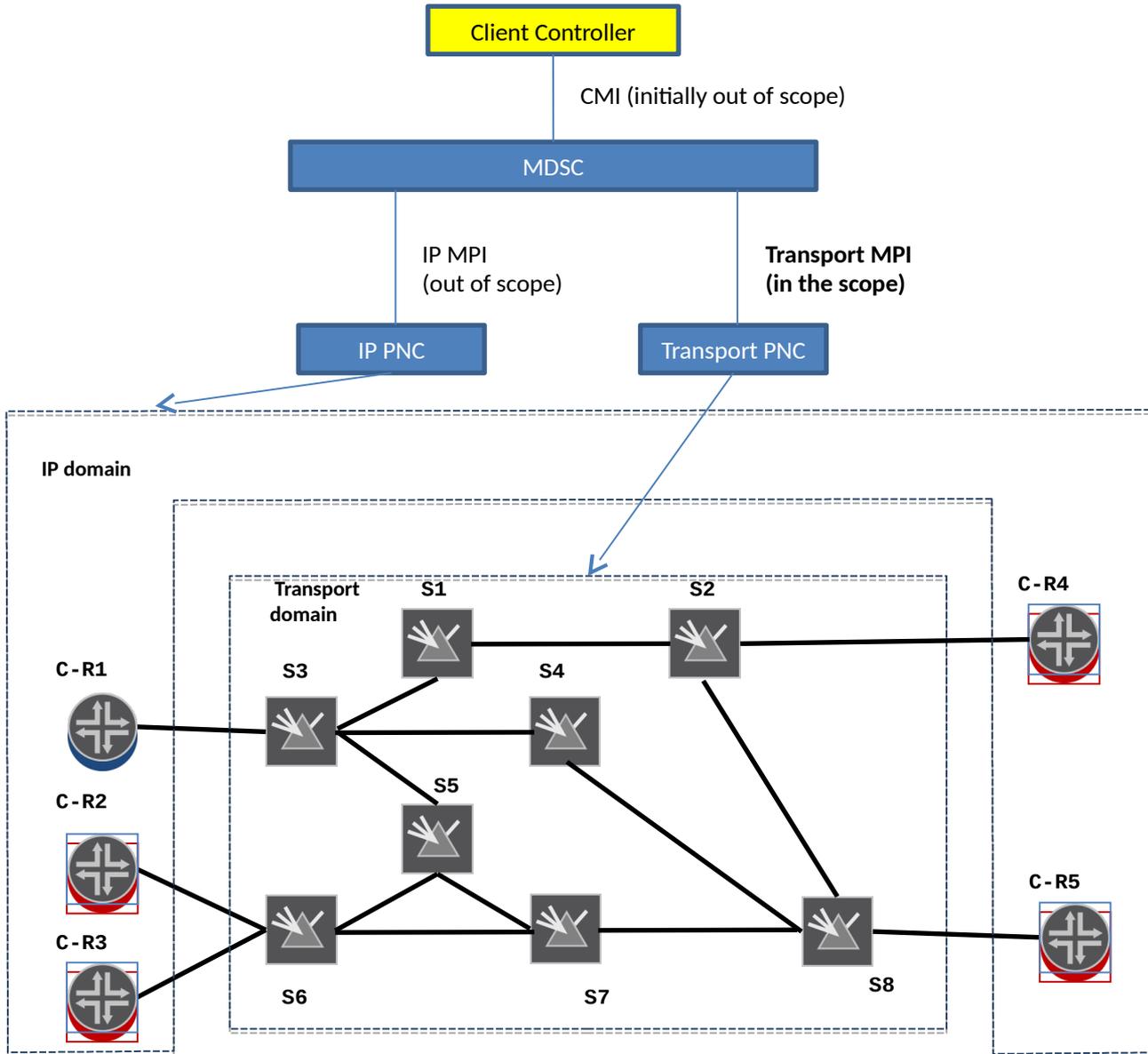
Use Cases

- Use Case I-D published:
 - <https://tools.ietf.org/html/draft-tnbidt-ccamp-transport-nbi-use-cases-01>
- Currently covers
 - Use Case 1: Single-domain with single-layer
 - Reference Network
 - Controlling Hierarchy
 - Topology Abstraction
 - Service Description of ODU transit, EPL and other OTN Client Services
- Next steps (to be prioritized)
 - Complete Use Case 1
 - Service Description of EVPL, EVPLan, EVPTree and Virtual Network Services
 - Considerations about multi-service access links
 - Use Case 2: Single-domain with multi-layer
 - Use Case 3: Multi-domain with single-layer
 - Use Case 4: Multi-domain and multi-layer

