

NETCONF Base Notifications for NMDA

draft-wu-netconf-base-notification-nmda-00

Authors:

Qin Wu

Xiaojian Ding

Goal and Motivation

Goal:

- Updates NETCONF Base Event [[RFC6470](#)] to Support NMDA defined in [[I-D.ietf-netmod-revised-datastores](#)]. .
- Support the monitoring of the base system events pertaining to additional datastores, indicate the affected datastore and affected phase

Motivation:

- NETCONF base event [[RFC6470](#)] defines 5 common event notifications related to running and startup config datastore but hasn't defined any event notification associated with conventional datastore and operational datastore.
- Provide general purpose notification and working together YANG push, e.g., provide event notification associated with multiple subscriptions.
- Backwards compatible with existing event notification defined in [RFC6470](#).

What is new?

- Introduce one additional common system event
 - netconf-data-change
 - Generated when the NETCONF server detects that the conventional configuration datastore or 'config true' objects in the operational state datastore has been changed by a management session. The notification summarizes the edits that have been detected pertaining to one or multiple subscription.
- Example of a netconf-data-change notification message is:

```
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2017-06-16T16:30:59.137045+09:00</eventTime>
  <netconf-data-change xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-notifications-nmda">
    <changed-by>
      <username>admin</username>
      <session-id>0</session-id>
      <source-host>10.251.93.83</source-host>
    </changed-by>
    <datastore>operational</datastore>
    <edit>
      <target>/ietf-interfaces:interfaces/ietf-interfaces:statistics</target>
      <operation>create</operation>
      <origin>default</origin>
      <current-phase>inactive</current-phase>
    </edit>
    <edit>
      <target>/ietf-interfaces:interfaces/ietf-interfaces:statistics/ietf-interfaces:in-octets</target>
      <operation>merge</operation>
      <origin>system</origin>
      <current-phase>in-use</current-phase>
    </edit>
  </netconf-config-change>
</notification>
```

New parameter: Current phase

```
module: ietf-netconf-notifications
notifications:
  +---n netconf-data-change
    +--ro changed-by
      | +--ro (server-or-user)
      |   +--:(server)
      |     | +--ro server?      empty
      |     +--:(by-user)
      |       +--ro username      string
      |       +--ro session-id    nc:session-id-or-zero-type
      |       +--ro source-host?  inet:ip-address
      +--ro datastore?  identityref
      +--ro edit*
        +--ro target?      instance-identifier
        +--ro origin?
        +--ro current-phase?
        +--ro operation?  nc:edit-operation-type
```

```
identity change-phase {
  description
  | "Base identity for change phase.";
}
identity inactive {
  base change-phase;
  description
  | "Identity for inactive data.It is referred to as
  | configuration that is not currently used.";
}
identity in-use {
  base change-phase;
  description
  | "Identity for the in use data. It is referred to as
  | configuration that is actively used.";
}
identity Remnant {
  base in-use;
  description
  | "Identity for the remnant configuration. It indicates that
  | both the previous and current configuration coexist.";
}
identity miss-resource {
  base in-use;
  description
  | "Identity for the missing resource.It indicates that
  | Configuration in <intended> can refer to resources that are not
  | available or otherwise not physically present and parts of <intended>
  | are not applied.";
}
identity sys-resource {
  base in-use;
  description
  | "Identity for the system controlled resource.It indicates that
  | a system controlled resource has matching configuration in
  | <intended>.";
}
```

Relation with RFC6470

- The existing notifications defined in [RFC6470] remain unchanged
- An extra event notification is defined in separate model in this document
- Back compatible with RFC6470.

Interaction with YANG

Push

Comparison	push-change-update Defined in YANG push	netconf-data-change defined in this document
Per subscription Vs Multiple subscription	only be used to send per subscription datastore contents invoked by the client via subscription.	report data change event associated with multiple subscriptions of the receiver
Application specific vs application independent	define push change update as application specific notification	general purpose notification, not tied to specific subscription id.
Notification Data Vs metadata	push entire or portion of datastore contents	report datastore change metadata which is not covered by YANG push(e.g., who made configuration changes, identify specific location and phase of configuration changes)

Next Step for this work

- ❖ Discuss to see whether we all agree
- ❖ Decide whether this needs to be standardized in Netconf WG
 - ❖ We could just discuss, agree and move on

Q&A

THANK YOU