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

```xml
<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>
```

```json
{
  "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

YANG model for NETCONF Event Notifications
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
```

YANG model for NETCONF Event Notifications
Current status

- Editorial changes based on Andy Bierman and Tom Petch feedback from the ML

  - Extended Abstract explaining which issues this draft solves

  - Fix some references

  - Explained why the YANG URI is the same as 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

YANG model for NETCONF Event Notifications

Current issues

1. "inotif" as a prefix for the YANG module ok?

2. Feedback from Andy Bierman: This draft should request CBOR SID range for the structure
    - **The authors has decided to wait for CBOR-SID to be RFC and will discuss with CORE WG for guidelines**

YANG model for NETCONF Event Notifications
Next steps

- Request more feedback from the WG

- **Working Group Adoption?**

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

draft-ietf-netconf-notification-messages

draft-ahuang-netconf-notif-yang

```
module: ietf-notification

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

```
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
```