IEEE P802.11
Wireless LANs

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| Proposed Resolution for some LB249 CRs |
| Date: March 23, 2020 |
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Abstract

This document contains proposed resolutions for following CIDs against TGaz Draft 2.0 from LB249:

3524, 3525, 3526

The baseline documents for changes in this document are TGaz Draft 2.0 and Draft P802.11REVmd D3.0. The text in red are the instructions to the editor.

| CID | Page | Clause | Comment | Proposed Change | Resolution |
| --- | --- | --- | --- | --- | --- |
| 3524 | 106.7 | 11.3.5 | "In order to associate or reassociate, a STA in State 1a must perform a IEEE Standard 802.11 non-PASN authentication or FILS authentication and transition to State 2." is already covered by the previous sentence | Delete the cited text | ReviseThe section is about association/reassociation. There is no need to talk about authentication here.TGaz Editor: Change as specified in this document 11-20-0530r0 |
| 3525 | 106.7 | 11.3.5 | "Association and reassociation are allowed only in State 2." -- not true. You can reassociate to the same AP, in which case you'll be in State 3 or 4 | Delete the cited text | ReviseThere is no intent to change association behavior for existing states.TGaz Editor: Change as specified in this document 11-20-0530r0 |
| 3526 | 106.27 | 11.3.5 | "Disassociation notification \*when not in State 1\* sets a non-FILS(11ai) STA's state to State 2. " -- the stuff between asterisks should not be deleted, because if for whatever reason (e.g. confusion by peer as to the current state) a STA is sent a Disassociate frame in State 1 it should not consider itself promoted to State 2 | Do not delete the stuff between asterisks | ReviseThere is no intent to change association behavior for existing states.TGaz Editor: Change as specified in this document 11-20-0530r0 |

**CIDs 3524, 3525, 3526**

Discussion

The section 11.3.5 is about association/reassociation. There is no need to talk about what happens in State 1a – like other states are not talked about in this section.

11az does not intend to change association and reassociation behavior in pre-existing states of the 802.11 state machine.

Base spec refers to successful/unsuccessful association/reassociaton when not in State 1 – perhaps it is disallowed in State 1 (unauthenticated).

We can leave that alone for now, but jus state association/reassociation is not allowed in the new state, State 1a. Per existing text, unsuccessful association/reassociation when not in State 1 leave the state unchanged. Since successful association is not possible in State 1a, the statement is true for State 1a also.

In State 1a, the STA is authenticated.

This in base text “MLME-ASSOCIATE.response primitive with ResultCode NOT\_AUTHENTICATED..” seems incorrect. We cannot return NOT\_AUTHENTICATED in State 1a since the STA is authenticated. However NOT\_AUTHENTICATED does not seem to be listed in MLME section. A new Status Code is needed for State 1a.

PASN SA cannot exist in any state other than State 1a.

TGaz Editor: Modify Table 9-52 Status Codes by adding an additional code (ANA) to be assigned.

|  |  |  |
| --- | --- | --- |
| Status Code | Name | Meaning |
| … | … | … |
| ANA | PASN\_NOT\_AUTHORIZED | Non-PASN Authentication is required for association |

TGaz Editor: Modify 6.3.7.3 MLME-associate.confirm, 6.3.7.5 MLME-associate.response, 6.3.8.3 MLME-reassociate.confirm, 6.3.8.5MLME-reassociate.response by adding PASN\_NOT\_AUTHORIZED to the Valid range cell for the ResultCode Row.

TGaz Editor: Change p106.5 through p107.24 in 11az 2.0 Draft by replacing with the following text

***Change 11.3.5 Association, reassociation, and disassociation as follows:***

**11.3.5.1 General**

Subclause 11.3.5 (Association, reassociation, and disassociation) describes the procedures used for IEEE

802.11 association, reassociation and disassociation.

The states used in this description are defined in 11.3.1 (State variables).

Successful association enables a STA to exchange Class 3 frames. (#2223)Successful association sets the state

for a (11ai)non-FILS STA to State 3 or State 4. Successful association sets the state for FILS STAs to State

4(11ai). Association and reassociation are disallowed in State 1a.

Successful reassociation enables a STA to exchange Class 3 frames. Unsuccessful reassociation when not in

State 1 leaves the STA’s state unchanged (with respect to the AP or PCP that was sent the Reassociation

Request (which may be the current STA)). Successful reassociation sets the non-FILS(11ai) STA’s state to

State 3 or State 4 (with respect to the AP or PCP that was sent the Reassociation Request frame(11ai)).

Successful reassociation when not in State 1 sets the STA’s state to State 2 (with respect to the current AP or

PCP, if this is not the AP or PCP that was sent the Reassociation Request frame(11ai)). Successful

reassociation sets a FILS STA’s state to State 4 (with respect to the AP or PCP that was sent the Reassociation

Request frame) and enables it to exchange Class 3 frames(11ai). Reassociation shall be performed only if the

originating STA is already associated in the same ESS.

Disassociation notification when not in State 1 or State 1a sets a non-FILS(11ai) STA’s state to State 2. Disassociation notification when not in State 1 or State 1a sets a FILS STA’s state to State 1(11ai). The STA shall become associated again prior to sending Class 3 frames. A STA may disassociate a peer STA at any time, for any reason. The state shall remain unchanged upon disassociation notification in State 1a.

