Adaptive Subscription to YANG Notification

draft-wang-netconf-adaptive-subscription-07

Qin Wu (Huawei)

Wei Song (Huawei)

Peng Liu (CMCC)

Qiufang Ma (Huawei) Presenter

Wei Wang (China Telecom)

Recap

- Massive data collection and processing with expensive data management cost
- Higher frequency data collection leads to more resource consumption while low frequency data collection leads to insufficient data For fault localization.
- Example: Wireless network performance monitoring
- Proposal:
  - Configure update policy that contains a condition and allows the server to switch to different period intervals based on the condition
  - The condition is expressed using a standard XPath Evaluation criteria
- One issue raised in last meeting is about arbitrary XPATH complexity

Open Issue: Arbitrary XPath Complexity

- Configuring update policy that contains condition requires XPATH evaluation
- A concern was raised that this might add complexity.
  - But YANG-push also need to configure selection filter
    - to identify targeted YANG datastore nodes and/or datastore subtrees for which updates are to be pushed.
  - **Similar selection filter** used by Adaptive Subscription
    - to express a standard XPath Evaluation criteria against targeted data object

- Arbitrary XPath Complexity **Evaluation**
  - Support XPath Evaluation criteria against every data objects;
  - Support any type of node set in the XPath Evaluation criteria
    - e.g., string, int64, uint64, and decimal64 types;
  - Both objects to be compared in the XPath Evaluation criteria are node-sets
  - Both objects to be compared are in different data type
    - e.g., one is integer, the other is string

Open issue Arbitrary XPath Complexity(Cont.)

- Design principles recommendation

  - XPath evaluation criteria against **minimal set of data objects** in the data model
    - E.g, only specific data object will be targeted and used in the XPATH
    - These minimal set of data objects can be advertised using Notification capabilities model
      - This model is defined in [I-D.netconf-notification-capabilities].

  - Integer based filter
    - Only support condition expression that filters updates based on integer.

  - Compared objects requirements
    - One object to be compared in the XPath Evaluation criteria **Should be leaf data node**.
    - The other object to be compared in the XPath Evaluation criteria **Should be integer** data type.

Next Step

- Receive support and comments on the mailing list
- Question, comments and concerns?

Change 06 - 07

- The usage examples typo fixed in the Appendix.
- Add reference to RFC7950 XPATH Evaluation section and XPATH 1.0
- Clarify the definitions of 'xpath-external-eval' and 'selection- filter' by reusing XPATH Evaluation rules in RFC7950.
- Add a new terminology "adaptive subscription".
- Add one section to discuss Arbitrary XPath Complexity.