Transmission of SCHC-compressed packets over IEEE 802.15.4 networks

draft-ietf-6lo-schc-15dot4-07

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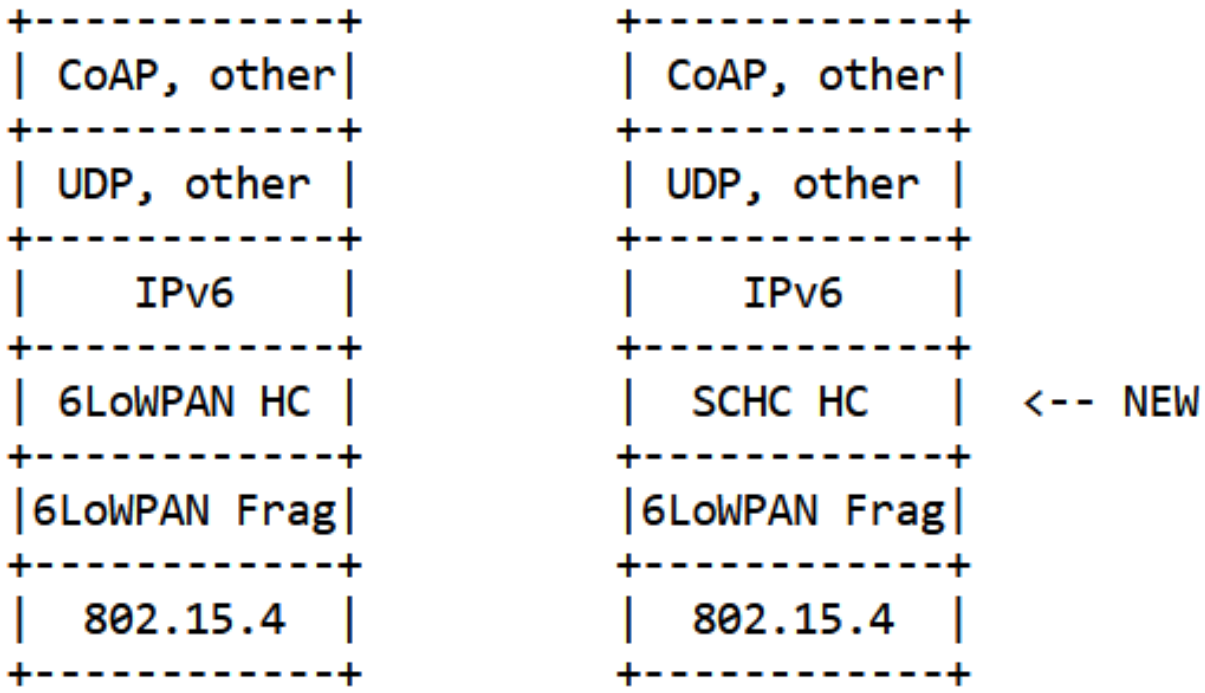
Main goal



Traditional

SCHC-based

SCHC (RFC 8724) exploits a priori knowledge of header field values

Status

- WG adoption
  - draft-ietf-6lo-schc-15dot4-00
  - In January 2023

- Version -07
  - Waiting for updated draft-ietf-schc-architecture
  - Miscellaneous minor updates throughout the document

