



ArSCHCtectural Views

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Context



- SCHC is not restricted to LPWAN.
- SCHC Header has been introduced to generalize transport.
- RFC 8824 introduces layered SCHC.
- RFC 9363 defines YANG Data Model:
 - CORECONF management can be derived.
- With 6lo, a node can be dev and app.

Goal



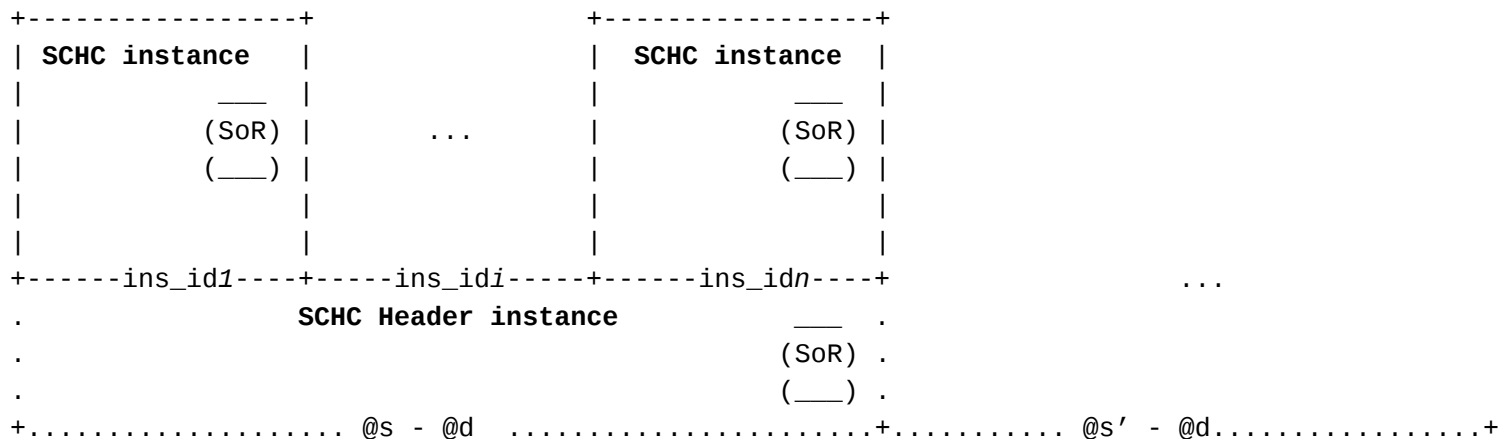
- Define a generic architecture for SCHC
 - Independent of the compressed protocols
 - May be non IETF protocols
 - Can be reproduced at different layers
 - Includes *instance id* from SCHC Header
 - Also rules to be managed in a secure way

SCHC Header instance



- The SCHC header instance is identified through a *discriminator*:
 - A source and destination address,
 - A source and destination port number,
 - A MPLS label,
 - A connection ID,
 - ...

