LPWAN WG

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

AD: Suresh Krishnan
<suresh@kaloom.com>

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

* Scribe; please contribute online to the minutes at: https://etherpad.tools.ietf.org/p/lpwan
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*** From the Webex login

Agenda bashing

17:00	Opening, agenda bashing (Chairs) • Note-Well, Scribes, Agenda Bashing, Approval minutes from last meeting • Review todo • Status of drafts	10mn
17:10	LPWAN Overview - WGLC status and updates	5mn
17:15	Update on SCHC fragmentation (Ana)	10mn
17:25	Finite State Machine Discussion (Laurent)	20mn
17:45	Update on adding a length field for rules (Arun)	10mn
17:50	CoAP Timescale (Laurent)	5mn
17:xx	AOB	QS

Last meeting Action items

- ~~Chairs to send IPR statement request on Mailing List~~
  - Answer from most participants on the ML
- ~~Laurent to reformat his FSM in 16*9 with just W=X~~

LPWAN Overview

Editor: Stephen Farrell
(many contributors)

WGLC status and updates

- Stephen pushed out the new rev now
- Then chairs to shoot in the pub-req

Update on SCHC fragmentation draft-ietf-lpwan-ipv6-static-context-hc-06

Authors:
A. Minaburo L. Toutain C. Gomez

Updates:

- Clearly define that fragmentation is done after SCHC compression
- Fragmentation is used for SCHC compressed datagrams and IPv6 datagrams when SCHC cannot be used
- Send some text to the general introduction
- Reducing the explanation of the 3 fragmentation modes
- Trying to bring a more clear description of the fragmentation baseline protocol

Updates:

- We find that:
  - No ACK
  - Window mode – ACK on error
  - Window mode – ACK "always"
    - IT IS DIFFICULT TO READ WITH SO LONG NAMES, HOW ABOUT USING :
  - No ACK instead of No ACK
  - ACK on error instead of Window mode – ACK on error
  - ACK always instead of Window mode – ACK "always"

