

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >		
Title	Proposed Text For Legacy Support Frame Structure		
Date Submitted	2008-03-17		
Source(s)	Mark Cudak Motorola	Voice: E-mail:	Mark.Cudak@motorola.com *< http://standards.ieee.org/faqs/affiliationFAQ.html >
Re:	Response to frame structure rapporteurs call for comments C802.16m-008/118r1		
Abstract	In rapporteur contribution IEEE 802.16m-008/118r1 all legacy support proposal 1, 2 and 3 describe a fixed offset between IEEE 802.16m and IEEE 802.16e frames. This offset is unnecessary. This offset construct is misleading and may impede the resource sharing between legacy and 16m systems.		
Purpose	Discussion and approval		
Notice	<i>This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups. It represents only the views of the participants listed in the "Source(s)" field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein.</i>		
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.		
Patent Policy	The contributor is familiar with the IEEE-SA Patent Policy and Procedures: < http://standards.ieee.org/guides/bylaws/sect6-7.html#6 > and < http://standards.ieee.org/guides/opman/sect6.html#6.3 >. Further information is located at < http://standards.ieee.org/board/pat/pat-material.html > and < http://standards.ieee.org/board/pat >.		

Proposed Text For Legacy Support Frame Structure

Mark Cudak
Motorola

In rapporteur contribution IEEE 802.16m-008/118r1 all legacy support proposal 1, 2 and 3 describe a fixed offset between IEEE 802.16m and IEEE 802.16e frames. This offset is unnecessary. The offset is only a clever way to explain the relative position of synchronization channel within the 16m frame. The resulting description is confusing as a typical 16m frame may have two disjoint downlink intervals in one frame. Moreover, this offset may impede the dynamic sharing of resources between 16e and 16m. Ideally, the symbols within a frame should be dynamically shared between 16m and 16e. Subframes should be allocated to 16e or 16m on a frame-by-frame basis. However, the offset implies that the proportion of frame allocated to 16e preventing the dynamic repartitioning of resources.

A simpler model of legacy support would describe the 16m and 16e frame as being aligned in time having overlapping downlink and uplink intervals. The 16m synchronization sequence may be offset from the beginning of the frame providing a configuration that is functionally equivalent to the original text while allowing for the reallocation of resources from 16m to 16e and vice-versa. Moreover, one may consider using a fractional offset for the 16m features to allow greater efficiency in legacy support.

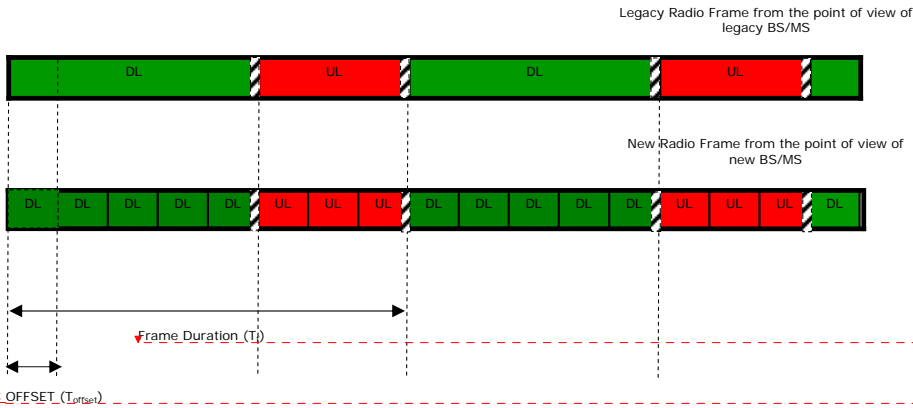
----- Proposed Text -----

<Editor note: begin of proposal-4 of "11.4.2 Frame Structure Supporting Legacy Frames">

11.4.2 Frame Structure Supporting Legacy Frames

The legacy and 16m frames are aligned in time for the purpose of coexistence and the dynamic sharing of resources between legacy and new systems. 16m features such as new synchronization channel (preamble), broadcast channel (system configuration information), and control channels, as shown in Figure 11.4-3 (proposal-4) may be offset from the beginning of the 16m frame to prevent overlap of the 16e and 16m preambles. The synchronization offset may be an integer or fractional number of sub-frames.

- Deleted: new
- Deleted: are offset by a fixed number of sub-frames to allow accommodation of new features
- Deleted: 1
- Deleted: FRAME_OFFSET
- Deleted: (default value is two sub-frames)



- Deleted: Legacy
- Deleted: FRAME

Figure 11.4-3: Relative position of the new and legacy radio frames (example TDD duplex scheme) -> proposal-4

<Editor note: end of proposal-4 of "11.4.2 Frame Structure Supporting Legacy Frames">