Global architecture

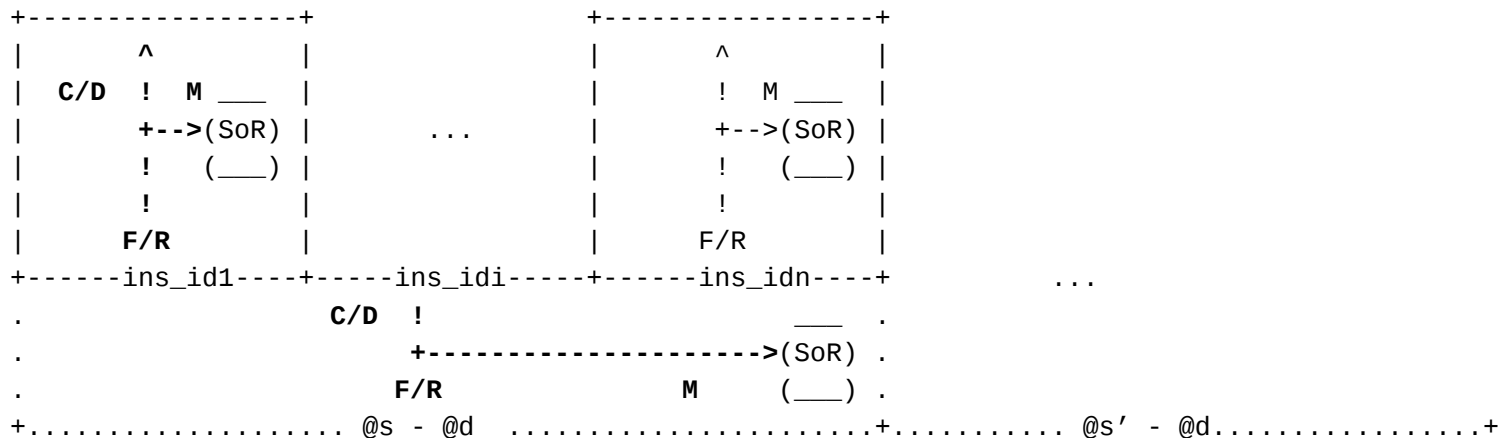


Inband management

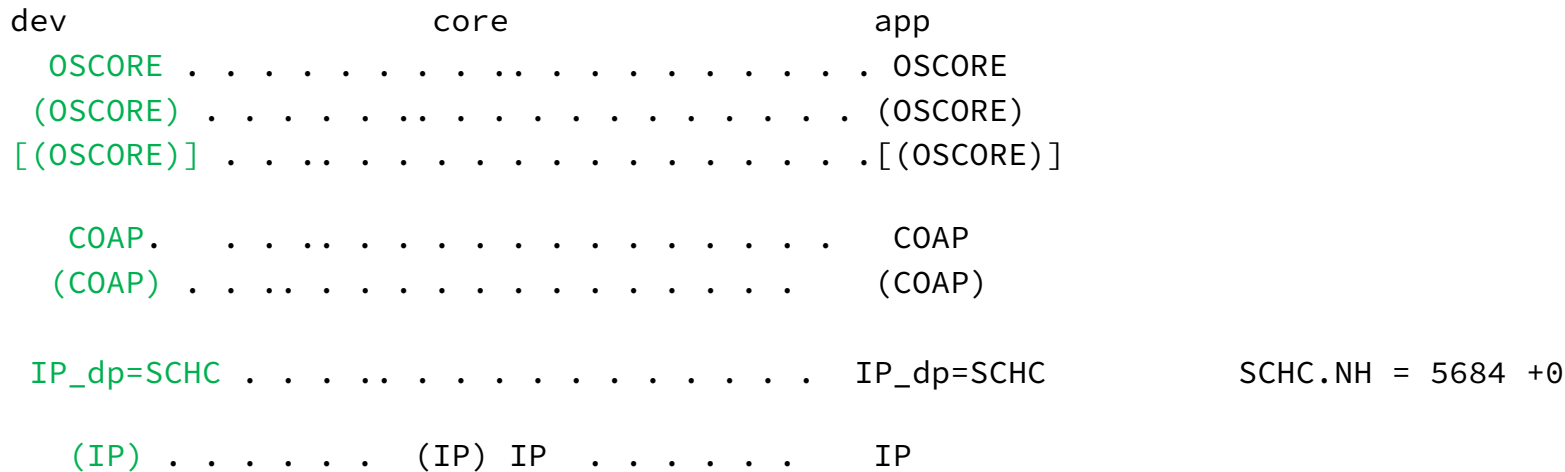


- RFC9363 states that only corresponding instances can modify the SoR.
 - Out of band management is out of scope.
- Do not use a Flag in the SCHC header:
 - Expensive
- Rather define a new rule nature:
 - For Management
 - With its own IP stack (no interference with compressed stack)
 - The WG should define rules for:
 - CORECONF Compression
 - Encryption key setup.
 - Rule ID value is not assigned