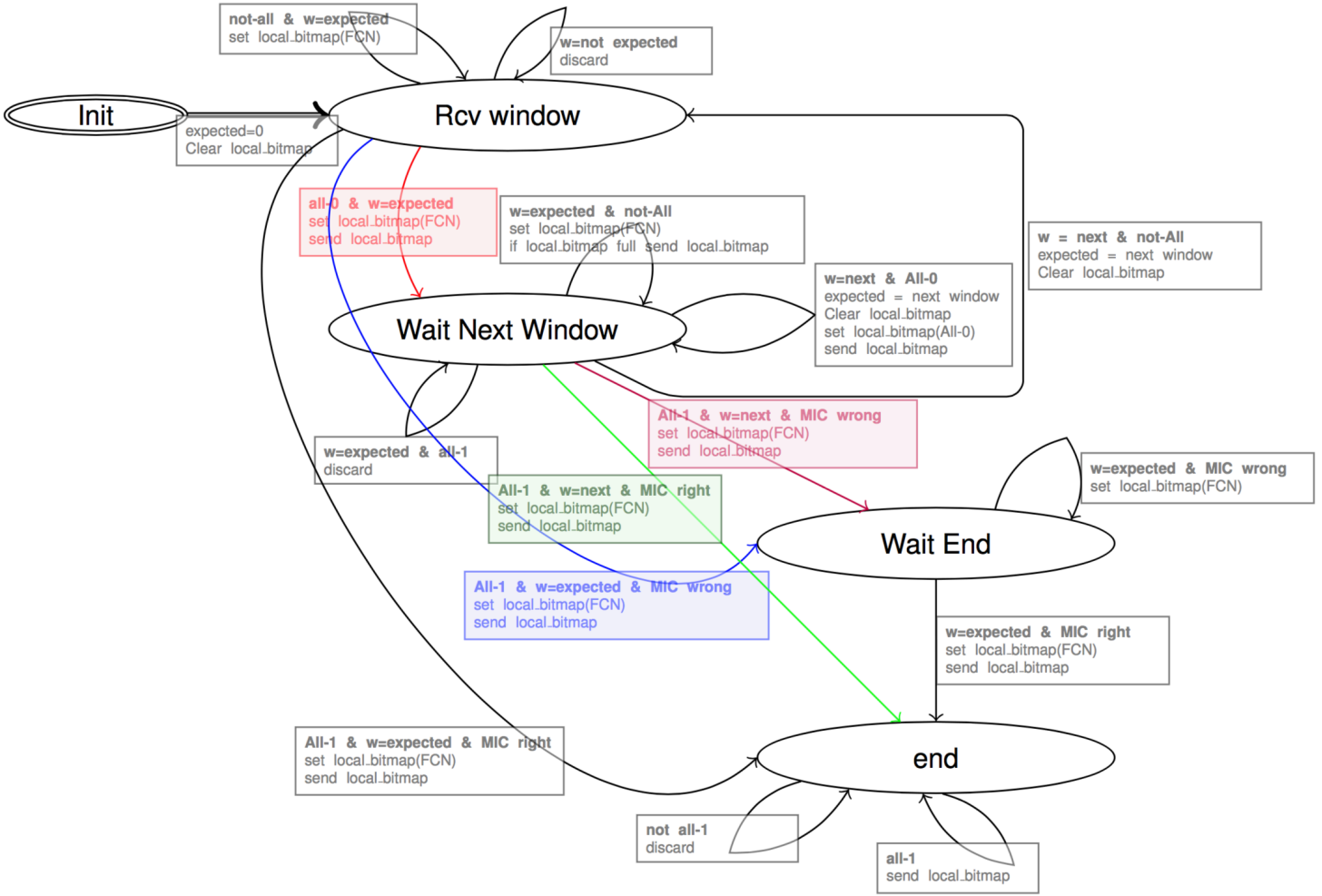
Missing Updates

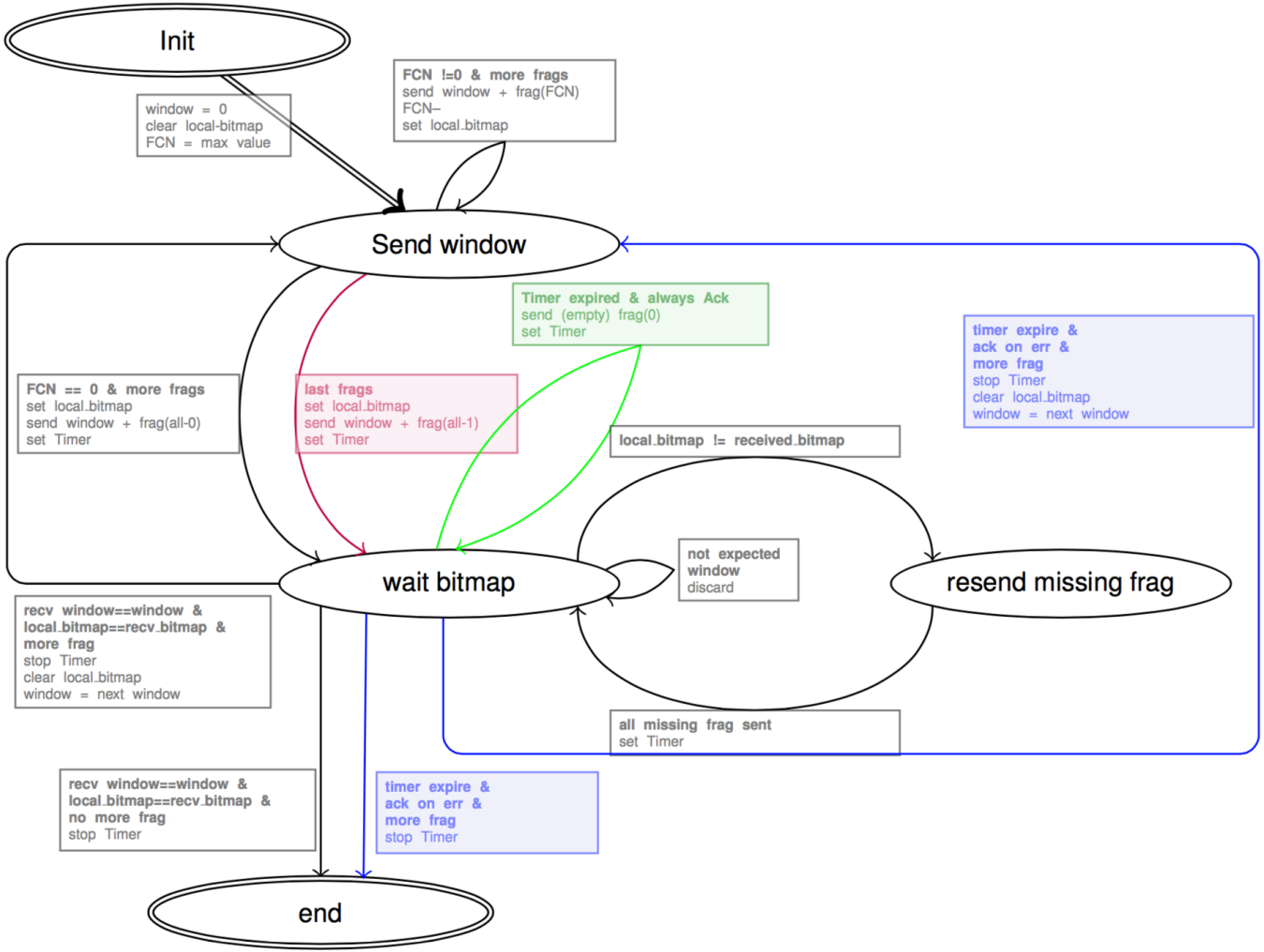
- We need to add Laurent modifications
- We need to add state machine and its description

