Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>	
Title	Service Identity Delivery Mechanisms	
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Re:	IEEE 802.16 NetMan Task Group Call for Contributions	
Abstract	This contribution defines a MAC management message and TLVs for delivering Service Identity Information to (Mobile) Subscriber Stations	
Purpose	To request NetMan Task Group to adopt the proposed text	
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Service Identity Information

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1 Motivation

This contribution defines a new MAC management message and required TLVs to enable delivery of Service Identity Information (SII) to subscriber stations.

The 802.16-2004 standard only provides for a 48-bit BS ID, including up to a 24-bit Operator ID. The Operator ID is supposed to be a globally unique identifier for the operator. But this mechanism could be insufficient in real-world deployment scenarios where an 802.16 network, deployed by an infrastructure provider, is shared by 2 or more Internet or IP Connectivity Service Providers. An SS (and especially an MSS) will ideally want to discover all such providers to be able to make the 'best' provider selection.

This contribution proposes specific enhancements to the 802.16 standard (while assuring full forward/backward compatibility) to enable (M)SS to discover service identities associated with different Internet or IP Connectivity Service Providers supported by an 802.16 network infrastructure provider.

Details
This proposal defines a new MAC management message and a compound TLV that are used by a BS to broadcast SII to an SS/MSS during initial scan or network entry. It also defines two TLVs that can be used by an (M)SS to solicit the broadcast SII message and provide the subscriber's identity (most likely in form of NAI [RFC 2486bis]) during the network entry phase. The TLVs are proposed for inclusion in the RNG-REQ message defined in *section 11.5 of 802.16-2004.*

Service Identity Information (SII) message – Used by the BS to broadcast SII on a broadcast CID.

Service Identity Information (SII) compound TLV - Utilized in SII message to convey SII.

Subscriber Identity (SI) TLV – Sent by the MSS during the network entry (in RNG-REQ message) to the BS indicating subscriber's identity.
Service Identity Information Query (SIIQ) – Sent by the (M)SS during the network entry (in RNG-REQ message) to the BS to solicit the broadcast SII message. .

2 Changes summary

[Add the following entries to Table 14:XX]

Type	Message name	Message description	Connection
To-be-assigned	SII	MAC management message	broadcast CID

[Add the following to sections to the end of X.X.X.X:]

X.X.X.X Service Identity Information (SII) message

A BS may use the SII message to broadcast service identity information. The message may be broadcast periodically without solicitation or could be solicited by an (M)SS. This message is sent from the BS to all MSSs on a broadcast CID.

Table xxx— Service Identity Information (SII) message format

Syntax	Size	Notes
SII_REQ () {		
Management message type = xxx	8 bits	
TLV Encoded Information	Variable	TLV specific
}		

:

x.x.x.x Service Information Identity (SII) TLV

It is a compound TLV that contains 1 or more service identity, and it is used in a broadcast SII message.

Table XXX — Service Identity Information (SII) Compound TLV

Type	Length	Value
To-Be-Assigned	Variable	Compound

Service Identity TLV

The service identity can be represented as a 24-bit identity or NAI. The following TLVs are defined for each representation of the identity.

Using 24-bit Identity :

Type	Length	Value
To-Be-Assigned	3 bytes	24-bit Identifier

Using NAI:

Type	Length	Value
To-Be-Assigned	32 bytes	realm

x.x.x.x Subscriber Identity (SI) TLV

MSS uses this TLV to indicate the subscriber's identity in the form of NAI, in addition to MAC address, to the BS by including it in RNG-REQ message.

Type	Length	Value
To-Be-Assigned	64 bytes	Subscriber's Identity (NAI)

x.x.x.x Subscriber Identity Information Query (SIIQ)

MSS uses this TLV to solicit the SII broadcast from the BS by including it in RNG-REQ message.

Type	Length	Value
To-Be-Assigned	1 byte	Null Character

3 References

[RFC3748] IETF RFC 3748, Extensible Authentication Protocol (EAP), B. Aboba et al., June 2004