LPWAN WG

WG Chairs:
Alexander Pelov <a@ackl.io>
Pascal Thubert <pthubert@cisco.com>

AD: Suresh Krishnan
<suresh@kaloom.com>

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:

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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)

I E T F

Reminder:

Minutes are taken *
This meeting might be recorded **
Presence is logged ***

* Scribe; please contribute online to the minutes at: https://etherpad.tools.ietf.org/p/lpwan
** Recordings and Minutes are public and may be subject to discovery in the event of litigation.
*** From the Webex login

Agenda bashing

[16:05] Administrivia [5min]
- Note_Well, Scribes, Agenda Bashing
- Status of drafts

[16:10] SCHC Yang Data Model (Laurent) [15min]
[16:25] SCHC_over_PPP (Pascal) [15min]
[16:40] SCHC CoAP (Ana) [5min]
[16:45] LoRaWAN_over_SCHC (Olivier) [5min]
[16:50] OpenSCHC (Laurent) [5min]
[16:55] AOB [5min]

WG progress

Milestones

Date	Milestone
Done	Submit CoAP compression mechanism to the IESG for publication as a Proposed Standard
Done	Submit IP/UDP compression and fragmentation mechanism to the IESG for publication as a Proposed Standard
Done	Submit LPWAN specification to the IESG for publication as an Informational Document
Done	Adopt CoAP compression mechanism as a WG item
Done	Adopt IP/UDP compression and fragmentation mechanism as a WG item
Done	Adopt LPWAN specifications as WG item

Document advancement

Document	Date	Status	IPR	AD / Shepherd
Active Internet-Drafts (5 hits)				
draft-ietf-lpwan-coap-static-context-hc-12 **LPWAN Static Context Header Compression (SCHC) for CoAP**	2019-12-10 28 pages	AD Evaluation **for 75 days** Submitted to IESG for Publication:Proposed Standard Reviews: iotdir		Suresh Krishnan Pascal Thubert
draft-ietf-lpwan-ipv6-static-context-hc-24 **Static Context Header Compression (SCHC) and fragmentation for LPWAN, application to UDP/IPv6**	2019-12-05 83 pages	RFC Ed Queue : EDIT for 28 days Submitted to IESG for Publication:Proposed Standard Reviews: genart, intdir, opsdir, secdir		Suresh Krishnan Pascal Thubert
draft-ietf-lpwan-schc-over-lorawan-05 **Static Context Header Compression (SCHC) over LoRaWAN**	2019-12-20 24 pages	I-D Exists WG Document		
draft-ietf-lpwan-schc-over-nbiot-01 **SCHC over NB-IoT**	2019-11-16 22 pages	I-D Exists WG Document		
draft-ietf-lpwan-schc-over-sigfox-01 **SCHC over Sigfox LPWAN**	2019-11-04 10 pages	I-D Exists WG Document		

Related Internet-Drafts (5 hits)		
draft-thubert-lpwan-schc-over-ppp-00 **SCHC over PPP**	2019-12-03 5 pages	I-D Exists

IETF 107 Meeting Req

Working Group Name:	IPv6 over Low Power Wide-Area Networks (lpwan)	
Area Name:	Internet Area	
Number of Sessions Requested:	1	
Length of Session 1:	1.5 Hours	
Number of Attendees:	60	
Conflicts to Avoid:	Chair Conflict:	6lo roll rift core intarea raw 6man
	Technology Overlap:	detnet netconf lwig suit cbor lake
	Key Participant Conflict:	bier ace
Other WGs that included IPv6 over Low Power Wide-Area Networks in their conflict list:	intarea, babel	
Resources requested:	*None so far*	
People who must be present:	▪ Suresh Krishnan ▪ Pascal Thubert ▪ Alexander Pelov	

IETF 107 Dates

- **2019-12-16 (Monday):** Working Group and BOF scheduling begins. To request a Working Group session, use the IETF Meeting Session Request Tool. If you are working on a BoF request, it is highly recommended to tell the IESG now by sending an email to iesg@ietf.org to get advance help with the request.
- **2019-12-16 (Week of):** IETF Online Registration Opens. Register here.
- **2020-02-03 (Monday):** Early Bird registration and payment cut-off at UTC 23:59. Register here.
- **2020-02-07 (Friday):** Cut-off date for BOF proposal requests to Area Directors at UTC 23:59. To request a BOF, please see instructions on Requesting a BOF.
- **2020-02-07 (Friday):** Cut-off date for requests to schedule Working Group Meetings at UTC 23:59. To request a Working Group session, use the IETF Meeting Session Request Tool.
- **2020-02-14 (Friday):** Cut-off date for Area Directors to approve BOFs at UTC 23:59.
- **2020-02-21 (Friday):** Preliminary Agenda published for comment.
- **2020-02-26 (Wednesday):** Cut-off date for requests to reschedule Working Group or BOF meetings UTC 23:59.
- **2020-02-28 (Friday):** Final agenda to be published.
- **2020-03-09 (Monday):** Internet Draft submission cut-off (for all drafts, including -00) by UTC 23:59. Upload using the ID Submission Tool.
- **2020-03-09 (Monday):** Standard rate registration and payment cut-off at UTC 23:59..
- **2020-03-11 (Wednesday):** Draft Working Group agendas due by UTC 23:59. Upload using the Meeting Materials Management Tool.
- **2020-03-16 (Monday):** Registration cancellation cut-off at UTC 23:59.
- **2020-03-16 (Monday):** Revised Working Group agendas due by UTC 23:59. Upload using the Meeting Materials Management Tool.
- **2020-04-17 (Friday):** Proceedings submission cutoff date by UTC 23:59. Upload using the Meeting Materials Management Tool.
- **2020-05-11 (Monday):** Proceedings submission corrections cutoff date by UTC 23:59.

