

Amendment to 802.1AC to include 802.15.3 MAC Entity

Overview

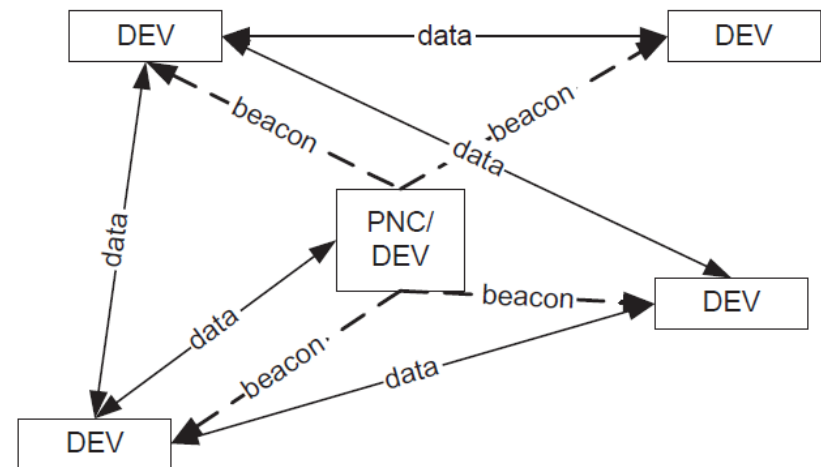
- IEEE Std 802.15.3-2016 is being amended to add a wireless PHY targeted at server rooms
- This application needs strong support from 802.1
 - Latest revision of 802.15.3 changed MAC addressing from 64 bit to 48 bit
 - A new data frame was defined that explicitly carries Ethertypes (and any following tags)
- Accordingly, adding 802.15.3 to 802.1AC is appropriate.

What is 802.15.3?

- Development began in 2000, focused multimedia delivery over wireless
- PHYs to date:
 - 2.4 GHz, 11, 22, 33, 44 and 55 Mb/s
 - 60 GHz, 25 Mb/s to > 5 Gb/s with beam forming
 - New 100 Gb/s PHYs in 60 GHz (100 Gb/s) and terahertz (> 200 GHz) region
- MAC
 - TDMA, polling and CSMA/CA
 - Streams and asynchronous data

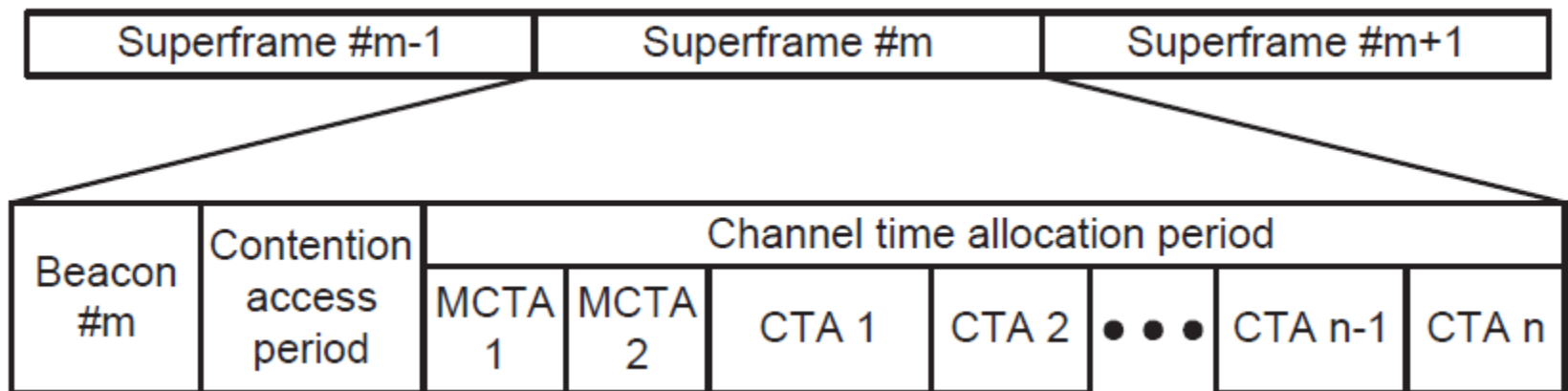
MAC overview

- Controlled by piconet controller (PNC)
- Devices (DEVs) are equivalent to stations
- Communication is always peer-to-peer.
- PNC controls access and timing



