Subscription Drafts

IETF #101 - NETCONF WG
Eric Voit & Alexander Clemm
20-Mar-2018

With Thanks to...

Authors on at least 1 WG draft
Andy Bierman
Alexander Clemm
Tim Jenkins
Balazs Lengyel
Einar Nilsen-Nygaard
Alberto Gonzalez Prieto
Ambika Prasad Tripathy
Eric Voit

+ Dezign Team 1
Sharon Chisholm
Yan Gang
Peipei Guo
Susan Hares
Michael Scharf
Hector Trevino
Guangying Zheng (Walker)

+ new with Dezign Team 2
Henk Birkholz
Igor Bryskin
Xufeng Liu
Tianran Zhou

NETCONF WG Subscription Drafts addressed in the session...

Custom Subscription to Event Streams
draft-ietf-netconf-subscribed-notifications

YANG Datastore Subscription
draft-ietf-netconf-yang-push

NETCONF Support for Event Notifications
draft-ietf-netconf-netconf-event-notifications

WG Last Call underway

RESTCONF & HTTP Transport for Event Notifications
draft-ietf-netconf-restconf-notif

Notification Message Headers and Bundles
draft-ietf-netconf-notification-messages

draft-ietf-netconf-subscribed-notifications
Updated with WGLC so far…

- v10 to v11: based on review comments
  - Filtering of event records within streams based on NACM permissions of event type added
  - Security considerations updated based on YANG template
  - Dependency QoS made non-normative on HTTP2 QoS
  - Tree diagrams referenced for each figure using them
  - Reference numbers placed into state machine figures
  - Broke configured replay into its own section
  - Trees and YANG model reconciled where deltas existed
  - Many wording clarifications

- Unresolved
  - Several questions in coming slides.
  - More could evolve out of existing discussions.

draft-ietf-netconf-subscribed-notifications
Review Question to WG #1:

Do we use a integer object as an index for receiver instead of address+port

Option 1	Option 2	Option 3

+--rw receiver* [address port]
   +--rw address   inet:host
   +--rw port
	+--ro receiver* [name]
	   +--ro name string
	   +--ro address inet:host
	   +--ro port
		+--ro receiver* [name]
		   +--ro name string

Current	Preference	

allows for future augmentation of leafref to:
- draft-ietf-netconf-netconf-client-server
- draft-ietf-netconf-restconf-client-server
- other?

draft-ietf-netconf-subscribed-notifications
Question 2:

Should we have the "subscription-state-notif" extension?

1. Yes (current solution)

2. hardcode the these notifications so none will ever go on the NETCONF stream

draft-ietf-netconf-subscribed-notifications
Question 3:

DSCP: an optional feature on its own, or should it be mainline

	Option 1	Option 2	Option 3
+--rw subscriptions			
+--rw subscription*			
+--rw dscp?	{qos}?	{dscp}?	
+--rw weighting?	{qos}?	{qos}?	{qos}?
+--rw dependency?	{qos}?	{qos}?	{qos}?
	current		

subscribed-notifications(sn) & yang-push(yp)
Question 4:

yang-data containers in rpc-error replies, what names to use:

```
<rpc-reply ...">
  <rpc-error>
  <error-type>application</error-type>
  <error-tag>...</error-tag>
  <error-severity>...</error-severity>
  <error-app-tag>...</error-app-tag>
  <error-info>
     place the container here
  </error-info>
  </rpc-error>
</rpc-reply>
```

Option 1 (current)
establish-subscription-error-stream
modify-subscription-error-stream   } (sn)
delete-subscription-error

establish-subscription-error-datastore } (yp)
modify-subscription-error-datastore

Option 2
stream-establish-subscription-error-info
stream-modify-subscription-error-info   } (sn)
delete-subscription-error-info

datastore-establish-subscription-error-info } (yp)
datastore-modify-subscription-error-info

draft-ietf-netconf-yang-push
Updated with WGLC so far…

- v15 to v16: based on review comments
  - On-change dampening period and excluded change becomes a feature

- Other minor items, still being worked.

- FYI: on-change capability marking deferred
  - draft-lengyel-netconf-notification-capabilities (later this session)

draft-ietf-netconf-netconf-event-notifications
Updated with WGLC so far...

- v15 to v16: based on review comments
  - Wording updates per LC. Proposed fixes still to be ok'ed.
  - Tweaks to non-normative examples. A script to validate examples loaded onto git.
- Unresolved
  - Wording for Abstract and Intro (Several alternatives exist, will take whatever the reviewers prefer.)

draft-ietf-netconf-restconf-notif
Current status

- v03 to v04
  - Minor tweaks. Many updates still needed.
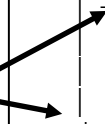 - A main focus after other drafts complete WGLC

draft-ietf-netconf-notification-messages
Updates since IETF #100

-v02 to -v03

- Reduced to a single bundled notification format. Will revisit as the work completes.

- New message structure puts the signature at the end (signs the header & body)

```
yang-data message
   +--ro message!
     +--ro message-header
     |  +--ro message-time          yang:date-and-time
     |  +--ro message-id?           uint32
     |  +--ro message-generator-id?   string
     |  +--ro notification-count?    uint16
     +--ro notifications*
     |  +--ro notification-header
     |  |  +--ro notification-time         yang:date-and-time
     |  |  +--ro yang-module?              yang:yang-identifier
     |  |  +--ro yang-notification-name?  notification-type
     |  |  +--ro subscription-id*          uint32
     |  |  +--ro notification-id?          uint32
     |  |  +--ro observation-domain-id?    string
     |  +--ro notification-contents?
     |  +--ro notification-footer!
     |     +--ro signature-algorithm    string
     |     +--ro signature-value        string
     |     +--ro integrity-evidence?    string
     +--ro message-footer!
        +--ro signature-algorithm    string
        +--ro signature-value        string
        +--ro integrity-evidence?    string
```

- Upcoming: dialogs on specific headers
  - Signatures, attestation, others
  - Implications of COMI, CBOR, UDP
  - Capabilities of receivers

Thank you!