

# NETCONF WG

IETF 98, Chicago  
TUESDAY, March 28, 2017  
16:40-18:40

Mehmet Ersue  
Mahesh Jethanandani

# Before we can start ...

We need:

1 Jabber scribe

2 minute takers

<http://etherpad.tools.ietf.org:9000/p/notes-ietf-98-netconf>

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**I E T F**

# Status of chartered WG items (since Berlin)

- Published following RFCs:
  - RFC 8071: NETCONF and RESTCONF Call Home
  - RFC 8040: RESTCONF Protocol
  - RFC 8072: YANG Patch Media Type
- Adopted draft-ietf-netconf-rfc6536bis (NETCONF NACM)
- Good progress by Notification/Subscription Team for:
  - Subscribing to YANG datastore push updates
  - Subscribing for Notifications
  - NETCONF Support for Event Notifications
  - RESTCONF & HTTP Transport for Event Notifications
- Zero Touch Provisioning, Keystore and TLS/SSH Client/Server Models will be finalized soon.
- Agreed with the authors to develop the voucher draft in ANIMA WG

# Agenda

## Chartered items:

1. Zero Touch Provisioning for NETCONF Call Home - K. Watsen (15 min.)

<https://tools.ietf.org/html/draft-ietf-netconf-zerotouch-13>

## Keystore and TLS/SSH Client/Server Models : K. Watsen (15 min)

2. Keystore Model

<https://tools.ietf.org/html/draft-ietf-netconf-keystore-01>

3. SSH/TLS Client Server Models

<https://tools.ietf.org/html/draft-ietf-netconf-ssh-client-server-02>

<https://tools.ietf.org/html/draft-ietf-netconf-tls-client-server-02>

4. NETCONF/RESTCONF Client Server Models

<https://tools.ietf.org/html/draft-ietf-netconf-netconf-client-server-02>

<https://tools.ietf.org/html/draft-ietf-netconf-restconf-client-server-02>

# Agenda (Cont.)

## NETCONF Notification Drafts - Eric Voit (20 min)

### 5. Subscribing to YANG datastore push updates

<https://tools.ietf.org/html/draft-ietf-netconf-yang-push-05>

### 6. Subscribing for Notifications

<https://tools.ietf.org/html/draft-ietf-netconf-subscribed-notifications-00>

### 7. NETCONF Support for Event Notifications

<https://tools.ietf.org/html/draft-ietf-netconf-netconf-event-notifications-01>

### 8. RESTCONF & HTTP Transport for Event Notifications

<https://tools.ietf.org/html/draft-ietf-netconf-restconf-notif-02>

### 9. YANG Notification Headers and Bundles

<https://tools.ietf.org/html/draft-voit-netmod-yang-notifications2-00>

### 10. NETCONF Access Control Model - A. Bierman (5 min)

<https://tools.ietf.org/html/draft-bierman-netconf-rfc6536bis-01>

# Agenda (cont.)

## **Charter Discussion:**

1. Draft charter update for NETCONF WG - Co-Chairs (10 min)
2. NETCONF/NETMOD/I2RS Joint discussion on re-chartering - All (15 min)
3. Impact of DS concept on NETCONF/RESTCONF - M. Bjorklund (10 min)
4. NETCONF Changes to Support I2RS Protocol - Sue Hares (5 min)  
<https://tools.ietf.org/html/draft-hares-netconf-i2rs-netconf-01>
5. RESTCONF Changes to Support I2RS Protocol - Sue Hares (5 min)  
<https://tools.ietf.org/html/draft-hares-netconf-i2rs-restconf-01>

## **Non-Chartered items:**

1. gRPC in Network Management - A. Shaikh (5 min)
2. Accounting in NETCONF and RESTCONF - Mahesh Jethanandani (5 min)  
<https://tools.ietf.org/html/draft-mahesh-netconf-accounting-01>
3. NETCONF Proxy - Z. Wang (5min)  
<https://tools.ietf.org/html/draft-wangzheng-netconf-proxy-00>

