Support of Hostname and Sequencing in YANG Notifications
draft-tgraf-netconf-notif-sequencing-02

Adds sysName, messagePublisherId and sequenceNumber to identify from where the message was exported from for automated data mesh integration
Extend Streaming Update Notifications with Hostname and Sequencing

For push-update and push-change-update

- When the NETCONF event notification message is forwarded from the YANG push receiver to another system, such as a messaging system or a time series database where the message is stored, the transport context is lost since it is not part of the NETCONF event notification message metadata. Therefore, the downstream system is unable to associate the message to the publishing process (the exporting router), nor able to detect message loss or reordering.

- draft-tgraf-netconf-notif-sequencing extends the NETCONF notification defined in RFC5277 with:
  - **sysName**: Describes the hostname following the 'sysName' object definition in RFC1213 from where the message was published from.
  - **messagePublisherId**: netconf-distributed-notif describes the ability to publish from network processors directly. With this identifier the publishing process from where the message was published from can be uniquely identified.
  - **sequenceNumber**: Generates a unique sequence number as described in RFC9187 for each published message.
Extend Streaming Update Notifications
Status and Next Steps

• Introduced at IETF 116
  • Poll showed much interested in the NETCONF working group.

• Updates introduced in -02
  • Message Publisher ID terminology aligned with latest update in terminology section of draft-ietf-netconf-distributed-notif-08.
  • No open points. Requesting to initiate working group adoption call.

• YANG @ Kafka side meeting today November 7th at 15:30 in room Palmovka 1/2.
  -> Updates on semantic YANG Push message validation outcome from hackathon activity

thomas.graf@swisscom.com
jean.quilbeuf@huawei.com
alex.huang-feng@insa-lyon.fr

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Backup
When Big Data and Network becomes **one**
Marrying two messaging protocols

Data Mesh

- **Data Mesh** is a big data architecture where different domains can exchange data with a **bounded context and SLO's** are defined in Data Products. **Same principle as in networks.**

- **Semantics** are needed to describe the data. A **gauge32** is **not the same as counter32**. Values can increase or decrease. Needs monotonic increasing counter normalization or not.

- **Versioning** is needed to not only understand that the semantic has changed, but also wherever the new semantic is backward compatible or not. Preventing to break the data processing pipeline.

- Hostname, publisher ID, sequence numbers and observation timestamping are needed to measure loss and delay for **SLO's**.

- **YANG push** as defined in RFC8641 is missing hostname, sequence numbers, observation timestamping and versioning. **draft-ahuang-netconf-notif-yang**, **draft-tgraf-netconf-notif-sequencing**, **draft-tgraf-netconf-yang-push-observation-time** and **draft-ietf-netconf-yang-notifications-versioning** addresses this.