DetNet Flow Information Model

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Yiyong Zha, Yuanlong Jiang, Liang Geng
Agenda

- DetNet Flow
- DetNet Flow Information Model
- How to Use Flow Model
- Status and Next Step
DetNet Flow

- **DetNet Flow**
  - “A DetNet flow is a sequence of packets to which the DetNet service is to be applied.”
  - Do not rapidly change
  - Limited traffic from source
  - Synchronous or asynchronous

- **How to describe a DetNet flow**
  - DetNet flow model
  - Scalable and reusable
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Information Model

- **Information model (RFC 3444)**
  - Information Models are used to model managed objects at a conceptual level, independent of any specific protocols used to transport the data (protocol agnostic).
  - Information models focus on relationships between managed objects.

- **Data model (RFC 3444)**
  - Data Models are defined at a lower level of abstraction and include many details (compared to information models).
  - They are intended for implementers and include implementation- and protocol-specific constructs.
  - Data models are often represented in formal data definition languages that are specific to the management protocol being used.
Flow Information

- Depends on how to describe a flow
  - Define common concepts of a DetNet flow

- Used by different network functions or entities
  - Flow indentifying and filtering
  - Data plane configuration
  - Resource reservation
  - Control protocols
  - YANG models
Flow Identifier

- First step for DetNet service provisioning
  - Differentiates user
  - Differentiates user + application
### Traffic Description

- To reserve proper amount of resource
- Is bandwidth reservation enough?
- More description, more constraint on traffic, more determinism on service

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Flow Statistics

- Delay and loss information are important
  - OAM fault management of flow delay
  - Control plane
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Service Model

- Service needs DetNet flow information
- Mapping from flow attributes from up layer to lower layer

Figure 2: DetNet aware/unaware End-systems
Control Plane

- Flow information is needed for PCE, NBI, and SBI

![Flow Management Entity Diagram]
Data Plane

- Mapping from DetNet flow to data plane configuration
  - Traffic description
  - TAS control list

Figure 2. Mapping of Flow Model into TAS Configuration
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Status and Next

- Current status
  - Initial version, has some comments
  - Focus on traffic description, need more information

- Next step
  - More participants
  - More information
  - How to use the information model
Questions?