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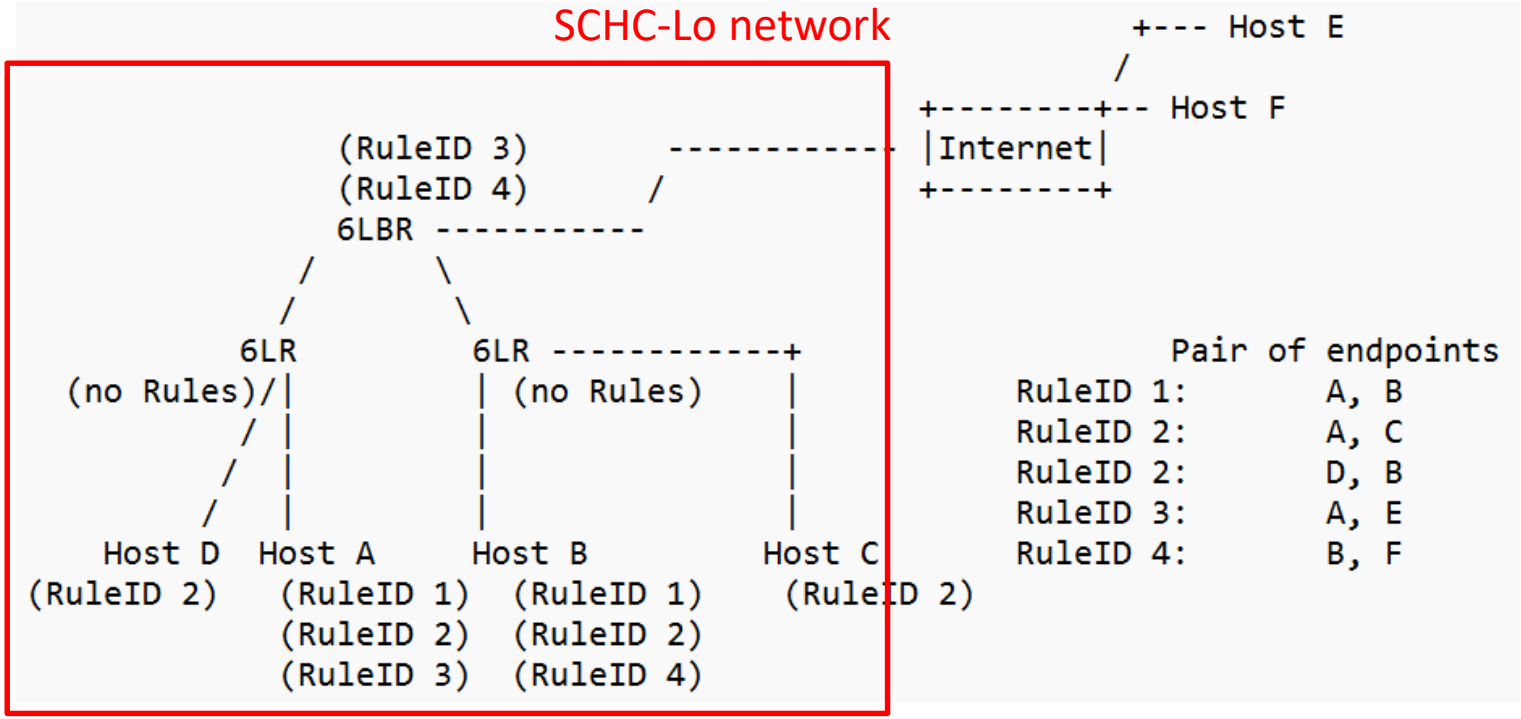
2.3. New term

- SCHC-Lo network:
  - A 6LoWPAN network where SCHC (RFC 8724) is used for header compression/decompression
- Example:

