IETF Network Slice Service YANG Model

draft-ietf-teas-ietf-network-slice-nbi-yang

TEAS WG
March 2024 (IETF 119)

• Bo Wu (Huawei Technologies)
• Dhruv Dhody (Huawei Technologies)
• Reza Rokui (Ciena) - presenting
• Tarek Saad (Cisco)
• John Mullooly (Cisco)

Contributors:
• Luis M. Contreras (Telefonica)
• Liuyan Han (China Mobile)
Summary of issues addressed since IETF119

Rev-10 summary

1. **Med’s comments:** Thanks for the thorough review of the entire document, Some major issues:
   - Referring to published **RFC 9543 Network Slice framework**;
   - YANG improvements
     - Add “ac-svc-name” and improve the description to avoid “attachment-circuits” confusion when both definition are available (ac-svc-name takes precedence)
     - Per COS is added to all qos-policies (i.e., incoming and outgoing)
     - Use Gauge64 in definition of “connectivity-construct-monitoring” and “incoming/outgoing-bw-value”
     - Using the grouping of RFC 9179 Geo-Location
   - Added new example for monitoring of an IETF Network Slice Service between multiple SDPs.

2. **YANG SLE “path-constraints” definition improvement:** Based on comments from draft-liu-teas-transport-network-slice-yang authors
   - Define additional “path-constraints” attributes, “diversity” and underlay path.

https://github.com/lana-wu/ietf-ns-nbi/issues

TEAS meeting @ IETF 119 Brisbane
Issue#1 NS monitoring attributes (changed to Gauge64)


- **Proposal:** Define NSS specific monitoring metrics, with **read only** capability and gauge value.

| | +--ro connectivity-construct-monitoring |
| | +--ro one-way-min-delay? yang:gauge64 |
| | +--ro one-way-max-delay? yang:gauge64 |
| | +--ro one-way-delay-variation? yang:gauge64 |
| | +--ro one-way-packet-loss? percentage |
| | +--ro two-way-min-delay? yang:gauge64 |
| | +--ro two-way-max-delay? yang:gauge64 |
| | +--ro two-way-delay-variation? yang:gauge64 |
| | +--ro two-way-packet-loss? percentage |
| | +--ro connection-group-monitoring |
| | +--ro one-way-min-delay? yang:gauge64 |
| | +--ro one-way-max-delay? yang:gauge64 |
| | +--ro one-way-delay-variation? yang:gauge64 |
| | +--ro one-way-packet-loss? percentage |
| | +--ro two-way-min-delay? yang:gauge64 |
| | +--ro two-way-max-delay? yang:gauge64 |
| | +--ro two-way-delay-variation? yang:gauge64 |
| | +--ro two-way-packet-loss? percentage |
Issue#2 Custom topology definition - topology

- **Current model**: Current YANG NBI has reference to “custom-topology”
  - Allows operator to define the “Connectivity-construct” with more details

- **Issue**: Referring to multiple “topology” is desirable. YANG NBI should support various topology type

- **Proposal**: Change the topology to container to
  - Support multiple “customer-topology”
  - Any topology can be referenced

```plaintext
+-rw two-way-delay-variation? uint32
  |
  +-ro two-way-packet-loss? decimal64
  |  
  +-rw custom-topology
  |   
  |   +--rw network-ref?
  |      -> /nw:networks/network/network-id
```
Issue#3 Addressing “diversity” attribute

- **Issue**: How to address “diversity” attribute mentioned in RF 9543:

- **Solution**: Current YANG NBI has a SLE container “path-constraints”
  - The “diversity” is added to this attribute
Next Step

- Asking for WGLC
Thank You!