UDP-based Transport for Configured Subscriptions
draft-ietf-netconf-udp-notif-12

UDP-based protocol for YANG notifications
to collect data from networking devices

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UDP-based Transport for Configured Subscriptions
Status

- Received comments from Transport Directorate Review
  - Thanks Michael Tuxen for the review

- Minor but necessary issues addressed following the tsvdir review.

- udp-client-grouping has been externalised to draft-ietf-netconf-udp-client-server (adopted) and used in the udp-notif YANG module

UDP-based Transport for Configured Subscriptions
Minor changes

- When S flag is enabled, the Private Encoding Option SHOULD be present in the header

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-----+-+-------+---------------+-------------------------------+
| Ver |S|  MT   |  Header Len   |         Message Length        |
+-----+-+-------+---------------+-------------------------------+
|                      Message Publisher ID                     |
+---------------------------------------------------------------+
|                          Message ID                           |
+---------------------------------------------------------------+
~                           Options                             ~
+---------------------------------------------------------------+
```

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+---------------+---------------+------------------------------
|     Type      |    Length     |   Variable length enc. descr.
+---------------+---------------+------------------------------
```
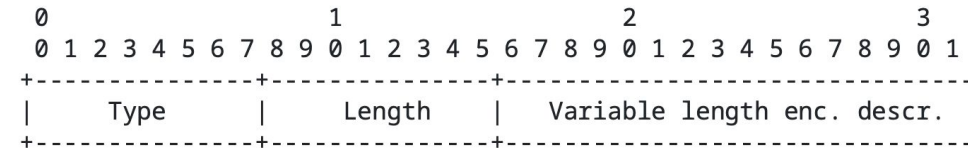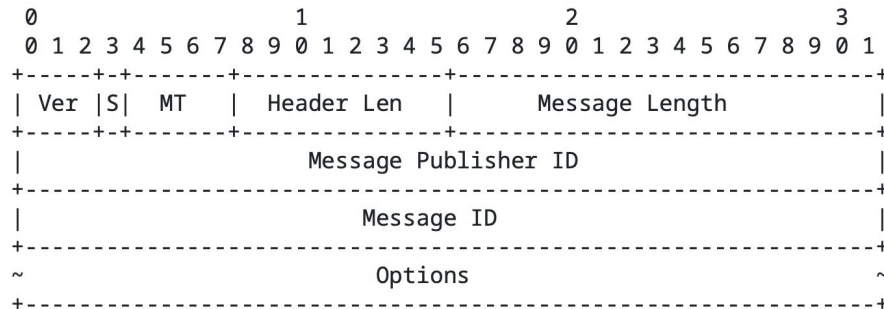
Figure 5: Private Encoding Option Format

- Message ID is wrapped around

- The binary fields are in Network Byte Order

- Segment numbers cannot be wrapped around

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+---------------+---------------+---------------------------+-+
|     Type      |    Length     |      Segment Number       |L|
+---------------+---------------+---------------------------+-+
```

- The receiver SHOULD support the reception of unordered segments

- Added recommendation of using "small" Notifications. If the Notification is large, use HTTPS-notif (Section 5.2. Message Size) [Feedback IETF 118]

- Removed generic udp-client-grouping from the draft
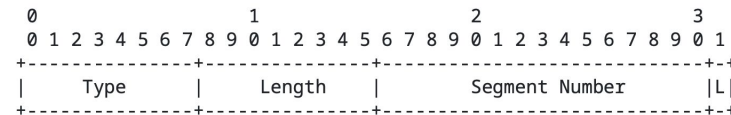
UDP-based Transport for Configured Subscriptions
Issues & next steps

- No remaining issues

- Waiting for draft-ietf-netconf-udp-client-server

  - Should UDP-notif be configurable to send Notifications to a Hostname?

- Seeking more feedback or WGLC depending on draft-ietf-netconf-udp-client-server

Backup

Depending on udp-client-server-grouping draft

UDP-based Transport for Configured Subscriptions
YANG module for UDP-notif configuration

```
module: ietf-udp-notif-transport

  augment /sn:subscriptions/snr:receiver-instances
          /snr:receiver-instance/snr:transport-type:
    +--:(udp-notif)
       +--rw udp-notif-receiver
          +--rw remote-address          inet:ip-address-no-zone
          +--rw remote-port             inet:port-number
          +--rw dtls! {dtls13}?
          |  +--rw client-identity!
          |  |  +--rw (auth-type)
          |  |     +--:(certificate) {client-ident-x509-cert}?
          |  |     |    ...
          |  |     +--:(raw-public-key) {client-ident-raw-public-key}?
          |  |     |    ...
          |  |     +--:(tls13-epsk) {client-ident-tls13-epsk}?
          |  |          ...
          |  +--rw server-authentication
          |  |  +--rw ca-certs! {server-auth-x509-cert}?
          |  |  |  +--rw (local-or-truststore)
          |  |  |     ...
          |  |  +--rw ee-certs! {server-auth-x509-cert}?
          |  |  |  +--rw (local-or-truststore)
          |  |  |     ...
          |  |  +--rw raw-public-keys! {server-auth-raw-public-key}?
          |  |  |  +--rw (local-or-truststore)
          |  |  |     ...
          |  |  +--rw tls13-epsks?          empty
          |  |          {server-auth-tls13-epsk}?
          |  +--rw hello-params {tlscmn:hello-params}?
          |  |  +--rw tls-versions
          |  |  |  +--rw tls-version*    identityref
          |  |  +--rw cipher-suites
          |  |     +--rw cipher-suite*    identityref
          |  +--rw keepalives {tls-client-keepalives}?
          |     +--rw peer-allowed-to-send?    empty
          |     +--rw test-peer-aliveness!
          |        +--rw max-wait?          uint16
          |        +--rw max-attempts?    uint8
          +--rw enable-segmentation?    boolean {segmentation}?
          +--rw max-segment-size?       uint32 {segmentation}?
```

Conservative "inet:ip-address-no-zone"

Default port need to be refined if generic udp-client-grouping is used
- Ask for a default UDP-notif port to IANA?

*Should the YANG continue using the current types following the feedback received from the WG **OR** use directly the generic grouping instead?*