Thanks

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

Authors:
Laurent Toutain <Laurent.Toutain@imt-atlantique.fr>
Ana Minaburo <ana@ackl.io>


not-all & w=expected
set local_bitmap(FCN)
w=not expected
discard
Init
Rcv window
expected=0
Clear local_bitmap
all-0 & w=expected
set local_bitmap(FCN)
send local_bitmap
w=expected & not-All
set local_bitmap(FCN)
if local_bitmap full send local_bitmap
w = next & not-All
expected = next window
Clear local_bitmap
w=next & All-0
expected = next window
Clear local_bitmap
set local_bitmap(All-0)
send local_bitmap
Wait Next Window
All-1 & w=next & MIC wrong
set local_bitmap(FCN)
send local_bitmap
w=expected & all-1
discard
All-1 & w=next & MIC right
set local_bitmap(FCN)
send local_bitmap
w=expected & MIC wrong
set local_bitmap(FCN)
Wait End
All-1 & w=expected & MIC wrong
set local_bitmap(FCN)
send local_bitmap
w=expected & MIC right
set local_bitmap(FCN)
send local_bitmap
All-1 & w=expected & MIC right
set local_bitmap(FCN)
send local_bitmap
end
not all-1
discard
all-1
send local_bitmap


Init
window = 0
clear local-bitmap
FCN = max value
FCN !=0 & more frags
send window + frag(FCN)
FCN–
set local_bitmap
Send window
Timer expired & always Ack
send (empty) frag(0)
set Timer
timer expire &
ack on err &
more frag
stop Timer
clear local_bitmap
window = next window
FCN == 0 & more frags
set local_bitmap
send window + frag(all-0)
set Timer
last frags
set local_bitmap
send window + frag(all-1)
set Timer
local_bitmap != received_bitmap
not expected
window
discard
wait bitmap
resend missing frag
recv window==window &
local_bitmap==recv_bitmap &
more frag
stop Timer
clear local_bitmap
window = next window
all missing frag sent
set Timer
recv window==window &
local_bitmap==recv_bitmap &
no more frag
stop Timer
timer expire &
ack on err &
more frag
stop Timer
end

