**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Comments on document 566** | |
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| Re: | DCN 566 r0 | |
| Abstract |  | |
| Purpose | To stir the discussion on the use of 16-bit and 64-bit multicast addresses | |
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1. **Proposed resolution for CID i-116**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| i-18 | Thaler, Patricia | Broadcom Limited | General | 13 | 4.4.2 | 18 | The text in the cells for SSPAN and TMCTP Multicast is unclear. Does it mean that only the broadcast addresses are allowed or does it mean that group addresses will be forwarded over the broadcast flooding tree?  If the former is intended, that should be changed as there are many protocols that use well-known group addresses.  The other cells state the addresses that can be used, not how the addresses will be forwarded. | Yes | Replace "broadcast address flooding and higher layer filtering" with "group address"  A table note can be used to indicate that the mechanism that will be used for forwarding these addresses is broadcast address flooding. |

**AiP**

Table should explain L2R addressing. It doents need to be mentioned on this table when higher layer addressing and L2R broadcast are used.

On the Multicast row on the table 2, SSPAN column should be 'Short address (0xff00-0xfffd) or 64-bit group address(\*)' and TMCTP column should be '64-bit group addeess(\*)'.

Add footnote on the table2 which says "'\*' indicates multicast route establishment provided in 5.2.6 is not supported and multicast frames are routed using broadcast address flooding (in the MHR???)." Description that explains the behavior when the group address is set in the FnlDstAddress in the L2R-DATA.request primitive.

Add the address mode in Multicast subscription primitive

Add the address mode flag in subscription in RA IE.

Resolution for i-118 changes category of unicast routing mode for PAN – from “Mesh with PANC DC and Mesh without PANC DC” as follows. Comments received in the F2F session requires to add 64-bit group address multicast subscription. It is used for the mesh with EXTENDED address. We should still use short address multicast address for extended address mesh…

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Routing mode | Network type | | | |
| PAN (1 or more meshes) | | SSPAN (1 mesh) | TMCTP (1 mesh) |
| A mesh where the mesh root address mode is SHORT | A mesh where the mesh root address mode is EXTENDED |
| Unicast (DS/US/P2P) | Short address | EUI-64 | Short address or EUI-64 | EUI-64 |
| Multicast | Short address (0xff00 – 0xfffd) | Short address (0xff00 – 0xfffd) or 64-bit group address (+) | Short address (0xff00 – 0xfffd) or 64-bit group address  (\*) | 64-bit group address (\*) |
| Broadcast | Short broadcast address or 64-bit broadcast address | | | 64-bit broadcast address |

(\*): The multicast route establishment described in 5.2.6 is not used. A multicast frame is forwarded to the all device by flooding and the NHL of L2R sublayer filters subscribed group address or multicast address if necessary.

(+): One of either short address or 64-bit group address is used in the mesh.

Replace with:

L2R-DATA.request (

MeshAddressMode,

MeshRootAddress,

MeshRootData,

OrgnSrcPanId,

FnlDestPanId,

FnlDestAddrMode

FnlDestAddr,

PanBroadcast,

L2rPayload,

L2rDataHandle,

HeaderIeList,

PayloadIeList,

HeaderIeIdList,

NestedIeSubIdList,

SendMultipurpose,

ServiceId,

SubServiceId,

L2rReTx,

RvsProhibited,

DelayCritical,

GuaranteedTx,

Dcat,

Ttl,

Rl,

MacAr,

E2eAr,

E2eArTime,

P2p

)

Insert a row for FnlDestAddrMode in the Table 48

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| FnlDestAddrMode | Enumeration | SHORT, EXTENDED | Indicates the addressing mode of Mesh |

Replace the primitive in 7.1.3.1 with:

L2RLME-MULTICAST-SUBSCRIPTION.request(

MulticastAddressList

Address mode

)

Add a row for ‘Address mode’ in the Table 46:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Address mode | Enumeration | SHORT, EXTENDED | Indicates the addressing mode of the address in MulticastAddressList |

Replace Figure 60 with:

|  |  |  |  |
| --- | --- | --- | --- |
| Bit: 0 | 1 | 2 | 3-7 |
| Mesh address mode | Multicast subscription present | Multicast address mode | Reserved |

**Figure 60—Format of the RA IE Descriptor field**

Change the description in clause 5.4.2

From:

Multicast routing is handled by the L2R sublayer if the L2R Multicast field in the L2R-D IE is set to 1. In this case, multicast routing is performed using short addresses within the range 0xff00 to 0xfffd.

To:

Multicast routing is handled by the L2R sublayer if the L2R Multicast field in the L2R-D IE is set to 1. In this case, multicast routing is performed using short addresses within the range 0xff00 to 0xfffd or using 64-bit group address.

From:

In an SSPAN, multicast routing uses either the short broadcast address or the 64-bit broadcast address depending on the addressing mode used in the SL2R mesh. Multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers.

To:

In an SSPAN, multicast routing uses either the short multicast address (0xff00 – 0xfffd) or the 64-bit group address depending on the addressing mode used in the SL2R mesh but the multicast route establishment described in 5.2.6 is not used.

Multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers.

From:

In a TMCTP, multicast routing uses the 64-bit broadcast address. Multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers.

To:

In a TMCTP, multicast routing uses the 64-bit group address. The multicast route establishment described in 5.2.6 is not used. Multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers.

Insert a row for ‘Address mode of multicast group’ in the table 4.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Address of multicast group | Enumeration | SHORT, EXTENDED | Indicates if multicast group address is short or 64-bit group address |

Replace the following phrase seen in clause 5.2.6 with:

Original:

The set of short addresses ranging from 0xff00 to 0xfffd is reserved for multicast groups.

Replace with:

The set of short addresses ranging from 0xff00 to 0xfffd is reserved for multicast groups. Alternatively 64-bit group address can be used.

Remove the following phrase seen on ll.40- 43:

Multicast routing should be addressed by the L2R sublayer only if the L2R mesh uses short addresses. Multicast groups may be dynamic and 64-bit multicast addresses may also optionally be defined if required by the implementer. In these cases, the dynamic management of the groups is out of the scope of this document.

Replace:

If the L2R Multicast field is set to 0 or if a multicast group is not assigned a short multicast MAC address, multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers.

With:

If the L2R Multicast field is set to 0 and if the destination address is an assigned short multicast MAC address or 64-bit group address, multicast frames are treated as broadcast frames by the L2R sublayer and are filtered by higher layers. L2R Multicast field shall not be set to 1 in SSPAN or TMCTP operation.