

# Support of **Versioning** in YANG Notifications Subscription

draft-ietf-netconf-yang-notifications-versioning-05

Adds semantics to the subscription process and notification message to enable automated data mesh integration

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# Support of **Versioning** in YANG Notifications Subscription

For subscription state change notification messages

```
module: ietf-yang-push-revision

augment /sn:establish-subscription/sn:input:
  +---w module-version-config* [module-name]
    +---w module-name          yang:yang-identifier
    +---w revision?            rev:revision-date-or-label
    +---w revision-label?      ysver:version

augment /sn:subscription-started:
  +--ro module-version* [module-name]
    +--ro module-name          yang:yang-identifier
    +--ro revision             rev:revision-date-or-label
    +--ro revision-label?      ysver:version

{
  "ietf-notification:notification": {
    "eventTime": "2023-03-25T08:30:11.22Z",
    "ietf-notification-sequencing:sysName": "example-router",
    "ietf-notification-sequencing:sequenceNumber": 1,
    "ietf-subscribed-notification:subscription-started": {
      "id": 6666,
      "ietf-yang-push:datastore": "ietf-datastores:operational",
      "ietf-yang-push:datastore-xpath-filter": "/if:interfaces",
      "ietf-yang-push-revision:revision": "2014-05-08",
      "ietf-yang-push-revision:module-name": "ietf-interfaces",
      "ietf-yang-push-revision:revision-label": "",
      "ietf-distributed-notif:message-observation-domain-id": [1,2],
      "transport": "ietf-udp-notif-transport:udp-notif",
      "encoding": "encode-json",
      "ietf-yang-push:periodic": {
        "ietf-yang-push:period": 100
      }
    }
  }
}
```

- **Network operators need to control semantics in its data processing pipeline. That includes YANG-Push.**
- This is today only possible during YANG-Push subscription but not when nodes are being upgraded or when messages are being published for configured subscription.
- [draft-ietf-netconf-yang-notifications-versioning](#) extends the YANG push subscription and publishing mechanism defined in [RFC 8641](#):
  - **By adding the ability to subscribe to a specific revision** or latest-compatible-semversion of one or more yang modules.
  - **By extending the YANG push Subscription State Change Notifications Message** so that the YANG push receiver learns beside the xpath and the subtree filter also the yang module name, revision and revision-label.

# Support of **Versioning** in YANG Notifications Subscription

draft-ietf-netconf-yang-notifications-versioning-04 - Status and Next Steps

## Current Status

- Resolved issue that within a "case" statement identifiers need to be unique.
- Thanks to Jérémie Leska from 6Wind for reporting this issue.

## Next Steps

- **Validate implementation at IETF 120 hackathon.**
- **Requesting feedback from the netconf working group and YANG-Push implementers.**

# YANG-Push Implementation Status

IETF 120

	6WIND VSR	Huawei VRP	Cisco IOS XR
RFC 8641 YANG-Push	x	x	x
draft-ietf-netconf-udp-notif	x	x	
draft-ietf-netconf-distributed-notif	x	x	
draft-ietf-netconf-yang-notifications-versioning	x	x	
draft-tgraf-netconf-notif-sequencing	x		
draft-tgraf-netconf-yang-push-observation-time	x		
RFC 7895 YANG Module Library		x	
RFC 8525 YANG Library	x		x
draft-lincla-netconf-yang-library-augmentation			



# Address YANG Specification and Integration Gaps

Aiming for an automated data processing pipeline

## YANG Specifications Gaps:

- YANG model for NETCONF Event Notifications  
[draft-ahuang-netconf-notif-yang](#) ----->
- Validating anydata in YANG Library context  
[draft-aelhassany-anydata-validation](#) ----->

## YANG Integration Gaps:

- Support of Network Observation Timestamping in YANG Notifications  
[draft-tgraf-netconf-yang-push-observation-time](#) ----->
- Support of Hostname and Sequencing in YANG Notifications  
[draft-tgraf-netconf-notif-sequencing](#) ----->
- Support of Versioning in YANG Notifications Subscription  
[draft-ietf-netconf-yang-notifications-versioning](#) ----->
- Augmented-by Addition into the IETF-YANG-Library  
[draft-linclanetconf-yang-library-augmentation](#) ----->

« Addressing those gaps are a prerequisite to enable an automated data processing chain as described in [draft-ietf-nmop-yang-message-broker-integration](#).

**Please consider to attend IETF 120 NMOP working group session on Friday 13:00 – 15:00 or go onto the mailing list and contribute to the discussion. »**