Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Clarification on the reference time point for T_Start and T_End in the credit token based co-existence protocol.**
Date Submitted	**2006-09-22**
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Re:	Recirculation of Working Group Review of Working Document 80216h-06_015r1
Abstract	This contribution provides remedies to comments #1018, #1020 (action item), #1021, #1022 and #1026 of the session #44's Working Group Review. With respect to comment #1020, this contribution proposes remedies on the reference time to be considered for the T_Start_M, T_End_M, T_Start_S, and T_End_S parameters in the credit token based co-existence protocol. The proposed text remedies for these comments are intended to be included in sections 6.3.2.3.64, 6.3.2.3.65 and 6.3.2.3.66 of the working document [1].
Purpose	Clarification to comments #1018, #1020 (action item), #1021, #1022 and #1026 of the session #44's Working Group Review.
Notice	
Release	
Patent Policy and Procedures	

Clarification on the reference time point for T_Start and T_End in the credit token based co-existence protocol

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Overview

This contribution provides remedies to comments #1018, #1020 (action item), #1021, #1022 and #1026 of the session #44's Working Group Review. With respect to comment #1020, this contribution proposes remedies on the reference time to be considered for the T_Start_M, T_End_M, T_Start_S, and T_End_S parameters in the credit token based co-existence protocol. The proposed text remedies for these comments are intended to be included in sections 6.3.2.3.64, 6.3.2.3.65 and 6.3.2.3.66 of the working document [1].

Specific editorial changes

This section provides a list of changes to the draft document.

Blue text represents specific editorial additions.

~~Red strikethrough~~ text is to be deleted.

Black text is text already in the draft.

***Bold italic* text is editorial instructions to the editor.**

Text proposal for section 6.3.2.3.64

Add the text below in section 6.3.2.3.64 (related to comments #1018, #1020 (action item), #1021 and #1022 of the session #44's Working Group Review)

The Master Advertisement Discovery Descriptor (MADD) message specifies the advertisement discovery information sent by the master BS towards the SSs located in the overlapped area of this master cell with the surrounding slave cells. This information is sent by the master BS in MATI in downlink (section 15.4.2.5.5) on a given channel (frequency domain). This information is sent every ~~TMATI~~T_{MATI} (time interval between two consecutive MATIs). These consecutive MATIs (TBD) are part of an~~in the~~ advertisement discovery sequence ~~period TS~~of time duration T_{AD}.~~,~~ This sequence occurs cyclically. The time interval between two sequences is of time duration T_s. ~~and the advertisement discovery sequence occurs every TAD.~~ MADD provides the necessary information to the SSs of the surrounding slave cells to inform the slave BSs about possibilities of radio resources sharing with this master cell.

A MADD message shall include the following parameters:

BSID_M: ID of the master BS.

BS_ IP_Proxy_address_M: The Coexistence Proxy IP address of the master BS.

T_START_M: The Starting time of the period opened for renting by the master cell on that channel. This starting time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message.

T_End_M: The Ending time of the period opened for renting by this master cell on that channel. This ending time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message.

MRCTN: Minimum number of credit tokens per time unit required by the master BS from each slave BS to so that its share the master BS's radio resources can be rented..

LC: List of other alternative channels (in frequency domain) opened for renting byf the master cell in addition to the channel under consideration. opened for renting.

