Using NETCONF over QUIC connection

draft-ietf-netconf-over-quic-05

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Updates since Madrid (IETF 123)

Elaboration for abstract ‘(based on comment from the list)

- This document specifies how to use QUIC as a secure transport for exchanging Network Configuration Protocol (NETCONF) messages. NETCONF over QUIC allows to take advantage of QUIC streams, for example, **to eliminate some TCP head-of-line blocking issues. NETCONF over QUIC provides security properties similar to NETCONF over TLS.**

Updates since Madrid (IETF 123)

Add 'Mapping among QUIC connection, QUIC stream and NETCONF session and '(section 4.3)

Option 1 (OLD)

- ✓ Multiple NETCONF session is corresponding to one QUIC connection
- ✓ One bidi-stream is corresponding to one NETCONF session.
- ✓ Multiple uni-streams are corresponding to one NETCONF session.
- ✓ One bidi-stream is corresponding to a RPC pairs.
- ✓ One uni-stream is corresponding to a subscription.

Option 2 (Current)

- ✓ One NETCONF session is allowed per QUIC connection.
- ✓ The NETCONF sessions, except subscriptions, runs over a QUIC bidi- stream.
- ✓ NETCONF Notifications and Subscribed Notifications runs over one QUIC uni-stream per subscription.

Updates since Madrid (IETF 123)

- **Elaborate 'connection establishment'(Section 3.1)**
  - QUIC connections are established as described in [RFC9000]. During connection establishment, support is indicated by selecting the ALPN token registered for NETCONF over QUIC (see Section 9) in the cryptographic handshake.

- **Elaborate 'Security considerations' (Section 9)**
  - Finally, this document does not introduce any new security considerations compared to [RFC6242].

Updates since Madrid (IETF 123)

- **Add ‘Framing’(Section 6)**
  - ✓ In order to mitigate delimiter injection attacks chunked framing as defined in [RFC6242] is required for NETCONF over QUIC.
- **Fix some ‘nits’**

Remaining issues to be discussed

- mapping among NETCONF sessions, QUIC streams and QUIC connections (to be confirmed)
- Error code and stream error (to be added)
- Call home (to be confirmed)
- Nits fixing.

Updates for the next version

- **Confirm about mapping among connection-stream-session**
  - Whether the current mapping mechanism is appropriate?
  - Add some more description?

- **Improving description about ‘Call home’**

Updates for the next version

- **Improving descriptions about error code.**
  - Register Application errors for CONNECTION_CLOSE frames and stream errors for RESET_STREAM and STOP_SENDING frames.
- **Nits fixing and editorial improvement**

Next step

- Improve draft and address issues

- The authors would like to ask for WG last call after solving the issues and before IETF 125 meeting

Thank you!