End to End SCHC
For IP Datagrams

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IP Protocol Number for SCHC

Why?

- Networks are complex and what if
  - Constrained link is within path
  - That is, end points 'know' of constrain, but have no control over it
  - All IP content is within a non-compressed security wrapper
    - e.g. Diet ESP – Want to compress security wrapper (>20 bytes!), but how to flag this, other than special SPI
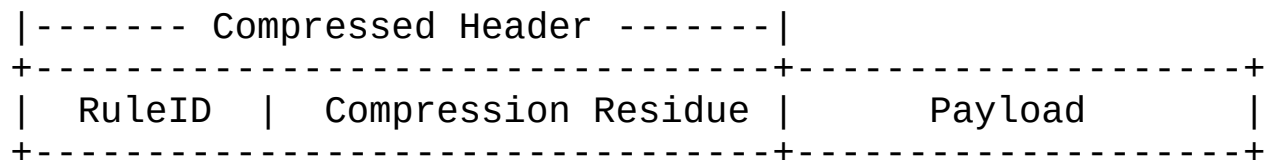   - e.g. DTLS – Much of UDP can be derived from DTLS

IF

- IPv6 Next Header were SCHC
  - Rules can compress Transport and all up to security envelope
    - Can even indicate what Rules for within security envelope
      - As also E2E

IF

- IPv6 Next Header were SCHC
  - Effectively becomes the Transport Layer
    - To transport original Transport Layer, compressed
      - e.g. why have UDP CRC when ESP/DTLS have better?
    - Provide new and valuable transport functions
      - E2E Forward Error Correction (FEC)
        - My RAW talk, earlier today!

HOW

- IPv6 Next Header for SCHC
  - Review of current Protocol Numbers – nothing to camp on
  - SCHC payload (RuleID may be zero bytes):

```
|------- Compressed Header -------|
+---------------------------------+--------------------+
|  RuleID  |  Compression Residue  |      Payload       |
+---------------------------------+--------------------+
```

BUT

- Can we really introduce a new IPv6 Next Header value?
  - Will it just work or need router upgrades?
  - What might IP fragmentation result in?
    - Need to force don't fragment?
  - What else could go wrong? :)
    - Camp on existing, not used value?
      - Really bad idea...

Field of Dreams

Isn't that what the Internet is?

Let's just do it!

Adopt as wg item

Questions?