

# IETF Network Slice Service YANG Model

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

## TEAS WG

Nov. 2022 (IETF 115 London)

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# Network Slice Service model Status Summary

## Rev-03 summary (draft-ietf-teas-ietf-network-slice-nbi-yang-03)

1. Add a new leaf “service-slo-sle-policy-override” to support **partial or full override** per-slice slo-sle-policy
2. Improve “slo-sle-template” to support **specifying the common attributes** of “service-slo-sle-policy”
3. Add a new leaf “**peer-sap-id**” to facilitate PE ports identification in the case of SDPs in CEs
4. Add a reference to abstract TE topology to resolve **custom topology** extension
5. Add more examples when for CE-based SDP definition (the prime use-case for these examples is 3GPP 5G Network Slicing)
6. Editorial improvements

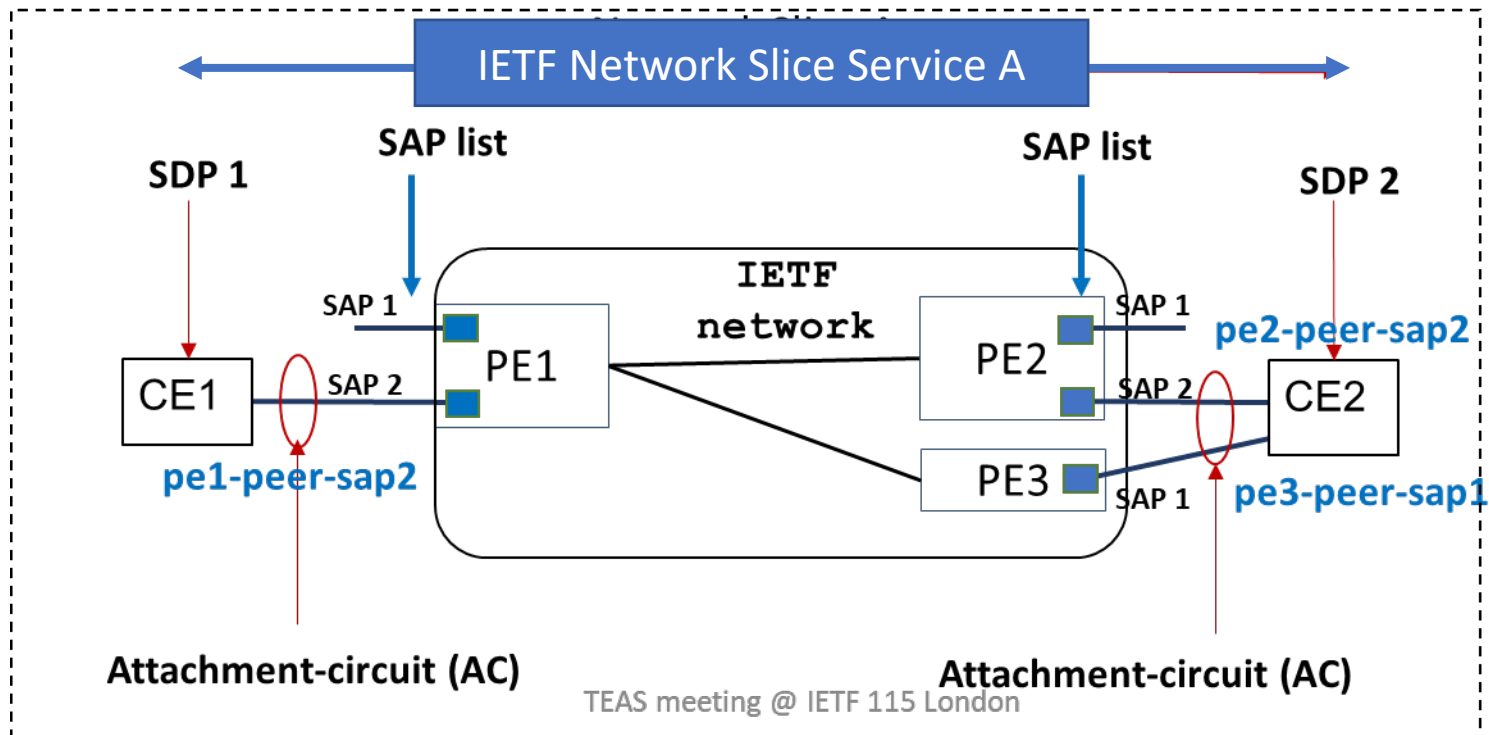
## Issues status

- Open issues, 4 total open issues, 26 closed
- For more details of these issues, please visit <https://github.com/lana-wu/ietf-ns-nbi/issues>

