DetNet Configuration YANG Model

draft-ietf-detnet-yang-04

Xuesong Geng (gengxuesong@huawei.com)

Mach Chen   (mach.chen@huawei.com)

Yeoncheol Ryoo (dbduscjf@etri.re.kr)

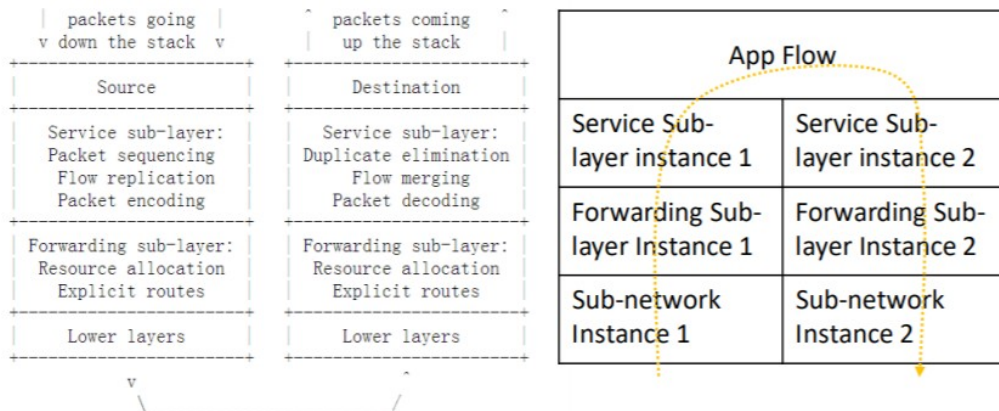Zhenqiang Li (lizhengqiang@chinamobile.com)

Reshad Rahman(rrahman@cisco.com)

History

- Version 00: accepted as a WG document after IETF 102

- Version 01: *ietf-detnet-topology-yang* is defined independently

- Version 02: updated following the feedback from IETF103

  - Add 'Sequence Number Generation'

    - OAM considerations

  - Add 'DetNet Service Decapsulation'

  - Add 'DetNet Transport Tunnel Decapsulation'

- Version 03: DetNet Configuration Structure Update in IETF104 and IETF105

- Version 04 :

  - Modify the scope of DetNet YANG Model
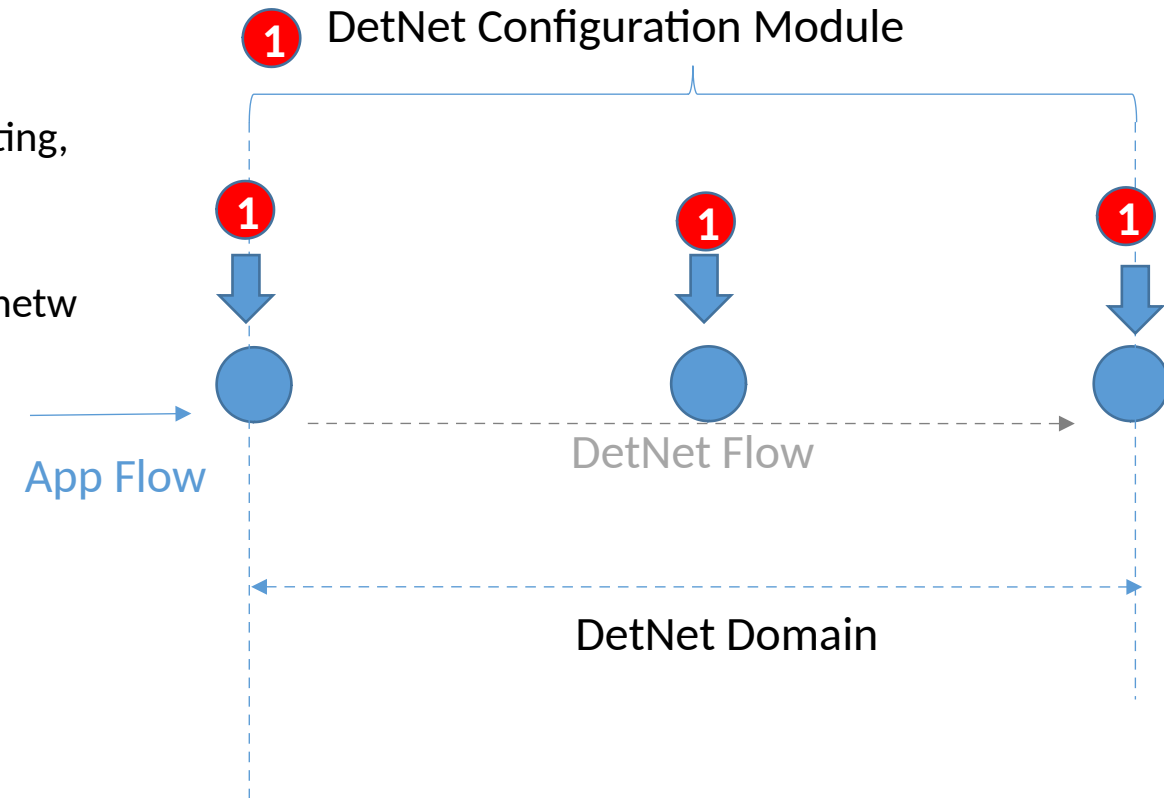
Version03: DetNet Configuration YANG Model

