Thursday 2023-03-30

IETF 116 LPWAN

This session is being recorded

IETF 116 Yokohama hosted by WIDDE PROJECT

LPWAN))

Internet Engineering Task Force © 2023 IETF Trust Production by Meetecho



Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (https://www.ietf.org/contact/ombudsteam/) if you have questions or concerns about this.

Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/(Privacy Policy)



This session is being recorded IETF 116 Meeting Tips

In-person participants

- Make sure to sign into the session using the Meetecho (usually the "Meetecho lite" client) from the Datatracker agenda
- Use Meetecho to join the mic queue
- Keep audio and video off if not using the onsite version
- Wear masks unless actively speaking at the microphone.

Remote participants

- Make sure your audio and video are off unless you are chairing or presenting during a session
- Use of a headset is strongly recommended

Full Client with Video 🖉 🎧 🧮

Resources for IETF 116 Yokohama

- Agenda
 - https://datatracker.ietf.org/meeting/agenda
- Meetecho and other information: <u>https://www.ietf.org/how/meetings/preparation</u>
- If you need technical assistance, see the Reporting Issues page: <u>http://www.ietf.org/how/meetings/issues/</u>

13:00	 Opening, agenda bashing (Chairs) Note-Well, Scribes, Agenda Bashing, Status of drafts / WG; Intro to the new SCHC WG charter and transition plans 	15mn
13:15	SCHC Streaming Mode (new work)Presenter name: Sergio Aguilar RomeroPresent the new SCHC Streaming Mode and get feedback from the WG	15mn
13:30	 Session Initiation and Rule exchange (new work) Presenter name: Sergio Aguilar Romero Present a proposal of new SCHC Messages for Session Initiation and Rule exchange between nodes and get feedback from the WG 	10mn
13:40	 Updating RFC 8824 (new work) Presenter: Presenter name: Marco Tiloca Present the new work; discuss proposed errata; ask for feedback 	20mn
		-



((LPWAN))

Agenda bashing (2/2)

14:00 SID Allocation

- Presenter name: Laurent Toutain
- Initiate the discussion on how the group will manage its future range of SID values

14:20 SCHC Access Control

- Presenter name: Laurent Toutain
- See if it can become a working group item

xxxx AOB



10mn

QS



LPWAN Document's advancement

Active Internet-Drafts (3 hits)			
draft-ietf-lpwan-schc-compound-ack-16 SCHC Compound ACK	RFC-EDITOR = Undergoing final	22 pages <u>2023-03-28</u>	RFC Ed Queue : <u>EDIT</u> Submitted to IESG for Publication : Proposed Standard Reviews: (twart LCyaugdoctors Entrysecdir LCopsdir LCopsdir
draft-left-lpwan-schc-over-nbiot-15 Static Context Header Compression over Narrowband Internet of Things	Internal review before AUTH48	24 pages 2022-12-15	RFC Ed Queue : <u>RFC-EDITOR</u> C15 Submitted to IESG for Publication : Proposed Standard Reviews; <u>dandir</u> <u>twort</u> IC <u>isodir LC</u> <u>opedir LC</u> Feb 2022
draft-lett-lpwan-sche-over-slofox-23 SCHC over Sigfox LPWAN		41 pages 2023-02-05	RFC Ed Queue : EDI Submitted to IESG for Publication : Proposed Standard Reviews: gommTC gound: LC towart LC institute gound rC Oct 2021
Expired Internet-Draft (1 hit)	Mound to COLIC		
draft-ietf-lpwan-architecture-02 LPWAN Static Context Header Compression (SCHC) Architecture	Moved to SCHC	14 pages 2022-06-30	Expired WG Document : Informational May 2023
RFCs (5 hits)			
RFC 8376 (was draft-ietf-Ipwan-overview) Low-Power Wide Area Network (LPWAN) Overview		43 pages 2018-05	Informational RFC
<u>RFC 8724.</u> (was draft-ietf-lpwan-ipv6-static-context-hc) SCHC: Generic Framework for Static Context Header Compression and Fragmentation		71 pages 2020-04	Proposed Standard RFC
RFC 8824.(was draft-ietf-lpwan-coap-static-context-hc) Static Context Header Compression (SCHC) for the Constrained Application Protocol (CoAP)		30 pages 2021-06 Errata	Proposed Standard RFC
RFC 9011 (was draft-ietf-lpwan-schc-over-lorawan) Static Context Header Compression and Fragmentation (SCHC) over LoRaWAN	New REC!	26 pages 2021-04	Proposed Standard RFC
RFC 9363 (was draft-ietf-lpwan-schc-yang-data-model) A YANG Data Model for Static Context Header Compression (SCHC)		47 pages 2023-03	Proposed Standard RFC
Related Internet-Drafts (7 hits)			
draft-aguilar-lpwan-schc-convergence-00 SCHC Convergence Profile		13 pages 2022-10-24	I-D Exists
draft-aguilar-lpwan-schc-streaming-00 SCHC Streaming Mode		15 pages 2023-03-08	I-D Exists
draft-barthel-lpwan-oam-schc-04 OAM for LPWAN using Static Context Header Compression (SCHC)		13 pages 2022-10-24	I-D Exists Jul 2023
draft-lampin-lpwan-schc-considerations-00 SCHC design and implementation considerations		8 pages 2022-11-10	I-D Exists
draft-tiloca-lpwan-8824-update-00 Clarifications and Updates on using Static Context Header Compression (SCHC) for the Constrai	ned Application Protocol (CoAP)	16 pages 2023-03-13	I-D Exists
draft-toutain-lpwan-access-control-01 SCHC Rule Access Control		8 pages 2023-02-20	I-D Exists
draft-toutain-lpwan-sid-allocation-02 SCHC Rule Access Control		10 pages 2023-02-23	I-D Exists

((LPWAN))

SCHC Document's advancement





LPWAN

- LPWAN docs in RFC-Editor queue remain LPWAN
- Other documents move to SCHC
- Personal Submissions to be handled at SCHC must be resubmitted: Resubmit drafts as draft-<your_name_here>-schc-blah-00 e.g., draft-thubert-intarea-schc-over-ppp => draft-thubert-schc-over-ppp-00 Please set the "replaces" tag
- WG Docs (only one):

draft-ietf-lpwan-architecture-02 => draft-ietf-schc-architecture-00 to A-D: Need another adoption call?



