**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Proposed comment resolution for CID #195 of LB104** | |
| Date Submitted | 2 June 2015 | |
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| Re: | 802.15.10 Consolidated Comment Entry Form, CID #195 | |
| Abstract | Provides a proposed resolution to CID #195 | |
| Purpose | To be used by the technical editor to apply the necessary changes to the draft to resolve CID #195 | |
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**Comment CID 195**

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| **Commenter** | **Page** | **Clause** | **Line** | **Comment** | **Proposed change** |
| Don Sturek | 23 | 5.2.1 | 46 | "Subscribed Multicast Addresses" - Elsewhere in the text it is stated that the assignment of multicast addresses is out of scope. However, here there is an assumption that addresses 0xff00 to 0xfffd are multicast addresses. How would a device know to subscribe to a given multicast address? These are not defined in 15.4 so only this specification that has created multicast addresses can define what they are used for. I assume that this has to be an administrative assignment. I don't see any mechanism to define how to dynamically find a multicast group on the network. Next, these addresses are 16 bits. I see how that would work with short addresses. Surely, they don't work with long addresses. | Define what the multicast groups are (presuming these are static and administratively defined). If not and the groups are dynamic, describe how the device discovers them and their scope. Either define how a 16 bit multicast address works in a 64 bit addressable network or define multicast addresses using long addresses. |

**Resolution: AiP**

* ***Modify clause 5.2.5 as follows:***

An implementation may require the transmission of the same data to a group of devices based on criteria such as geographic location (district, block, floor…), device type (actuators, sensors…), etc. These devices are organized into static and administratively defined multicast groups assigned with a short address. The set of short addresses ranging from 0xff00 to 0xfffd is reserved for multicast groups. Multicast groups may be dynamic if required by the implementer. In this case, the dynamic management of the groups is out of the scope of this document.

The multicast route establishment is achieved through the transmission of RA IEs. A device belonging to one or more multicast groups sets the Multicast Subscription Present field to 1 and includes the corresponding multicast address(es) in the Multicast Subscription field in its RA IE during the DS route establishment procedure. The Multicast Subscription field of the RA IE is described in 6.2.6.9. If a device receives a RA IE with the Multicast Subscription Present field set to 1, the multicast address(es) therein is treated as a unicast address and is recorded in the list of reachable destinations of the neighbor which the RA IE was received from. If the L2R mesh tree is working in non storing mode, multicast routing is not handled by the L2R sublayer.

If a device belongs to a multicast group and if multicast routing is handled by the L2R sublayer, the next higher layer informs the L2R sublayer with a L2R-MULTICAST-SUBSCRIPTION.request primitive. Upon reception of the primitive, the L2R sublayer includes the multicast address(es) in its RA IEs. After the transmission of the RA IE with the multicast subscription information, the L2R sublayer notifies the next higher layer with a L2R-MULTICAST-SUBSCRIPTION.confirm primitive. This procedure is illustrated in Figure 15. The L2R-MULTICAST-SUBSCRIPTION.request and L2R-MULTICAST-SUBSCRIPTION.confirm primitives are described in 7.1.2.1 and 7.1.2.2 respectively. If a device has left a multicast group, the next higher layer informs the L2R sublayer with the L2R-MULTICAST-SUBSCRIPTION.request with the corresponding multicast address omitted.

Multicast routing is handled by the L2R sublayer if the L2R Multicast field in the L2R-D IE is set to 1. Multicast routing should be addressed by the L2R sublayer only if the L2R mesh tree uses short addresses. Otherwise, multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers. Multicast routing is described in 5.4.2.