

YANG Notification **Transport Capabilities**

draft-ietf-netconf-yp-transport-capabilities-00

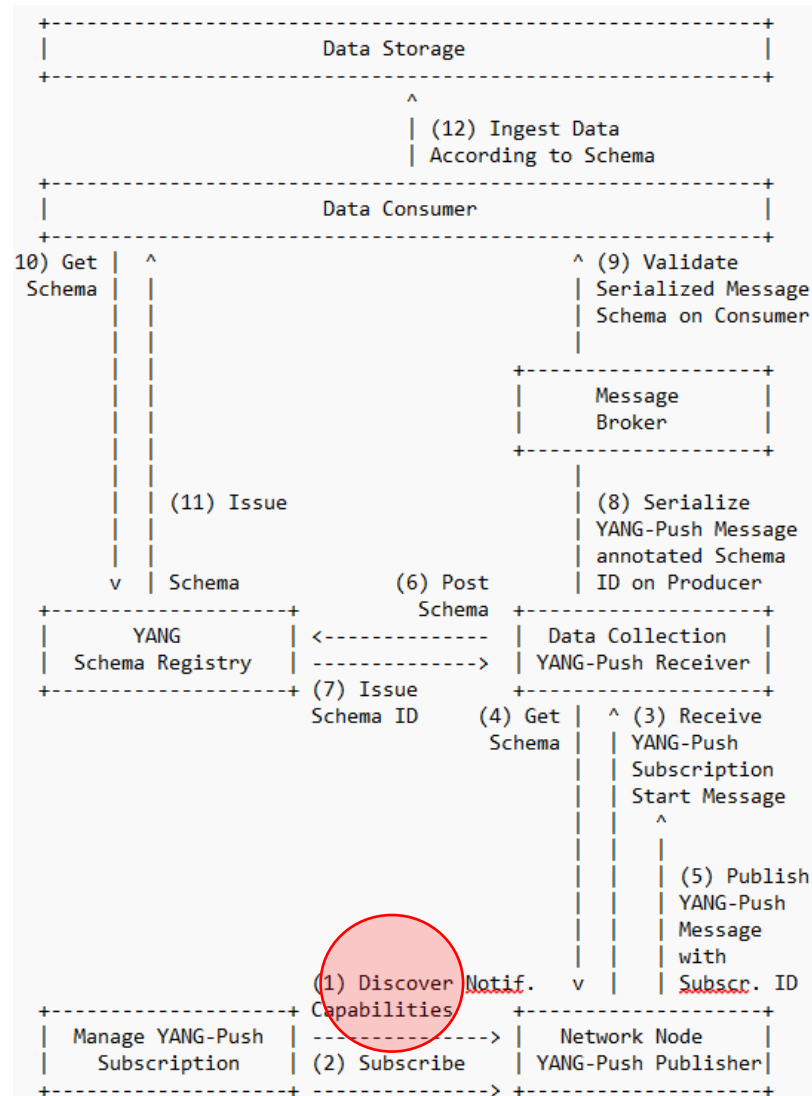
Augments "ietf-system-capabilities" to enable
a client to discover the transport protocol, encoding and security
capabilities of a YANG-Push publisher

thomas.graf@swisscom.com
alex.huang-feng@insa-lyon.fr
bill.wu@huawei.com
maqiufang1@huawei.com

16. March 2025

YANG Notification **Transport Capabilities**

Integrates in the YANG-Push to Message Broker Integration Architecture



- [Section 4.1 of draft-ietf-nmop-yang-message-broker-integration](#) describes the YANG-Push subscription workflow where before the subscription configuration the transport, notification and subscription capabilities are being discovered first.
- [draft-ietf-netconf-yp-transport-capabilities](#) extends "ietf-system-capabilities" for discovering transport.
- This allows a client to discover all YANG-Push publisher capabilities to enable the automation of the YANG-Push subscription configuration workflow depending on the YANG-Push server capabilities.

