
Project **IEEE 802.16 Broadband Wireless Access Working Group** <<http://ieee802.org/16>>

Title **Clarify the EAP based Authentication Procedure**

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Contribution on comments to P802.16g-D1

Re:

Abstract In this contribution, we clarify the EAP based authentication procedure in Figure 477

Purpose Adoption

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Clarification on EAP Based Authentication Procedure Diagram

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1. Introduction

In Section 14.2.5.1 (EAP based authentication procedures), Figure 477, it is confused to use bi-direction arrow line to show interaction between 802.16 Entity and NCMS. It is hard to tell sequence of the call flow. Based on EAP specification, ~~the C_SM_REQ is sent from NCMS to 802.16 Entity. The 802.16 Entity will send C_SM_RSP in response to it. It~~ is better to separate them by C_SM_NOTIFY, which will make the flow more accurate.

2. Proposed Solution

This contribution clarifies the primitive diagrams by separating changing the C_SM_REQ/RSP primitive into two unidirectional arrow line C_SM_NOTIFY.

3. Detail Text Changes

[Modify section 14.2.5.1, replace Figure 477 with the following figures]

14.2.5.1 EAP based authentication procedure

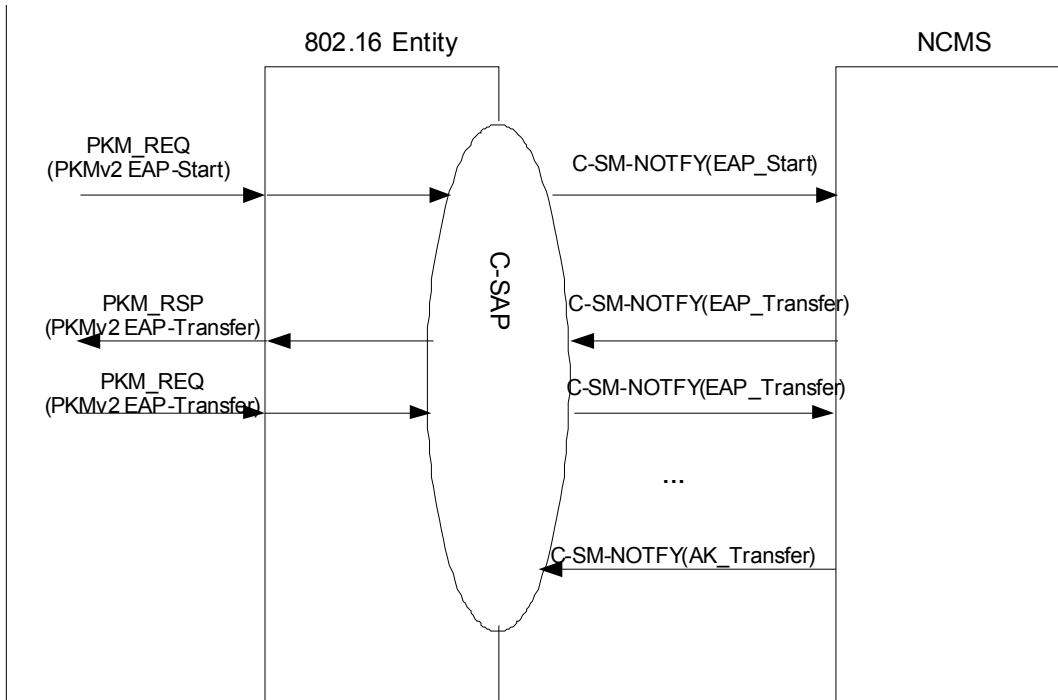


Figure 477 ---- EAP based Authentication Procedure

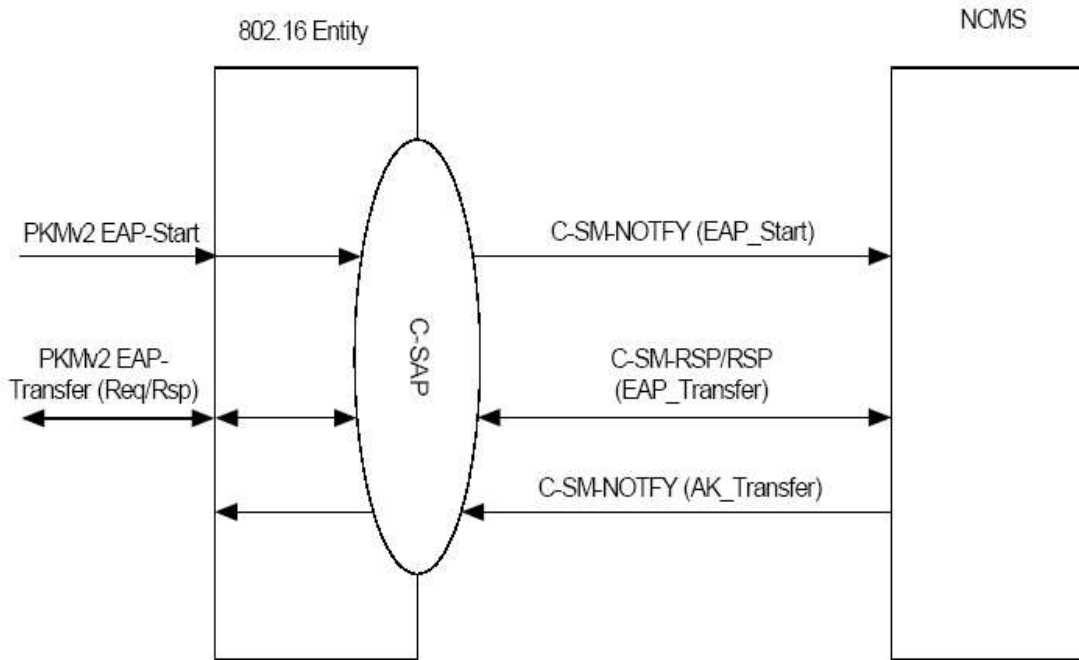


Figure 477—EAP based Authentication Procedure

14.2.5.1.1.1 C-SM-NOTFY

This primitive (~~or message~~) is used by an 802.16 entity to notify security procedures. The Event Type included in this primitive defines the type of security operation in Authentication and Re-authentication procedure to be performed. The possible ~~OperationEvent~~Types for this primitive are listed in Table below:

