

YANG Data Models for TE and RSVP

draft-ietf-teas-yang-te-06

draft-ietf-teas-yang-rsvp-07

draft-ietf-teas-yang-rsvp-te-00

draft-ietf-mpls-base-yang-04

code @ <https://github.com/ietf-mpls-yang/te>

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Agenda

- Updates to I-Ds (since IETF97)
- Next steps

I-D: draft-ietf-teas-yang-te-06

Summary of Changes

- Credits:
 - Thanks to Sergio Belotti and Italo Busi et. al for discussions and providing review comments
 - Thanks to multi-vendor team for continued discussions during meetings
- High-level model changes:
 - further alignment of names/types with OC-MPLS models
 - Added new leafs under TE tunnel container
 - Replaced types by newly defined routing types where necessary
 - Introduced path-signaling-type per tunnel and per path
 - Added new leafs under named-path-constraints (exclude/include ERO list)
 - Made modification to explicit-route-object

Next Steps

- Complete definition of tunnel RPCs
- Request further review and address comments

I-D: draft-ietf-teas-yang-rsvp-07

I-D: draft-ietf-teas-yang-rsvp-te-00

I-D: draft-ietf-teas-yang-rsvp-te-mpls-00

Summary of Changes

- Document reorganization:
 - Split the modules into new documents:
 - draft-ietf-teas-yang-rsvp: contains RSVP base and RSVP extended YANG module definition
 - draft-ietf-teas-yang-rsvp-te: contains RSVP-TE generic YANG module definition
 - draft-ietf-teas-yang-rsvp-te-mpls: contains RSVP-TE MPLS YANG module definition
- Model changes
 - Added parameters in RSVP sessions
 - Added parameters in RSVP neighbor
 - Added a leafref in TE model from LSP to RSVP session

Next Steps

- RSVP base/extended in I-D: draft-ietf-teas-yang-rsvp model is stable and ready for WGLC
- We request further review from WG and welcome comments

I-D: draft-ietf-mpls-base-04

Summary of Changes

- Modelling additional parameters in MPLS base model
- Augmentation to RIB YANG model IP routes (AF=IPv4/IPv6)
for MPLS attributes
- Augmentation to RIB (non-IP) MPLS routes for MPLS
attributes

Update # 1

< draft-ietf-mpls-base-04 >

Additional MPLS base parameters

```
rw mpls:mpls
+--rw mpls:config
| +--rw mpls:ttl-propagate? boolean
+--ro mpls:state
| +--ro mpls:ttl-propagate? boolean
+--rw mpls:label-blocks
| +--rw mpls:label-block* [index]
|   +--rw mpls:index -> ../config/index
|   +--rw mpls:start-label? -> ../config/start-label
|   +--rw mpls:end-label? -> ../config/end-label
|   +--rw mpls:config
|     +--rw mpls:index? string
|     | +--rw mpls:start-label? rt-types:mpls-label
|     | +--rw mpls:end-label? rt-types:mpls-label
|     | +--rw mpls:block-allocation-mode? identityref
|     +--ro mpls:state
|     | +--ro mpls:index? string
|     | +--ro mpls:start-label? rt-types:mpls-label
|     | +--ro mpls:end-label? rt-types:mpls-label
|     | +--ro mpls:block-allocation-mode? identityref
|     | +--ro mpls:free-labels-count? uint32
|     | +--ro mpls:inuse-labels-count? uint32
```

- Changes to use rt-types
- Add TTL-propagate leaf
- Add support for MPLS label blocks

Update # 2

< draft-ietf-mpls-base-04 >

Augmentation to RIB for MPLS routes

```

+--ro ribs
  +--ro rib* [name]
    +--ro name          string
    +--ro address-family identityref
    +--ro default-rib?  boolean {multiple-ribs}?
    +--ro routes
      | +--ro route*
      |   +--ro route-preference?  route-preference
      |   +--ro next-hop
      |     | +--ro (next-hop-options)
      |     |   +--:(simple-next-hop)
      |     |   | +--ro outgoing-interface?  if:interface-state-ref
      |     |   | +--ro mpls:remote-labels*  rt-types:mpls-label
      |     |   | +--ro v4ur:next-hop-address?  inet:ipv4-address
      |     |   | +--:(special-next-hop)
      |     |   | +--ro special-next-hop?  enumeration
      |     |   | +--:(next-hop-list)
      |     |   | +--ro next-hop-list
      |     |   |   +--ro next-hop*
      |     |   |     +--ro outgoing-interface?  if:interface-state-ref
      |     |   |     +--ro mpls:index?  string
      |     |   |     +--ro mpls:backup-index?  string
      |     |   |     +--ro mpls:loadshare?  uint16
      |     |   |     +--ro mpls:role?  nhlfe-role
      |     |   |     +--ro mpls:remote-labels*  rt-types:mpls-label
      |     |   |     +--ro v4ur:address?  inet:ipv4-address
      |     |   | +--ro source-protocol  identityref
      |     |   | +--ro active?  empty
      |     |   | +--ro last-updated?  yang:date-and-time
      |     |   | +--ro mpls:local-label?  rt-types:mpls-label
      |     |   | +--ro v4ur:destination-prefix?  inet:ipv4-prefix
  
```

- Augmentation show IPv4-RIB augmentation for AF IPv4 prefixes
- Types of routes:
 - IP routes – identified by IP destination prefixes
 - MPLS routes – identified by application FECs, e.g
 - per-VRF label
 - per-CE label
 - etc.

Next Steps

- MPLS base I-D:<draft-ietf-mpls-base> is stable and ready for WGLC
- We request further review from WG and welcome comments

Thank You

TE/RSVP and MPLS YANG Modules Structure and Relationship

