

# ESP Header Compression Profile

`draft-ietf-ipsecme-diet-esp`

Migault, Hatami, Cespedes, Atwood, Guggemos, Bormann, Schinazi

ESP Header Compression Profile (EHCP) defines a profile to compress IPsec/ESP communications.

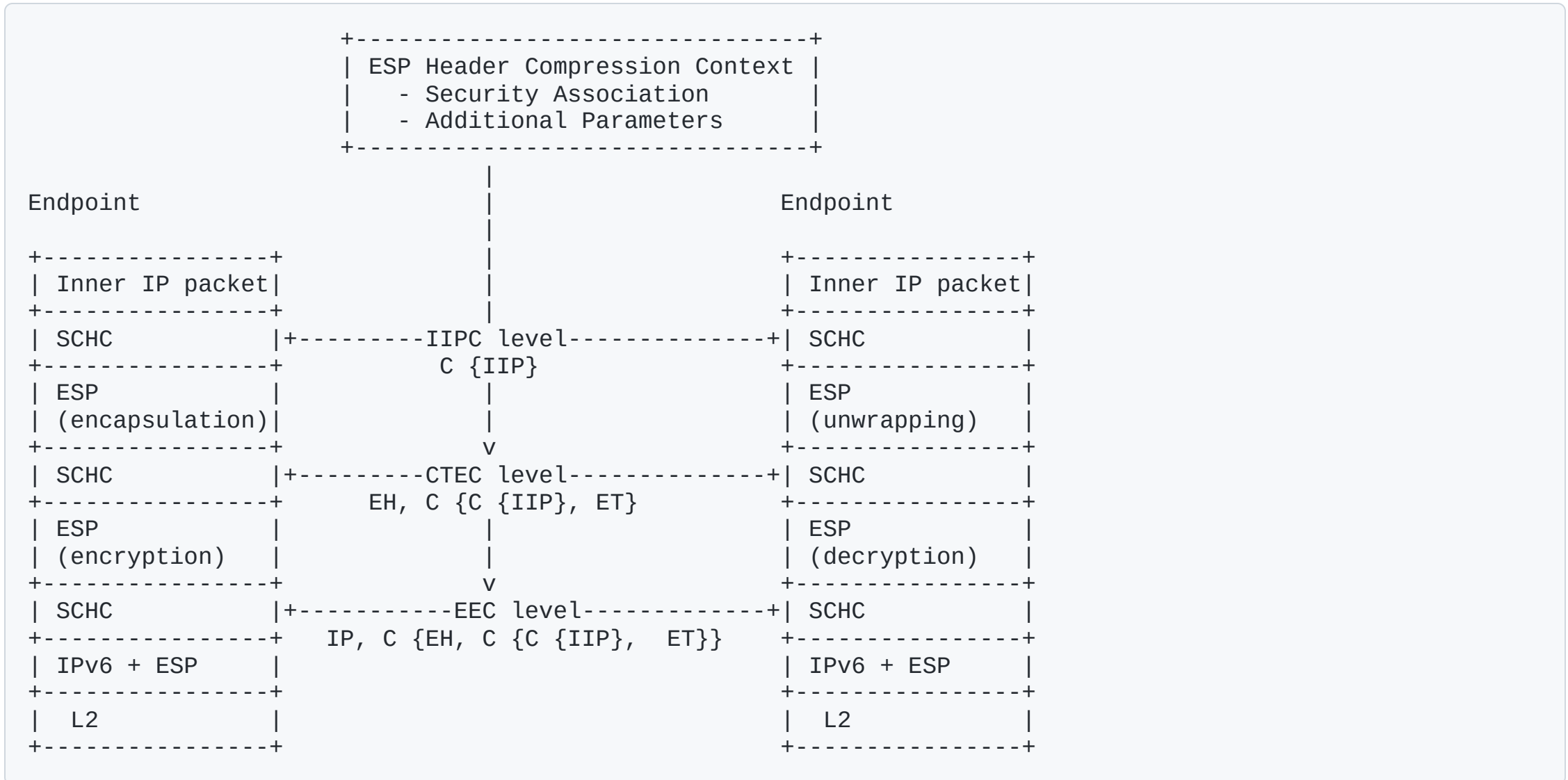
The description of the Compression / Decompression uses the Generic Framework for Static Context Header (SCHC) [RFC8724].

- Implementations are not expected to use SCHC.

This is a joint work with the SCHC WG



# Architecture



# Inner IP compression (Tunnel Mode)

ECN (2 bits) is currently uncompressed:

- Should we leave uncompressed ?
- Should we read it from the Tunnel IP Header ?

Unless defined DSCP (6 bits) is read from the Tunnel IP header.

- Should we leave it uncompressed ?
- Does reading DSCP from the Tunnel IP header causes any issue ?

Flow Label (20 bits) can either be uncompressed or completely regenerated by the receiving node.

- Does regenerate it seems an acceptable option ?

## Clear Text ESP Compression

In IPv6 and Transport mode, the Next Header (8 bits) MAY designate an IPv6 Extension and so cannot be compressed even if we know the packet is UDP or TCP.

- How much traffic encrypts IPv6 Header Extensions in ESP ?
- Should we spend more effort to compress this ?

- [pyesp](#) integrates specs with openschc
  - Plan to finalize pyesp and the specs by the end of the year.
- [openschc](#) integrating the parsing of ESP fields.
- (contiki - without SCHC) [Diet-ESP: IP layer security for IoT](#) Journal of Computer Security, vol. 25, no. 2, pp. 173-203, 2017 (deprecated)

Thanks!