# Application-aware IPv6 Networking (APN6)

draft-li-6man-app-aware-ipv6-network-00

Zhenbin Li, Shuping Peng (Huawei)
Chongfeng Xie, Cong Li (China Telecom)

Application-aware IPv6 Networking

- Make use of IPv6 extensions header to convey the service requirements along with the packet to the network
- To facilitate the service deployment and network resource adjustment to guarantee SLA for applications
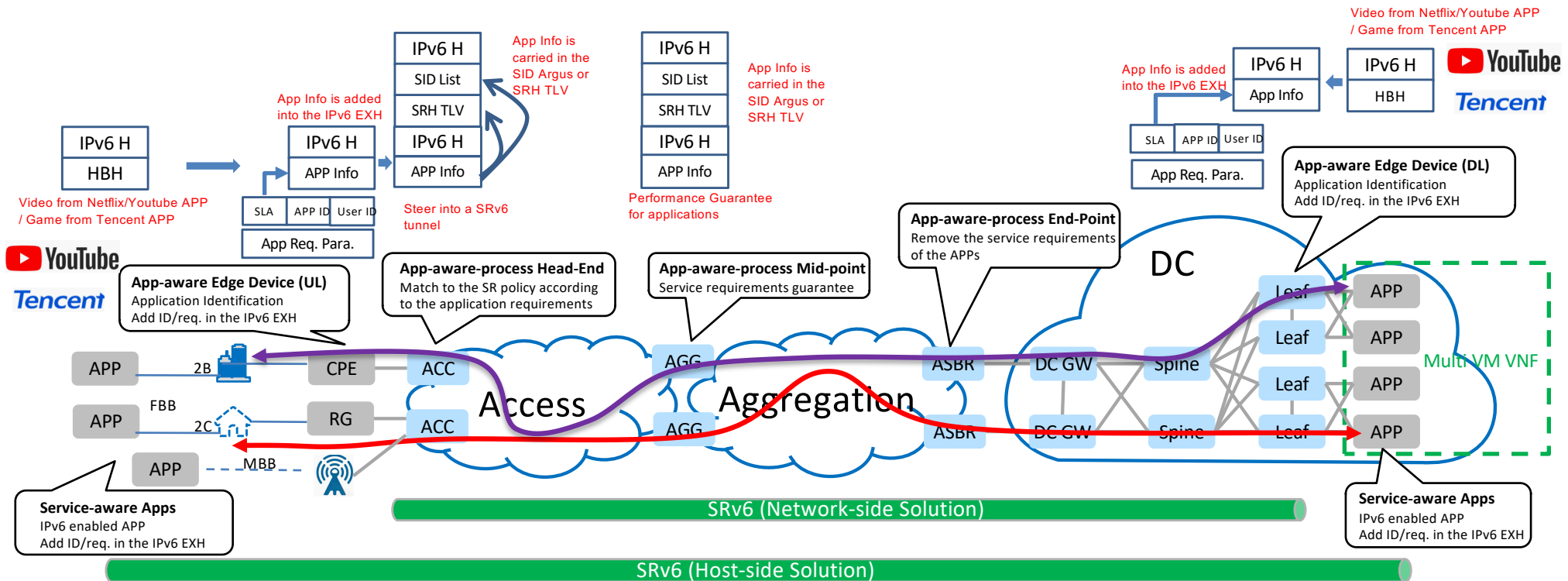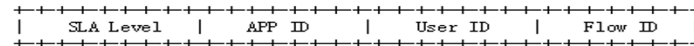
Application-aware ID Option/Service-Para Option