Table h108ac: MADD message format

Syntax	Size	Notes
MADD_Message_Format () {		
Management Message Type = 69	8 bits	
BSID_M	48 bits	
IP_Proxy_address_M	variable	TLV specific
T_START_M	16 bits	Starting time Absolute time based on UTC time stamp following the format HH:MM:SSof the period opened for renting by the master cell (in microseconds)
T_End_M	16 bits	Ending time Absolute time based on UTC time stamp following the format HH:MM:SSof the period opened for renting by the master cell (in microseconds)
MRCTN	*TBD*	Minimum number of credit tokens required by the master BS
LC	*TBD*	List of other channels (frequency domain) of master cell opened for renting
}		

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Text proposal for section 6.3.2.3.65

Add the text below in section 6.3.2.3.65 (related to comments #1018 and #1020 (action item), of the session #44's Working Group Review)

The Slave Advertisement Discovery Descriptor (SADD) message specifies the advertisement discovery information sent by the slave BS towards the SSs located in the overlapped area of this slave cell with the surrounding master cells. This information is sent by the slave BS in SATI in downlink (section 15.4.2.5.5) on a given channel (frequency domain). This information is sent every ~~TSATI~~T_{SATI} (time interval between two consecutive SATIs). These consecutive SATIs (TBD) are part of an~~in the~~ advertisement discovery sequence~~period TS~~ of time duration T_S. This sequence occurs cyclically. The time interval between two consequences is of time duration T_s. ~~, and the advertisement discovery sequence occurs every T_{AD}.~~ SADD provides the necessary information to the SSs of the surrounding master cells to inform the master BSs about possibilities of radio resources sharing with this master cell.

A SADD message shall include the following parameters:

BSID_S: ID of the slave BS.

BS_ IP_Proxy_address_S: The Coexistence Proxy IP address of the slave BS.

T_START_S: Starting time from which the slave BS would be interested to rent a period opened for renting. ~~(in microseconds).~~ This starting time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message.

T_End_S: Ending time of the period the slave BS would be interested to rent. ~~(in microseconds).~~ This ending time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message.

Table h108ad: SADD message format

Syntax	Size	Notes
SADD_Message_Format () {		
Management Message Type = 70	8 bits	
BSID_S	48 bits	
IP_Proxy_address_S	variable	TLV specific
T_START_S	16 bits	Absolute time based on UTC time stamp following the format HH:MM:SS
T_End_S	16 bits	Absolute time based on UTC time stamp following the format HH:MM:SS
}		

Text proposal for section 6.3.2.3.66

Add the text below in section 6.3.2.3.66 (related to comments #1026 of the session #44's Working Group Review)

The Advertisement Discovery Policy Descriptor (ADPD) message is sent by the slave BS in SATI in downlink (section 15.7.2.5.5) on a given channel (in frequency domain). ADPD specifies when some SSs (located in the overlapped area between this slave cell and surrounding master cells and getting MADD message from master BS) associated to this slave BS have to report the MADD conveyed in MATI towards this slave BS.

ADPD message shall include the following parameters:

T_START_S: Starting time from which the slave BS would be interested to rent a period opened for renting. (in microseconds). Below this value, the SSs associated to that slave BS are not allowed to report MADD content to thiseir BS. This starting time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message.

T_End_S: Ending time of the period the slave BS would be interested to rent. (in microseconds). This ending time is identified by a UTC time stamp following the format HH:MM:SS after the transmission of the message. Beyond this value, the SSs associated to that slave BS are not allowed to report MADD content to thiseir BS.

RCTN_MAX: Maximum admissible number of credit tokens per radio resource unit the slave BS will provide to get the radio resources rented by the master BSs. Beyond this value, the SSs associated to that slave BS are not allowed to report MADD content to this eir BS.

Table h108ae: ADPD message format

Syntax	Size	Notes
ADPD_Message_Format () {		
Management Message Type = 71	8 bits	
T_START_S	16 bits	Absolute time based on UTC time stamp following the format HH:MM:SS
T_End_S	16 bits	Absolute time based on UTC time stamp following the format HH:MM:SS
RCTN_MAX	16 bits	
}		

References

[1] IEEE 802.16h-06/015r1: Part 16: Air Interface for Fixed Broadband Wireless Access Systems Amendment for Improved Coexistence Mechanisms for License-Exempt Operation, Working document; 2006-08-01
[2] 80216h-06_020r1: Working Group Review Commentary file from session #44.