Updated IETF TE Types

TEAS WG, IETF 118, Prague

draft-ietf-teas-rfc8776-update-07

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Changes from -02

• Rev 07 published [Sep 15\textsuperscript{th}, 2023]
  – Allow using RFC8345 or RFC8796 identifiers (address Chaode WG LC comments on te-tunnel)
  – Clean up on path-computation-error-reason derived identities
  – Added updated te-packet-types from draft-ietf-teas-yang-l3-te-topo
  – Aligned bandwidth and burst size definitions with other IETF RFCs
    • Removed bandwidth-scientific-notation
  – Updated authors list to comply with RFC 7322
Mailing list Comment

• Comment from Tom Petch (mail on Sep 27\textsuperscript{th}, 2023): appendix with changes from RFC 8776
  – Some YANG RFC-bis provides this appendix
  – Is this appendix needed?
  • No guidelines found in RFC8407

• Proposed resolution
  – Authors prefers not to add this appendix, if not required by IETF process/guidelines

• See: \url{https://github.com/tsaad-dev/te/issues/220}
WG LC comment for ietf-te

• Path loss and delay variation metrics
  – Metrics defined in RFC7471 for OSPF, and RFC8570 for ISIS
    • Path loss metric defined in ietf-te-mpls
  – Generic metrics for any packet technologies

• Proposed Resolution
  – On this draft
    • Move from te-mpls to path loss metric to te-packet-types
    • Add path delay variation metric to te-packet-types
  – On both draft-ietf-teas-yang-te and this draft
    • Move clarification that the unit of path metric bound is interpreted in the context of the metric-type from te to this draft

• See: https://github.com/tsaad-dev/te/issues/103
WG LC comment for ietf-te

• Restoration scheme for "full LSP rerouting"
  – Missing identity to configure a tunnel with full LSP rerouting capability (RFC4872)

• Possible Resolution
  – On this draft
    • Deprecate or obsolete ‘lsp-protection-reroute-extra’ and ‘lsp-protection-reroute’ identities
    • Add new identity for restoration-scheme
  – On draft-ietf-teas-yang-te
    • Remove default values for restoration-type and the restoration-scheme since technology-specific

• See: https://github.com/tsaad-dev/te/issues/243
Next Step

• Ready for WG LC
  – Consider dependencies from other I-Ds already in WG LC
Backup
Different identifiers for networks, nodes, links and termination points in network topology and TE topology models

- For example:
  - node-id is an URI
  - te-node-id is a dotted-quad

Resolution: allows using RFC8345 or RFC8795 identifiers

- Added MUST statements when needed to mandate the presence of one of the two identifiers

```
+-rw network-id?      nw:network-id
+-rw te-topology-identifier
  +-rw provider-id?  te-global-id
  +-rw client-id?    te-global-id
  +-rw topology-id?  te-topology-id
```

```
+-rw node-id-uri?    nw:node-id
+-rw node-id?         te-node-id
```

```
+-rw link-tp-id-uri? nt:tp-id
+-rw link-tp-id?      te-tp-id
```
Path Computation Error Reasons

• Aligned with the error reasons defined in IANA
  – Added a reference to the IANA assignment when applicable
  – Removed path-computation-error-no-server identity (duplicated)

• Additional error reasons not defined in IANA but applicable to YANG added
  – A ‘no-dependent-server’ can be used to represent either a ‘child PCE unresponsive’ or ‘BRPC chain unavailable’ error without being specific
    • Identity hierarchy used to represent the relationship
Bandwidth and Burst Size

- Defined as uint64 (not as bandwidth-scientific-notation)
- Units are “bits/second” (bandwidth/rates) or “bytes” (burst size)

```
grouping te-packet-path-bandwidth:
  +-- bandwidth-profile-name?  string
  +-- bandwidth-profile-type?  identityref
  +-- cir                      uint64
  +-- cbs                      uint64
  +-- eir?                     uint64
  +-- ebs?                     uint64
  +-- pir?                     uint64
  +-- pbs?                     uint64

grouping te-packet-link-bandwidth:
  +-- packet-bandwidth?        uint64
```