Event Type	Description
EAP Start	EAP Start
AK Transfer	AK Transfer notificatiOn
<u>EAP Transfer</u>	<u>Transfer EAP Payload</u>

14.2.5.1.1.1.1 Function

14.2.5.1.1.1.1.1 EAP_Start

.....

14.2.5.1.1.1.1.2 AK Transfer

.....

14.2.5.1.1.1.1.3 EAP Transfer

After the C-SM-NOTIFY/EAP_Start primitive, EAP payloads are exchanged between an MS and NCMS. The EAP payloads are encapsulated in the C-SM-NOTIFY/EAP_Transfer because it is not interpreted in the MAC. C-SM-NOTIFY/EAP_Transfer is used between NCMS and BS.

14.2.5.1.1.1.2 Semantics of the Service Primitives**14.2.5.1.1.1.2.1 EAP_Start**

.....

14.2.5.1.1.1.2.2 AK Transfer

.....

14.2.5.1.1.1.2.3 EAPTransfer

The parameters of the primitives are as follows:

C-SM-NOTFY

```
(
  Message_id,
  Event_Type(EAP TRANSFER),
  Object_id(BS_ID or NCMS),
  Attribute_list:
    MS ID
    EAP Payload
)
```

MS ID

48-bit unique identifier used for user identification between BS and NCMS, may be MSS MAC

Address**EAP Payload**

Contains the EAP authentication data.

14.2.5.1.1.1.3 When generated**14.2.5.1.1.1.3.1 EAP_Start**

.....

14.2.5.1.1.1.3.2 AK Transfer

.....

14.2.5.1.1.1.3.3 EAP Transfer

This primitive can be issued by a BS in EAP procedure to transfer EAP Message included in PKMv2 PKM-REQ message. This primitive can also be issued by a NCMS in EAP procedure to transfer EAP Message to BS

14.2.5.1.1.1.4 Effect of receipt**14.2.5.1.1.1.4.1 EAP_Start**

.....

14.2.5.1.1.1.4.2 AK Transfer

.....

14.2.5.1.1.1.4.3 EAP Transfer

When received by NCMS, the NCMS could derive PMK and optional EIK from the MSK, then AK context from PMK after a successful authentication procedure.

When received by BS, the BS forwards EAP payload to MS in PKM-RSP message.

[Delete entire section 14.2.5.1.1.2 C-SM-REQ and 14.2.5.1.1.2.4 C-SM-RSP]

