Restconf subscription and HTTP push for YANG datastores

draft-voit-netconf-restconf-yang-push-02

NETCONF WG
IETF #95 Buenos Aires
7-April-2015

Eric Voit
Alexander Clemm
Ambika Prasad Tripathy
Alberto Gonzalez Prieto
Einar Nilsen-Nygaard

<alex|albertgo|evoit|ambripa|einarnn@cisco.com>
# NETCONF Event Notification & YANG Push Drafts - Key Elements

<table>
<thead>
<tr>
<th></th>
<th>Event Notifications</th>
<th>YANG Push</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Types of Subscription</td>
<td>Dynamic</td>
<td>Dynamic and Static</td>
</tr>
<tr>
<td>Subscriptions per Session</td>
<td>one</td>
<td>many</td>
</tr>
<tr>
<td>Negotiation</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>RPCs</td>
<td>create</td>
<td>establish, modify, delete</td>
</tr>
<tr>
<td>Control Plane Notifications</td>
<td>None</td>
<td>started, suspended, resumed, terminated, modified</td>
</tr>
<tr>
<td>Data Plane Notifications</td>
<td>notification</td>
<td>+subscription-id, push-update, push-change-update</td>
</tr>
<tr>
<td>Transport</td>
<td>NETCONF</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>RESTConf, HTTP, HTTP2</td>
<td>No</td>
</tr>
</tbody>
</table>

This table summarizes the key elements for NETCONF Event Notification & YANG Push Drafts. The table compares the differences between NETCONF 1.0 and 1.1, focusing on various aspects such as types of subscriptions, negotiation, RPCs, and data plane notifications. The transport options, NETCONF and RESTConf, HTTP, HTTP2, are also highlighted.
draft-voit-netconf-restconf-yang-push
Transport bindings defined

Dynamic RESTCONF

Subscriber
YANG
JSON
Restconf Client

Publisher
YANG
JSON
Restconf Server

Requests
Subscription

Locally Configured

HTTP Receiver
YANG
JSON
HTTP2 Server

Publisher
YANG
JSON
HTTP2 Client

Requests
Subscription

Separate Subscriber & Receiver

Subscriber
YANG
JSON
Restconf Client

Publisher
YANG
JSON
Restconf Server

Subscription

Receiver
YANG
JSON
HTTP Server

Requests
Subscription

HTTP Client
Updates since IETF #94

• One revision update (01→02)
• Sent all non-transport content to draft-ietf-netconf-restconf-yang-push
  – YANG Model augmentations for Subscription prioritization
  – State machine
Next Steps

• Is there is interest in draft-gonzalez-netconf-5277bis?
  – If yes:
    • Modify draft-voit-restconf-yang-push to validate coverage for Event Notifications
    • Result would be RFC5277 style YANG Event Notification and YANG Push subscription and delivery over Restconf, HTTP, HTTP2
  – If no:
    • Continue specifying as YANG Push transport alternative (i.e., recommend not merging new transports into YANG Push draft.)

• Gauge interest in pursuit / adoption?
Thank you!
**NETCONF Event Notification & Datastore Push Drafts - Context**

<table>
<thead>
<tr>
<th>What you need</th>
<th>Consume a stream of Publisher generated messages at the cadence determined by the Publisher</th>
<th>Consume a stream of Publisher generated YANG data updates at a cadence negotiated with the Subscriber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>RFC5277 draft-gonzalez-netconf-5277bis</td>
<td>draft-ietf-netconf-yang-push draft-voit-netconf-restconf-yang-push</td>
</tr>
</tbody>
</table>