Interim, Oc

Representing Length field in the Schc rule

ana, arun at ackl.io
laurent.toutain at imt-atlantique.fr

proposals

	1	2	3	4
Representation	New Column in Rule	New Column in Rule	New MO	two New MO
Variable length field	var/func	"variable"	check_len(len)	check_len(len); msb_checklen(len, msb)
Static length field	actual_len	other means	other means	other means
++	• simpler, flexible;	flexible;	• no new column in rule;	• no new column in rule;
--	additional space for each field	• additional space for each field; • complexity to retrieve the len by other means;	• complexity to retrieve the len by other means; • cannot handle LSB; • handles only variable len fields that has fixed values.	• complexity to retrieve the len by other means; • additional space for variable length fields; • handles only variable len fields that has fixed values.

Consensus?

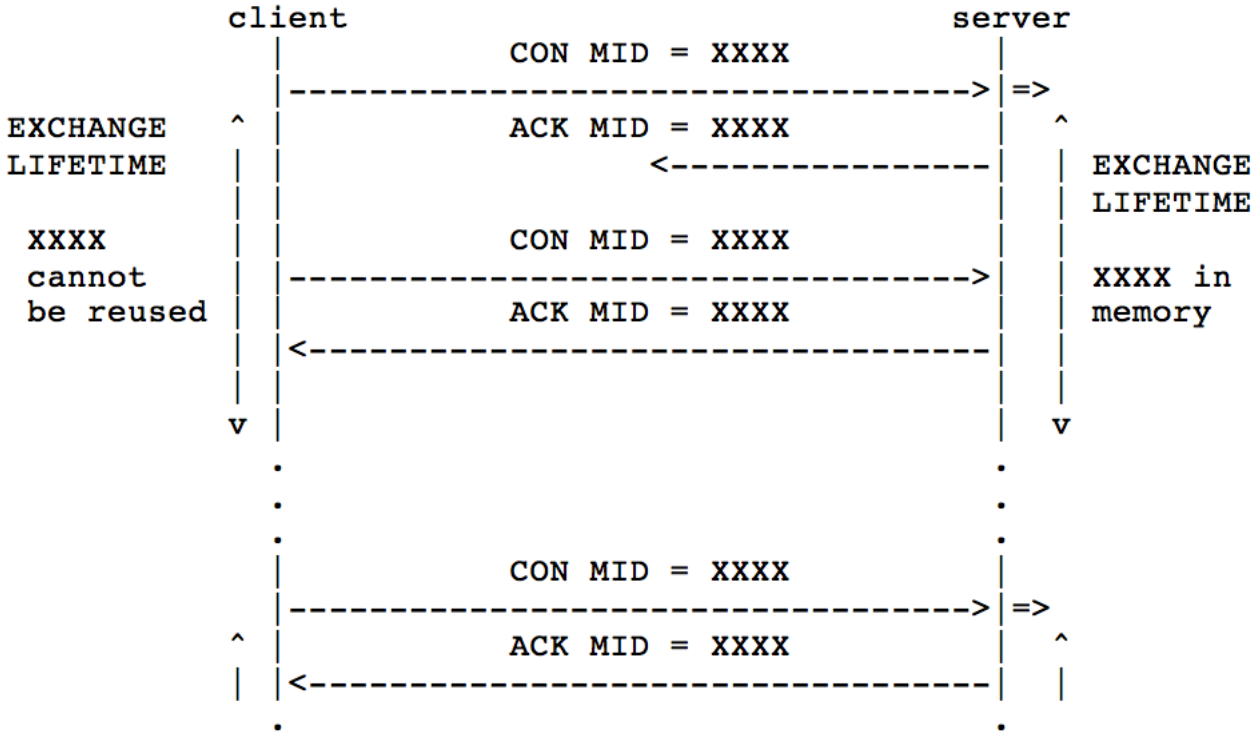
- Thanks to Ana, Laurent, Pascal for valuable inputs to discussion.
- consensus to have one separate column for "Length" (as in proposals 1,2)?
- Tie-breaker would be the degree of simiplicity.(proposal 1).

