Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**New MAC messages specification for Synchronized IEEE 802.16h systems having a Common Profile**
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Re:	Call for Comments and Contribution, "IEEE 802.16's License-Exempt (LE) Task Group", 2006-02 Item 8.
Abstract	This document specifies two new MAC messages and delete two previous messages to the draft IEEE802.16h working document. The sections and paragraphs given below refer to those of the subject working draft document IEEE802.16h-06/004. Revisions within this document are derived from discussions about IEEE C802.16h-06/021
Purpose	This document specifies two new MAC messages to the draft IEEE802.16h working document dealing with the use of CMI in a synchronized network environment. The document IEEE802.16h-06_003 details a synchronized CTS (now renamed as a CMI) system and describes how these two message are used to coordinate co-channel networks, resolve entry of new networks and undertake interference control between networks in a co-existing community as well as new interference, some of which may not be due to IEEE 802.16h systems. This document is a continuation of documents IEEE802.16h-06_003, IEEE 802.16h-06_010r1, and IEEE 802.16h-06_021
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New MAC message specification for Synchronized

IEEE 802.16h systems having a Common Profile

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Insert the following in Section 6.3.2.3

Type	Message Name	Message Description	Connection
TBD	BSD	Base Station Descriptor	Broadcast
TBD	SSURF	SS Uplink RF Descriptor	Basic

6.3.2.3.70 (TBD). Base Station Descriptor (BSD) message

[*add it as a new section 6.3.2.3.70 (TBD) in IEEE 802.16h-2006*]

[delete section 15.6.6.2.2 in IEEE 802.16h-2006]

The base station descriptor (BSD) message specifies the base station identification information. This message is sent only in the CMI (see 15.2.1.1.3.1) claimed by the Base Station.

The length of BSD message is an integral number of bytes. The BSD messages are generated and broadcast within the downlink portion of a CMI every minute by a base station.

The BSD has two purposes. First, it contains pertinent information related to the base station, allowing foreign (interfered-with) Subscriber Stations to identify it as interference. Secondly, it allows the differentiation of a CMI from a non-CMI. When it is received, the SS associated with the BS will recognize the interval containing the BSD message as a CMI, and will transmit SSURF messages in response to it. Note that SSURF will use the uplink bandwidth granted only in the CMI, and is not transmitted in the data link.

A BSD message shall includes the following parameters:

IP_Proxy address information

The Coexistence Proxy IP address information and base station ID contained in the DL_MAP message are uniquely identifying a base station. The encoding of this field is given below in TLV format.

BS EIRP

The BS EIRP field is included this message to help determine the interference content. It is signed in units of 1 dBm.

RF Antenna Sector ID

The RF antenna sector ID is used to identify the RF antenna in a base station if multiple RF antennas are used for RF reuse purpose.

Table XX. BSD message format

Syntax	Size	Notes
BSD_Message_Format ( ) {		
Management Message Type =TBD	8 bits	
BS EIRP	16 bits	
BS RF antenna sector ID	8 bits	1-255 for RF reuse BS 0 reserved for no RF reuse BS
IP_Proxy_Address_IE( )	Variable	TLV specific
}		

Insert this table in a new Section 11: Called BSD and SSURF Message and Encodings

Table XXX. IP_Proxy_Address_IE Encoding

Name	Type (1 byte)	Length (bytes)	Value	Phy Scope
ProxyIPv4 Address	1	4	Proxy IP address if IPv4 supported.	All
ProxyIPv6 Address	2	16	Proxy IP address if IPv6 is supported.	All

There can be one and only one information element in an IP_Address_IE

6.3.2.3.71(TBD). Subscriber Station Uplink Radio Frequency (SSURF) message

[*add it as a new section 6.3.2.3.71(TBD) in IEEE 802.16h-2006*]
[delete section 15.6.6.2.3 in IEEE 802.16h-2006]

The Subscriber Station uplink radio frequency (SSURF) message is the complement to the BSD message except it is sent on the uplink during the CMI interval claimed by the Base Station to which the SS is registered.
This message if received by foreign (interfered-with) Base Stations, will identify the SS as being an interferer.

A SSURF message shall includes the following parameters to identify a subscriber station:

SS ID
Subscriber station identifier is a 48-bit long field identifying a subscriber station. This SS is the victim of co-channel interferences reported in this message.

Home BS ID
Home base station identifier is a 48-bit long field identifying the home BS. Home base station is a base station to which a subscriber station registered.

Home BS Antenna Sector ID
The RF antenna sector ID is used to identify the RF antenna in a base station if multiple RF antenna Are used for RF reuse purpose.

Home BS IP_Proxy address information
The BS IP address information uniquely identifies a home base station. The encoding of this field is given above in TLV format.

Table XX. SSURF message format

Syntax	Size	Notes
SSURF_Message_Format ( ) {		
Management Message Type =TBD	8 bits	
SS ID	8 bits	
Home BS ID	48 bits	Home base station identifier
Home BS Antenna sector ID	8 bits	
Home BS IP Proxy_Address_IE( )	Variable	
}		