MARVELL

DPLCA Coordinator Lockup

Contribution to 802.3da Task Force

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Introduction

- Simulations of the PLCA and DPCLA state diagrams in D2.0 revealed a lockup issue that should be addressed
- Changes are proposed to address the issue

Coordinator Lockup

- Issue: Coordinator lockup happens when two or more nodes send the BEACON at the same time
  - PLCA is not able to register activity from other nodes while transmitting BEACON
- Proposal:
  - Randomize the wait_beacon_timer to reduce the likelihood of BEACON collisions between nodes.

wait_beacon_timer randomization

- Proposal:
  - change wait_beacon_timer definition in 148.4.7.4 as follows:

wait_beacon_timer

Represents the time the D-PLCA state diagram waits for a BEACON indication.
Duration: the duration of this timer is defined by the aDPLCAWaitBeaconTimer configuration parameter with an additional value of four times a random integer number uniformly distributed between 0 and **255** selected upon entering the DISABLED state.
Tolerance: 1 BT

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