SCHC CORECONF Management

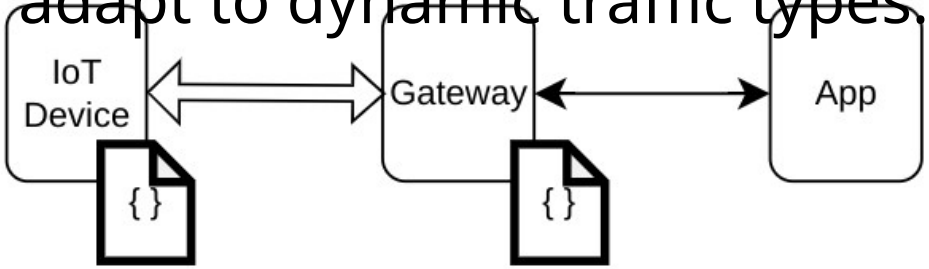
IETF 124 - Hackathon

1–2 November 2025

Montreal, Canada

SCHC (chic)

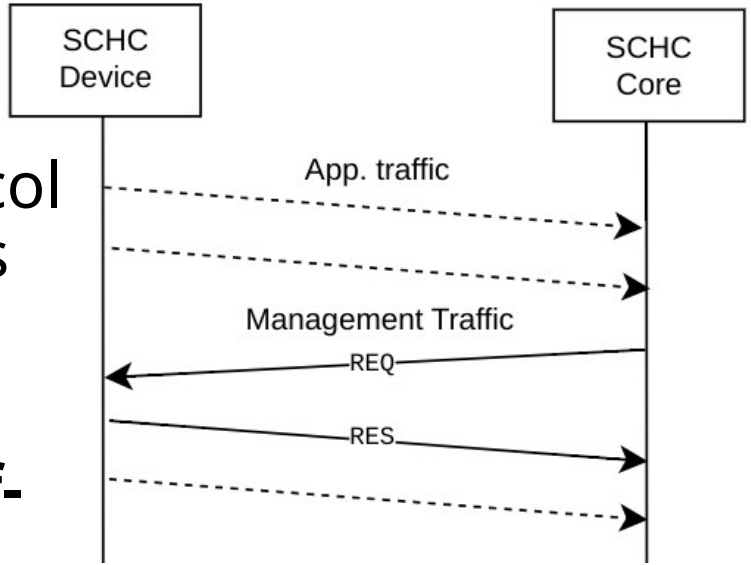
- **S**tatic **C**ontext **H**eader **C**ompression:
  - Based on a shared Set of Rules.
  - Initially developed for LPWAN / very constrained networks.
- **Objective**: Generalize SCHC for other environments.
  - Need to adapt to dynamic traffic types.



Hackathon Plan

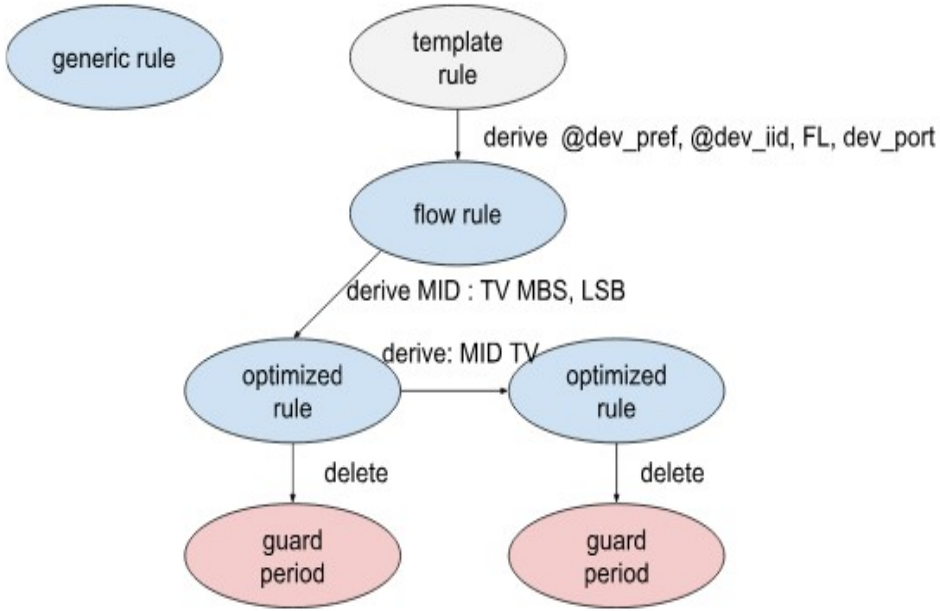
- Develop Context Management capabilities using CORECONF:
  - Network management protocol for constrained environments
    = YANG + SID + CBOR.

