# Updated IETF TE Types

## TEAS WG, IETF 118, Prague

**draft-ietf-teas-rfc8776-update-07**

**Authors:**

Italo Busi  (Huawei)

Aihua Guo (Futurewei)

Xufeng Liu (Alef Edge)

Tarek Saad (Cisco)

Igor Bryskin

**Contributors:**

Vishnu Pavan Beeram (Juniper)

Rakesh Gandhi (Cisco)

# Changes from -02

- Rev 07 published [Sep 15th, 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$^{th}$, 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: https://github.com/tsaad-dev/te/issues/220
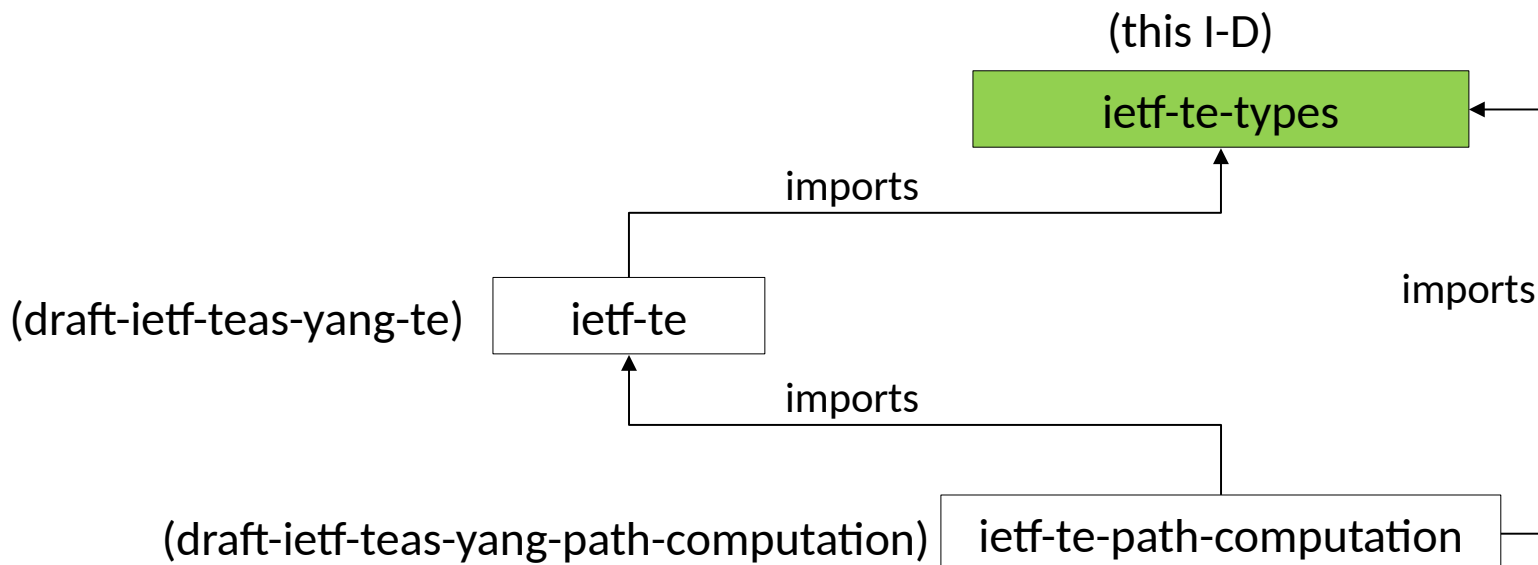
# WG LC comment for ietf-te

- 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

(this I-D)

```
                                    ┌──────────────────────────┐ ◀──┐
                                    │      ietf-te-types       │    │
                                    └──────────────────────────┘    │
                                              ▲                      │
                          imports             │                      │
                    ┌─────────────────────────┘              imports │
                    │                                                 │
┌──────────────┐    │                                                 │
(draft-ietf-teas-yang-te)  │  ietf-te  │                              │
└──────────────┘    ▲                                                 │
                    │                                                 │
          imports   │                                                 │
          ┌─────────┘                                                 │
          │                                                           │
(draft-ietf-teas-yang-path-computation)  │  ietf-te-path-computation  │───┘
```



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# Backup

# WG LC Comment from Chaode

- 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
  - Aded MUST statements when needed to mandate the presence of one of the two identifier

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

```
+--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 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

# Bandiwth 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
```