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:

• 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)
Reminder:

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

* Scribe; please contribute online to the minutes at: http://etherpad.tools.ietf.org:9000/p/notes-ietf-102-lpwan
** Recordings and Minutes are public and may be subject to discovery in the event of litigation.
*** From the Webex login
Minute takers, jabber scribes

• Minutes
  – Minute takers volunteers?

• Remote participation
  – Meetecho: http://www.meetecho.com/ietf102/lpwan
  – Jabber: lpwan@jabber.ietf.org
    • Jabber scribe volunteers?

• Mailing list: lp-wan@ietf.org
  – To subscribe: https://www.ietf.org/mailman/listinfo/lp-wan

• Meeting materials: https://datatracker.ietf.org/meeting/102/materials.html/#lpwan
Agenda bashing

09:30 Opening, agenda bashing (Chairs)
  • Note-Well, Scribes, Agenda Bashing, Approval minutes from last meeting
  • Status of drafts (WGLC / forthcoming WGLC)
  • Presenters: The Chairs
    • + Hackathon report from Dominique Barthel

09:45 draft-ietf-lpwan-ipv6-static-context-hc
  • Presenters: Dominique Barthel, Carles Gomez and Ana Minaburo
  • Goal: info on WGLC conclusion, submit for publication

10:30 draft-ietf-lpwan-coap-static-context-hc
  • Presenters: Laurent Toutain -- Ricardo Andreasen
  • Goal: WGLC; SCHC/OSCORE presentation

11:15 draft-petrov-lpwan-ipv6-schc-over-lorawan
  • Presenter: Nicolas Sornin
  • Goal: present advancement, call for adoption?
Agenda bashing (cont.)

11:25  draft-zuniga-lpwan-schc-over-sigfox 15mn
• Presenter: Juan-Carlos Zuniga
• Goal: draft update and discussion about ACK-on-Error mode, call for adoption?

11:40  draft-minaburo-lpwan-nbiot-hc 05mn
• Presenters: Edgar Ramos
• Goal: discuss NB-IoT entities with SCHC

11:45  draft-toutain-core-time-scale 05mn
• Presenters: Laurent Toutain
• Goal: Get support from LPWAN to request attention from CORE

11:50  draft-authors-lpwan-schc-802154 05mn
• Presenter: Charlie Perkins
• Goal: introduce the draft

11:55  AOB 05mn
• (Charlie Perkins on IEEE)
Status

WG formed October 14\textsuperscript{th}, 2016

- Charter item #1 (Informational document)
  - Baseline technology description

- Charter item #2 (Standards track document)
  - Enable the compression and fragmentation of a CoAP/UDP/IPv6 packet over LPWA networks

Done
Rechartering

• After submitting SCHC IP/UDP to IESG (before IETF 103)

• Charter item #2
  – Split in 3 charter items (Standards track documents)
    • SCHC for CoAP
    • Data model for context representation
    • Documents for each baseline technology
  – New charter item (Standards track document)
    • Operations, Administration and Maintenance (OAM) of LPWAN devices (incl. delayed proxied liveliness, Ping)
# Charter - Milestones

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
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<tr>
<td>Jul 2018</td>
<td>Submit CoAP compression mechanism to the IESG for publication as a Proposed Standard</td>
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<tr>
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<td>Submit IP/UDP compression and fragmentation mechanism to the IESG for publication as a Proposed Standard</td>
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<td>Submit LPWAN specification to the IESG for publication as an Informational Document</td>
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<tr>
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Milestones

Dec 2016

Mar 2017

July 2017

Nov 2017

Mar 2018

July 2018

Adopted
LPWAN Overview,
IPv6/UDP SCHC,
CoAP SCHC
Milestones

Dec 2016
- Adopted LPWAN Overview,
  IPv6/UDP SCHC,
  CoAP SCHC

Mar 2017
- IETF98
- Hackathon
- 6 interim meetings

July 2017
- IETF99
- Hackathon
- 5 interim meetings

Nov 2017
- IETF100
- Hackathon
- 6 interim meetings

Mar 2018
- IETF101
- Hackathon
- 5 interim meetings

July 2018
- IETF102
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Milestones

Dec 2016

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IETF98

IETF99

IETF100

IETF101

IETF102

Submitted
LPWAN
Overview to IESG

RFC 8376
LPWAN Overview

Adopted
LPWAN Overview,
IPv6/UDP SCHC,
CoAP SCHC

6 interim meetings

5 interim meetings

6 interim meetings

5 interim meetings

Submitted
LPWAN
Overview to IESG

RFC 8376
LPWAN Overview

Adopted
LPWAN Overview,
IPv6/UDP SCHC,
CoAP SCHC

6 interim meetings

5 interim meetings

6 interim meetings

5 interim meetings

LPWAN@IETF102
SCHC Hackathon@102 report

Authors:
Dominique Barthel <dominique.barthel@orange.com>
Hackathon plan

• Long term plan
  – Provide open source implementation of SCHC
  – Get feedback on draft by reading, discussing, coding, testing
• Advance state of code to reflect -16
What got done

- Educated two newcomers on SCHC, who provided a fresh review
- Updated a few seasoned contributors on recent draft advances
- A dozen notes for draft improvement, one functional
- Updated fragmentation code
  - [https://github.com/tanupoo/schc-test](https://github.com/tanupoo/schc-test)
  - [https://github.com/adjih/schc-hackathon](https://github.com/adjih/schc-hackathon)
  - More accurate implementation of draft
  - Updated to reflect -16 changes
- Improved nw-side Python implementation of compression
  - [https://github.com/ltn22/SCHC](https://github.com/ltn22/SCHC)
What we learned

• We already knew constrained device setup/operation is time-consuming
  – Use micropython package on Linux
  – [https://github.com/micropython/micropython](https://github.com/micropython/micropython)

• Going forward, need to structure our code base into
  – Computer-based Python3
  – Linux-based micropython
  – Pycom’s own version of micropython
Thanks to the participants

- Cédric Adjih
- Dominique Barthel
- Matthieu Brient
- Arunprabhu Kandasamy
- Kyle Larose
- Ivaylo Petrov
- Soichi Sakane
- Laurent Toutain
- Jean-Luc Vaillant

→ First time IETF, Hackathon
→ First time LPWAN hackathon
→ Remote from Japan
→ First time IETF, Hackathon