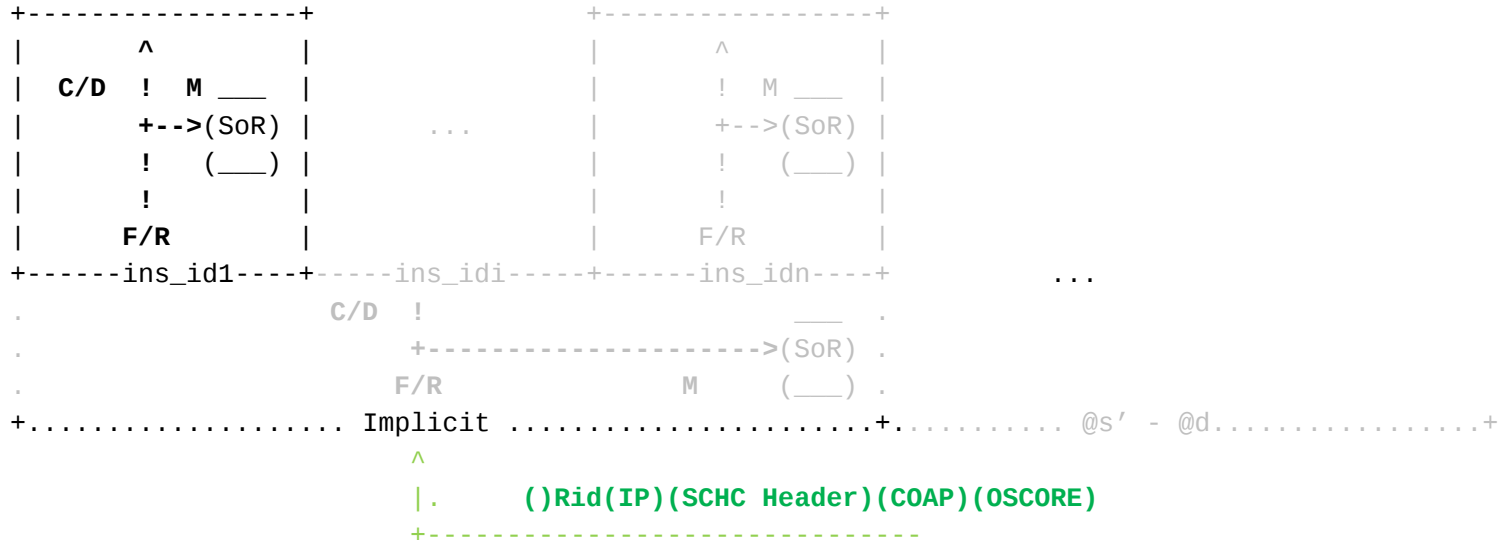
Global architecture



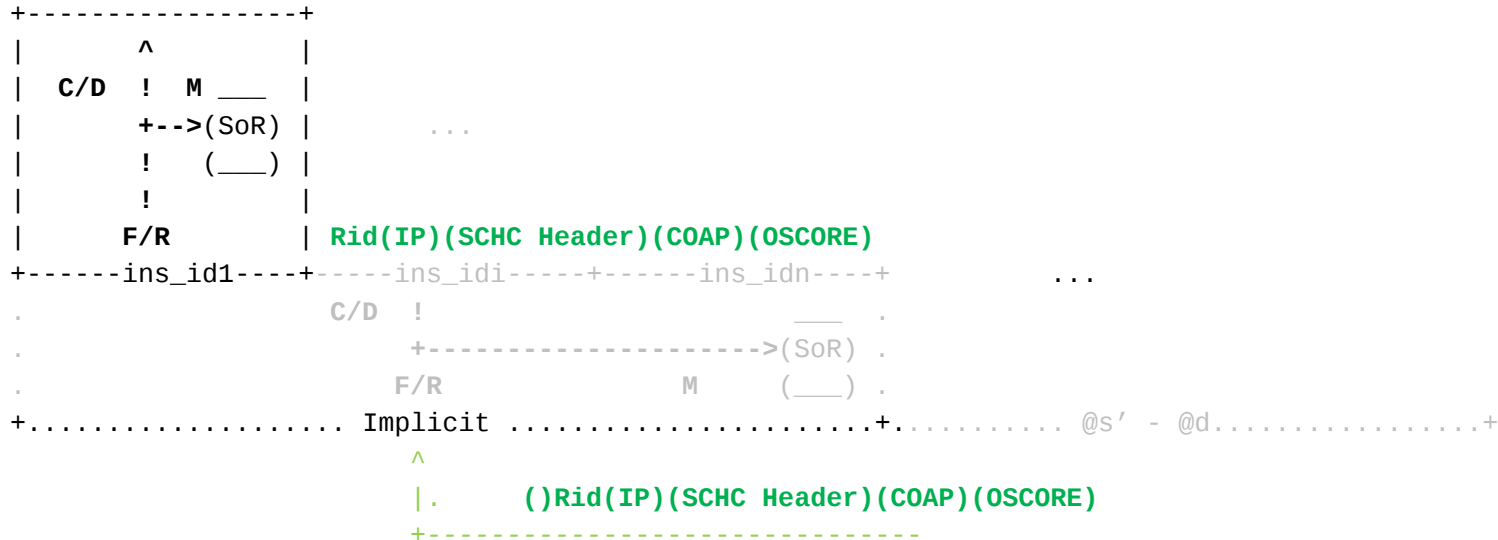
Example Layered SCHC



