



11 March 2016 Webex

IPv6 over the TISCH
mode of IEEE 802.15.4e

Chairs:

Pascal Thubert

Thomas Watteyne

Etherpad for minutes:

<http://etherpad.tools.ietf.org:9000/p/6tisch?useMonospaceFont=true>

Note Well

This summary is only meant to point you in the right direction, and doesn't have all the nuances. The IETF's IPR Policy is set forth in BCP 79; please read it carefully.

The brief summary:

- By participating with the IETF, you agree to follow IETF processes.
- If you are aware that a contribution of yours (something you write, say, or discuss in any IETF context) is covered by patents or patent applications, you need to disclose that fact.
- You understand that meetings might be recorded, broadcast, and publicly archived.

For further information, talk to a chair, ask an Area Director, or review the following:

- BCP 9 (on the Internet Standards Process)
- BCP 25 (on the Working Group processes)
- BCP 78 (on the IETF Trust)
- BCP 79 (on Intellectual Property Rights in the IETF)

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/6tisch?useMonospaceFont=true>

** Recordings and Minutes are public and may be subject to discovery in the event of litigation.

*** From the Webex login

Agenda

- Administrivia [3min]
 - Agenda bashing
 - Approval minutes from last meeting
- Misc and Charter news [5min]
- Preparing IETF 95 [10min]
 - agenda, who's coming?
 - other WG of interest & interaction
- ANA and IANA needs and status [10min]
- 6P and SF0 issues [30min]
- AOB [2min]

Administrivia

Admin is trivia

- Approval Agenda
- Approval minutes

Misc and Charter News

Charter News

- We have a new charter!
 - <http://tools.ietf.org/wg/6tisch/charters?item=charter-6tisch-2016-03-04.txt>

- Produce a specification of the **6top sublayer** that describes the **protocol for neighbor nodes to negotiate adding/removing cells**. This work will leverage cross participation from IEEE members including the IEEE 6TiSCH Interest Group (IG 6T) to define protocol elements and associated frame formats.
- Produce a specification for a **default 6top Scheduling Function** including the policy to enable distributed dynamic scheduling of timeslots for IP traffic. This may include the capability for nodes to appropriate chunks of the matrix without starving, or interfering with other 6TiSCH nodes. This particular work will focus on IP traffic since the work on tracks is not yet advanced enough to specify their requirements.
- Produce **requirements to the DetNet WG**, detailing 6TiSCH chunks and tracks, and the data models to manipulate them from an external controller such as a PCE.
- Produce a specification for a **secure 6TiSCH network bootstrap**, adapted to the constraints of 6TiSCH nodes and leveraging existing art when possible.
- Keep updating the "**6TiSCH architecture**" that describes the design of 6TiSCH networks. This document highlights the different architectural blocks, signaling and data flows, including the operation of the network in the presence of multiple LBRs. The existing document will be augmented to cover dynamic scheduling and application of the DetNet work but will not be delivered within this round of chartering.
- Producing **YANG Data Models** to manage 6tisch is foreseen, but left to a later phase.

IETF95

Admin

- <https://datatracker.ietf.org/meeting/95/agenda.html>

[PRELIMINARY!]

- 6TiSCH WG meeting Mon 14.00-15.30 (+4 hours in CET)

- **Important dates:**

- 2016-03-21 (Monday): Internet Draft submission cut-off (for all drafts, including -00) by UTC 23:59, upload using IETF ID Submission Tool.
- 2016-03-21 (Monday): Draft Working Group agendas due by UTC 23:59, upload using IETF Meeting Materials Management Tool.
- 2016-03-25 (Friday): Early Bird registration and payment cut-off at UTC 23:59.
- 2016-03-28 (Monday): Revised Working Group agendas due by UTC 23:59, upload using IETF Meeting Materials Management Tool.

Discussion

- Wishlists before IETF95:
 - Update draft-dujovne-6tisch-6top-sf0
 - Update (rename) draft-wang-6tisch-6top-sublayer?
 - Clean up draft-ietf-6tisch-terminology?
- Wishlist at IETF95:
 - Adopt draft-dujovne-6tisch-6top-sf0
 - Adopt draft-wang-6tisch-6top-sublayer
 - Report on Paris plugtests and announce Berlin plugtest
- Wishlist after IETF95:
 - Implement, deploy, evaluate!

ANA and IANA needs and status

A 6TiSCH Payload IE Group ID?

- Choice 1, the vendor specific ID is already defined in the standard and needs no further action from 6tisch. It uses the Payload IE Group ID = 0x2 followed by 3 octets of the Vendor's OUI. Two options here are to request an OUI from the IEEE RAC, or request a company ID from the IEEE RAC. Regardless, the vendor specific ID adds 3 octets to the IE, which is not a problem if the IE is seldom used, such as configuring the network.
- Choice 2, the ID is allocated to IETF via IANA. There is a defined process to obtain a Payload Group ID (<http://www.ieee802.org/15/ANA.html>), it basically starts with a formal request from an IANA officer. The issue I have with this choice is that we have only 8 addresses left before going onto extended addresses, so we really need to make sure that each of the 8 addresses will be properly used.
- Choice 3, the ESDU IE is meant to send a message to another node, it has no inherent formatting, the other node must already understand how to use the information.

6P and SF0 issues

- Statistics for SFs and Relocation
- Token to identify transactions in 6P
- Starting 6P transactions from receiver
- 6P behavior at boot
- Timeout handling
- Retry handling
- BitMap vs. explicit cell
- Others...

Statistics for SFs and Relocation

Proposal: have the 6P draft indicate that an SF must specify which statistics to collect

Proposed text (Xavi):

SHOULD provide a list of metrics and statistical operations used for the proper operation of the SF

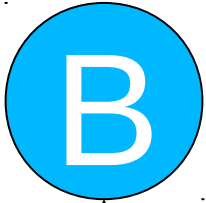
Token to identify transactions in 6P

Proposal: add an 8-bit “Token” field to the 6P header

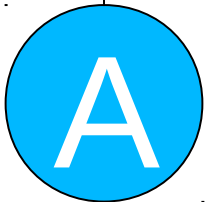
Discussions:

- Is the Token needed
- Can the ACK be used (corollary: what ACK are we talking about?)
- Can a child ask more cells before receiving an ACK

Starting 6P transactions from receiver



How can B (parent) re-claim cells it has previously allocated to A?



6P behavior at boot

What cell should 6P traffic be sent through, in particular at the start of a network?

- 6tisch-minimal cells?
- SFR1 cells?
- Parents grant cells immediately?

Timeout handling

Proposal: roll back transaction at both ends using a IANA_6TOP_CMD_ROLLBACK command (same as HTTP reset?)

Retry handling

Does it make sense for the SF to retry?

BitMap vs. explicit cell

Proposal:

Provide a “full” bundle to children, included active and inactive cells
Then negotiate only the bitmap of active and inactive
eg add 0 asks for a status of what’s active

Discussions:

- Use transactionally or repeat to death?

Other...

- Can there be multiple SFs on a node?
- Interaction between 6P/schedule and neighbor table?

AOB ?

AOB

- Cancel Webex 25 March?

Thank you!