  - **draft-toutain-schc-coreconf-management**

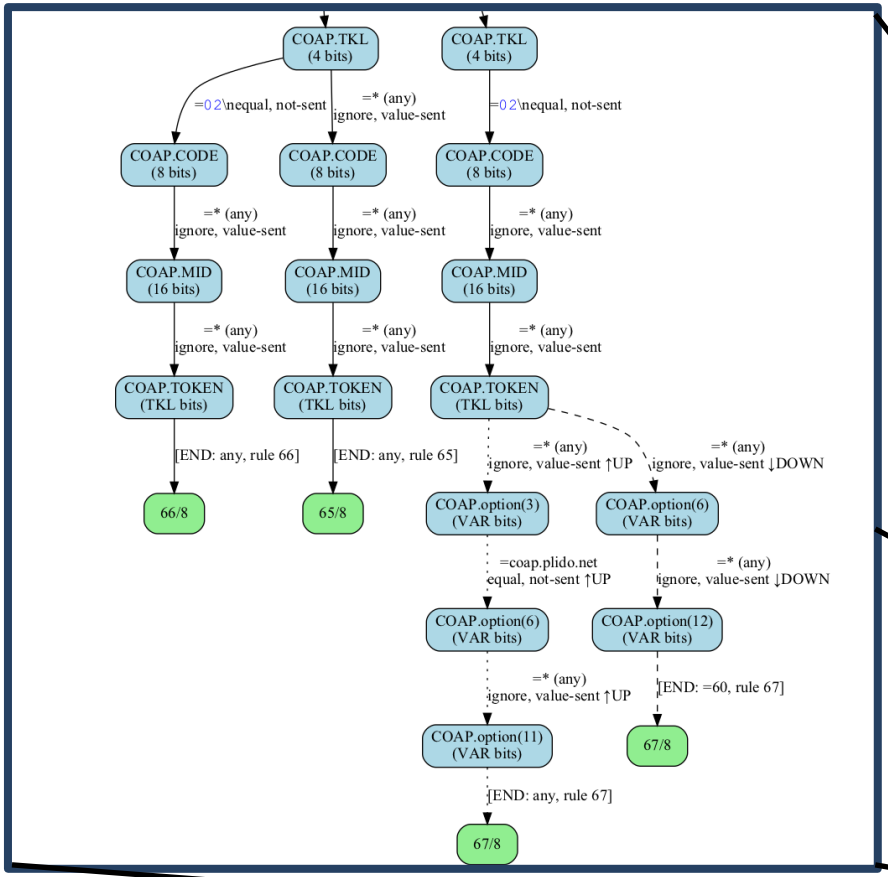


What got done

- Integrated CORECONF interface within a SCHC Endpoint
  - Handle FETCH, iPATCH & POST (RPC)
    - => Manipulate remote Context
- Optimize Rule Management (hierarchical tree structure)



Hierarchical SoR



Demo

```
$ Packet 0/8270
-> Original packet: 600ff85f0020114020010db8...e816440840478ccccccccccd (72 bytes)
-> SCHC packet: 8ff85f20010db8000a0000000000000000000390a04914517b45644648b45ba0591021011e333333333334 (43 bytes)
-> Sent 1/8270 packets


>>> RECEIVING
   > From 127.0.0.1 : 300508c852d52818402020304838204 2c10d0c30c853504820c8519808c85045186c0d10080012187fc2f848c8524808c85028

   >>> SCHC DECOMPRESSION
      > Original : 6012345600421140fe80000000000000000000000000001fe80000000000000000000000000000216330f190042181040020000b1
a6a0904190a3301190a08a30d81a2010002430ff85f09190a4901190a05

      >>> POST REQUEST
         > CBOR payload : a1190a5aa503080404060907040858 21a186190a6a0904190a3301190a08a30d81a2010002430ff85f09190a4901190a05

         > payload : {2650: {3: 8, 4: 4, 6: 9, 7: 4, 8: b'\xa1\x86\x19\nj\t\x04\x19\n3\x01\x19\n\x08\xa3\r\x81\xa2\x01\x00\x0

$ Packet 1/8270
-> Original packet: 600ff85f001c114020010db8...613cfffb4031333333333333 (68 bytes)
-> SCHC packet: 920010db8000a0000000000000000000390a04914517cdc244704f3ed00c4ccccccccccccc0 (37 bytes)
-> Sent 2/8270 packets
```

Wrap Up

Team members:

- Javier A. Fernandez
- Laurent Toutain

CORECONF is VERY efficient to manipulate SCHC Context between Endpoints.

We’re able to optimize compression rules on the fly, adapted to ongoing traffic.