IETF Network Slice Service YANG Model
draft-ietf-teas-ietf-network-slice-nbi-yang-01

TEAS WG

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NS Service model Status Summary

Rev-01 summary:

- Aligns the “ns-connection” with the connectivity construct definition of NS framework rev-07
  - An NS can have a single or multiple connectivity constructs
    - Introduce “ns-connection-group”: a group ns-connection MAY share a common SLO
    - Remove per-NS connection-type and “ep-role” - connectivity construct-based connections only
- Define a extensible list of “ns-tag”, which have a ‘description’ and ‘value’ to define a generic semantic which provides additional information. Note: all ns-tags are OPTIONAL. Examples:
  - customer-name
  - 5G S-NSSAI
  - VPN service type : L1/L2/L3
- Add more AC (CE-PE) attributes of ns-endpoints (NSE):
  - AC (ep-network-access-point ) is optional, while NSE is mandatory
  - AC specific ns-match-criteria, network-access-tag, rate-limits
    - identify a class of service
    - QoS profiles for each class of service guaranteed amount of bandwidth, latency, jitter, rate-limit

Issues status

- Open issues, 3 total open issues so far:
  - https://github.com/lana-wu/ietf-ns-nbi/issues

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NS connectivity construct modelling

- NS framework draft defines three basic connectivity construct:
  - P2P, P2MP, A2A
Introduce “ns-connection-group”

• A group of ns-connection MAY share a common SLO
Open issue#1 - Add connectivity-type @“ns-connection-group”

• In addition to connectivity-type at connection level, allow flexible topology definition: e.g. hub-spoke

IETF Network Slice Service (NS1) between 2 endpoints
IETF Network Slice Service (NS2) between N endpoints
IETF Network Slice Service (NS3) between n+m endpoints

ns-connection-group

Other types …

P2P

P2MP

A2A

P2p

of type p2p

of type a2a

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Open issue #2 - Add a formal import of RFC9181

• [https://github.com/lana-wu/ietf-ns-nbi/issues/5](https://github.com/lana-wu/ietf-ns-nbi/issues/5)

• RFC 9181 VPN Common YANG
  • Identity vpn-topology: any-to-any, hub-spoke, hub-spoke-disjoint, custom
  • Identity role: any-to-any-role, spoke-role, hub-role, custom-role
  • Grouping service-status, oper-status-timestamp

• Proposal:
  • Reuse grouping service-status, oper-status-timestamp
  • Add connectivity-type to “ns-connection-group” as well
Open issue #3 - Add Statistical parameters

- [https://github.com/lana-wu/ietf-ns-nbi/issues/6](https://github.com/lana-wu/ietf-ns-nbi/issues/6)
- It is proposed to add percentile SLO parameters
- Current SLO parameters is aligned with NS framework
  - Minimum Bandwidth
  - Maximum Latency
  - Maximum Permissible Delay Variation
  - Maximum Permissible Packet Loss Rate

- Proposal
  - When they are accepted by the framework, they will be added
Next step

• Resolve the open issues
• Make some terminologies such as SDP (instead of NSE) consistent with NS framework draft
• “Align terminology for ‘ep-network-access-point’ to Attachment-Circuit”
• Clarify use of ‘network-access-node-id’ in the context of multi-homing