

IETF Network Slice Service YANG Model

[draft-ietf-teas-ietf-network-slice-nbi-yang](#)

TEAS WG

November 2023 (IETF 118)

- Bo Wu (Huawei Technologies)
- Dhruv Dhody (Huawei Technologies)
- **Reza Rokui (Ciena) (presenting on behalf of authors)**
- Tarek Saad (Cisco)
- John Mullooly (Cisco)

Contributors:

- Luis M. Contreras (Telefonica)
- Liuyan Han (China Mobile)

Summary of issues addressed since IETF118

Rev-08 summary

1. **Custom topology definition improvement:** Based on comments from OTN slicing authors and Chairs
 - Define “custom-topology” as a container to serve as augmentation target.
2. **Med’s comments:** Thorough review of the entire document:
 - Adds “ac-as-service” and improve the description to avoid AC attributes confusion when both definition are available
 - Improve the definition of YANG module, using reference and unit statements and improving identity description, etc.
 - Remove the reference of I-D.liu-teas-transport-network-slice-yang (individual draft)
 - Change type of “incoming-bw-value” & “outgoing-be-value” to uint64 value
3. Number of authors reduced to 5 per the comments from Chair Lou

Working on:

Thanks to Med for another round of thorough review (>100 comments). Most of them were editorial. Some major issues:

- Add a reference statement to the ACaaS draft.
- NS framework alignment: Update the terminology to align with the outcome of “IETF NSS”
- Geo-Location: Reuse the grouping of RFC9179
- Needed to add a new example for IETF Network Slice Service monitoring.
- Use the security template as draft-ietf-netmod-rfc8407bis-01 #section-3.7.1

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

Issue#1 Custom topology definition

- **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. For example, YANG NBI could support various topology type such as:
 - VN model
- **Proposal:** Change the topology to container to
 - Support multiple “customer-topology”
 - Any topology can be referenced e.g., VN model

```
|         +--ro two-way-delay-variation?    uint32
|         +--ro two-way-packet-loss?       decimal64
+--rw custom-topology
    +--rw network-ref?
        -> /nw:networks/network/network-id
```

Issue#2 Draft AC-as-service Informative reference

- **Current model:** Current YANG NBI draft defines multiple AC options at SDP level:
 - including “peer-sap-id”, and “ac-svc-name”.
- **Issue:** The draft-boro-opsawg-teas-attachment-circuit has just been adopted in OPSAWG
 - The publication of YANG NBI might be impacted
- **Proposal:** draft-boro-opsawg-teas-attachment-circuit as Informative reference

```
+--rw sdps
  +--rw sdp* [id]
    +--rw id string
    +--rw description? string
    | ...
    +--rw node-id? string
    +--rw sdp-ip-address* inet:ip-address
    +--rw tp-ref? leafref
    | ...
    +--rw sdp-peering
    | +--rw peer-sap-id* string
    | ...
    +--rw ac-svc-name* string
    +--rw attachment-circuits
    | +--rw ac-svc-name? string
    | ...
```

Resolved

Issue#3 SDP QoS attributes (Raised by Med)

- **Issue:** Current NBI YANG model does not allow **B/W per CoS** (similar to AC/L2NM /etc...)
See RFC9291 as an example).
- **Proposal:** Support both “per-CoS” and “non-per-CoS” similar to RFC 9291. Also support B/W.

Can be discussed

```
+--rw incoming-qos-policy
| +--rw qos-policy-name? string
| +--rw rate-limits
|   +--rw cir? uint64
|   +--rw cbs? uint64
|   +--rw eir? uint64
|   +--rw ebs? uint64
|   +--rw pir? uint64
|   +--rw pbs? uint64
+--rw outgoing-qos-policy
| +--rw qos-policy-name? string
| +--rw rate-limits
|   +--rw cir? uint64
|   +--rw cbs? uint64
|   +--rw eir? uint64
|   +--rw ebs? uint64
|   +--rw pir? uint64
|   +--rw pbs? uint64
```

string



Current
(non per CoS)

V.S.

```
+--rw svc-pe-to-ce-bandwidth
| +--rw pe-to-ce-bandwidth* [bw-type]
|   +--rw bw-type identityref
|   +--rw (type)?
|     +--:(per-cos)
|       +--rw cos* [cos-id]
|         +--rw cos-id uint8
|         +--rw cir? uint64
|         | ...
|       +--:(other)
|         +--rw cir? uint64
|         +--rw cbs? uint64
|         +--rw eir? uint64
|         | ...
|         +--rw pir? uint64
|         +--rw pbs? uint64
+--rw svc-ce-to-pe-bandwidth
| +--rw ce-to-pe-bandwidth* [bw-type]
|   +--rw bw-type identityref
|   +--rw (type)?
|     +--:(per-cos)
|       +--rw cos* [cos-id]
|         +--rw cos-id uint8
|         +--rw cir? uint64
|         +--rw cbs? uint64
|         | ...
|         +--rw pbs? uint64
|     +--:(other)
|       +--rw cir? uint64
|       +--rw cbs? uint64
|       +--rw eir? uint64
|       | ...
|       +--rw pbs? uint64
```

B/W
support

per CoS
support

Next Step

- Resolve the comments from Med
- Asking for WGLC

Thank You !