DetNet Information Mode I Consideration

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The Charter about Information Model

• Data flow information model: This work will identify the information needed for flow establishment and control and be used by reservation protocols and YANG data models. The work will be independent from the protocol(s) used to control the flows (e.g. YANG+NETCONF/RESTCONF, PCEP or GMPLS).
A thought of Information Model

Flow ID, Flow Constraint Information

Network Information

Flow Path Information

YANG Models

Control Protocol Parameters

Flow Status

Proposed Information Model

Current Information Model
Flow Constraint Information

- Flow Identification (e.g., Source/Dest...)
- Flow Requirements (e.g., Latency, Loss...)
- Traffic Specification (e.g., Interval, Max Packet Size...)

Diagram:
- Centralized User Configuration
- Centralized Network Configuration
- DetNet Source
- DetNet Destination
- DetNet Enabled Devices
Network Information

- Domain Information (e.g., Encapsulation, Priority...)
- DetNet Related Capability Information (e.g., Max Node Latency, Reservable Bandwidth for DetNet...)
- Network Topology Information
Flow Path Information

- Flow Identification (e.g., Priority, 5-tuple...)
- Flow Route (e.g., Explicit Route, Replication/Elimination...)
- Path Attributes (e.g., Bandwidth, Queue Parameter...)

Diagram:
- Centralized User Configuration
- Centralized Network Configuration
- DetNet Source
- DetNet Enabled Devices
- Flow Path Information
- DetNet Destination
Flow Status

End Station Status
(e.g., Interface Status...)

Intermediate Nodes Status
(e.g., Edge Node Status,
Relay Node Status,
Replication/Elimination
Node Status...)

Flow Status
Next Step

- WG Feedbacks?
- Work on flow information model is ongoing
- No details on network configuration part so far
  - Input: network topology, node capabilities, requested flows (flow info)
  - Output: path, node configuration,
- How to address network configuration?
  - Within flow information model draft?
  - New document?
- How to leverage work done in other WGs?
  - E.g., Topology model, TE LSP model, control plane (topology collection and path establishment) etc.
Thanks