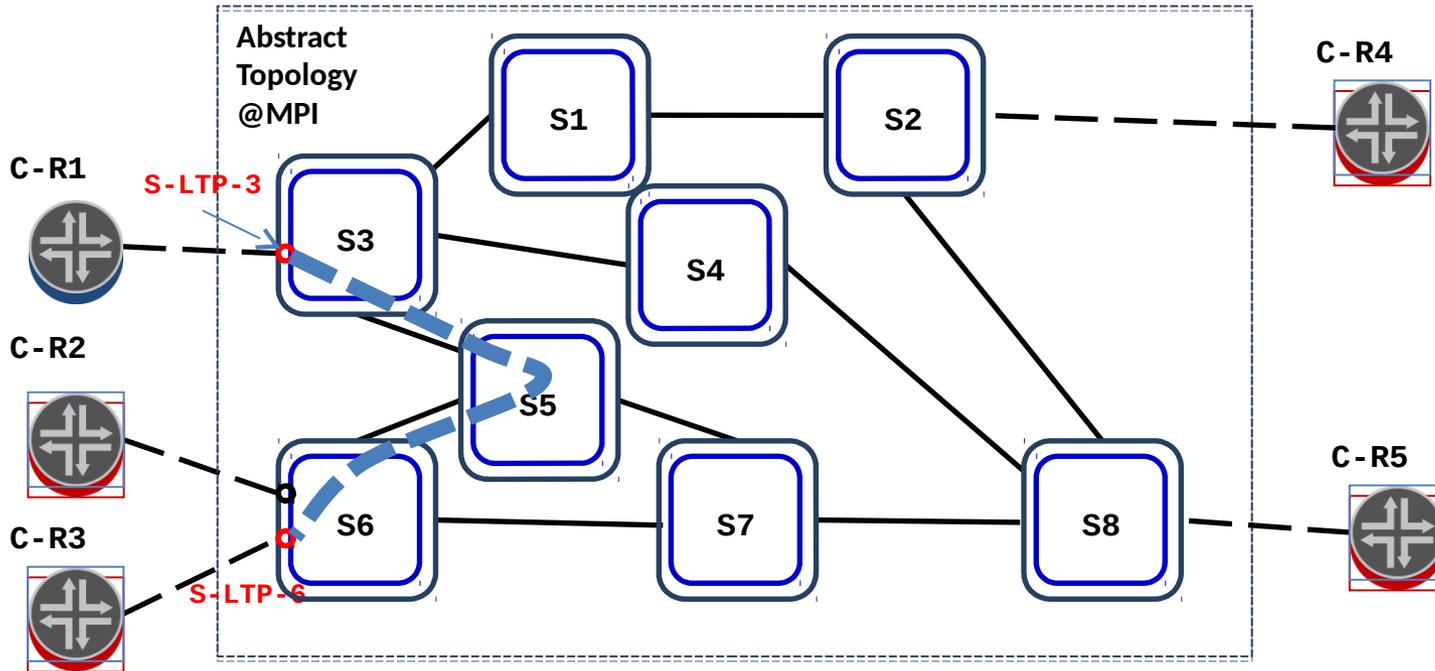
Analysis

- Analysis started – no I-D submitted yet
 - Use Case 1 for ODU Transit Service analyzed
 - Some comments/questions already discussed with TE-Tunnel model authors
- Next Steps
 - Address pending open issues
 - Complete analysis of Use Case 1
 - Analysis of other Use Cases

