

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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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

```

133 135      grouping p2p-primary-path-properties {
134 136 +      description
135 137          "TE tunnel primary path properties grouping";
136 -      uses p2p-path-properties_config;
137 -      uses path-constraints-common_config;
138 +      uses p2p-path-properties;
139 +      uses path-constraints-common;
138 140      container state {
139 141          config false;
140 142          description
141 143              "Configuration applied parameters and state";
142 -      uses p2p-path-properties_state;
144 +      uses p2p-path-properties-state;
143 145      }
144 146      }
... ..

758 748      leaf extended-ID {
759 -      type binary;
749 +      type yang:hex-string;
760 750      description "Association extended ID";
761 751      reference "RFC4872";
762 752      }

841 828      type identityref {
842 829          base te-types:path-signaling-type;
843 830      }
831 +      default te-types:path-setup-static;
844 832      description
845 833          "Signaling protocol used to set up this tunnel";
846 834      }

```

- 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.

Update # 2

Path computation error info

```
grouping computed-path-error-info {
  description
    "Grouping for path computation error information";
  container computed-path-error-infos {
    config false;
    description
      "Path computation information container";
    list computed-path-error-info {
      description
        "List of path computation info entries";
      leaf error-description {
        type string;
        description
          "Textual representation of the error occurred during
          path computation.";
      }
      leaf error-timestamp {
        type yang:date-and-time;
        description
          "Timestamp of last path computation attempt.";
      }
      leaf error-reason {
        type identityref {
          base path-computation-error-reason;
        }
        description
          "Reason for the path computation error.";
      }
    }
  }
}
```

```
+--ro computed-path-error-infos
| +--ro computed-path-error-info* []
|   +--ro error-description?   string
|   +--ro error-timestamp?    yang:date-and-time
|   +--ro error-reason?       identityref
```

- 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

<draft-ietf-teas-yang-te-19>

```

grouping lsp-provisioning-error-info {
  description
    "Grouping for LSP provisioning error information";
  container lsp-provisioning-error-infos {
    config false;
    description
      "LSP provisioning error information";
    list lsp-provisioning-error-info {
      description
        "List of LSP provisioning error info entries";
      leaf error-description {
        type string;
        description
          "Textual representation of the error occurred during
          path computation.";
      }
      leaf error-timestamp {
        type yang:date-and-time;
        description
          "Timestamp of when the reported error occurred.";
      }
      leaf error-node-id {
        type te-types:te-node-id;
        default "0.0.0.0";
        description
          "Node identifier of node where error occurred.";
      }
      leaf error-link-id {
        type te-types:te-tp-id;
        default 0;
        description
          "Link ID where the error occurred.";
      }
    }
  }
}

```

```

+--ro lsp-provisioning-error-infos
| +--ro lsp-provisioning-error-info* []
| | +--ro error-description?          string
| | +--ro error-timestamp?
| | |   yang:date-and-time
| | +--ro error-node-id?
| | |   te-types:te-node-id
| | +--ro error-link-id?
| | |   te-types:te-tp-id
| +--ro lsp-id?                       uint16

```

- 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

```
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/te:tunnels/te:tunnel/te:p2p-primary-paths" +
  "/te:p2p-primary-path/te:lsp/te:lsp" +
  "/te:lsp-provisioning-error-infos/te:lsp-provisioning-error-info" {
  when "/te:te/te:tunnels/te:tunnel/te:p2p-primary-paths" +
    "/te:p2p-primary-path/te:lsp/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;
}
```

- 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

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