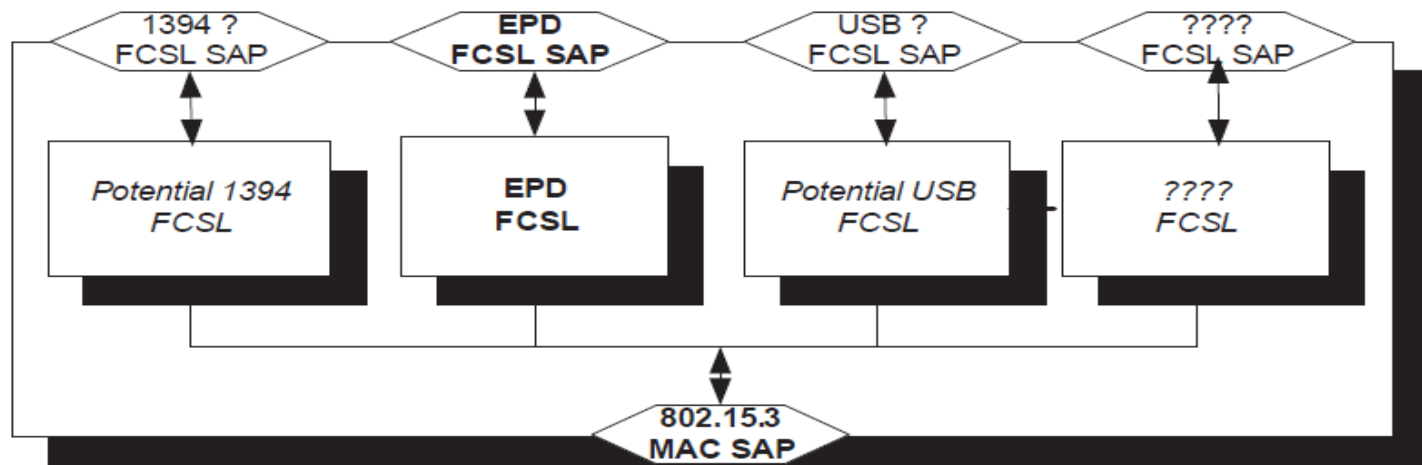
Superframe

- PNC sends beacon to begin superframe
 - Beacon contains structure of the superframe
 - Some slots are “static”, others are dynamic
- Different access rules in slots



Frame convergence sublayer

- The FCSL is intended to map higher layer protocols to the MAC
- Both EPD and 1394 (now defunct) have been defined.



MAC data interface

- Two types of data, asynchronous and “isochronous”
- Isoch uses a stream index and is carried in a dedicated time slot
- Async is on best effort.

Table 5-30—Summary of MAC SAP primitives

Name	Request	Confirm	Indication	Response
MAC-ASYNC-DATA	5.5.1	5.5.2	5.5.3	—
MAC-ISOCH-DATA	5.5.4	5.5.5	5.5.6	—

Request

- 802.1 develop PAR and CSD to amend 802.1AC to include a mapping to the 802.15.3 MAC entity
- 802.15.3 has individuals willing to work on the draft (and an editor)
- Proposed schedule:
 - Jan 2017: Write PAR and CSD, presubmit to NesCom
 - Mar 2017: PAR approval at plenary, SASB approval at end of March
 - May 2017: WG letter ballot
 - July 2017: Sponsor ballot
 - Nov 2017: SASB approval