- DetNet Configuration Module

  - designed for DetNet flow path establishment, flow status reporting, and DetNet functions configuration

  - Inluding: App flow, service sub-layer, forwarding sub-layer, sub-network

DetNet Configuration Module

App Flow

DetNet Flow

DetNet Domain

```
|  packets going  |        |  packets coming  |
v  down the stack v        |   up the stack    |
+------------------+       +------------------+
|      Source      |       |   Destination    |
+------------------+       +------------------+
| Service sub-layer:|      | Service sub-layer:|
|  Packet sequencing|      | Duplicate elimination|
|  Flow replication |      |   Flow merging    |
|  Packet encoding  |      |  Packet decoding  |
+------------------+       +------------------+
| Forwarding sub-layer:|   | Forwarding sub-layer:|
|  Resource allocation |   |  Resource allocation |
|   Explicit routes    |   |   Explicit routes    |
+------------------+       +------------------+
|   Lower layers   |       |   Lower layers   |
+------------------+       +------------------+
        v                           ^
         \                         /
          _____/
```

DetNet data plane protocol stack*

	App Flow	
Service Sub-layer instance 1	Service Sub-layer instance 2
Forwarding Sub-layer Instance 1	Forwarding Sub-layer Instance 2
Sub-network Instance 1	Sub-network Instance 2

DetNet Configuration Instance

3

Version 04: DetNet YANG Model

- DetNet Service Module

  - service quality attributes

    - Maximum Latency

    - Maximum Latency Variation

    - Maximum Loss

    - Maximum Consecutive Loss

    - Maximum Misordering

  - service endpoints attributes

    - The starting and termination reference points of the DetNet Service.

  - service encapsulation type attributes

    - Service Encapsulation attribute defines the data plane type of the DetNet servi ce in a DetNet domain, e.g., MPLS, IP.
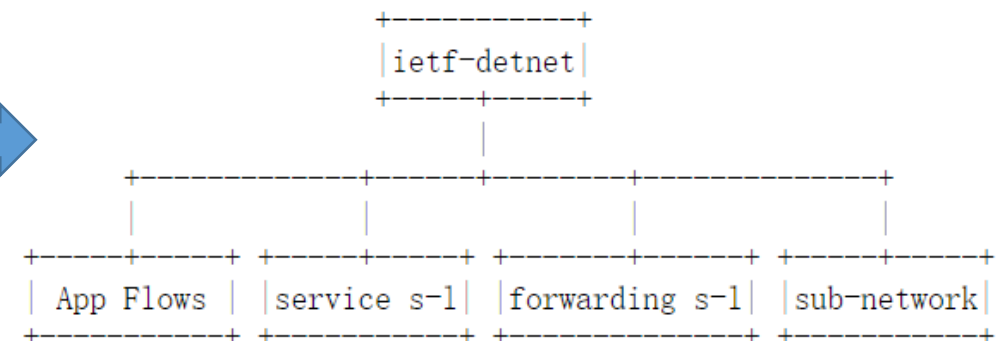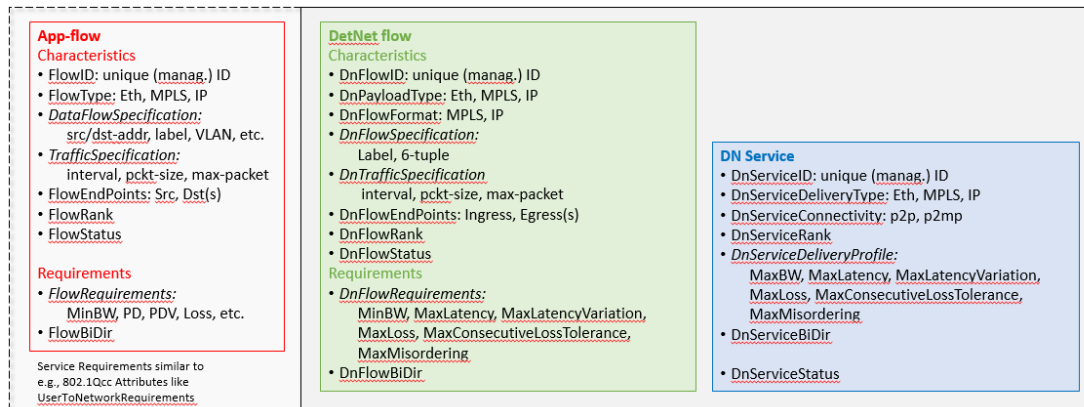
- DetNet Configuration Module