# Updates on “sap-id” association to SDP

(Raised by Ryan Hoffman from Telus)

- **Issue:** NS SDP needs SAP (Service Attachment Points) association in case on CE-based SDP
  - It will provide abstracts on the provider network
  - Note that the IETF NS framework has reference to SAP (see framework draft)
- **Proposal:** Following the advice from the authors of draft-ietf-opsawg-sap,
  - Added **new leafs** “**peer-sap-id**” under “SDP” and “attachment-circuit”. As “sap-id” is “node” local, “peer-sap-id” is the abstract identifier for remote association



# Issue #1

## Handling of custom topology as input in the NS service model

- <https://github.com/lana-wu/ietf-ns-nbi/issues/25>
- **Proposal:**
  - The updates follow the same design as to ACTN VN type 2, adding a reference to a prebuilt abstract TE topology
- **Comments from draft-ietf-ccamp-yang-otn-slicing**
  - **Concern 1:** TE topology model is **technology specific**
    - **Argument:** TE generalization work is in discussion in TEAS WG, which is proposing TE topology also applicable to non-TE network
  - **Concern 2:** The reference to prebuilt TE topology involves two separate steps (i.e., create TE topology first and then IETF NS Service)
    - **Argument :** Try to avoid duplication, because rfc8795 (TE topology) has defined customized topology and VN YANG model use this way.

## Issue #2

### “connection group” or a separate list “connectivity-construct”

- <https://github.com/lana-wu/ietf-ns-nbi/issues/31>
- **Issue:** “connection group” should be optional and a new “connectivity-type “ at connectivity-construct adding “A2A-hub&spoke” in addition to “P2P, P2MP, A2A-mesh” as today
- **Arguments:**
  - **“A2A-hub&spoke”** not consistent with IETF NS framework
  - **Connection Group”** provides a simple and clean design to satisfy the IETF NS Framework to support one or more slo/sla for an IETF network slice service

# Issue #3

## Technology agnostic attributes may cause interoperability difficult

(No progress since IETF 114)

<https://github.com/lana-wu/ietf-ns-nbi/issues/23>

**Issue:** To maintain technology agnostic nature of the YANG model we use

1. A pair of (identity, value (string)) to support many attributes;
  - a common practice, for instance different metric-types use a common leaf metric-value of uint64 (RFC8776).
2. Support for “opaque” attributes that can be configured without an identity
  - This allow new attributes to added with updating YANG model

- **Concern:** Using a string instead of an explicit type in YANG there could be **interoperability** issues. The use of opaque attributes that are not defined in YANG adds to this issue.
- **Proposal:** Ask feedback from the WG and Yang-Doctors on how to balance the need for a technology-agnostic model v/s the issues pointed out above.

```
--rw sdp-peering
+--rw protocol* [protocol-type]
|   +--rw protocol-type    identityref
|   +--rw attribute* [attribute-type]
|       +--rw attribute-type    identityref
|       +--rw value*          string
+--rw opaque* [attribute-name]
    +--rw attribute-name    string
    +--rw value*           string
```

```
Identity peering-protocol-type:
• peering-protocol-bgp
• peering-static-routing

identity peering-attribute-type:
• remote-as
• neighbor
• local-as
```

```
RFC8776:
+--ro path-metric* [metric-type]
  +--ro metric-type    identityref
  +--ro accumulative-value? uint64
  ro path-affinities-values
  +--ro path-affinities-value* [usage]
    +--ro usage    identityref
    +--ro value?  admin-groups
```

## Issue #4

**Issue #4:** IP address in "match-criterion", identifier "service-source-ip-match", "service-destination-ip-match" not clear

- **Proposal:** Replace them with "service-source-ip-prefix-match", "service-destination-ip-prefix-match"
  - The new identity can be used for ip address and ip prefix

# Next step

- Resolve the open issues
- Ready for WGLC