Authorization Policy Negotiation in the SS Basic Capability Negotiation Procedure

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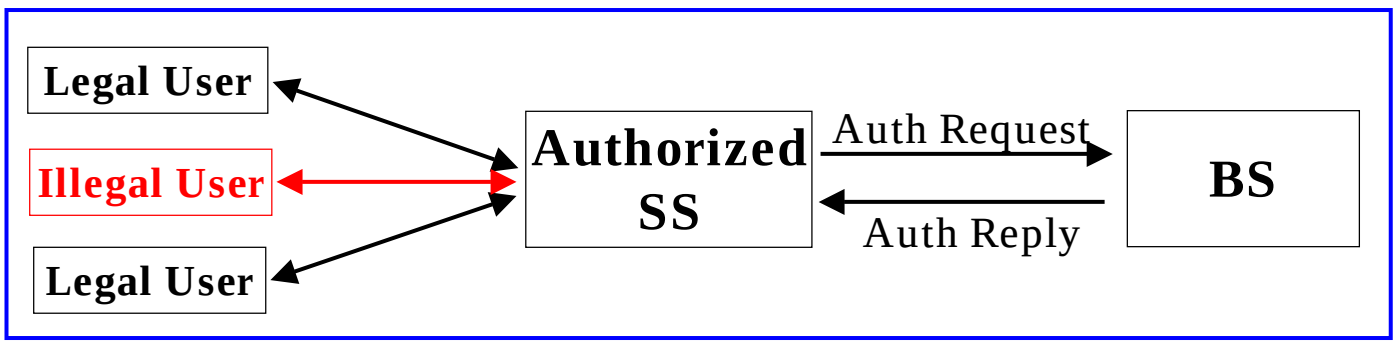
Introduction

- **Backgrounds in the privacy sub-layer**
  - **Purpose**
    - **To authenticate SS**
  - **MAC message**
    - **PKM-REQ**
      - **Authenticate Information / Authorization Request**
    - **PKM-RSP**
      - **Authorization Reply / Authorization Reject**
  - **Restriction**
    - **User authentication**
    - **Valid only for the IEEE 802.16 network**

Problems and Requirements (I)

- **User authentication**
  - **Current IEEE 802.16 : Device (SS) authentication**
  - **Problem**
    - **Impossible to authenticate users belonging to authorized SS**
  - **Example**



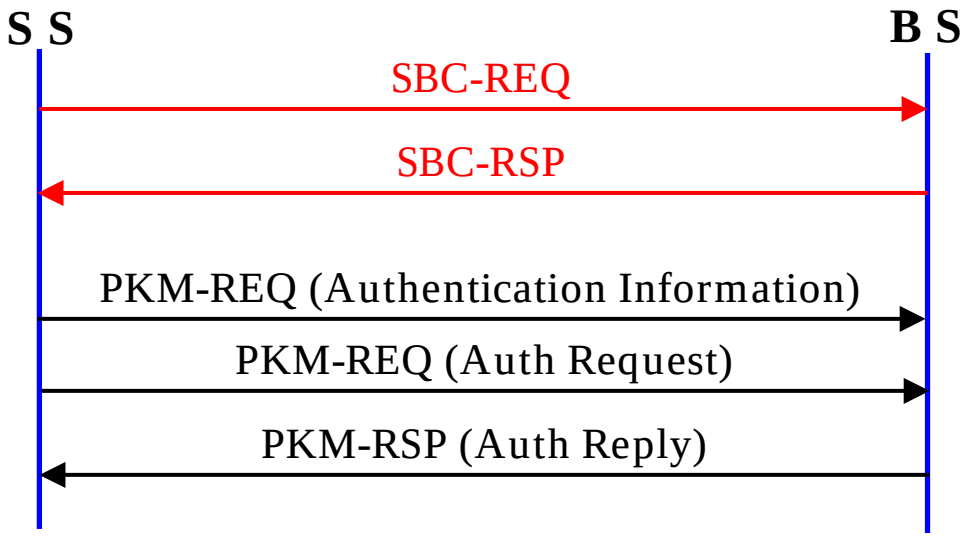
    - **BS cannot distinguish between legal user and illegal user**
  - **Requirement**
    - **To support user authentication**

Problems and Requirements (II)

- **Valid only for the IEEE 802.16 network**
  - **To support any kind of authorization mode**
    - **Authentication Type**
      - **Device authentication**
      - **User authentication**
    - **Network Model Type**
      - **Fixed network (Current IEEE 802.16 network)**
      - **Mobile network**
        - » **Unique network (Current IEEE 802.16e)**
        - » **Heterogeneous network**
      - **Mesh network**

Contributions in the 802.16 (I)

- **SS Basic Capabilities Negotiation Procedure**



  - **Addition Facts**
    - **Authorization Policy Support**
  - **Features**
    - **Authorization policy mode negotiation**

Contributions in the 802.16 (II)

- **Addition Particulars**
  - **Insertion at the 6.4.2.3.23 as follows**

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)

  - **Insertion at the 6.4.2.3.24 as follows**

6.4.2.3.24 SS Basic Capability Request (SBC-RSP) message

[Insert at the end of 6.4.2.3.24]

Authorization Policy Support (see 11.4.2.11)

Contributions in the 802.16 (III)

- **Addition Particulars**
  - **Addition to the Table 306 as follows**

11.4.2 SS Capabilities encoding

[Add to the Table 306]

Table 306-SS Capability encodings

Type	Parameters
5.25	Authorization Policy Support

Contributions in the 802.16 (IV)

- **Addition Particulars**
  - **Addition at the 11.4.2.11 as follows**

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 as the authorization policy.

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

Conclusions

- **Supplement particulars**
  - **User authentication**
  - **Authorization procedure for heterogeneous networks and mesh networks**

  ∴ The IEEE 802.16 may need to support new authorization mechanisms
- **Authorization Policy Support**
  - **SBC-REQ and SBC-RSP message**
  - **Value**
    - **Bit# 0 : IEEE 802.16 essential privacy**
    - **Bit# 1-7 : Reserved for open privacy**
      - **Example**
        - » **Bit# 1 : EAP Framework Privacy**