

LPWAN WG

WG Chairs:

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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.

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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)



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

17:05	Opening, agenda bashing (Chairs) <ul style="list-style-type: none">• Note-Well, Scribes, Agenda Bashing• Status of drafts	5mn
17:10	Updates since last Interim - Dominique	15mn
17:25	Ack-on-Err open discussion	25mn
17:50	AOB	10mn

IETF 103

- Draft cut-off : Oct 22nd
 - In time?
- Meeting slot
 - Tuesday, November 6th,
 - 9h00-11h00
 - ICT (UTC+7)
- Presentations
- Rechartering

Changes to the draft

Dominique

draft-ietf-lpwan-ipv6-static-context-hc

Draft status

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Note

- As always, all changes can be checked out at <https://github.com/lp-wan/ip-compression/commits/master>
 - Itemized commits
 - (hopefully) explicit commit messages
 - on-line diffs available

Changes to GitHub since last interim

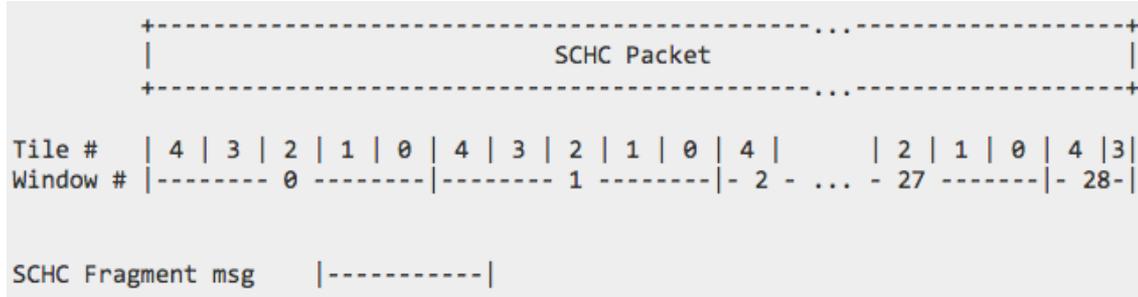
- 3 work sessions, quick iterations
- 27 commits!
- Most importantly: new ACK-on-Error mode
 - Normative text and Finite State Machine drawing
 - Supports variable MTU, Out of Order
- Introduces Profiles
- Defines Tiles and Windows
 - Distinct from SCHC Fragment messages
 - FCN decoupled from Tile #

- 8. Fragmentation/Reassembly
 - 8.1. Overview
 - 8.2. SCHC F/R Tools
 - 8.2.1. Messages
 - 8.2.2. Tiles, Windows, Bitmaps, Timers, Counters
 - 8.2.3. Integrity Checking
 - 8.2.4. Header Fields
 - 8.3. SCHC F/R Message Formats
 - 8.3.1. SCHC Fragment format
 - 8.3.2. SCHC ACK format
 - 8.3.3. SCHC ACK REQ format
 - 8.3.4. SCHC Abort formats
 - 8.4. SCHC F/R modes
 - 8.4.1. No-ACK mode
 - 8.4.2. ACK-Always
 - 8.4.3. ACK-on-Error
- 9. Padding management

Changes to GitHub since last interim

- New text for existing ACK-Always algorithm
 - Still on my plate: rewording (mid priority)
- Single ACK REQ message
 - replaces previous All-I and All-0 “empty Frags”
- Single ACK format
 - C bit always present in ACK
- Integrity check. MIC is one way of doing int. check.
- Improved text and drawings, throughout

ACK-on-Error, one slider



- Uniform, known tile size (but last one)
- SCHC Fragments send one or more tiles
 - Tiles must be in sequence
 - W is Window #, FCN is Tile # of first tile
- Tile sized for worst case MTU
- ACKs report
 - On exactly one Window of tiles
 - Only on Windows that have missing tiles*
- Intrinsically very concurrent process
- Implementation may be more sequential

- Until it receives an All-I Frag, receiver has no idea current window is last
- Until Integrity Check succeeds, receiver has no idea that it got all the tiles
- Last tile is total guess work
 - Size inferred from SCHC Frag payload size
 - All-I FCN does not carry Tile #
- Extreme small payload: no room for Tile and MIC
 - Send tile in Reg SCHC Frag and MIC in All-I SCHC Frag

Var MTU (uniform tiles) + optional MIC + length encoding of messages = headache

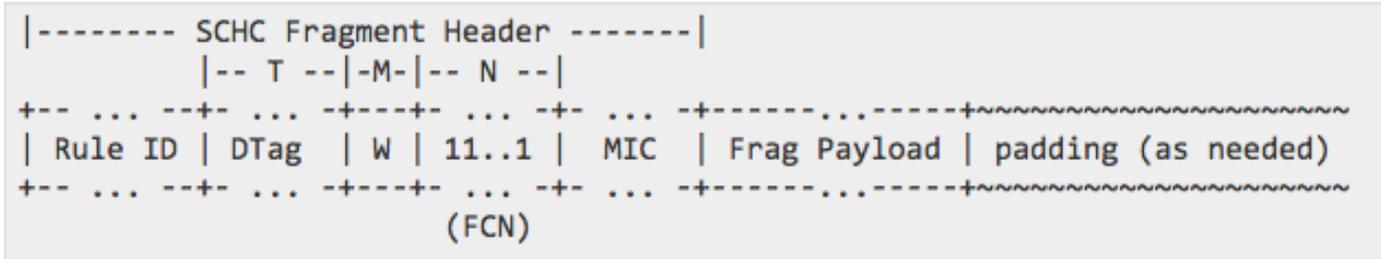


Figure 13: Detailed format for the All-1 SCHC Fragment

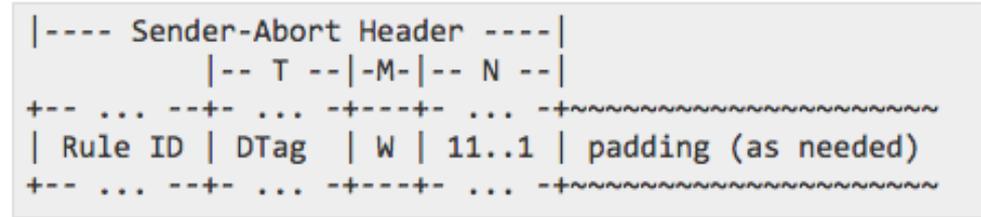


Figure 20: SCHC Sender-Abort format

Next steps

- Solve headache
 - Var MTU + optional MIC + length encoding of messages
 - Various work-arounds, none so far elegant and generic
- Resolve 7 points under discussion with Charlie
 - Charlie provided answers, to be processed
- ACK-always rewording
- iterations with co-authors and volunteer reviewers
- Oct 22nd is IETF I03 draft publication cut-off date

Thank you!

AOB ?