16:40	16:45	Agenda bashing, WG status review (5 minutes)		
16:45	17:00	Zero Touch Provisioning for NETCONF Call Home - K. Watsen (15 min.)		
17:00	17:15	Keystore and TLS/SSH Client/Server Models : K. Watsen (15 min)		
17:15	17:35	NETCONF Notification Drafts - Eric Voit (20 min)		
17:35	17:40	NETCONF Access Control Model - A. Bierman (5 min)		
17:40	17:50	Draft charter update for NETCONF WG - Co-Chairs (10 min)		
17:50	18:05	NETCONF/NETMOD/I2RS Joint discussion on re-chartering - All (15 min)		
18:05	18:15	Impact of DS concept on NETCONF/RESTCONF - M. Bjorklund (10 min)		
18:15	18:20	NETCONF Changes to Support I2RS Protocol - Sue Hares (5 min)		
18:20	18:25	RESTCONF Changes to Support I2RS Protocol - Sue Hares (5 min)		
18:25	18:30	gRPC in Network Management - A. Shaikh (5 min)		
18:30	18:35	Accounting in NETCONF and RESTCONF - Mahesh Jethanandani (5 min)		
18:35	18:40	NETCONF Proxy - Z. Wang (5min)		



# Open mic/AOB

- Open mike
- AOB

# Charter Discussion

1. Finalize the YANG data module for a system-level keystore mechanism, that can be used to hold onto asymmetric private keys and certificates that are trusted by the system advertising support for this module. Based on the known dependencies this draft has the highest priority for the WG.
2. Finalize Server and Client Configuration YANG modules for both NETCONF and RESTCONF as well as the Client and Server Models for SSH and TLS.
3. Finalize the Zero-touch provisioning for NETCONF or RESTCONF-based Management as a technique to establish a secure network management relationship between a newly delivered network device configured with just its factory default settings, and the Network Management System)
4. Provide a revised version of RFC 6536 (NETCONF Access Control Model) by adding support for RESTCONF and the YANG 1.1. constructs like "action" and the "notification" statements.
5. Provide a set of documents enabling advanced notification/subscription capabilities, which gracefully co-exist in a deployment of RFC 5277. The new capabilities include e.g. transport independence, multiple dynamic and configured subscriptions in a transport session. RFC 5277 will be obsoleted in parallel to the publication of the new document set. Following specifications will be addressed:

# Charter Discussion (ctd.)

- Protocol-neutral notification framework, i.e., explaining the concepts of subscriptions, filters, subscription state notifications, replay, etc. and defining the associated YANG data model, RPCs, etc.
- Definition of notifications sent over NETCONF and HTTP. Examples for the encoding of YANG notifications in XML and JSON will be given, considerations for parallel support and implementation compatibility with RFC-5277 will be included.
- Definition of notifications sent over RESTCONF and HTTP2 and how YANG notifications are encoded in XML and JSON. Include specifics of call-home and heartbeat for subscriptions.
- The subscription and push mechanism for YANG datastores allowing subscriber applications to request updates from a YANG datastore.
- Provide transport agnostic notification headers and the capability to bundle YANG notifications into a single transport message.

6. Provide a revision for the NETCONF and RESTCONF protocols and the used datastore framework building on the datastore concept in NETMOD revised datastores work. Bug fixing will be done and potential extensions will be added. Provide guidance on how to adapt and use YANG with NETCONF and RESTCONF protocols. NETCONF XML Encoding Rules from RFC 7950 will be moved to RFC6241bis.

7. Define capabilities for NETCONF and RESTCONF to support I2RS protocol and ephemeral-state datastore requirements.

Based on the implementation, deployment experience and inter-operability testing, the WG aims to produce a NETCONF status report in a later stage. The result may be clarifications for RFC6241 and

# Charter Discussion (ctd.)

## Goals and Milestones:

Done	Submit NETCONF/RESTCONF Call Home to AD/IESG for consideration as Proposed Standard
Done	Submit YANG Library to AD/IESG for consideration as Proposed Standard
Done	Submit RESTCONF to AD/IESG for consideration as Proposed Standard
Done	Submit YANG Patch to AD/IESG for consideration as Proposed Standard
May 2017	WGLC for Zero-touch configuration mechanism
Jun 2017	Submit Zero-touch configuration to AD/IESG for consideration as Proposed Standard
May 2017	WGLC for system-level keystore mechanism
Jun 2017	Submit keystore mechanism to AD/IESG for consideration as Proposed Standard
May 2017	WGLC for Server and Client models for NETCONF and RESTCONF
Jun 2017	Submit Server and Client Configuration models to AD/IESG as Proposed Standard
May 2017	WGLC for Client and Server Models for SSH and TLS
Jun 2017	Submit Client and Server Models for SSH and TLS to AD/IESG as Proposed Standard
Jun 2017	WGLC for RFC 6536bis (NETCONF Access Control Model)
Jul 2017	Submit RFC 6536bis to AD/IESG for consideration as Proposed Standard
Jun 2017	WGLC for advanced Notification/Subscription specifications
Jul 2017	Submit Notification/Subscription specifications to AD/IESG as Proposed Standard
March 28, 2017	