YANG Data Models for TE and RSVP

draft-ietf-teas-yang-te-19
draft-ietf-teas-yang-rsvp-10
draft-ietf-teas-yang-rsvp-te-05
draft-ietf-teas-yang-te-mpls-01

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IETF-104, March 2019, Prague
Agenda

• Updates to I-Ds (since IETF-103)

• Open issues and next steps
I-D: <draft-ietf-teas-yang-te-19>

• I-D contains following YANG modules
  – ietf-te.yang
  – ietf-te-device.yang

• Model covers:
  – TE tunnel(s), TE path(s), LSP(s) constructs and attributes
  – On and off device specific attributes
Update # 1
Alignment to TE Types changes

- Aligned to latest imported changes in TE types module in I-D < draft-ietf-teas-yang-te-types>
- Proactively applied review comments received on other I-Ds to this module
  - Use of type “yang:hex-string” instead of “binary”
  - Setting defaults for optional leaf(s)
  - Naming conventions:
    - replace “_” with “-”
    - replace all caps for enums
  - I-D references check, etc.

```
  grouping p2p-primary-path-properties {
    description "TE tunnel primary path properties grouping";
    uses p2p-path-properties_config;
    uses path-constraints-common_config;
    uses p2p-path-properties;
    uses path-constraints-common;
    container state {
      config false;
      description "Configuration applied parameters and state";
      uses p2p-path-properties_state;
      uses p2p-path-properties-state;
    }
    leaf extended-ID {
      type binary;
      description "Association extended ID";
      reference "RFC4872";
    }
    type identityref {
      base te-types:path-signaling-type;
    }
    default te-types:path-setup-static;
    description "Signaling protocol used to set up this tunnel";
  }
```
Update # 2
Path computation error info

- New grouping to model path computation error information
- Grouping used per TE path
- Maintains a list of events, each entry:
  - Timestamp of when computation occurred
  - A reason associated with the computation failure
  - A textual description of the error
Update # 3
LSP provisioning error info

• New grouping to model LSP provisioning errors

• Grouping reused:
  – Per LSP state
  – Per TE path to cache LSP destructive events

• Maintains a list of events, each entry:
  – Timestamp of when error event occurred
  – A textual description of the error
  – The node ID indicating node where the error occurred
  – The link ID indicating link where error occurred
I-D: <draft-ietf-teas-yang-rsvp-08>

- I-D contains following YANG modules
  - ietf-rsvp.yang
  - ietf-rsvp-extended.yang

- Model covers:
  - RSVP protocol specific attributes: signaling parameters, timers, feature enablement (authentication, bundling, Srefresh, Hello) etc.
  - Per session, neighbor and interface RSVP attributes
I-D: <draft-ietf-teas-yang-rsvp-te-05>
I-D: <draft-ietf-teas-yang-te-mpls-01>

• I-D(s) contains following YANG modules
  – ietf-rsvp-te.yang
  – ietf-rsvp-te-mpls.yang
  – ietf-te-mpls.yang

• Models cover:
  – Augmentations to TE tunnels model for signaling RSVP-TE LSP(s)
  – Augmentations specific to MPLS TE tunnels model for signaling MPLS RSVP-TE LSP(s)
  – Augmentation to RSVP protocol model for RSVP-TE features
Update # 1 < draft-ietf-teas-yang-rsvp-te-05>

Augmentation to LSP provisioning error info

• New grouping to model RSVP-TE per LSP signaling errors

• Grouping augments generic TE LSP provisioning errors:
  – Per LSP
  – Per TE path

• Augments each entry in the LSP error info list with:
  – RSVP message type (new identities added for message types)
  – RSVP error code and error sub-code to cover those already defined in RFC2205, RFC3209, and others

```protobuf
grouping rsvp-te-lsp-error-info {
  description "Grouping for RSVP-TE error reporting information";
  leaf rsvp-message-type {
    type identityref {
      base rsvp-message-type;
    }
    description "The RSVP message type that delivered the error";
  }
  leaf rsvp-error-code {
    type uint8;
    description "RSVP error code";
    reference "RFC2205";
  }
  leaf rsvp-error-subcode {
    type uint16;
    description "RSVP Error sub-codes";
    reference "RFC2205";
  }
}

augment "/te:te-tunnels/te:tunnel/te:p2p-primary-paths" +
  "/te:p2p-primary-path/te:lsps/te:lsp" +
  "/te:lsp-provisioning-error-infos/te:lsp-provisioning-error-info" {
    when "/te:te-tunnels/te:tunnel/te:p2p-primary-paths" +
      "/te:p2p-primary-path/te:lsps/te:lsp" +
      "/te:path-setup-protocol = 'te-types:path-setup-rsvp'" {
      description "When the signaling protocol is RSVP-TE ";
      description "Augmentation for RSVP-TE per path error reason";
      uses rsvp-te-lsp-error-info;
    }
  }
```
Next Steps

• I-D <draft-ietf-teas-yang-te>:
  – Current status of I-D is stable
  – Would like to request initiating a YANGDOCTORS review

• I-D: <draft-ietf-teas-yang-rsvp-08>:
  – In YANGDOCTORS Early Review - due: 2019-04-15
  – Will request the WGLC once all comments addressed

• I-D: <draft-ietf-teas-yang-rsvp-te-05> and
  I-D: <draft-ietf-teas-yang-te-mpls-01>
  – The I-D(s) will undergo 1 more update before YANGDOCTORS review
Thank You