YANG update

Laurent Toutain

Ana Minaburo

TV structure

```
grouping target-values-struct {
    leaf numerical {
        type uint64;
    }
    leaf string {
        type string
    }
    leaf position {
        type uint8;
    }
}
```

Not satisfying:
- Numbers are limited in size, max 64 bytes
- Strings are unlimited

9.8. The binary Built-In Type

The binary built-in type represents any binary data, i.e., a sequence of octets.

9.8.1. Restrictions

A binary can be restricted with the "length" (Section 9.4.4) statement. The length of a binary value is the number of octets it contains.

9.8.2. Lexical Representation

Binary values are encoded with the base64 encoding scheme (see [RFC4648], Section 4).

9.8.3. Canonical Form

The canonical form of a binary value follows the rules in [RFC4648].

6.8. The 'binary' Type

Leafs of type binary MUST be encoded using a CBOR byte string dat item (major type 2).

The following example shows the encoding of an 'aes128-key' leaf instance set to 0x1f1ce6a3f42660d888d92a4d8030476e.

Definition example:

```
leaf aes128-key {
  type binary {
    length 16;
  }
}
```

CBOR diagnostic notation: h'1F1CE6A3F42660D888D92A4D8030476E'

CBOR encoding: 50 1F1CE6A3F42660D888D92A4D8030476E

SCHC over PPP

draft-thubert-lpwan-schc-over-ppp

Authors:
Pascal Thubert <pthubert@cisco.com>

Interim Webex

Why this draft

- SCHC is generic, value beyond LPWAN
  - e.g., Industrial and smartgrid
- SCHC over PPP enables
  - Serial links, modems
  - Ethernet using PPPoE
  - Wi-Fi over translational bridges (BSS)

Status

- Published 00 December 3rd
- Simple draft (3 pages + refs)
  - extends RFC 5172 to signal the use of SCHC
  - transport a URI [RFC3986] of the set of rules
  - Dependency on the SCHC data model work

draft-ietf-lpwan-coap-static-context-hc-00*12*

Authors:
Ana Minaburo
Laurent Toutain
Ricardo Andreasen

Review Inputs

- V12
- Iotdir review (Stephen Farrell)
  - Add Section 3 : “If no valid Rule was found, then the packet MUST be sent uncompressed ”
  - Nits

Status

- Submitted to IESG for Publication
- IESG State: AD Evaluation
- Reviews: IOTDIR
- Waiting: INTDIR (Tim Chown – Overtaken by Events)

Next Steps

- Waiting IESG comments

- Thanks to our Shepherd Pascal for all your help!
- Thanks to Suresh !!
- Thanks to all the reviewers !

draft-ietf-lpwan-schc-over-lorawan

Editors:
Ivaylo Petrov (ivaylo@ackl.io)
Olivier Gimenez (ogimenez@semtech.com)

Interim meeting, Jan 22th, 2020

Presentation agenda

- Changes in draft-05
- Next steps

Changes in draft-05

- Added IID proposition based on AppSKey
- Clarified lot of paragraphs thanks to Dominique review
- Changed ACK behaviour between each windows to optional for uplink fragmentation thanks to Rodrigo comment
- Updated acknowledgements
- Fix typos and formatting

IID Proposition

1. key = LoRaWAN AppSKey
2. cmac = aes128_cmac(key, devEui)
3. IID = cmac[0..7]

LoRa Alliance should accept to reuse AppSKey, then indroduce another key for this purpose later

Next steps

- Understand potential issue with inactivity timer(s) reported by Arun
- Last call can not be started as charter is not yet updated
- Can you please review the document in the mean time ?

Thank you for your attention

openSCHC status

Cedric Adjih,
Dominique Barthel,
Olivier Gimenez,
Laurent Toutain

New master version

- Merge of Ack on Error used by IMT for papers
- Include in Rule Manager
  - compression rule direction
  - no compression rule
- Work on connector:
  - IP connector: 2 openSCHC process exchanging UDP packets containing SCHC packets
  - simulator: On single process with threads.
- To Be Done:
  - work on Ack On Error
  - test on compression fails due to the lack of checksum and length computation
  - update the doc to reflect these changes

Hackathon Vancouver

- Interop between openSCHC, libSCHC, Acklio
- F-interop does not exist anymore
  - define our own infrastructure

AOB ?