**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | Distributed time synchronization for PAC | |
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| Re: |  | |
| Abstract | This document proposes technical specification of Distributed time synchronization for 802.15.8 PAC. | |
| Purpose | This document describes the functional behaviour and technical specification of Distributed time synchronization for PAC. | |
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# Distributed time synchronization for PAC

PDs in PAC network shall be synchronized by using distributed manners. When a new PD listens to neighbouring PD’s beacon frame, it will synchronize to PAC network. Synchronized PD shall keep synchronization with periodic beacon frame. Since the new PD tracks its time synchronization from beacon frame, it shall determine the next receiving time of beacon frame.

a) before transmitting beacon frame for synchronization, every PD in the PAC network have to initiate prioritized backoff algorithm to get a chance to transmit beacon frame.

b) beacon frame shall be transmitted periodically every beacon interval

c) all PDs which participated in PAC network shall keep time synchronization using timestamp value of beacon frame.

d) beacon frame shall set the timestamp value including transmitting PD’s local delay

e) PDs in the PAC network shall not be allowed to transmit a frame before receiving beacon frame.

f) a PD transmitting beacon frame can be selected sequentially among PDs in the PAC network.

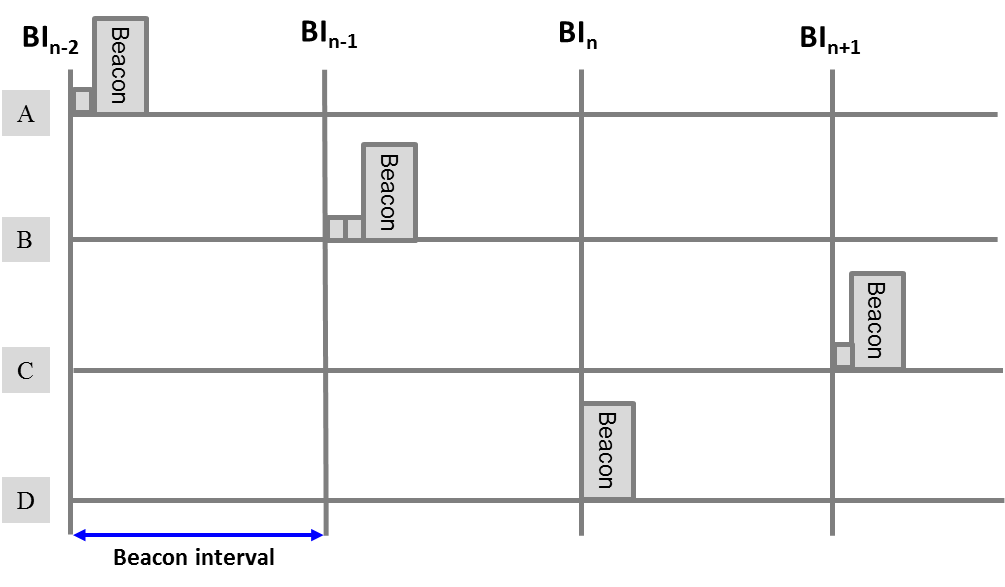


Figure-1 Distributed time synchronization