Static Context Header Compression (SCHC) for the Constrained Application Protocol (CoAP)

draft-tiloca-schc-8824-update-02

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Recap (1/2)

› Document started in March 2023 (in LPWAN, then moved to SCHC)
  – Building on RFC 8824 – SCHC compression of CoAP headers (June 2021)

› The original intent was **updating RFC 8824, especially for:**
  – Defining the compression of recent CoAP options
  – Clarifying the compression of the CoAP payload marker 0xFF
  – Clarifying the CoAP header compression in the presence of CoAP proxies

› This was the case until the previous version -01
Recap (2/2)

› Almost immediate suggestion: consider switching to a bis document
  – More clarity, since all the content is in one place
  – Clean, streamlined way to update/fix/clarify the content of RFC 8824

› First suggested at IETF 116 by Éric Vyncke. Since then:
  – No objections
  – IETF 116 (March 2023): support from John P. Mattsson
  – Interim meeting (June 2023): Pascal referred to this as a good prospect
    › 15 hands up out of 15 participants
    › Resolution: please prepare for a bis document

Status update

› Submitted version -02 as a major revision
  – The current, reflected intent is to obsolete RFC 8824

› Changed title: same as for RFC 8824

› Overhauled content organization and presentation
  – The draft is now written as a bis document
  – Merged what is covered in RFC 8824 with what version -01 was adding
  – Made minor fixes and an overall editorial revision
New document structure (1/4)

› Section 1 “Introduction”
  – First part: content from RFC 8824
  – Second part: new text, highlighting how RFC 8824 is being obsoleted

› Section 2 “SCHC Applicability to CoAP” (also in RFC 8824)
  – Content from RFC 8824

› Section 3 “CoAP Headers compressed with SCHC” (also in RFC 8824)
  – Content from RFC 8824

› Section 4 “Compression of CoAP Header Fields” (also in RFC 8824)
  – Content from RFC 8824
New document structure (2/4)

- Section 5 “Compression of CoAP Options” (also in RFC 8824)
  - Content-Format and Accept
  - Max-Age, Uri-Host, Uri-Port
  - Uri-Path and Uri-Query
  - Size1, Size2, Proxy-Uri, Proxy-Scheme
    - Including updated text from v-01 of this document
  - ETag, If-Match, If-None-Match, Location-Path, Location-Query
  - Hop-Limit
  - Echo
  - Request-Tag
  - EDHOC

Content from RFC 8824

Content from v-01
New document structure (3/4)

› Section 6 “Compression of CoAP Extensions” (also in RFC 8824)
  – Block
  – Observe
  – No-Response
  – OSCORE
    › Including updated text from v-01 of this document (*)

› Section 7 “Compression of CoAP Payload Marker” (NEW section)

› Section 8 “Example of CoAP Header Compression” (also in RFC 8824)

* Further updated in v-02, based on progress in draft-ietf-core-oscore-key-update

Content from RFC 8824
Content from v-01
Content from RFC 8824
New document structure (4/4)

› Section 9 “CoAP Header Compression with Proxies” (NEW section)

› Section 10 “Example of CoAP Header Compression with Proxies” (NEW section)

› Section 11 “Security Considerations” (also in RFC 8824)
  – Merged together content from RFC 8824 and from v -01 of this document

› After that:
  – “IANA considerations” (Still no actions for IANA)
  – “References”
  – Appendix “YANG Data Model” (currently a placeholder)
Summary and next steps

› Version -02 is written as a bis document of RFC 8824. Still same additions:
  – Compression of CoAP options recently defined or extended
  – Clarifications on SCHC handling of the CoAP payload marker 0xFF
  – SCHC compression in the presence of CoAP proxies (with or without OSCORE)

› The way forward includes:
  – One defines/revises a CoAP option → One defines/revises its SCHC processing
  – Consider possible, further improvements when compressing some CoAP options
  – Revising and adding the YANG data model for compression of new CoAP options
    › https://gitlab.com/crimson84/draft-tiloca-schc-8824-update/-/blob/main/ietf-schc-coap@2023-03-07.yang

› The authors believe that version -02 is ready for a WG Adoption Call
Thank you!
Comments/questions?

https://gitlab.com/crimson84/draft-tiloca-schc-8824-update