DetNet QoS
IETF 106, Singapore
draft-xiong-detnet-qos-policy-02
draft-xiong-detnet-qos-yang-02

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IETF QoS

draft-ietf-rtgwg-qos-model-00
Policy
Classifier
Action
Target

DiffServ
- DiffServ Architecture RFC2475
- MPLS DiffServ RFC3270
- DSCP Field in IP Header RFC2474
- TC Field in MPLS Header RFC5462
- Service Classes RFC4594
  - DF PHB, LE PHB, CS PHB
  - AF PHB RFC2597
  - EF PHB RFC2598

Vendor Specific (Queuing)
DetNet QoS Requirements

• RFC8655
  – DetNet and non-DetNet flows could coexist with existing Class of Service schemes
  – DetNet flows MUST be differentiated from non-DetNet traffic
  – Non-DetNet traffic can not disrupt the DetNet flows
  – DetNet flows can be shaped or scheduled
  – The aggregation of DetNet flows must be supported
  – More others ...
Recap of DetNet QoS

- **draft-xiong-detnet-qos-policy-02**
  - Apply Differentiated Services (DiffServ) and QoS model in DetNet and define a DetNet DiffServ mechanism including DetNet IP and MPLS encapsulation.

- **draft-xiong-detnet-qos-yang-02**
  - Define a YANG data model for DetNet DiffServ Qos.
    - DetNet QoS Tree Structure
    - DetNet QoS Module
DetNet DiffServ Model

- DetNet Classifiers
  - Behavior Aggregate (BA) / Multi-Field (MF) / DetNet Flow (DF)
- DetNet DSCP:
  - DetNet IP DSCP
  - DetNet MPLS DSCP
- DetNet Traffic Conditioners
  - Meter (DetNet Profile) / Marker / Shaper / Dropper / Scheduler
- DetNet Per-hop Behavior (PHB)
  - DetNet PHB (DetNet service class)
- DetNet Queuing
  - Time-Schedule Queuing

Diagram:

- DetNet Flow
  - Classifier (DetNet BA, MF, DF)
  - Meter (DetNet Profile)
  - Marker (DetNet DSCP)
  - Shaper/Dropper/Scheduler
  - DetNet PHB/Time-Schedule Queuing
DetNet QoS Tree Structure

module: ietf-detnet-qos
+-rw detnet-qos-policies
  +--rw detnet-policy-template* [detnet-policy-name]
    +--rw detnet-policy-name string
    +--rw detnet-policy-type? detnet-policy-type
  +--rw detnet-classifier-template* [detnet-classifier-name]
    +--rw detnet-classifier-name string
    +--rw detnet-classifier-type? detnet-classifier-type
    +--rw (classifier-type)?
      |   +--:(ba)
      |   |   +--rw (encapsulation-type)?
      |   |   |   +--:(MPLS)
      |   |   |   |   +--:(IP)
      |   |   |   |   +--:(mf)
      |   |   |   |   +--rw (encapsulation-type)?
      |   |   |   |   |   +--:(MPLS)
      |   |   |   |   |   |   +--:(IPv4)
      |   |   |   |   |   |   |   +--:(IPv6)
      |   |   |   +--rw detnet-action* [detnet-action-type]
      |   |   +--rw detnet-action-type detnet-action-type
      |   |   +--rw (actions)?
      |   |   |   +--:(meter)
      |   |   |   +--:(marker)
      |   |   |   +--:(shaper)
      |   |   |   +--:(dropper)
      |   |   |   +--:(Scheduler)
      |   +--rw phb-class? qos-phb-classC
      |   |   +--rw tc-value uint8
      |   |   |   +--rw s-label? uint32
      |   |   |   +--rw phb-class?<uint8>
      |   |   |   |   +--rw dscp-value uint8
      |   |   |   |   +--rw ipv4-source-address? inet:ipv4-address
      |   |   |   |   +--rw ipv4-destination-address? inet:ipv4-address
      |   |   |   |   +--rw protocol-ID? uint8
      |   |   |   |   +--rw source-port-numbers? inet:port-number
      |   |   |   |   +--rw destination-port-numbers? inet:port-number
Next Steps

- More work and contributions
- Comments and discussions
Thanks!