Telemetry Data Export capability

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

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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 setup 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

```
module: ietf-data-export-capabilities
  augment /sysc:system-capabilities:
    +--ro data-export-capabilities
       +--ro transport-protocol?            identityref
       +--ro encoding-format?               identityref
       +--ro security-protocol?             identityref
       +--ro compression-mode?              identityref
       +--ro max-nodes-per-sensor-group?    uint32
       +--ro max-sensor-group-per-update?   uint32
  augment /sysc:system-capabilities/inc:subscription-capabilities:
    +--ro data-export-capabilities
       +--ro message-bundling-support?   boolean
       +--ro subscription-mode?          identityref
  augment /sysc:system-capabilities/sysc:datastore-capabilities/sysc:per-node-capabilities:
    +--ro data-export-capabilities

       +--ro timer-event-support?         boolean
       +--ro sampling-interval* []
       |  +--ro observable-period         centiseconds
       |  +--ro count?          uint16
       |  +--ro anchor-time?    yang:date-and-time
       +--ro counter-threshold-support?   boolean
       +--ro suppress-redundant?          boolean
```

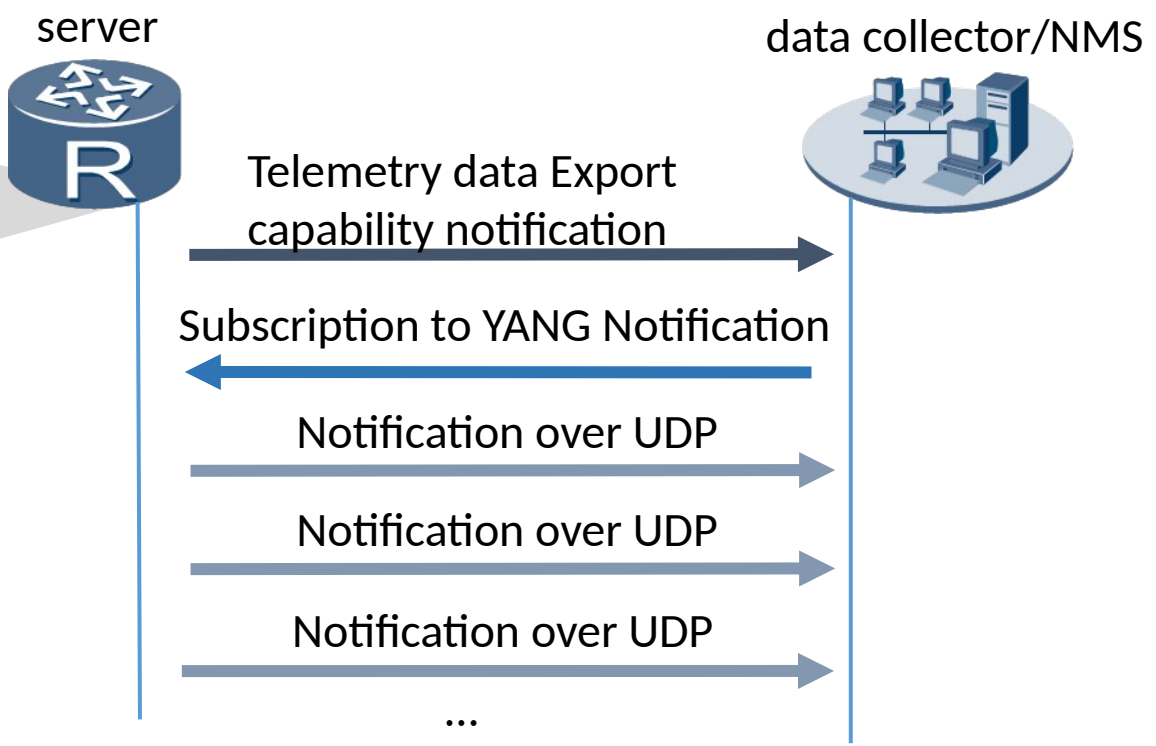
V01

```
module: ietf-data-export-capabilities
  augment /sysc:system-capabilities:
    +--ro data-export-capabilities
       +--ro transport-protocol?            identityref
       +--ro encoding-format?               identityref
       +--ro security-protocol?             identityref
       +--ro compression-mode?              identityref

  augment /sysc:system-capabilities/inc:subscription-capabilities:
    +--ro data-export-capabilities
       +--ro message-bundling-support?   boolean

  augment /sysc:system-capabilities/sysc:datastore-capabilities/sysc:per-node-capabilities:
    +--ro data-export-capabilities
       +--ro adaptive-interval-support    boolean
       +--ro timer-event-support?         boolean

       +--ro counter-threshold-support?   boolean
       +--ro suppress-redundant?          boolean
```

V02

Data Export Capability Model Overview

```
<system-capabilities \
    xmlns="urn:ietf:params:xml:ns:yang:ietf-system-
capabilities" \
    xmlns:inc=\
      "urn:ietf:params:xml:ns:yang:ietf-notification-capabilities" \
    xmlns:ds="urn:ietf:params:xml:ns:yang:ietf-datastores">
    <dec:data-export-capabilities>
    <transport-protocol>udp</transport-protocol>
    <encoding-format>binary</encoding-format>
    <security-protocol>dtls</security-protocol>
</dec:data-export-capabilities>
  </system-capabilities>
```



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.