IEEE P802.11
Wireless LANs

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| REVme CID391, 397, and 454 comment resolution  |
| Date: 2021-11-12 |
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Abstract

This submission contains comments on REVmd initial SA ballot, assigned to Kazuyuki Sakoda for preparation of proposed resolutions.

R0 – initial version. CID 391, 397, and 454.

R1 – Cleaned up discussion comments. Made small updates.

**Comment:**

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| 454 |  | There are references to mesh beacons (including three to "mesh Beacon frame"s and one to "Mesh Beacon frame") but mesh doesn't seem to have its own beacons (unlike DMG and S1G) | Delete "mesh"/"Mesh" before "beacon"/"Beacon" except in "esh beacon collision avoidance" and "esh beaconing" and MIB attribute names |

**Discussion:**

It is true that there is no specific beacon frame exclusively defined for mesh.

4 instances of “mesh beacon” should be replaced with “beacon” as shown below. MIB attribute name dot11MeshBeaconTimingReport… is OK to remain as they are, because they are intended to express “mesh” “beacon timing report”.

**Proposed resolution: REVISED**

*Apply the following changes:*

At 2370.12 (subclause 11.21.16.3.3 GCR setup procedures), replace “mesh beacon” with “Beacon frame” to read “Mesh GCR was equal to 1 in the Extended Capabilities element in the most recently received Beacon frame from the peer mesh STA.”.

At 2372.03 (subclause 11.21.16.3.3 GCR setup procedures), replace “mesh Beacon frame” with “Beacon frame” to read “… the Extended Capabilities element in its Beacon frame and STA2 received a Beacon frame from STA1 in which the Mesh GCR field in the Extended Capabilities element is equal to 1”.

At 2373.27 (subclause 11.21.16.3.4 GCR operation), replace “mesh Beacon frame” with “Beacon frame” to read “… in the Extended Capabilities element of the STA’s most recent Beacon frame and …”.

At 2416.50 (subclause 11.24.2.5 QMF policy configuration in an MBSS), replace “The Mesh Beacon frame shall not include a QMF Policy element.” with “A mesh STA shall not include a QMF Policy element in a Beacon frame.”

**Comment:**

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| 391 | (clause 14) | There is no BSSID in an MBSS, so how are things that carry a BSSID handled in an MBSS context (e.g. MLME-SCAN primitives)? Is the BSSID in that case to be interpreted as the MAC address of a mesh STA (if it's not the wildcard BSSID)? | As it says in the comment |

**Discussion:**

In MBSS, BSSID is interpreted as the MAC address of the mesh STA. We can find some descriptions as follows:

In 327.30 (subclause 6.3.3.3.2 Semantics of the service primitive), “The BSSID of the found BSS or the MAC address of the found mesh STA.”

In 840.01 (9.3.2.1.2 Address and BSSID fields), “d) If the STA is a member of an MBSS, the BSSID is the address of the transmitter and is equal to the Data frame’s TA”.

In the context of MLME-SCAN primitive and neighbour discovery, the Mesh ID field is used to control the discovery behaviour as briefly described in 6.3.3.2 MLME-SCAN.request. However, this behaviour is not detailed in clause 14. Maybe, it is reader friendly to remind the fact somewhere in clause 14.

**Proposed resolution: REVISE**

*Add the following notes to the end of 14.2.2 Mesh identifier:*

NOTE2 — In an MBSS, the BSSID field contains the MAC address of the mesh STA transmitting the frame containing the field, not the identifier of the MBSS.

*Change 14.2.6 Scanning mesh BSSs as follows:*

**14.2.6 Scanning mesh BSSs**

A mesh STA shall perform active scanning or passive scanning, depending on the value of the ScanType

parameter of the MLME-SCAN.request primitive (see 11.1.4 (Acquiring synchronization, scanning)), to

discover neighbor mesh STAs. Upon receipt of an MLME-SCAN.request primitive with a valid Mesh ID

parameter, the STA shall passively scan for Beacon frames, or actively

transmit Probe Request frames containing the Mesh ID field and wait for Probe Response or Beacon frames, as appropriate, depending on the value of ScanType. The Mesh ID parameter indicates the Mesh ID for which to scan.

To actively scan, the mesh STA shall transmit Probe Request frames containing a wildcard Mesh ID or the desired Mesh ID. A mesh STA that receives a Probe Request frame shall respond to it as specified in (11.1.4.3.4 Criteria for sending a response).

When a mesh STA passively scan for Beacon frames, it shall scan for any Beacon frames from MBSSs when the Mesh ID in the MLME-SCAN.request primitive was wildcard Mesh ID, and it shall scan for Beacon frames containing a specific Mesh ID given via the Mesh ID in the MLME-SCAN.request primitive when the Mesh ID is not the wildcard Mesh ID.

Upon completion of scanning, an MLME-SCAN.confirm primitive is issued by the MLME

indicating all of the discovery information received. Further, a mesh STA shall comply with the passive scan

procedure as described in 11.1.4.2 (Passive scanning) and the active scan procedure as described in 11.1.4.3

(Active scanning and probing procedures).

*Add the following sentences to the beginning of the 14.13.3.2 Beacon reception for mesh STA:*

A mesh STA shall determine whether a Beacon frame was transmitted by a mesh STA in the same MBSS based on the Mesh ID element, not the Address 3 field.

**Comment:**

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| 397 | 787.26(sublause 9.2.4.3.4) | "This field, in an infrastructure BSS, is the MAC address currently in use by the STA in the AP of the BSS." needs a line for an MBSS | As it says in the comment |

**Discussion:**

The commenter is right. In the subclause 9.2.4.3.4, what is BSSID field is described but the case for MBSS is missing. It is suggested to add a case description for MBSS.

**Proposed resolution: REVISE**

*Change 9.2.4.3.4 BSSID field as follows:*

**9.2.4.3.4 BSSID field**

The BSSID field is of the same format as an IEEE 802 MAC address. When dot11OCBActivated is false and dot11MeshActivated is false, this field uniquely identifies each BSS. This field, in an infrastructure BSS, is the MAC address currently in use by the STA in the AP of the BSS.

This field in a PBSS is set to the MAC address of the PCP.

This field in an IBSS is set to a locally administered IEEE MAC address formed from a 46-bit random

number generated according to the procedure defined in 11.1.4 (Acquiring synchronization, scanning). The

Individual/Group bit of the address is set to 0. The Universal/Local bit of the address is set to 1. This

mechanism is used to provide a high probability of selecting a unique BSSID.

This field in an MBSS is set to the MAC address of the mesh STA transmitting the frame containing the field.

NOTE — This means the BSSID field has the same value as the TA field (see 9.3.2.1.2).

This field is set to all 1s to indicate the wildcard BSSID. The wildcard value is not used in the BSSID field

except where explicitly permitted in this standard. When dot11OCBActivated is true, the wildcard value is

used in the BSSID field. When dot11OCBActivated is false and the BSSID field contains the wildcard

value, the Address 1 (DA) field is also set to all 1s to indicate the broadcast address.

**Reference:**

[1] Draft P802.11REVme\_D0.0

[2] 11-21/0793r5 “REVmd Working Group Comments for MAC ad-hoc”