

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Consistent MAC Subheader Extendibility Mechanisms	
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Source(s)	16e session#36 MAC Header Drafting Group	Voice: 760-448-4168 Fax: 760-448-1989 lwang@cygnuscom.com
Re:	This contribution propose additional capabilities for 802.16eD6	
Abstract	802.16-2004 allows for 5 subheader types and special payloads to be included with the payload message as described in section 6.3.2.2. The present of these subheaders is indicated by a 6-bit type field in the MAC header. The 6-bit type field is used in a bit map fashion and thus the code space is limited to six values. All of the available code space has been allocated in 802.16-2004. New requirements to support mobility and general enhancements prompted TGe to accept extension mechanism to allow extension of up to 11 more subheaders. This contribution proposes an extension mechanism that replaces the current extension mechanism, but which allows extension to a larger code space.	
Purpose	The purpose of this contribution is to define flexible extension mechanism for MAC sub header	
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Consistent MAC Subheader Extendibility Mechanisms

Session#36 MAC Header Drafting Group

Introduction

802.16-2004 allows for 5 subheader types and special payloads to be included with the payload message as described in section 6.3.2.2. The present of these subheaders is indicated by a 6-bit type field in the MAC header. The 6-bit type field is used in a bit map fashion and thus the code space is limited to six values. All of the available code space has been allocated in 802.16-2004.

New requirements to support mobility and general enhancements prompted TGe to accept extension mechanism to allow extension of up to 11 more subheaders.

This contribution proposes an extension mechanism that replaces the current extension mechanism, but which allows extension to a larger code space.

References

- a) IEEE Std 802.16-2004
- b) IEEE P802.16eD6, February 2005

Motivations

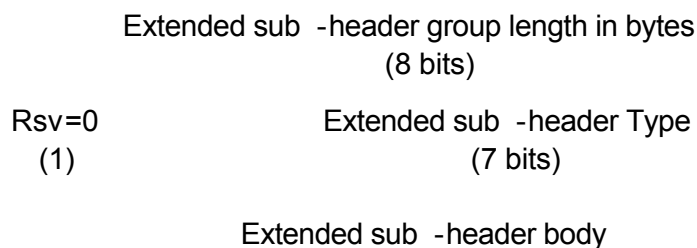
This contribution proposes a flexible and consistent generic MAC subheader extension mechanism.

Suggested Changes

1. page 28, line 4, change section 6.3.2.2.7 as follows:

6.3.2.2.7 Extended Subheader ~~Field~~ Format

The Extended Subheader ~~Field~~ format ~~subheader~~ is specified in ~~Table~~ Figure 20f. The Extended Subheader Field, when used, shall always appear immediately after the GMH and before all other subheaders, as described in 6.3.2.2. The ESF and all extended subheaders related to it shall not be encrypted, but shall be protected by the payload CRC field. The ESF and all extended subheaders associated to it are transmitted sequentially, ~~with the extended subheaders ordered according to the Extended Subheaders Bitmap starting from the MSB~~.



[Figure 20f: Extended Subheader Format](#)

[The fields of the Extended Subheader structure are described in Table 13a](#)

Table 13a Extended subheader field format (ESF)

Name	Length (bits)	Description
Extended subheaders total length	5	Length (in bytes) of all extended subheaders present, excluding the ESF field.
Extended subheaders bitmap	11	Bitmap indicating which extended subheaders are present.

Name	Length (bits)	Description
Extended subheader group length	8	The Extended Subheader Group Length field indicates the length of the subheader group, including all the subheader, and including this length byte
Reserved	1	Reserved =0
Extended Subheader type	7	Type of subheader as defined in table 13b
Extended subheader body	Variable	As defined in table 13b

Table 13b Description of extended subheaders (DL)

ESF bit Type value	Name	Length (bytes)	Description
Bit #0 (LSB) 0	SDU_SN subheader	1	See 6.3.2.2.7.3
Bit #1 1	Generic downlink sleep header	3	See 6.3.2.2.7.2
Bit #2 2	Feedback request subheader	3	See 6.3.2.2.7.4
3	MIMO mode feedback subheader	1	See 6.3.2.2.7.1
4	UL TX power report subheader	1	See 6.3.2.2.7.6
Bits #2-10,5-127	Reserved		

Description of extended subheaders (UL)

ESF bit	Name	Length (bytes)	Description
Bit #0 (LSB)	Mode selection feedback	1	See 6.3.2.2.7.1
Bits #1-10	Reserved		

2. page 501, line 18: insert text as follow:

11.8.7 Extension capabilities

Specifies extension capabilities supports

Type	Length	Value	Scope
27	1	Bit0: support extended subheader Bit1: support extended header	SBC-REQ/RSP