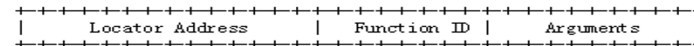- **Carrying application ID, user ID, flow ID, and service requirements**
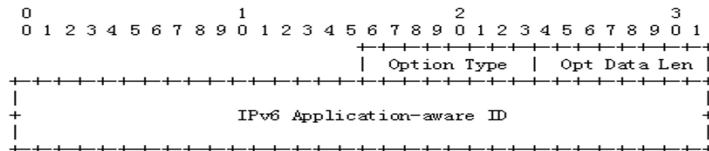
Structure I: Any combination of SLA level (e.g. Gold, Silver, Bronze), APP ID, and/or user ID, and/or Flow ID

```
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|   SLA Level   |    APP ID    |   User ID   |   Flow ID   |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

**Structure II**: Any combination of SLA level (e.g. Gold, Silver, Bronze), APP ID, and/or user ID, and/or Flow ID, plus the arguments which indicating the service requirements of the identified application

```
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| SLA Level| APP ID | User ID |  Flow ID   |  Arguments  |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
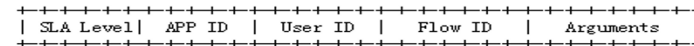
Structure III: An SRv6 SID, with its arguments as the information specified in Structure II

```
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|     Locator Address     |  Function ID  |   Arguments  |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- **Carrying the service requirement parameter**

3
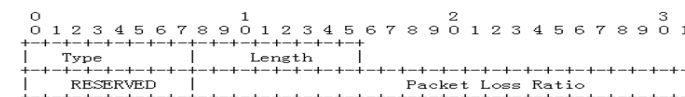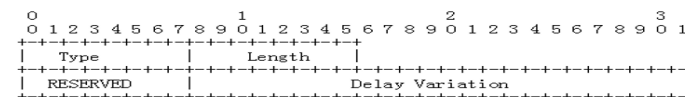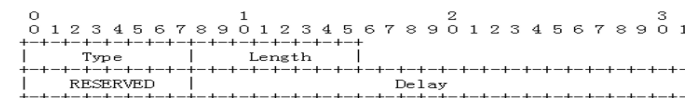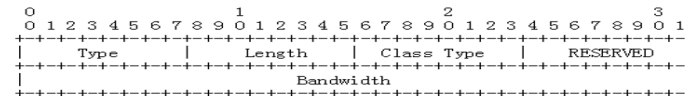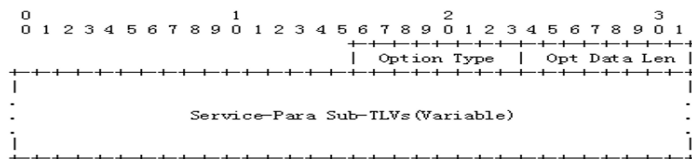
Summary of APN6 Side Meeting

- Thursday Morning @Notre Dame

- Attendee: 50+

- Discussion points:
  - App-aware Info conveying
  - App-aware services
  - Security issues/boundary
  - Application identification
  - Policy enforcement
  - Relationship with the PANRG

- Investigation and Consensus: There is a value of the work

- Next Step:
  - Setup Mailing list to continue discussions
  - https://github.com/shupingpeng/IETF105-Side-Meeting-APN6

Agenda

1. **Admin** (Chairs) [5 : 5/75]
2. **Problem Statement and Requirements** (Zhenbin Li) [10 : 15/75]
3. **Application-aware Information Conveying**
   a) Framework of App-aware IPv6 Networking (Shuping Peng) [10 : 25/75]
   b) Firewall and Service Tickets (Tom Herbert) [10 : 35/75]
   c) SRH Metadata for Simplified Firewall (Jim Guichard) [5 : 40/75]
4. **App-aware Services**
   a) IPv6-based DetNet (Yongqing Zhu) [5 : 45/75]
   b) SRv6 Path Segment (Fengwei Qin) [5 : 50/75]
   c) IPv6-based IFIT (In-situ Flow Information Telemetry) (Haoyu Song) [5 : 55/75]
5. **Shaping Our Discussion** (Chairs and Room) [15 : 70/75]
6. **Wrap Up** (Chairs) [5 : 75/75]