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

TitleClarification on the PKM-REQ/RSP Management Message Encodings

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Re:	IEEE P802.16e/D8	
Abstract Some attributes used in the PKM-REQ/RSP messages are not		-REQ/RSP messages are not defined as a field in the
	PKM-REQ/RSP message encodings	S.
	This contribution defines those attri	ibutes in the PKM-REQ/RSP message encodings.
Purpose	Adoption of proposed changes into P802.16e/D8	
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Clarification on the PKM-REQ/RSP Management Message Encodings

Seokheon Cho, Taeyong Lee, and Chulsik Yoon ETRI

Introduction

Some attributes used in the PKM-REQ/RSP messages are not defined in the PKM-REQ/RSP management message encodings. For example, Auth Result Code used in the PKMv2 RSA-Acknowledgement message and EAP Payload used in the PKMv2 EAP -Transfer message and the PKMv2 Authenticated EAP Transfer message.

On the contrary, even though some attributes are not included in the PKM-REQ/RSP messages, they are defined as a field in the PKM-REQ/RSP management message encodings. For instance, EAP-Master-Key-ID, Target BSID, AA-Descriptor, and AA-Type are not used any more.

This contribution corrects those problems by defining the above mentioned attributes as a TLV field in the PKM-REQ/RSP management message encodings.

Proposed Changes into IEEE P802.16e/D8

[Change the Table 370 in sub-clause 11.9:]

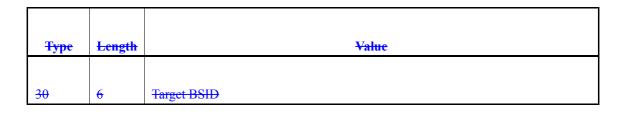
11.9 PKM-REQ/RSP management message encodings

Туре	PKM attribute
Туре	
22	Version Reserved
28	EAP-Master-Key-ID
	EAP Payload
29	Nonce
30	Target BSID
	Auth Result Code
31	AA-Descriptor
	Reserved
32	AA-Type
	Reserved
33	SS_RANDOM
34	BS_RANDOM
	Rest of the attributes of this
	table remains the same.

Table 370-PKM attribute types

[Delete the following sub-clause in 11.9:]

11.9.21 Target BSID



[Add the following two sub-clauses in the section 11.9:] and [Renumber the following two sub-clauses based on the "Type Value" in the section 11.9:] 11.9.x1 EAP Payload

Description: This attribute contains the payload used in the upper EAP authorization layer. The security sublayer doesn't interpret this attribute.

Туре	Length	Value
28	Variabl e	EAP payload

11.9.x2 Auth Result Code

Description: This attribute contains the result code of the RSA-based authorization (only for PKMv2).

Туре	Length	Value
30	1	0, Success
		1, Reject 2-255, reserved.

[Change following sub-clause 6.3.2.3.9.15] 6.3.2.3.9.15 PKMv2 EAP Transfer message

6.3.2.3.9.16 PKMv2 EAP-Transfer message

When an MS has an EAP payload message received from an EAP method protocol for transmission to the BS or when a BS has an EAP payload message received from an EAP method protocol for transmission to the MS, it encapsulates it in a PKMv2 EAP Transfer message.

Code: 17 18

Attributes are shown in Table 37e.

Table 37e - PKMv2 EAP-Transfer attribute
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Attribute	Contents
EAP Protocol P ayload	Contains the EAP authentication data, not interpreted in the MAC

The EAP Payload field carries data in the format described in section 4 of RFC 2284bis.

[Change sub-clauses 6.3.2.3.9.16 as follows] 6.3.2.3.9.16 PKMv2 Authenticated EAP Transfer message 6.3.2.3.9.17 PKMv2 Authenticated EAP-Transfer message

This message can be used in case of negotiating Authenticated EAP-based authorization as authorization policy (by Authorization Policy Support included in the SBC-REQ/RSP message) between an MS and the BS. If Moreover, if EIK is available and an MS or BS has an EAP payload message received from an EAP method protocol for transmission, it encapsulates EAP payload message in a PKMv2 Authenticated EAP Transfer message. In other words, this message may be used in case that both an MS and BS negotiate RSA-based authorization and Authenticated EAP-based authorization as authorization policy support.

Code: 18 19

Attributes are shown in Table 37f.

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Table 37f - PKMv2 Authenticated EAP Transfer attributes

Attribute	Contents	
PAK Sequence Number	PAK Sequence Number	
EAP Protocol Payload	Contains the EAP authentication data, not interpreted in the MAC	
CMAC/HMAC Digest	Message Digest calculated using EIK	

The EAP Payload field carries EAP data in the format described in RFC 3748.

The CMAC-Digest or HMAC-Digest attribute shall be the final attribute in the message's attribute list.

Inclusion of the OMAC digest or HMAC-Digest allows the MS and BS to cryptographically bind previous authorization and following EAP authentication by authenticating the EAP payload message. The OMAC-Digest's authentication key is derived from the AK-EIK.