BIER TE YANG

- According to draft-ietf-bier-te-arch
- Defines a YANG data model for BIER TE configuration and operation
BIER TE YANG

- Key features of BIER TE:
  - BIER-TE replaces in-network autonomous path calculation by explicit paths calculated offpath by the BIER-TE controller host.
  - In BIER-TE every BitPosition of the BitString of a BIER-TE packet indicates one or more adjacencies - instead of a BFER as in BIER.
  - BIER-TE in each BFR has no routing table but only a BIER-TE Forwarding Table (BIFT) indexed by SI:BitPosition and populated with only those adjacencies to which the BFR should replicate packets to.

- BIER TE forwarding table is
  - readable and writable
  - based on adjacency
The YANG model includes:

- Adjacency BP
- Forwarding items
- Optional TE FRR forwarding items

Adjacency BP:
- The BIER-TE controller host tracks the BFR topology of the BIER-TE domain and assigns BitPositions to adjacencies.
- The TE adjacency type describes the character of link.

```
module: ietf-bier-te
augment /rt:routing:
  +++rw bier-te
    +++rw bier-te
      +++rw subdomain* [subdomain-id]
        +++rw subdomain-id    uint16
        +++rw te-adj-id
          +++rw si* [si]
            +++rw si    uint16
            +++rw adj* [adj-id]
              +++rw adj-id    uint16
              +++rw adj-if  if:interface-ref
              +++rw bp-type?  enumeration
  ...
```
BIER TE YANG---detail

- Because the BitPosition is multi-semantic in different sub-domain and set identifier. The BIER TE forwarding is according to the combination of <SD, BSL, SI>
- The ECMP and FRR can be used in BIER TE forwarding.
BIER TE YANG---notification and RPC

notifications:

---n bier-te-notification
  +--ro bp-is-zero* [if-index]
  +--ro if-index  if:interface-ref
  +--ro bp-type?  enumeration

- It is invalid when the BP of link is set to zero.
- Other notifications may be done in future version.

The potential RPCs may be added in future version.
BIER project in ODL

- BIER TE YANG model has been implemented in ODL BIER project.
- The project has been released in Nitrogen version.
- This model is feasible and practicable.
- https://wiki.opendaylight.org/view/BIER:Main
• Any comment ^
• WG adoption?

Thanks!