• SCHC over PPP (and then PPP over foo)
• Enables SCHC over
  • Serial, 3GPP
  • Ethernet with PPPoE, Wi-Fi with Ethernet
• Signals
  • A new compression for PPP (Updates RFC 5172)
  • The URL of the data model for the compression
  • Dependency on draft-ietf-lpwan-schc-yang-data-model
RuleID Numbering Scheme

- The RuleID for a compression rule is expressed as 2 bytes.
- The first (leftmost) 2 bits of that RuleID MUST be set to 0
- This leaves 14 bits to index the rule;
  - Q: how to absorb residue?

```
  0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5
  +---------------------------
  | 0 0 RuleID | Compression Residue | Payload
  +---------------------------
  |------- Compressed Header (byte aligned) -------|
```
Draft status: Added Fragmentation

- Only No-Ack mode => packet order must be respected
  - If used with DetNet => may require PREOF reordering
- The RuleID for a fragmentation rule is expressed as 4 bits
  - Reserved 1111 for NO ACK

```
| 1 1 1 1 | DTag | F | Fragment Payload | padding |
+------------------------+-----------------+-----------------+-----------------------------+------------------------+-----------------------------+
| 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 |
```

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SCHC Fragment Header

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Draft status: Padding

• The Compression Residue MUST be aligned to the L2 word.
• For Ethernet, the L2 word is one byte, so padding is needed up to the next byte boundary.
• If a compression rule produces a residue that is not byte aligned, then it is implicitly terminated with a statement that indicates padding till the next byte boundary.
• The padding bit is 0
• The residue + padding may be followed by uncompressed payload
Ethernet Pseudowire WiFi VxLAN

Switch / Router (act as device)

Switch / Router (act as GW)

Rule base

GET(Rule set URL)

Rule set

Discovery (RFC 2516 PADx or LISP)

LCP Config. (Magic Nb LCP, no PFC)


IPv6CP Configuration Ack.

GET(Rule set URL)

Rule set

handshake

Protocol determination Rule set Selection based on device/prot

GET(Rule set URL)

Rule set

IPv6CP Configuration Ack.

GET(Rule set URL)

Rule set

handshake

Protocol determination Rule set Selection based on device/prot

GET(Rule set URL)

Rule set

IPv6CP Configuration Ack.
Resulting Packet (no Frag example)
Discussion

• Adoption?
• Add applicability statement?
• Possible extensions?