Use Case 1



ODU2 Tunnel Setup



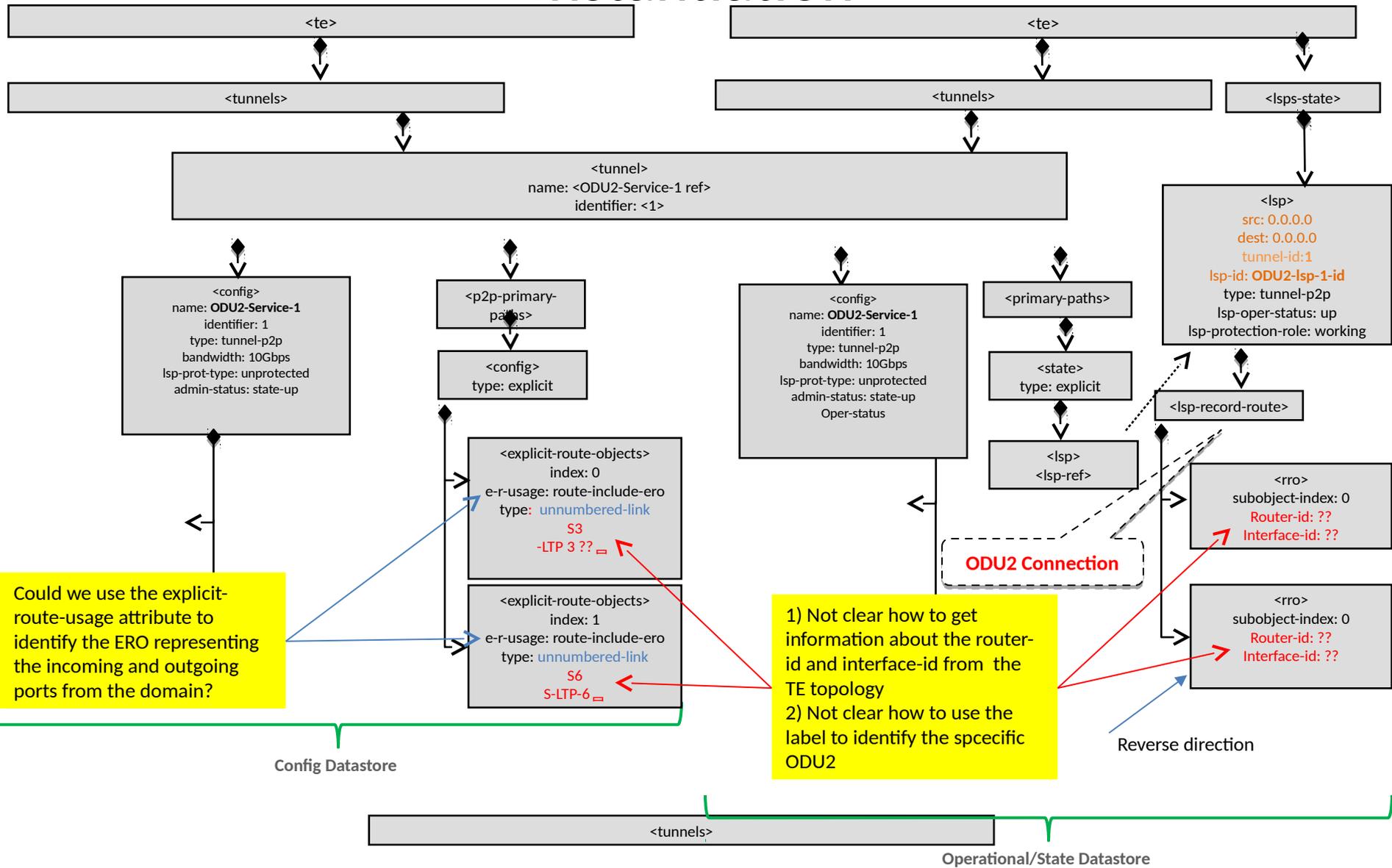
MDSC should request Transport PNC to setup an ODU2 Tunnel (Segment) between S-LTP-3 and S-LTP-6

Ingress and egress points are indicated in the ERO of the primary path:

- First ERO element is S-LTP-3
- Last ERO element is S-LTP-6

The tunnel to be setup is a segment tunnel, source and destination of the E2E tunnel information is belonging to customer side.

ODU2 Connection: TEAS Tunnel Model Instantiation



Open Issues

- How can we get information regarding the ingress and egress point of the transit tunnel (router-id and interface-id) ?
 - The router id can be the te-node-id in the teas-topology?
 - The interface-id can be the te-tp-id in the teas-topology?
- How the specific ODU2 (e.g., TS information) to be used on the access links is configured
 - Some negotiation process is needed
 - It may depend on how this information is selected:
 - If selected by the NE/PNC, it is communicated by the PNC to the MDSC after the Tunnel has been setup
 - If selected by others (e.g., MDSC), it should be communicated by the MDSC in the ERO elements when the Tunnel setup is requested
 - Current assumption: the MDSC selects the specific ODU2
- How MDSC knows which TSs are available on the access link
 - Possible conclusion: it is beneficial not to advertise the available BW in terms of number of containers but we advertise which particular container is available. This information may be needed only for Tunnel configuration while for path computation this information is not needed.
 - Is this information provided by the TE-Topology or should be provided in the ODU augmentation?

Open Issues (2)

- Can PNC suggest label(s) to MDSC?
 - May depend on the RESTconf operation sequence
- RESTconf operation sequence
 - Do we need to know if the Tunnel setup is in-progress, failed or success?
 - Is this information available in the TE-Tunnel model?
 - Could we use a timeout?
- Should we also consider the YANG Transport Service Model (draft-zhang-ccamp-transport-ctrlnorth-yang)? Is it applicable only at the CMI or also at the MPI?
- Which tool to use to describe the analysis? PowerPoint Instagram's or textual description?

Open Issues – Scope related (3)

- Should we analyze only the IETF YANG models or at YANG models also from other SDOs (e.g., ONF, MEF, ...)
 - Consider use cases for different SDOs
 - Analyze applicability only of IETF YANG model
 - Other SDOs can analyze applicability of their YANG models to the use cases
- Where to document the analysis (same draft as Use Cases or different draft)?
 - Describe the analysis in a different draft(s)
- What about technology-specific augmentation of TE Tunnel model?
 - An individual I-D already exists in CCAMP for the OTN tunnel model augmentation