SCHC for IPv6 and UDP

draft-ietf-lpwan-ipv6-static-context-hc-05

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Review results

- Thanks to Diego, Dominique, Juan Carlos
- Define a generic framework for SCHC
- Apply framework to IPv6/UDP
- Enhanced Packet Processing description
- Match-mapping allows array
- Padding:
  - Compressed header is not aligned on byte boundaries
- Security section
Architecture

• Define common terminology
  – Dev, NGW, App
New fields

- Field ID, Field Position, Direction Indicator
- CDF => CDA
Variable length fields for value-sent and LSB

- Length | value

- \( xxxx : 0 < l < 14 \)
- \( 1111 \ xxxx \ xxxx : 15 < l < 254 \)
- \( 1111 \ 1111 \ 1111 \ xxxx \ xxxx \ xxxx : 255 < l < 65534 \)

- \( l = 0 ? \)
  - Field do not exist (URI-Path, URI-Query)
  - Value = 0 (Accept, Content)
- MUST be specified in SCHC for CoAP
SCHC for CoAP

draft-ietf-lpwan-coap-static-context-hc-01

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What’s new

• Nothing yet, but better understanding.
• All the tools are in SCHC for IPv6 and UDP
  – Matching-list to reduce fields with well-known values
    • Code, type,…
  – MSB/LSB to reduce the size counter fields
    • Token, Message ID
  – Direction to manage asymmetry
  – Field Position for Uri-Path and Uri-Query

• Adapt the document:
  – Variable length behavior
What’s next?

• Adapt CoAP behavior to application characteristics:
  – Periodicity (1/day, 1/hour,…)
    • Timers -> time to keep messages -> field size
  – New CoAP option to inform of time scale.
    • Not on radio, elided by SCHC
backup
### Worst case

<table>
<thead>
<tr>
<th>name</th>
<th>default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX_TRANSMIT_SPAN</td>
<td>45 s</td>
</tr>
<tr>
<td>MAX_TRANSMIT_WAIT</td>
<td>93 s</td>
</tr>
<tr>
<td>MAX_LATENCY</td>
<td>100 s</td>
</tr>
<tr>
<td>PROCESSING_DELAY</td>
<td>2 s</td>
</tr>
<tr>
<td>MAX_RTT</td>
<td>202 s</td>
</tr>
<tr>
<td>EXCHANGE_LIFETIME</td>
<td>247 s</td>
</tr>
<tr>
<td>NON_LIFETIME</td>
<td>145 s</td>
</tr>
</tbody>
</table>

Sender: Do not re-use Message ID, Receiver: filter duplicate Message ID