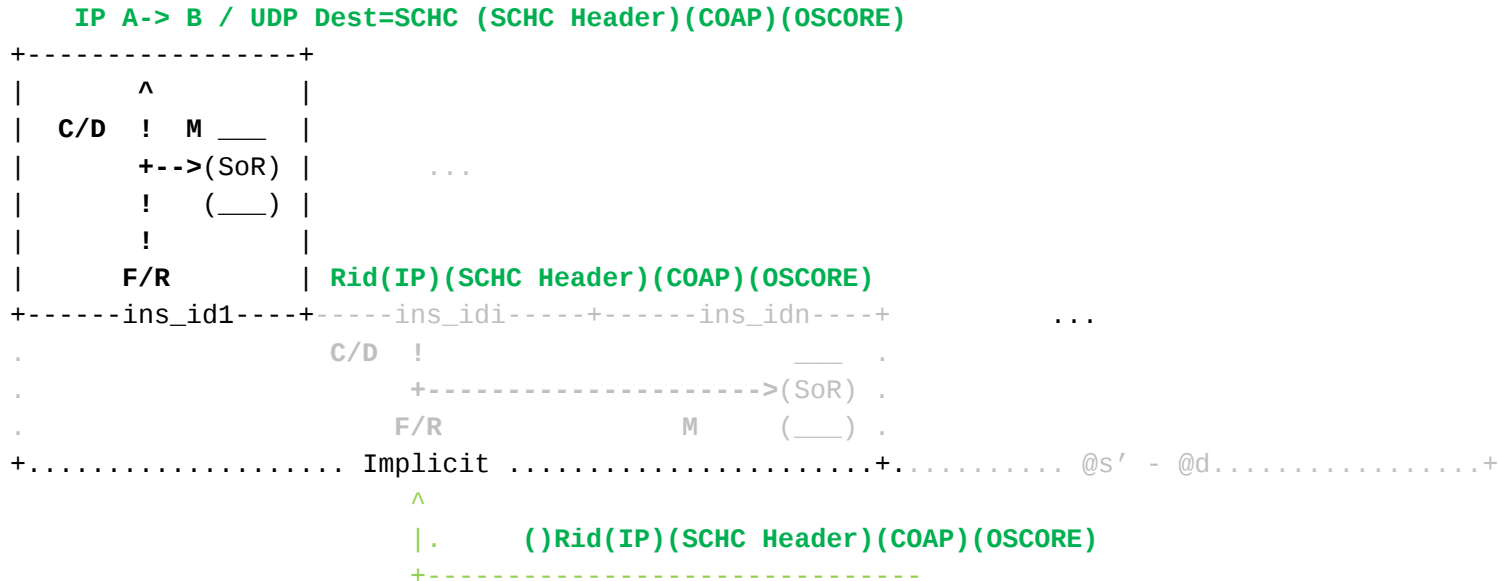
SCHC 1st layer



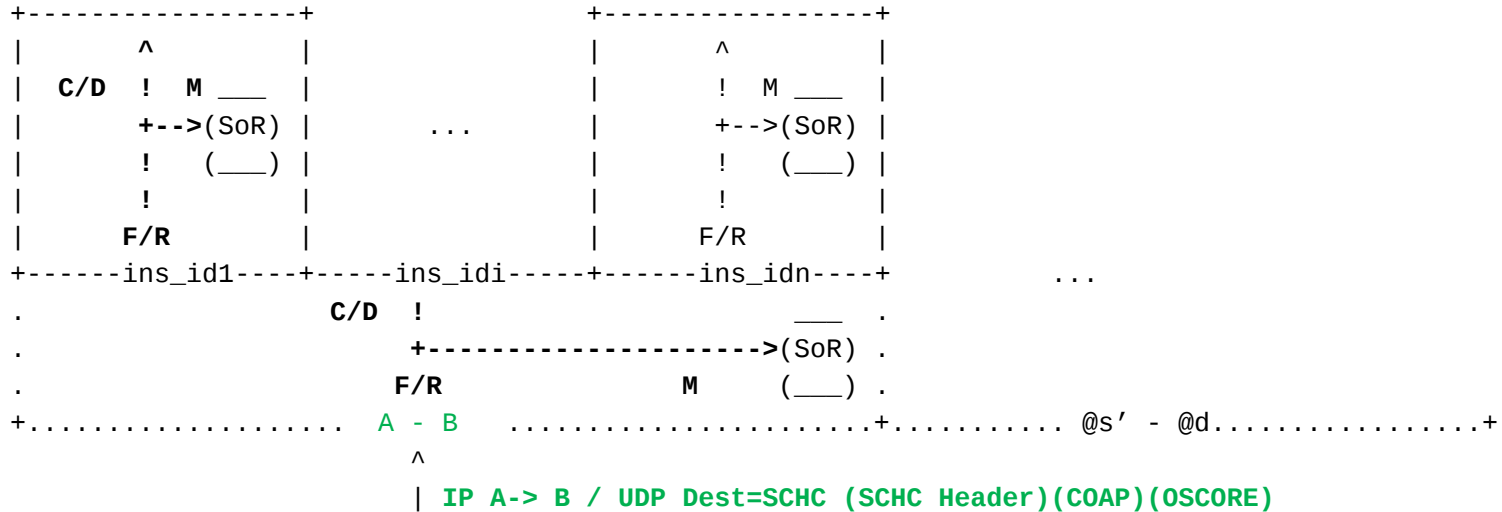
SCHC 1st layer



