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 boudaries
- Security section

Architecture

- Define common terminology
  - Dev, NGW, App

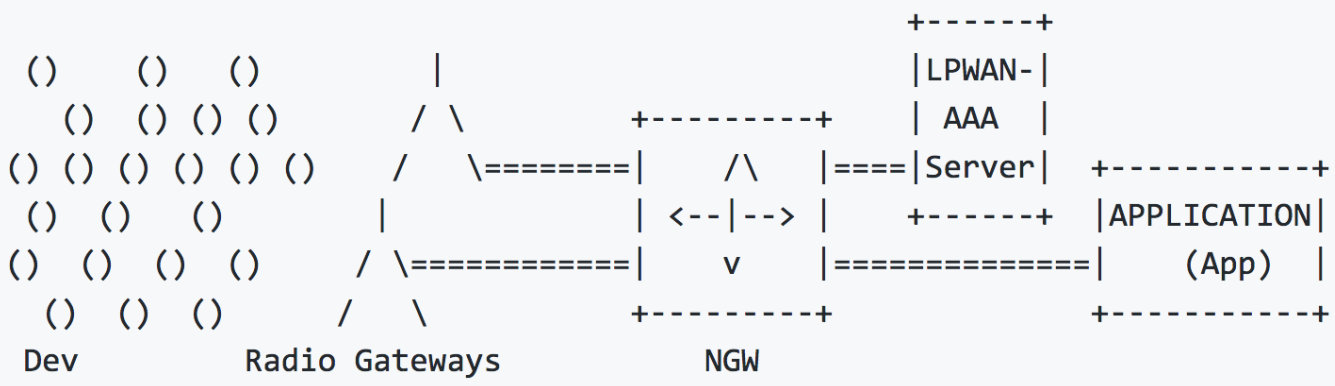
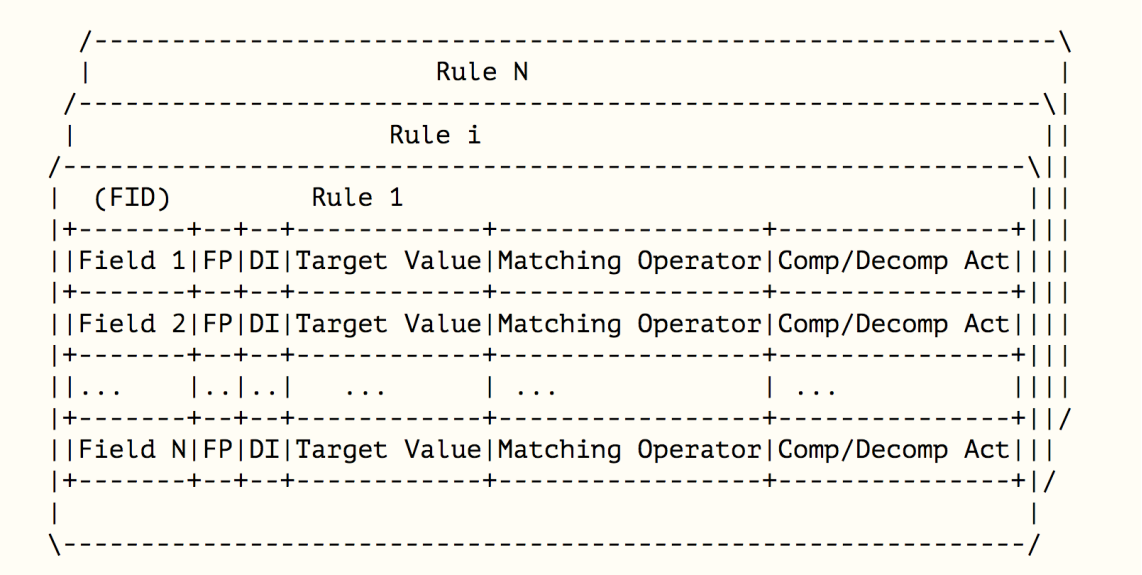


Figure 9: LPWAN Architecture

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 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

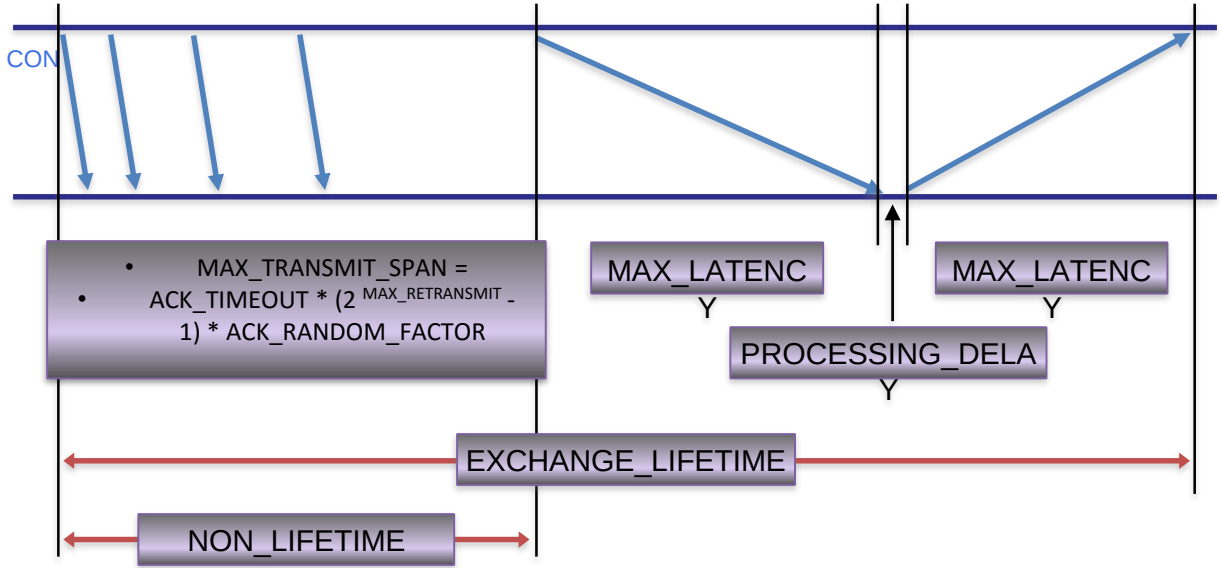
What's next ?

- 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

name	default value
MAX_TRANSMIT_SPAN	45 s
MAX_TRANSMIT_WAIT	93 s
MAX_LATENCY	100 s
PROCESSING_DELAY	2 s
MAX_RTT	202 s
EXCHANGE_LIFETIME	247 s
NON_LIFETIME	145 s

Worst case



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

[from Matthias Kovatsch]