A YANG Data Model for Client-layer Tunnel

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Abstract

A transport network is a server-layer network to provide connectivity services to its client. In this draft the tunnel of client is described, with the definition of client tunnel YANG model.

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# Introduction

A transport network is a server-layer network designed to provide connectivity services for a client-layer network to carry the client traffic transparently across the server-layer network resources. The tunnel model in Traffic-Engineered network has been defined in both generic way and technology-specific way. The generic model, which is the base TE tunnel YANG model, can be found at [ietf-teas-yang-te]. Technology-specific models, such as OTN/WSON tunnel model, have also been defined in [ietf-ccamp-otn-tunnel-model] and [lee-ccamp-wson-tunnel-model] respectively. Corresponding tunnel on client-layer is also required, to have a complete topology view from the perspective of network controllers.

This document defines a data model of all OTN network client signals, using YANG language defined in [RFC7950]. The model can be used by applications exposing to a transport controller via a REST interface. Furthermore, it can be used by an application describe the client tunnel that constructed above the server-layer network.

# Terminology and Notations

A simplified graphical representation of the data model is used in this document. The meaning of the symbols in the YANG data tree presented later in this document is defined in [I-D.ietf-netmod-yang-tree-diagrams]. They are provided below for reference.

o Brackets "[" and "]" enclose list keys.

o Abbreviations before data node names: "rw" means configuration (read-write) and "ro" state data (read-only).

o Symbols after data node names: "?" means an optional node, "!" means a presence container, and "\*" denotes a list and leaf-list.

o Parentheses enclose choice and case nodes, and case nodes are also marked with a colon (":").

o Ellipsis ("...") stands for contents of subtrees that are not shown.

# YANG Model for Client Layer Tunnel

## YANG Tree for Ethernet Tunnel

See the tree file on Github: ietf-eth-te-tunnel@2017-09-04.tree.

## YANG Tree for Tunnel of other Client Signal Model

This section will be completed later.

# YANG Code for Client-layer Tunnel

## The ETH Tunnel YANG Codes

See the YANG file on Github: ietf-eth-te-tunnel@2017-09-04.yang.

## Other Client-Layer Tunnel YANG Code

TBD.

# Considerations and Open Issue

Editor Notes: This section is used to note temporary discussion/conclusion that to be fixed in the future version, and will be removed before publication.

This is a part of L2 work, need to discuss how to go with other L2 network models. The expectation is to include all potential L2 TE part in this work.

# IANA Considerations

TBD.

# Manageability Considerations

TBD.

# Security Considerations

The data following the model defined in this document is exchanged via, for example, the interface between an orchestrator and a transport network controller. The security concerns mentioned in [ietf-teas-yang-te-topo] for using ietf-te-topology.yang model also applies to this document.

The YANG module defined in this document can be accessed via the RESTCONF protocol defined in [RFC8040], or maybe via the NETCONF protocol [RFC6241].

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# Contributors

Will be updated in XML by editor.

# References

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