  - As Previous Slides

2 DetNet Configuration Module

2   **2**   **2**

App Flow

1 DetNet Service Module

DetNet Domain

4
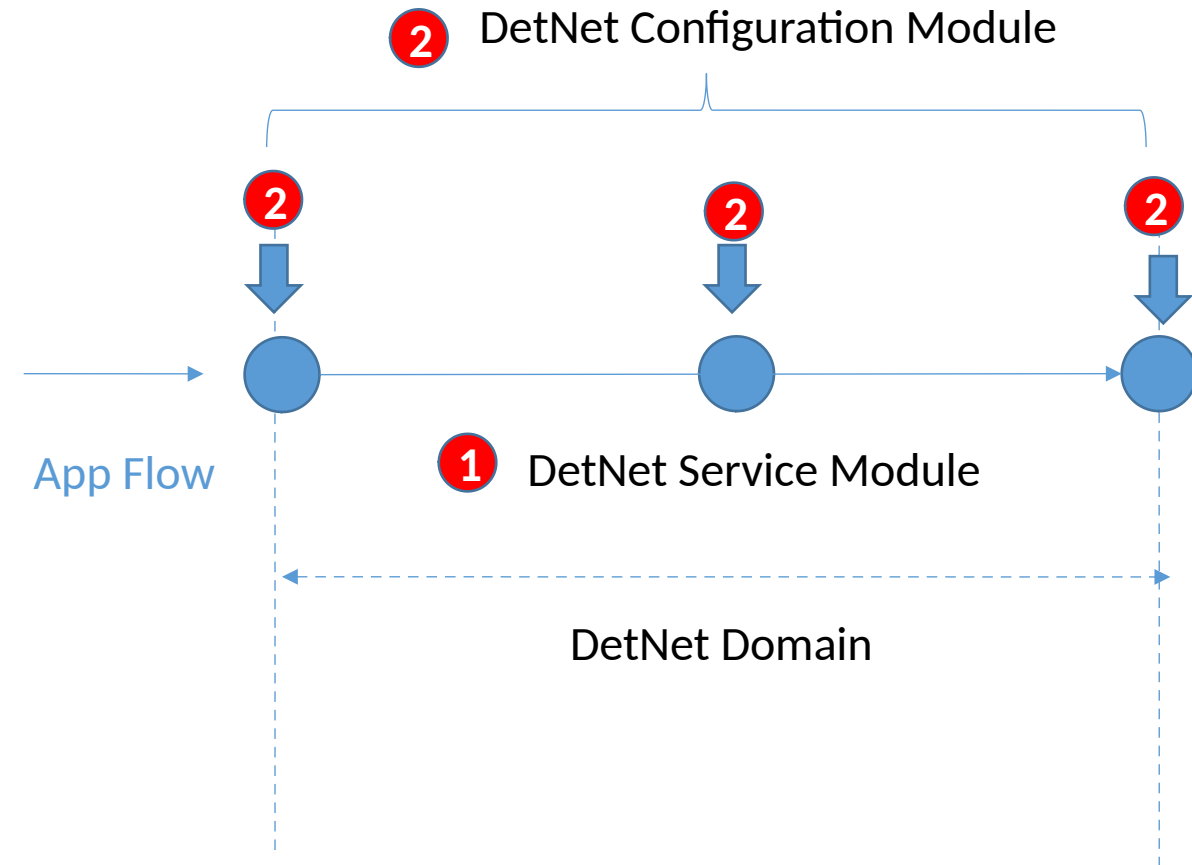
Conclusion and Next Step

- Not well aligned yet

- TBD: Mapping between information model and YANG Model

- Plan to work together

Thanks