IEEE P802.11
Wireless LANs

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| Suggested resolution for submitted TGai comment 1239 (Specification text for FILS authentication state machine) |
| Date: 2013-05 |
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Abstract

This submission proposes the 802.11ai specification text for the FILS authentication State machine as a part of Security Framework , based on the accepted features and functionalities in the 802.11ai Specification Framework Document (SFD), i.e., Section 4.1 and 4.3, in 12/0151r13[Ref-1], and also based on the relevant discussions in previous TGai meetings [Ref-9][Ref-10] .

The numbering of the clauses is taken from 2012 revision of IEEE802.11 standard [Ref-2].

# Introduction

To facilitate a fast initial link setup, high-level descriptions about FILS authentication and state machine related features/functionalities have been accepted in 802.11ai Specification Framework Document (SFD), 12/0151r13 .

The 802.11Task Group (TGai) has issued a new call for contributions for Specification Tex for the TGai detailed Draft Text, 12/0992r1 [Ref-6].

As a response to the TGai Call-for-Contributions, this document proposes further detailed text for TGai Specification Document, to provide additional descriptions / specifications for the FILS authentication state machine related features / functionalities.

# Proposed 802.11ai Specification Text

## Modify the following definition into 10.3.1 as indicated:

 A STA (local) for which dot11OCBActivated is false keeps an enumerated state variable for each STA

(remote) with which direct communication via the WM is needed. In this context, direct communication

refers to the transmission of any class 2 or class 3 frame with an Address 1 field that matches the MAC

address of the remote STA.

A STA for which dot11MeshActivated is true (i.e., a mesh STA) does not use procedures described in

10.3.5. Instead, a mesh STA uses a mesh peering management protocol (MPM) or a authenticated mesh

peering exchange (AMPE) to manage states and state variables for each peer STA. See 13.3 and 13.5 for

details.

A STA for which dot11OCBActivated is true does not use MAC sublayer authentication or association and

does not keep this state variable.

~~A STA for which dot11OCBActivated is true but intended to use FILS authentication will transition to State 5: FILS authenticated~~

*A STA for which dot11OCBActived is true and intended to use FILS authentication will transition to State 5: FILS authenticated and un-associated*

For non-mesh STAs, this state variable expresses the relationship between the local STA and the remote

STA. It takes on the following values:

— *State 1:* Initial start state, unauthenticated, unassociated.

— *State 2:* Authenticated, not associated.

— *State 3:* Authenticated and associated (Pending RSN Authentication).

— *State 4:* Authenticated and associated.

~~---~~ *~~State 5: FILS authenticated~~*

--- State 5: FILS authenticated and un-associated

The state variable is kept within the MLME (i.e., is written and read by the MLME). The SME may also read

this variable.

Mesh STAs manage the state variable as described in 13.3.2.

## *Modify section 10.3.2 as indicated*

Figure 10-6 shows the state transition diagram for non-mesh STA states. Note that only events causing state

changes are shown. The state of the sending STA given by Figure 10-6 is with respect to the intended

receiving STA

**Figure 10-6—Relationship between state and services**

# Motions

**Motion:** Include the text proposed in section 2 and its subsections this contribution (13/0619r2), into the TGai Draft Specification Document

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