

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

+ DeSIGN Team 1

Sharon Chisholm

Yan Gang

Peipei Guo

Susan Hares

Michael Scharf

Hector Trevino

Kent Watsen

Guangying Zheng (Walker)

+ new with DeSIGN 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

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

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



WG Last Call underway

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

```
+++rw receiver* [address port]
+++rw address   inet:host
+++rw port
```

Current

Option 2

```
+++ro receiver* [name]
+++ro name      unit8
+++ro address   inet:host
+++ro port
```

Preference

Option 3

```
+++ro receiver* [name]
+++ro name      unit8
```



allows for future augmentation of leafref to:

- draft-ietf-netconf-netconf-client-server
- draft-ietf-netconf-restconf-client-server
- other?

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
3. Rename to a different extension “exclude-from-NETCONF-stream”.
 - It is possible that other drafts will want to exclude events.

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	} (sn)
modify-subscription-error-stream	
delete-subscription-error	

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

Option 2

stream-establish-subscription-error-info	} (sn)
stream-modify-subscription-error-info	
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
- Unresolved
 - So far minor items, still being worked.

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.)

Current status

- v03 to v04
 - Minor tweaks. Many updates still needed.
 - A main focus after other drafts complete WGLC
- Intersection: draft-openconfig-rtgwg-gnmi-spec-01 ?
 - gNMI RPCs { Capabilities, Set, Get, Subscribe }
- Unclear on how to define a standards based framework enabling transparent GRPC over HTTP2
 - Identified issue stretching back to WG adoption in 2016


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 driven by the desire to put the signature information at the end

```
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

Thank you!