P802.15.10a

Submitter Email: bheile@ieee.org
Type of Project: Amendment to IEEE Standard 802.15.10-2017
PAR Request Date: 29-Sep-2017
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.15.10a
1.2 Type of Document: Recommended Practice
1.3 Life Cycle: Full Use

2.1 Title: Recommended Practice for Routing Packets in IEEE 802.15.4 Dynamically Changing Wireless Networks
Amendment adding additional routing modes

3.1 Working Group: Wireless Personal Area Network (WPAN) Working Group (C/LM/WG802.15)
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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 09/2018
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 02/2019

5.1 Approximate number of people expected to be actively involved in the development of this project: 60
5.2.a. Scope of the complete standard: This recommended practice defines a protocol that routes packets in a dynamically changing IEEE 802.15.4 network with minimal impact from route management. The result is an extension of the area of coverage as the number of nodes increases.

5.2.b. Scope of the project: This amendment adds routing modes to completely define addressing for the routing modes currently defined in the standard, including at least the following:
- E2E acknowledgement from mesh route in non-storing mode
- P2P routing using a combination of up/down routing in non-storing mode
- On-demand P2P routing for E2E acknowledgement in non-storing mode
- On-demand path storing when sending unicast in non-storing mode

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This recommended practice will facilitate the routing of packets in dynamically changing wireless networks. In particular, it will provide for automatic handling of route related capabilities such as the following:
Discovery and addition of new nodes; Route establishment; Dynamic route reconfiguration; Re-establishment of broken/lost routes; Purging of inactive routes; Real time link status information exchange; Single hop appearance at the networking layer (not breaking standard Layer 3

mechanisms); Support for broadcast; Support for multicast; Frame forwarding

5.5 Need for the Project: This allows for the addressing in non-storing routing modes to be completely specified, permitting all of the non-storing routing modes defined in the initial standard to be supported.

5.6 Stakeholders for the Standard: Chip vendors, chip makers, chip designers, technology suppliers, radio frequency (RF) equipment manufacturers, enterprise infrastructure providers, international wireless carriers/service providers, academic researchers, government research laboratories, communication equipment manufacturers, system integrators and consumers.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
  Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes: