

SFC YANG model

<https://tools.ietf.org/html/draft-ao-sfc-yang-00>

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Overview

- A SFC YANG model is needed in SFC WG which is a milestone in the charter
 - Mar 2019 - YANG models for SFF and classifier
- This YANG model is based on RFC7665 and RFC8300
- This YANG model focuses on the configuration on the SFF, and state information of SFF as well

Design Tree for SFC YANG model

- SFF Configuration

```
+--rw sfc-config
| +--rw sfc-enable?  boolean
| +--rw sfc-domain* [sfc-domain-id]
| | +--rw sfc-domain-id  uint32
| | +--rw ipv4-prefix?   inet:ipv4-prefix
| | +--rw ipv6-prefix?   inet:ipv6-prefix
| | +--rw sfc-sfp* [sfpid si]
| | | +--rw sfpid      uint32
| | | +--rw si         uint16
| | | +--rw metric?    uint16
| | | +--rw (nexthop-trans-type)?
| | | | +--:(ipv4-nexthop)
| | | | | +--rw nh-node-type?  sfp-nexthop-type
| | | | | +--rw remote-ipv4?   inet:ipv4-address
| | | | +--:(ipv6-nexthop)
| | | | | +--rw nh-node-type?  sfp-nexthop-type
| | | | | +--rw remote-ipv6?   inet:ipv6-address
| | | | +--:(mac-nexthops)
| | | | | +--rw nh-node-type?  sfp-nexthop-type
| | | | | +--rw remote-mac?    yang:mac-address
| | | | +--:(vxlan-gpe-nexthop)
| | | | | +--rw nh-node-type?  sfp-nexthop-type
| | | | | +--rw remote-ip?     inet:ipv4-address
| | | | | +--rw source-ip?     inet:ipv4-address
| | | | | +--rw destination-ip? inet:ipv4-address
| | | | | +--rw vni             uint32
| | | +--rw last-sff         boolean
```

The SFC configuration in a SFF includes SFF ID, SFP

The SFP configuration includes:

- Sfpid(key)
- Si(key)
- Metric
- Nexthop
- Last-sff

Nexthop

- Type: an SFF or an specific SF
- Transport-type:
 - vxlan-gpe-interface
 - ethernet

Design Tree for SFC YANG model

- SFC State information

```
+--ro sfc-state
  +--ro sfc-enable?      boolean
  +--ro sfc-domain * [sfc-domain-id]
    +--ro sfc-domain-id      uint32
    +--ro ipv4-prefix?      inet:ipv4-prefix
    +--ro ipv6-prefix?      inet:ipv6-prefix
    +--ro sfc-sfp-state
      +--ro sfc-sfp*[sfpid si]
        +--ro sfpid?        uint32
        +--ro si?           uint16
        +--ro metric?       uint16
        +--ro nexthop-trans-type? enumeration
          | +--:(ipv4-nexthop)
          | | +--ro nx-node-type? node-type
          | | +--ro remote-ipv4?  inet:ipv4-address
          | +--:(ipv6-nexthop)
          | | +--ro nx-node-type? node-type
          | | +--ro remote-ipv6?  inet:ipv6-address
          | +--:(mac-nexthop)
          | | +--ro nx-node-type? node-type
          | | +--ro remote-mac?   yang:mac-address
          | +--:(vxlan-gpe-nexthop)
          | | +--ro nx-node-type? node-type
          | | +--ro remote-ip?    inet:ipv4-address
          | | +--ro source-ip?    inet:ipv4-address
          | | +--ro destination-ip? inet:ipv4-address
          | | +--ro vni?          uint32
        +--ro last-sff?      boolean
```

Currently, only configuration information can be read.
Solicit your comments for other state information

Next Step(1)

- We got some important comments. We really appreciate that.
- We plan to update :
 - Add to support the configuration for the SFF list.
 - Add to provide interface-list that should support.
 - Add to support a new transport type: MPLS
 - Re-structure the YANG model to make it to be more extensible.

Next Steps(2)

- Any comments, questions are always welcome and greatly appreciated.
- We welcome many of you join us on this work.