**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Revised comment resolution for i-116 from the sponsor ballot** | |
| Date Submitted | 19 August 2016 | |
| Source | \*[Verotiana Rabarijaona, Fumihide Kojima], †[Hiroshi Harada]  \*[NICT], †[Kyoto University]  \*[3-4, Hikarino-oka, Yokosuka, 239-0847 Japan], †[36-1 Yoshida-Honmachi, Sakyo-ku, Kyoto 606-8501 Japan] | Voice: [+81-46-847-5075]  Fax: [+81-46-847-5089]  E-mail: [rverotiana@nict.go.jp] |
| Re: | DCN 520r2, resolution to CID i-116 | |
| Abstract | Provides a proposed resolution to CID i-116 | |
| Purpose | To be used by the technical editor to apply the necessary changes to the draft to resolve CID i-116 | |
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**Comments**

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| **Page** | **Clause** | **Line** | **Comment** | **Proposed change** |
| 13 | 4.4.1 |  | What the route estabilishment requires and what can be used in the forwarding are different. This table looks to make a confusion. Source routing can be used in any unicast routing including DS in storing mode but only DS in non-store mode depends on it. Furthermore, source routing can be used for US routing if the node knows all of intermediate addresses correctly. | "Clarify dependency of DS establishment and US |

**Resolution: Revise**

* ***Modify the tables in document 520 r2 as follows***

In the first table (Functions required for each path establishment):

* the (RE1, Multicast) cell should be empty
* the (RE2, Multicast) cell should be O
* SM1 and SM2 should be O.1 for mesh root centralized and P2P
* Broadcast does not require route establishment. Remove the column from the table and add a note in text saying so.

In the second table (Functions can be used for each data forwarding):

* (R1, UC US) should be empty
  + ***Replace "routing information" with "DS routing information" on p.57 l.38***
  + ***Mention in the text that source routing is not used for US routing***
* (R1, UC DS) SM1 and (R1, P2P) SM1 should be -. Based on the current spec in 5.4.1.1 source routing is only used in non-storing mode. Otherwise we need to modify the 5.4.1.1 to say that it is optional.
* (R2, P2P) SM2 should be -. In non-storing mode, there is no routing records, so there is no way to do hop by hop routing.
* (R3, multicast) should be PT1: O (5.4.2.1), PT2, PT3: -
* (R4, multicast) should be PT1: O (5.4.2.2), PT2, PT3: M (5.4.2.2)
* (RvS, unicast US) should be O (5.4.1.2)
  + ***Insert*** "The next hop is an ancestor if the frame is routed US, or a descendant if the frame is routed DS. The next hop may also be a sibling if RvS is supported. US and DS route establishment are described in 5.2.3 and 5.2.4.1 respectively." ***after the first sentence of the second paragraph of 5.4.1.2.***
* (HR, Unicast US), (HR, Unicast DS), (HR, P2P): the reference should be 5.4.1.4

The resulting tables are as follows:

Table xx - Functions for route establishment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | | **Mesh root centralized path establishment** | **P2P** | **Multicast** |
| RE1 | TC IE based US route establishment | M (5.2.3) | — | — |
| RE2 | RA IE based DS route establishment (RE1 required to use this function) | SM1: O (5.2.4) SM2: M (5.2.4) | — | O (5.2.6) |
| RE3 | L2R Routing IE based DS route establishment | SM1: M (5.2.4) SM2: — | — | — |
| RE4 | P2P route establishment | — | M (5.2.7) | — |
| SM1 | Storing mode | O.1 (5.2.4.1) | O.1 (5.2.7.1) | — |
| SM2 | Non-storing mode | O.1 (5.2.4.2) | O.1 (5.2.7.2) | — |

Table yy – Functions for routing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Function** | | **Unicast US** | **Unicast DS** | **P2P** | **Multicast** | **Broadcast** |
| R1 | Source routing | — | SM1: —  SM2: M (5.4.1.1) | SM1: — SM2: M (5.4.1.1) | — | — |
| R2 | Hop-by-hop routing | M (5.4.1.2) | SM1: M (5.4.1.2)  SM2: — | SM1: M (5.4.1.2) SM2: — | — | — |
| R3 | L2R multicast routing | — | — | — | PT1: O (5.4.2.1) PT2, PT3: — |  |
| R4 | Flooding | — | — | — | PT1: O (5.4.2.2)  PT2, PT3: M (5.4.2.2) | M (5.4.3) |
| RvS | Routing via a sibling | O (5.4.1.2) | O, only when used in US routing (5.4.1.2) | — | — | — |
| HR | Hop-by-hop retransmission | O (5.4.1.4) | | | — | — |
| E2EA | End to end acknowledgment | O (5.4.1.5) | | | — | — |
| DCat | Data concatenation | O (5.4.1.6) | | | — | — |
| MPO | Multi-PAN operation | O (5.4.1.3) | | | — | O (5.4.3.3) |

* ***Reorder the tables as follows:***
  + PAN type
  + Functions required for each path establishment
  + Functions can be used for each data forwarding