

YANG model for NETCONF Event Notifications

draft-ahuang-netconf-notif-yang-02/03

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YANG model for NETCONF Event Notifications

Context - Netconf Notification

```
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2022-09-02T10:59:55.32Z</eventTime>
  <push-update xmlns="urn:ietf:params:xml:ns:yang:ietf-yang-push">
    <id>101</id>
    <datastore-contents>
      <interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
        <interface>
          <name>eth0</name>
          <oper-status>up</oper-status>
        </interface>
      </interfaces>
    </datastore-contents>
  </push-update>
</notification>
```

```
{
  "ietf-notification:notification": {
    "eventTime": "2017-10-25T08:00:11.22Z",
    "ietf-yang-push:push-update": {
      "id": 1011,
      "datastore-contents": {
        "ietf-interfaces:interfaces": [
          "interface": {
            "name": "eth0",
            "oper-status": "up"
          }
        ]
      }
    }
  }
}
```

RFC 5277 - Netconf Event Notifications

RFC 8641 - YANG Push

YANG encodings:

- RFC 7950 - YANG XML
- RFC 7951 - YANG JSON
- RFC 9254 - YANG CBOR

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Proposal

- Definition of the notification structure in a YANG
- Updates RFC5277
- Uses the same XML URI as RFC5277

```

sx:structure notification {
  leaf eventTime {
    type yang:date-and-time;
    mandatory true;
    description
      "The date and time the event was generated by the event source.
      This parameter is of type dateTime and compliant to [RFC3339].
      Implementations must support time zones.
      The leaf name in camel case matches the name of the XSD element
      defined in Section 4 of RFC5277.";
  }
}

```

```

module: ietf-notification

  structure notification:
    +-- eventTime yang:date-and-time

```

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Current status

- Editorial changes based on Andy Bierman and Tom Petch feedback from the ML
 - Extended Abstract explaining which issues this draft solves
 - Fixed references
 - Explained why the YANG URI is the same XML URI defined in RFC5277
- Added a section explaining the difference with *draft-ietf-netconf-notification-messages*
- Added examples
 - JSON encoded message
 - CBOR encoded message using CBOR diagnostic notation

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Current issues

1. “inotif” as a prefix for the YANG module ok?
2. Andy Bierman: This draft should request CBOR SID range for the structure
 - **The authors suggest to wait for CBOR-SID to be RFC and will discuss with CORE WG for guidelines**

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Next steps

- Request more feedback from the WG
- **Working Group Adoption?**

BACK UP: Difference with *draft-ietf-netconf-notification-messages*

draft-ahuang-netconf-notif-yang

```
module: ietf-notification
  structure notification:
    +-- eventTime yang:date-and-time
```

draft-ietf-netconf-notification-messages

```
structure message
  +--ro message!
    +--ro message-header
      | +--ro message-time yang:date-and-time
      | +--ro message-id? uint32
      | +--ro message-generator-id? string
      | +--ro notification-count? uint16
    +--ro notifications*
      | +--ro notification-header
      | | +--ro notification-time yang:date-and-time
      | | +--ro yang-module? yang:yang-identifier
      | | +--ro subscription-id* uint32
      | | +--ro notification-id? uint32
      | | +--ro observation-domain-id? string
      | +--ro notification-contents?
      | +--ro notification-footer!
      | | +--ro signature-algorithm string
      | | +--ro signature-value string
      | | +--ro integrity-evidence? string
    +--ro message-footer!
      +--ro signature-algorithm string
      +--ro signature-value string
      +--ro integrity-evidence? string
```