Telemetry Data Export capability

Draft-tao-netconf-data-export-capabilities-02

Qin Wu (bill.wu@huawei.com)
Qiufang Ma(maqiuang1@Huawei.com)
Liang Geng(gengliang@chinamobile.com)
Peng Liu(liupengyjy@chinamobile.com)
Recap

• Motivations
  ➢ Notification capability model defined in [I-D.netconf-notification-capabilities] allows a client to discover a set of capabilities (transport independent, session level) supported by the server

  ➢ However, **some transport specific parameters** are lacked.
    e.g. transport protocol, encoding format, encryption

• Goals

To augment system Capabilities model and provides additional data export attributes for transport dependent capability negotiation
Document status

- First presented in the IETF 108 meeting, and it was suggested to set up design team to progress this work.
- The latest update of draft-tao-netconf-data-export-capabilities is v-(02), changes compared to previous versions:
  - Remove the ‘max-nodes-per-sensor-group’ and ‘max-sensor-group-per-update’ in yang model
  - Remove the subscription-mode
  - Add adaptive-interval-support and remove sampling-interval list definition
Data Export Capability Model Overview

(server) Data Export Capability Model Overview

<data-export-capabilities>
  <transport-protocol>udp</transport-protocol>
  <encoding-format>binary</encoding-format>
  <security-protocol>dtls</security-protocol>
</data-export-capabilities>

(data collector/NMS) Telemetry data Export capability notification

Subscription to YANG Notification

Notification over UDP

Notification over UDP

Notification over UDP

...
Issues

• Q1: The server can fail the first request and provide the hints based on the exact request from the client
  • Answer
    ➢ One of the principle set by RFC[8641](yang-push) is: To minimize the number of subscription iterations between subscriber and publisher, discourage Random guessing of different parameters by a subscriber
    ➢ Our idea is to try to prevent the problem at the stage of negotiation of subscription in order to minimize the number of subscription iterations.

• Q2: The static “per-node” monitoring data can be quite large.
  • Answer
    ➢ The subscriber applications need a way to identify capabilities for some datastore node object.
    ➢ Actually, we can’t assume all data objects defined in the YANG models support threshold handling. So per-node monitoring data is very few.

• Q3: Sensor-group seems a very vendor-specific capability.
  • Answer
    ➢ max-node-per-sensor-group and max-sensor-group-per-update are introduced to align with gNMI implementation. We have taken them out in V02.
Next Step

• Request adoption call on this document?
• Address any comments received in the meeting.