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| Title | **Authorization Policy Negotiation in the SS Basic Capability Negotiation Procedure** | |
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| Re: | This is a response to a Call for Comments IEEE 802.16e-03/58 on IEEE 802.16e-03/07r5 | |
| Abstract | The document contains suggestions on the changes in IEEE 802.16e-03/07r4 that would support to negotiate authorization policy between the existing privacy and the open privacy. | |
| Purpose | The document is submitted for review by Handoff/Sleep-mode Ad Hoc Group and/or by 802.16 Working Group members | |
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# Authorization Policy Negotiation Process in the SS Basic Capability Negotiation Procedure

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## Introduction

The authorization procedure, the PKM protocol, specified by the IEEE 802.16 WirelessMAN Standard has to be necessarily executed to create service flows between SS and BS. An SS' device can be sufficiently authorized through this procedure, but individual users belonging to the authorized SS cannot be authenticated by the PKM protocol. Moreover, it is imperative for the IEEE 802.16 system to be backwardly compatible with the current wireless LAN system and to be smoothly roamed with the heterogeneous network. However, the PKM protocol is valid only in the IEEE 802.16 network, because this PKM protocol is private protocol for the device authentication. That is, the device authentication method that the existing authorization policy supports is not appropriate for user authentication. The IEEE 802.16 system has to provide the method of choosing the existing authorization scheme or new authorization scheme accepting authorization protocol framework, in order to be satisfied with above conditions, especially from the aspect of authorization function.

Therefore, we propose a scheme being capable of choosing authorization policy among several authorization frameworks. An SS negotiates with BS on authorization scheme through both the SBC-REQ and SBC-RSP messages, before the actual authorization procedure is actually performed. For instance, an SS shall negotiate with BS on authorization policy between the existing essential privacy and the open privacy. The parameter about authorization policy should be included in those messages as a TLV. An SS notifies whole supportable authorization policy through the SBC-REQ message. Upon reception of this message, BS chooses only one authorization policy and returns the decision back to the SS in the SBC-RSP message. Both the SS and BS use the selected authorization policy from the SS basic capabilities negotiation process. If the parameter about authorization policy is omitted in either SBC-REQ or SBC-RSP message, both of them shall use the existing authorization policy. Therefore, the IEEE 802.16 authorization function can support more flexible authorization policy, by adding a new parameter in both SBC-REQ and SBC-RSP messages.

## Proposed changes to IEEE 802.16-REVd/D1-2003

**6.4.2.3.23 SS Basic Capability Request (SBC-REQ) message**
***[Insert at the end of 6.4.2.3.23]***

**Authorization Policy Support (see 11.4.2.11)**

**6.4.2.3.24 SS Basic Capability Response (SBC-RSP) message**
***[Insert at the end of the comment "Bandwidth Allocation Support (see 11.4.2.6)" of 6.4.2.3.24]***

**Authorization Policy Support (see 11.4.2.11)**

**11.4.2 SS Capabilities encoding**
***[Add to Table 306]***

**Table 306-SS Capability encodings**

| Type | Parameters |
|---|---|
| 5.25 | Authorization Policy Support |

**11.4.2.11 Authorization Policy Support**
***[Add this section]***

This field indicates authorization policy that both SS and BS need to negotiate and synchronize. A bit value of 0 indicates "not supported" while 1 indicates "supported." If this field is omitted, then both SS and BS shall use the IEEE 802.16 essential privacy method, constituting X.509 digital certificates and the RSA public key encryption algorithm, as authorization policy.

| Type | Length | Value | Scope |
|---|---|---|---|
| 5.25 | 1 | Bit# 0: IEEE 802.16 essential privacy (Legacy PKM)<br>Bit# 1-7: Reserved for open privacy. Set to 0 | SBC-REQ<br>(see 6.4.2.3.23)<br>SBC-RSP<br>(see 6.4.2.3.24) |