SCHC Charter

The scope of the Static Context Header Compression (SCHC) Working Group (to be pronounced as "chic" in French) is to extend the benefits of the RFC 8724 SCHC technology in Low-Power Wide-Area (LPWA) and non-LPWA networks, including Low Power devices such as zero-energy / scavenging devices that may operate in Delay Tolerant mode. To that effect, the group will provide specifications for the application of SCHC over underlying layers, where underlying layers include but are not limited to UDP tunnels, IP, PPP, and

Ethernet, as well as the use of SCHC by upper-layer protocols.

To extend SCHC over multi-hop networks with remote endpoints, there is a need in the data plane to signal the SCHC session and some operational values in the packets. For instance, the INT-AREA WG is working on a SCHC protocol type for IP and a SCHC Ethertype (in coordination with IEEE) for Ethernet. The WG will provide standards track specifications for a SCHC Header that conveys the SCHC Session Info over IP.

A complete SCHC solution also requires control plane technologies to secure the operations and manage the SCHC sessions, devices, and gateways. The group will provide specifications to securely identify the rule sets and negotiate the associated parameters between the pair of endpoints. The group will also work on the rules provisioning to the nodes, including the instantiation of generic rules to the nodes and networks in which they are applied.

The WG will work on:

1) Perform SCHC Maintenance, including enabling SCHC mechanisms for Upper layer Protocols, and providing additional reliability mechanisms such as FEC for fragments.

2) Produce a Standards Track document to enable Operations, Administration, and Maintenance (OAM), including support for delayed (as some devices can be asleep) or proxied (via the gateway) reachability verification.

3) Produce Standard Track documents for SCHC over underlying layers and carried protocols over SCHC where underlying layers includes but is not limited to IP, UDP tunnels, PPP, and Ethernet and carried protocols may include IPv4, ICMPv6-based protocols, TCP, IP tunnels, DLMS, and other protocols over CoAP such as LwM2M; define and maintain data models for the protocols supported by SCHC.

4) Produce an informational document describing how a carried protocol can use SCHC.

5) Define in a Standard Track document the SCHC Protocol Header to convey SCHC Session Info over IP

6) Produce Standard Track documents for SCHC Rule Discovery and Parameter Negotiation, including the specification of how work from the IETF security area is leveraged to secure these operations

7) Produce Standard Track documents for SCHC Rule Provisioning, including the specification of generic SCHC rules that can be instantiated, e.g., to apply to a certain node or within a certain network.

SCHC Charter cont...

The SCHC WG will coordinate with INTAREA WG for the IP protocol type definition, 6MAN WG for possible ICMPv6 code(s), and with other WGs for possible Protocols-over-SCHC or SCHC-over-protocol activities (e.g., in TSV area). It will work with the relevant security area WGs to appropriately secure the SCHC session. If required, the SCHC WG will liaise and coordinate with other Standard Development Organisations when SCHC will be used over or under protocols not defined with IETF.

SCHC Charter cont...

SCHC WG Status

Date	Milestone	Associated documents
Mar 2025	Request for publication of a standard track specification for rules provisioning	
Mar 2025	Request for publication of a standard track specification for rules discovery and parameters negotiation	
Mar 2025	Request for publication of a standard track specification of a standard track specification SCHC over IP	
Feb 2025	Request for publication of a standard track specification for generic SCHC header	
Dec 2024	Request for publication of a standard track specification of Operations, Administration, and Maintenance (OAM)	
Dec 2024	Request for publication of a standard track specification of FEC for fragments	
Mar 2024	Request for publication of an information document about SCHC architecture	
Mar 2024	Request for publication of a standard track specification for SCHC over PPP	
Dec 2023	WG adoption of a standard track specification for rules provisioning	
Dec 2023	WG adoption of a standard track specification for rules discovery and parameters negotiation	
Dec 2023	WG adoption of a standard track specification of FEC for fragments	
Nov 2023	WG adoption of a standard track specification SCHC over IP	draft-moskowitz-intarea-schc-ip-protocol-number
Nov 2023	WG adoption of a standard track specification for generic SCHC header	
Jul 2023	WG adoption of a standard track specification of Operations, Administration, and Maintenance (OAM)	draft-barthel-lpwan-oam-schc
May 2023	WG adoption of an information document about SCHC architecture	draft-ietf-lpwan-architecture
Feb 2023	WG adoption of a standard track specification for SCHC over PPP	draft-thubert-intarea-schc-over-ppp

((LPWAN))

13

SCHC around the world

- SCHC now part of IEC 62056-8-12 ED1
 - Electricity metering data exchange? The DLMS/COSEM suite
 - Part 8-12: Communication profile for Low Power Wide Area Networks (LPWAN)
- There is now SCHC certification for LoRaWAN
 - "LoRaWAN Certification Test Tool Now Provides SCHC over LoRaWAN testing for end device certification" – Nov'22
 - And an award from the Lora Alliance to the team March'23