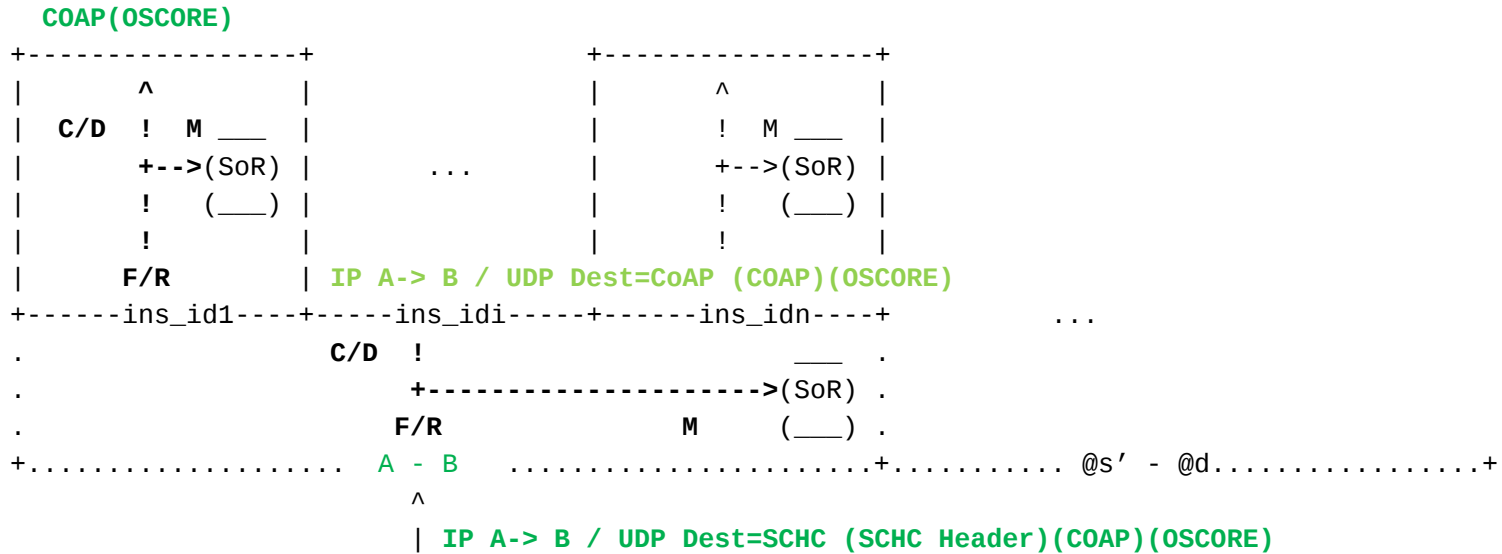
SCHC 1st layer



SCHC 2nd layer



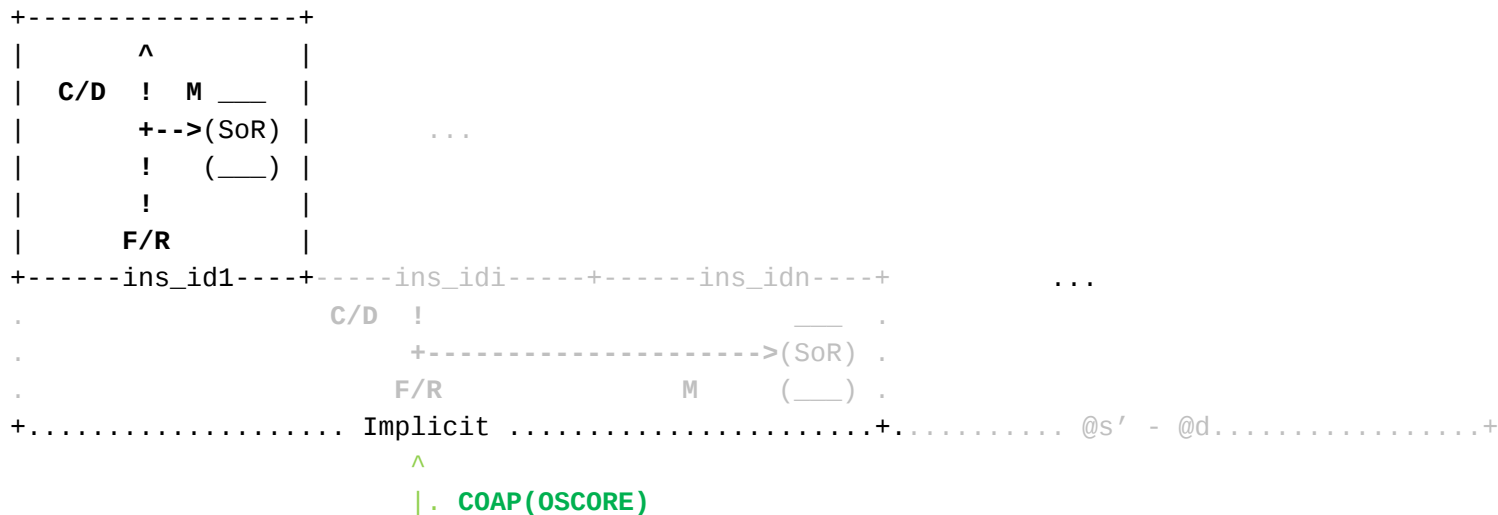
SCHC 2nd layer



SCHC 3rd layer



COAP OSCORE



Comment



- CoAP and OSCORE are the same entity:
 - No SCHC Header between them