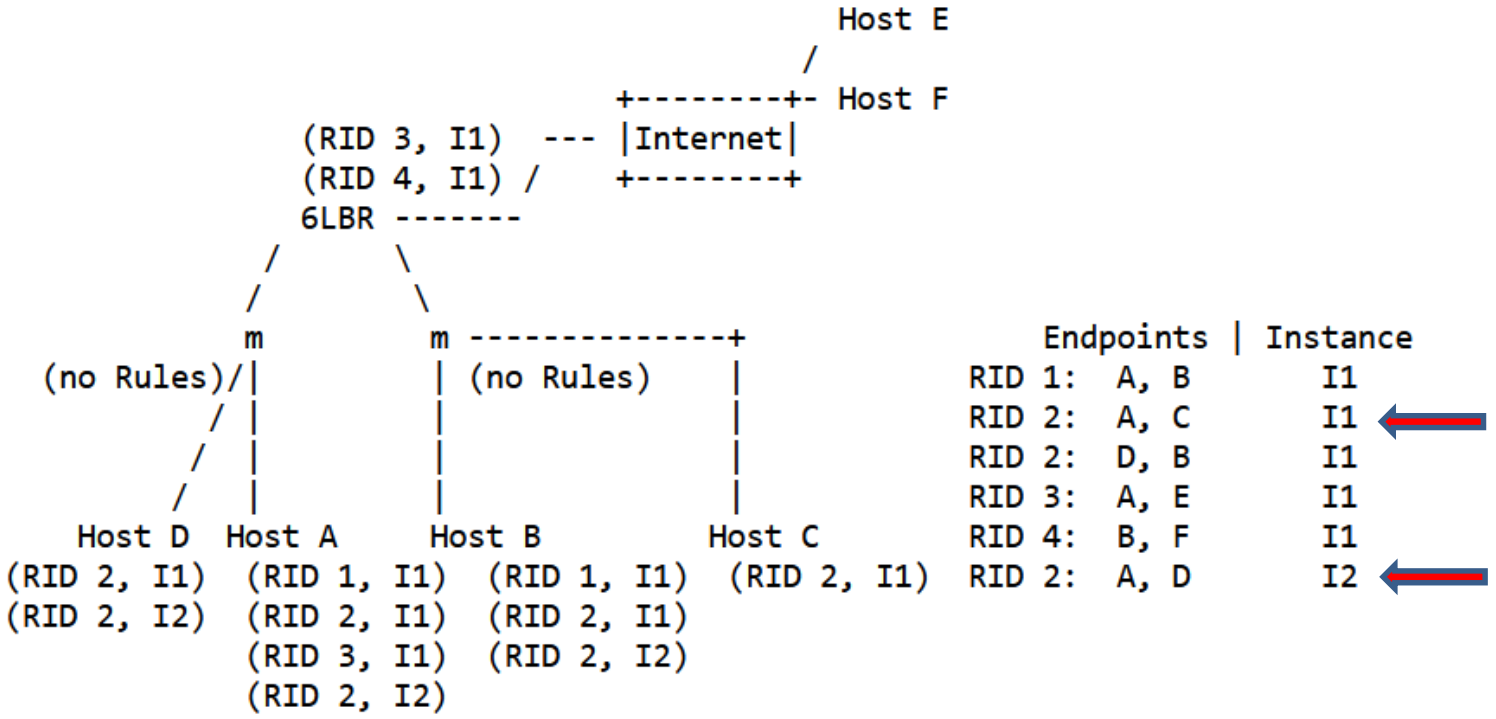


Miscellaneous updates (I/II)

- 3.2.3. Multiple-instance networks
  - OLD:
    - In Multiple-instance networks, the SCHC Header cannot be fully compressed
  - NEW:
    - In Multiple-instance networks, the SCHC Header cannot generally be fully compressed
      - » Reminder on the next slide

Reminder: 3.5. Multihop communication

- Mesh-Under:
  - Multiple-instance networks:
    - A fully compressed SCHC Header MAY be used
      - » Only if it is possible to determine the SCHC Packet Instance needed to decompress a SCHC-compressed packet based on the packet source identifier (Mesh-Under header [RFC 4944])



Miscellaneous updates (II/II)

- 10. Security considerations
  - Comment by Peter Yee
    - Text improvement
  - OLD:
    - A malicious node might be able to modify the related fields (i.e., Bit Pointer or Address Length) to avoid a router to correctly reconstruct the IPv6 destination field of a SCHC-compressed IPv6 packet, thus avoiding delivery of the packet to its intended destination
  - NEW:
    - A malicious node might be able to modify the related fields (i.e., Bit Pointer or Address Length) to prevent a router from correctly reconstructing the IPv6 destination field of a SCHC-compressed IPv6 packet, thus preventing delivery of the packet to its intended destination

Appendix C. Relationship with RFC 7973

- RFC 7973:
  - Report that IEEE assigned an Ethertype for "IPv6 datagrams using LoWPAN encapsulation"
  - Any IPv6 datagram using the Dispatch octet (as defined in Section 5.1 of RFC 4944, subsequently updated by RFC 6282) is regarded as using LoWPAN encapsulation
- This draft:
  - Also uses LoWPAN encapsulation, as it uses the Dispatch octet as described in RFC 7973
  - Can also benefit from the mentioned Ethertype

Next steps

- Continue monitoring and aligning with draft-ietf-schc-architecture

- Elaborate on the “transition” protocol stack
  - E.g., defining the SCHC Header format for it

Comments/Questions?

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