IEEE P802.11
Wireless LANs

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| Proposed resolution for CID 1263 |
| Date: 2018-10-30 |
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Abstract

This submission proposes resolutions to CID 1263. The baseline for this document is 802.11 RevMD 1.4.

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| **CID** | **Clause** | **Page** | **Comment** | **Prposed change** | **Proposed resolution** |
| 1263 | 10.50.2 | 191.25 | The reachable address update procedure may create an error in the following situation:1. STA1 who is originally associated with relay AP1, moves to relay AP2, under the same root AP, without perfroming disassociation with relay AP12. relay AP2 performs reachable address update to the root AP based on condition 1) in L233. Before the max idle period expiry of STA1 in relay AP1, another STA2 associates with relay AP14. relay AP1 sends reachable address update frame containing "current list" STA1 and STA2 to root AP based on condition 1) in L23, overwriting the correct forwarding entry for STA1 in root AP5. Later traffic to STA1 is forwarded to relay AP1, causing relay AP1 disassociation of STA1, which triggers another reachable address update frame sent to root AP, based on condition 2) in L23. This completely removes STA1 from root AP's "current list" of reachbale addresses | A potential solution may be:An S1G relay STA shall send a Reachable Address Update frame that contains the modifications of reachable addresses to the AP to which it is associated when one of the following conditions occurs:1)A new non-AP STA associates with the S1G relay AP of the relay2)A non-AP STA is disassociated or deauthenticated from the S1G relay AP of the S1G relay3)A Reachable Address Update frame is received at the S1G relay AP of the S1G relayFor condition 1) and 2), the reachable address update frame only contains the newly associated/disassocated STA addressesFor condition 3), the relay AP ignores/removes an address from the reachable address element with add/remove subfield set to 0, from the received reachable address update frame, if the current forwarding relay for the address is not the same as the the STA sending the reachable address update frame to the relay AP | Revised. Instructions for editor: Please incorporate changes provided in 11-18/1968r3. |

***Discussion for CID 1263:***

The error described in the CID is caused by the Reachable Address Update from a relay AP using its own version of “current list” of reachable addresses. The list contains possible outdated entries (except the ones corresponding to the STAs just in contacted with the relay AP), causing the upstream relays to update its relay fuction incorrectly.

One method to avoid this is to update upstream APs with only the STAs that triggers reachable address update procedure ( i.e. those STAs just in contact with the relay AP). And upstream relays and Root AP discard the ‘remove’ update for STA X if the Initiator MAC Address field of received Reachable Address Update frame does not match the Initiator MAC Address field of the last received Reachable Address Update frame which ‘add’ the STA X..

Proposed change: Revise

***Editor Instruction: change the 6th paragraph*** ***from the end of 10.55.2 (Draft 1.4) as follows:***

An S1G relay STA shall send a Reachable Address Update frame to the AP to which it is associated when one of the following conditions occurs:

1. A new non-AP STA associates with the S1G relay AP of the relay.
2. A non-AP STA is disassociated or deauthenticated from the S1G relay AP of the S1G relay.
3. A Reachable Address Update frame is received at the S1G relay AP of the S1G relay.

For conditions 1 and 2 above, the transmitted Reachable Address Update frame shall include Reachable Address subfields for STAs with a changed association or authentication status.

For condition 3 above, the transmitted Reachable Address Update frame shall include all Reachable Address subfields from the received Reachable Address Update frame,

1. where the received Reachable Address subfield had the Add/Remove subfield equal to 1 (STA joining the relay)
2. where the received Reachable Address subfield had the Add/Remove subfield equal to 0 (STA leaving the relay), except when the received Reachable Address Update frame came from a Relay STA that is not the next hop for the indicated STA

The Reachable Address Update frame shall not contain Reachable Address subfields other than those defined for conditions 1-3 above.

Reachable Address subfields with the Add/Remove subfield equal to 0 (STA leaving the relay) shall be ignored when received from an S1G relay STA which is not the S1G relay STA that transmitted the most recently received Reachable Address Update frame containing a Reachable Address subfield for the indicated STA with the Add/Remove subfield equal to 1 (STA joining the relay).

***Editor Instruction: Remove the 2nd paragraph from the end of 10.55.2 as follows:***