YANG Notification **Transport Capabilities**

Extending System Capabilities for YANG-Push Configured Subscription Transport

```
module: ietf-notification-transport-capabilities

  augment /sysc:system-capabilities/notc:subscription-capabilities:
    +--ro transport-capabilities
      +--ro transport-capability* [transport-protocol]
        +--ro transport-protocol identityref
        +--ro security-protocol? identityref
        +--ro encoding-format* identityref

  augment "/sysc:system-capabilities/notc:subscription-capabilities" {
    description "Add system level capability.";
    container transport-capabilities {
      description "Capabilities related to YANG-Push transports.";
      list transport-capability {
        key "transport-protocol";
        description "Capability list related to notification transport capabilities.";
        leaf transport-protocol {
          type identityref {
            base sn:transport;
          }
          description "Supported transport protocol for YANG-Push.";
        }
        leaf security-protocol {
          type identityref {
            base security-protocol;
          }
          description "Type of secure transport.";
        }
        leaf-list encoding-format {
          type identityref {
            base sn:encoding;
          }
          description "Supported encoding formats.";
        }
      }
    }
  }
```

- [draft-ietf-netconf-yp-transport-capabilities](#) augments System Capabilities model and provides additional transport related attributes associated with system capabilities:
 - Specification of which transport protocols are supported by the router ([draft-ietf-netconf-udp-notif](#), [draft-ietf-netconf-https-notif](#))
 - Specification of which YANG notification encodings are supported by the transport protocol (JSON [RFC 8040](#), XML [RFC 8040](#), CBOR [RFC 9254](#))
 - Specification of which secure protocols are supported for the transport protocol (DTLS [RFC 9147](#), TLS [RFC 8446](#), SSH [RFC 4254](#))

YANG Notification **Transport Capabilities**

draft-netana-netconf-yp-transport-capabilities-00 - Status and Next Steps

Current Status

- Document is working group adopted.
- Many thanks to Reshad, Med, Rob, Giuseppe, Nils and Benoit for the review and support.

Changes after IETF 121

- We received a review from Med, thanks a lot!
- Review was addressed in -01 as following:
 - Some editorial updates
 - TLS has now also two identities, same as DTLS for version 1.2 and 1.3, matching with what is defined in [RFC 9645](#) (ietf-tls-server.yang)

Next Steps

- 1. Validate with implementations.**
- 2. Working group last call.**

thomas.graf@swisscom.com
alex.huang-feng@insa-lyon.fr
bill.wu@huawei.com
maqiufang1@huawei.com

16. March 2025

YANG Notification **Transport Capabilities**

draft-ietf-netconf-yp-transport-capabilities-00 - IETF 122 Hackathon

```
<?xml version="1.0"?>
<rpc-reply message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <data>
    <system-capabilities xmlns="urn:ietf:params:xml:ns:yang:ietf-system-capabilities">
      <subscription-capabilities xmlns="urn:ietf:params:xml:ns:yang:ietf-notification-capabilities">
        <max-nodes-per-update>4294967295</max-nodes-per-update>
        <periodic-notifications-supported>state-changes</periodic-notifications-supported>
        <minimum-update-period>3000</minimum-update-period>
        <on-change-supported>state-changes</on-change-supported>
        <notification-metadata xmlns="urn:ietf:params:xml:ns:yang:ietf-yp-notification">
          <notification-envelope>true</notification-envelope>
          <metadata>
            <hostname-sequence-number>true</hostname-sequence-number>
          </metadata>
        </notification-metadata>
        <transport-capabilities xmlns="urn:ietf:params:xml:ns:yang:ietf-notification-transport-capabilities">
          <transport-capability>
            <transport-protocol xmlns:idx="urn:ietf:params:xml:ns:yang:ietf-udp-notif-transport">idx:udp-notif </transport-protocol>
            <encoding-format xmlns:idx="urn:ietf:params:xml:ns:yang:ietf-subscribed-notifications">idx:encode-json</encoding-format>
          </transport-capability>
        </transport-capabilities>
        <yang-push-observation-supported xmlns="urn:ietf:params:xml:ns:yang:ietf-yp-observation">true</yang-push-observation-supported>
        <yang-push-module-revision-supported xmlns="urn:ietf:params:xml:ns:yang:ietf-yang-push-revision">true</yang-push-module-revision-supported>
      </subscription-capabilities>
    </system-capabilities>
  </data>
</rpc-reply>
```