Telemetry Data Export capability

Draft-tao-netconf-data-export-capabilities-05

Qin Wu (bill.wu@huawei.com)

Qiufang Ma(maqiuang1@Huawei.com)   **Presenter**

Peng Liu(liupengyjy@chinamobile.com)

Wei Wang(wangw36@chinatelecom.cn)

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

- There were a lot of discussion on capability fetching mechanism which is related to this draft and https-notif draft
  - Thanks to Kent Watsen, Mahesh Jethanandani, Alex Huang Feng, Rob Wilton for their comments and suggestions.

- The latest update of draft-tao-netconf-data-export-capabilities is v-(05), changes compared to previous versions:
  - Revise abstract and introduction section to **only focus on server capability fetching mechanism**
  - Move message-bundling-support parameter to system capabilities level
  - Change encoding format from leaf to leaf-list and support multiple encoding formats for the same transport specific notif
  - Change per-node-capabilities related parameters into empty type
  - Update Usage Example of interaction with HTTP notif and UDP notif for configured subscription

Capability-fetching mechanisms discussion

Open Issue: Whether the notif-drafts(e.g., http-notif, udp-notif) should define their own capability-fetching mechanism, or use the mechanism defined by the data-export-capabilities draft?

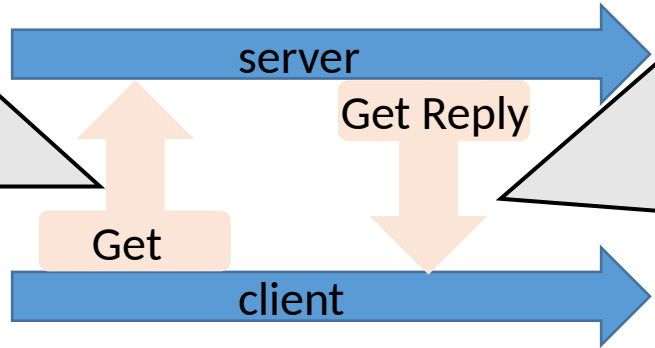**Receiver-side capabilities discovery defined in https-notif**

- A publisher issues an HTTPs GET request to learn the capabilities of a receiver

- Does not assume that the receiver is a NC/RC server

- Lightweight receiver-side HTTP response through a YANG-modeled format

server capabilities discovery defined in data-export-capabilities

- Introduces a common data model for various transport specific notif(e.g., udp-notif)

- focuses on server capabilities discovery

- Extends a number of rich capabilities (which are all optional and will not incur unnecessary overhead)
  - For some capabilities, we define them as empty type

Usage Example and YANG Model Change Overview

```
<rpc message-id="101" xmlns="…">
 <get>
  <filter type="subtree">
  <system-capabilities xmlns="…">
   <data-export-capabilities/>
  </system-capabilities>
  </filter>
 </get>
</rpc>
```

server

Get Reply

Get

client

```
<rpc-reply message-id="101" xmlns="…">
 <data>
 <system-capabilities xmlns="…">
  <data-export-capabilities>
   <transport-protocol>http-notif</transport-protocol>
   <encoding-format>json</encoding-format>
  </data-export-capabilities>
  <data-export-capabilities>
   <transport-protocol>udp-notif</transport-protocol>
   <encoding-format>binary</encoding-format>
  </data-export-capabilities>
 </system-capabilities>
 </data>
</rpc-reply>
```

```
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
```

```
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 message-bundling-support?  empty

  augment /sysc:system-capabilities/sysc:datastore-capabilities/sysc:per-node-capabilities:
    +--ro data-export-capabilities
       +--ro adaptive-interval-support?  empty
       +--ro timer-event-support?        empty
       +--ro counter-threshold-support?  empty
       +--ro suppress-redundant?         empty
```

OLD

NEW

Follow Up

- **Agreement**: Should focus on common data model rather than common protocol.

- Address any comments received in the meeting.

- Request adoption call on this document?