If non-DMG STA A in an infrastructure BSS receives a Class 3 frame from STA B that is authenticated but not

associated with STA A (i.e., the state for STA B is State 2 or State 1a), STA A shall discard the frame. If the frame has an individual address in the Address 1 field, the MLME of STA A shall send a Disassociation frame to STA B.

If DMG STA A in an infrastructure BSS receives a Class 3 frame from STA B that is not associated with STA

A (i.e., the state for STA B is State 2 or State1a), STA A shall discard the frame. If the frame has an individual address in the Address 1 field, the MLME of STA A shall send a Disassociation frame to STA B.

…

Association is not applicable in an IBSS. In an infrastructure BSS, association is required. In a PBSS,

association is optional. (#2582)APs and PCPs do not initiate association.

***Change 11.3.5.2 Non-AP and non-PCP STA association initiation procedures as follows:***

The SME shall delete any PTKSA, GTKSA, IGTKSA, BIGTKSA(#2116) and temporal keys held for

communication with the AP or PCP by using MLME-DELETEKEYS.request primitive (see 12.6.18 (RSNA

security association termination)) before invoking MLME-ASSOCIATE.request primitive.

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Upon receipt of an MLME-ASSOCIATE.request primitive, a non-AP and non-PCP STA shall associate with

an AP or PCP using the following procedure:

a) If the state for the AP or PCP(#2582) is State 1 or State1a, the MLME shall inform the SME of the failure of the association by issuing an MLME-ASSOCIATE.confirm primitive, and this procedure ends.

b) (#1454)All the states, agreements and allocations listed in both numbered lists in 11.3.5.4 item c) are

deleted or reset to initial values.

…

e) If an Association Response frame is received with a status code of SUCCESS, the state for the AP or

PCP shall be set to State 4 or, if dot11RSNAActivated is true, State 3. The state for any other AP or

PCP which is State 3 or State 4 prior to the association request shall be set to State 2, and the MLME

shall issue an MLME-ASSOCIATE.confirm primitive to inform the SME of the successful

completion of the association.

f) …

***Change 11.3.5.3 AP or PCP association receipt procedures as follows:***

Upon receipt of an Association Request frame from a STA the AP or PCP shall use the following procedure:

a) The MLME shall issue an MLME-ASSOCIATE.indication primitive to inform the SME of the

association request. The SME shall issue an MLME-ASSOCIATE.response primitive addressed to

the STA identified by the PeerSTAAddress parameter of the MLME-ASSOCIATE.indication

primitive. If the association is not successful, the SME shall indicate a specific reason for the failure

to associate in the ResultCode parameter. Upon receipt of the MLME-ASSOCIATE.response

primitive, the MLME shall transmit an Association Response frame.

b) If the state for the STA is State 1 and the STA is a non-DMG STA, the SME shall refuse the association

request by issuing an MLME-ASSOCIATE.response primitive with ResultCode NOT\_AUTHENTICATED. If the state for the STA is State 1a and the STA is a non-DMG STA, the SME shall refuse the association request by issuing an MLME-ASSOCIATE.response primitive with ResultCode PASN\_NOT\_AUTHORIZED.

 …

e) Otherwise, if the state for the STA is 4, the STA has a valid security association, the STA has

negotiated management frame protection, and there has been no earlier, timed out SA Query

procedure with the STA (which would have allowed a new association process to be started, without

an additional SA Query procedure):

…

***Change 11.3.5.4 Non-AP and non-PCP STA reassociation initiation procedures as follows:***

…p2236.22

a) If the STA is not associated in the same ESS or the state for the new AP is State 1 or State 1a, the MLME shall inform the SME of the failure of the reassociation by issuing an MLME-REASSOCIATE.confirm primitive, and this procedure ends.

***Change 11.3.5.5 AP or PCP reassociation receipt procedures as follows:***

b) If the state for the STA is State 1 and the STA is a non-DMG STA, the SME shall refuse the reassociation request by issuing an MLME REASSOCIATE.response primitive with ResultCode NOT\_AUTHENTICATED. If the state for the STA is State 1a and the STA is a non-DMG STA, the SME shall refuse the reassociation request by issuing an MLME REASSOCIATE.response primitive with ResultCode PASN\_NOT\_AUTHORIZED.

***Change 11.3.5.6 Non-AP and non-PCP STA disassociation initiation procedures as follows:***

b) The state for the AP or PCP shall be set to State 2 if it was not State 1 or State 1a. In the case of an MM-SME coordinated STA, the MLME shall perform this for each STA whose address was included in the MMS parameter of the MLME-ASSOCIATE.request or MLME-REASSOCIATE.request primitive that established the association.

***Change 11.3.5.8 AP or PCP disassociation initiation procedure as follows:***

b) The state for the STA shall be set to State 2, if it was not State 1 or State 1a. The MM-SME shall perform this process for each STA whose address was included in the MMS parameter of the MLMEASSOCIATE.request or MLME-REASSOCIATE.request primitive that established the association.