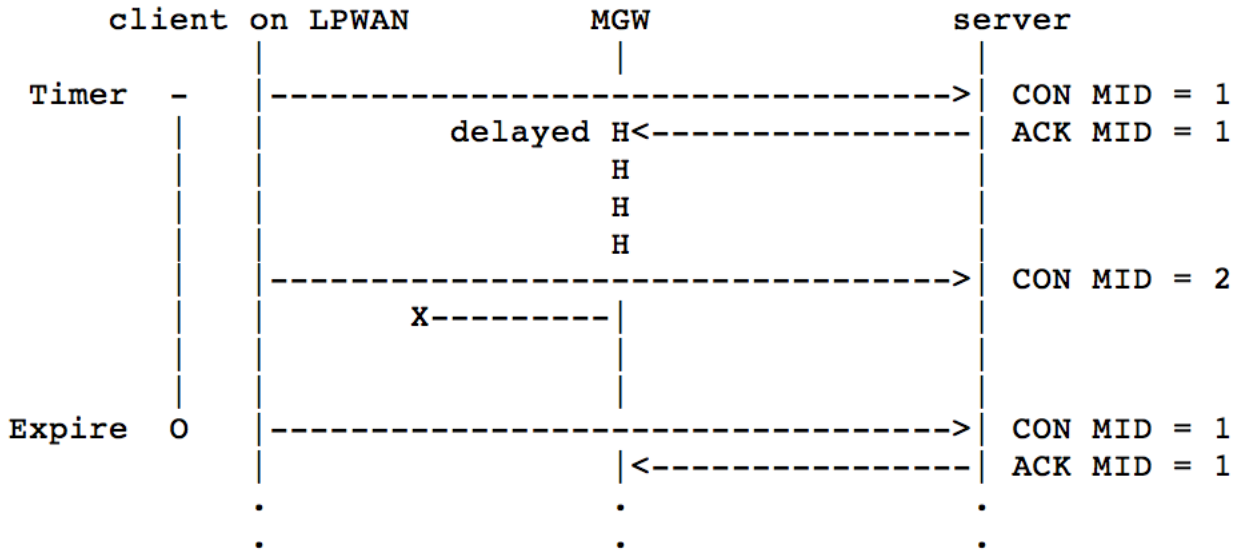
Thanks!

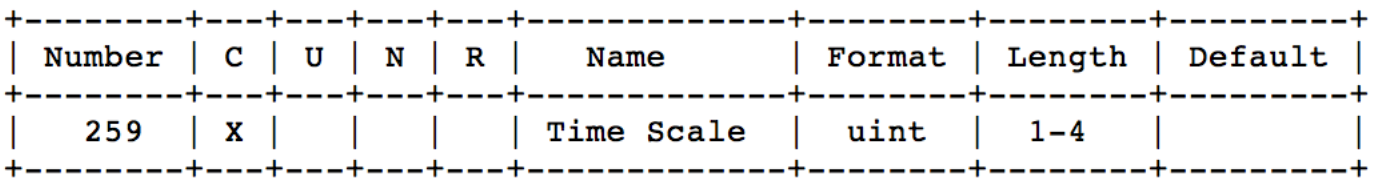
Comments?

Time Scale Opton
draft-toutain-core-time-scale

Authors:
Laurent Toutain <Laurent.Toutain@imt-atlantique.fr>
Ana Minaburo <ana@ackl.io>


client
server
CON MID = XXXX
=>
EXCHANGE LIFETIME
ACK MID = XXXX
EXCHANGE LIFETIME
XXXX cannot be reused
CON MID = XXXX
XXXX in memory
ACK MID = XXXX
CON MID = XXXX
=>
ACK MID = XXXX


client on LPWAN
MGW
server
Timer
CON MID = 1
delayed H
ACK MID = 1
H
H
H
CON MID = 2
X
Expire
CON MID = 1
ACK MID = 1



Number	C	U	N	R	Name	Format	Length	Default
259	X				Time Scale	uint	1-4	

Figure 4: Time Scale Option.

AOB ?