Interim meeting SCHC#3 2023

03 8ber 2023

This session is being recorded
Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Duration</th>
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<tbody>
<tr>
<td>16:00</td>
<td>Opening, agenda bashing (Chairs)</td>
<td>5mn</td>
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<td>• Note-Well, Scribes, Agenda Bashing</td>
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<td>• Status of drafts</td>
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<td>16:10</td>
<td>Architecture</td>
<td>45mn</td>
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<td>• Presenter: Chairs, Laurent</td>
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<td>• Associated drafts: draft-ietf-lpwan-architecture</td>
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<td>: AOB</td>
<td>QSP</td>
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SCHC Session

- Session ID
- Session end points
- Role of endpoints
- Session Boot
  - Rule location (URN) and authentication
  - Rule data synchronization
SCHC Header

• SCHC base header
  – NH
  – Session ID

• SCHC header options
  – metadata

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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| Next Header  | Header Len  | Checksum |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|              | Session ID |          |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
... Options (Any other metadata) ...
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
SCHCization step 2 Split

IPv6 (NH=SCHC) -> SCHC HDR (NH=ULP) -> ULP HDR -> ULPDU

IPv6 (NH=SCHC) -> SCHC PDU 1
  -> SCHC HDR (NH=ULP) -> ULP HDR -> ULPDU

IPv6 (NH=SCHC) -> SCHC PDU 2
  -> SCHC HDR (NH=ULP) -> ULP HDR
  Checksum

Session

Checksum

Checksum elided
SCHCization step 2 over UDP

IPv6 (NH=SCHC) -> SCHC HDR (NH=ULP) -> ULP HDR -> ULPDU

IPv6 (NH=UDP) -> UDP HDR (Port = SCHC) -> SCHC PDU 1 -> SCHC PDU 2

- Checksum
- UDP Port => session
- Session Elided
- Checksum elided
SCHC Context

- Rule Set (signed baseline)
- Rule Amendments (manageable)
- Rule Data (manageable)

⇒ instantiated rules

- Runtime State + Timers
Rules and Rule Structures

- Optimized Tree structure
  - Order rules in parsing tree by commonalities
- One shared trunk for the SCHC header
  - Common to both endpoints
  - More generalized?
Rule exchange

• Inline vs Common reference
• Amendments and Rule Data sync
• How to confirm sync? Hashes?