**IEEE P802.15**

**Wireless Personal Area Networks**

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| Re: |  |
| Abstract | [text descript for device annoucement] |
| Purpose | [to describe function of device annoucement] |
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**Text for device announcement**

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***Astract:***

For peer-to-peer network, destination address of device is needed. A device can announce its address to its neighbour devices for such purpose. This document proposes text for device announcement.

***Text proposal:***

***Insert following text at the end of the first paragraph of 4.3.2:***

A device of peer-to-peer network can announce its address to its neighbor devices as described in 5.1.6.7.

***Insert following text at the end of 5.1.6:***

**5.1.6.7 Device announcement**

To facilitate data transfer effectively between two or more peer devices, a device announces its address and its neighbors addresses to its neighbor devices by broadcasting beacons with DA IE (described in **5.2.4.36**).

A device shall broadcast a beacon frame with DA IE at appropriate time upon receiving MLME-DA.request primitive from the next higher layer. It can also broadcast beacons with DA IE at any other opportunities described in this standard.

Upon receiving a beacon frame with DA IE, a device shall store the source address of the transmitting device if it hasn’t done so before. If the Neighbor addresses pending field of the DA IE is one, it means that the transmitting device has more neighbor addresses to announce. The receiving device can wait for following beacon frames with DA IE from the same transmitting device, to check whether its address has been stored at the transmitting device if its address has not been found in the received beacon frames from the transmitting device. If the Neighbor addresses pending field of the DA IE is zero, it means that the transmitting device has no more neighbor addresses to announce.

If the receiving device finds that its address has not been included in the received beacon frames from the transmitting device, it means that it address has not been stored at the transmitting device. In this case, the receiving device is necessary to announce its address to its neighbors at appropriate time.

The message sequence char for broadcast beacon with DA IE to announce the address of a device is illustrated in Figure 22ca. More than one beacon frames with DA IE should be transmitted if the number of the neighbor devices exceeds the capacity of one DA IE.



**Figure 22ca—Message sequence chart for broadcast beacon with EA IE upon receiving MLME-DA.request primitive.**

***Add following item in Table 3b—EBR IEs per enabled attribute:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute****Request****Identifier** | **PIB attribute** | **IE type** | **IEs to include** |
| 5 | *macDAenabled* | *Header* | Device Announcement (5.2.4.36) |

***Modify Table 4b—Element IDs, Header IEs as following:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Element ID** | **Content length** | **Name** | **Description** |
| … | … | … | … |
| TBD | Variable | DA | Defined in 5.2.4.36 |
| … | … | … | … |

***Add following text after 5.2.4.21:***

**5.2.4.36 Device Announcement IE**

The Device Announcement IE can be be used for a device to announce its address to neighbors if *macDAenabled* is TRUE. The Device Announcement IE shall be formatted as illustrated in Figure 48naf.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Bit : 0** | **1** | **2-10** | **11-15** | **Address list** |
| Group address type  | Neighbor addresses pending | Number of neighbors with address type A | Number of neighbors with address type B | variable |

**Figure 48naf Device announcement IE**

When Group address type field is set to zero, the address type A of the neighbors is 16-bit short address and the address type B of the neighbors is 64-bit extended address. When Group address type field is set to one, the address type A is 64-bit extended address and the address type B is 16-bit extended address.

When Neighbor addresses pending field is set to zero, it means that all neighbors are included in the DA IE. Otherwise, when Neighbor addresses pending field is set to one, it means that there are more neighbors to be included in DA IE of next beacon frame.

The neighbors addresses are put in Address list field. A neighbor address can be eithter 16-bit short address or 64-bit extended address. The short addresses are grouped together, so as well the extended addresses. The short address group and the extended address group are put back-to-back. The sequence of the short address group and extended address group depends on the number of neighbor devices of each group.

***Insert following text in 6.2***

**6.2.24 Primitives for device announcement**

These primitives are used for device announcement.

**6.2.24.1 MLME-DA.request primitive**

The MLME-DA.request primitive prompts the device to announce its address to neighbor devices.

The semantics of this primitive are:

 MLME-DA.request (

 CoordAddrMode,

 CoordPANId,

 CoordAddress

 )

The primitive parameters are defined in Table 44ze.

**Table 44ze—MLME-DA.request parameters**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| CoordAddrMode | Enumeration | SHORT\_ADDRESS,EXTENDED\_ADDRESS | The addressing mode of the coordinator that this device associated with. |
| CoordPANId | Integer | 0x0000 - 0xffff | The identifier of the PAN that this device associated with. |
| CoordAddress | Device address | As specified by the CoordAddrMode parameter | The address of the coordinator that this device associated with |

**6.2.24.2 MLME-DA.confirm primitive**

The MLME-DA.confirm primitive reports results of broadcasting the beacon frame with DA IE.

The semantics of this primitive are

 MLME-NBR.confirm (

 Status

 )

The primitive parameter is described in Table 44zf.

**Table 44zf—MLME-NBR.confirm parameters**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| Status | Enumeration | SUCCESS,FAILURE | The results of broadcasting the beacon frame with DA IE. |