Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>	
Title	Action Item from Session #48: UTC time stamp text remedy	
Date Submitted	2007-05-08	
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Re:	Working Group Letter Ballot #24a for IEEE P80216h/D2a	
Abstract	It has been decided during session # 48 that the UTC time stamp edition within P802.16h/D2a should be refined (Action item related to comment 2085 in [2]) with respect to UTC format harmonization and reference. With respect to this, this contribution provides editorial text remedies on UTC time stamp.	
Purpose	Action Item from Session #48: UTC time stamp text remedy	
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Action Item from Session #48: UTC time stamp text remedy

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Overview

It has been decided during session # 48 that the UTC time stamp edition within P802.16h/D2a should be refined (Action item related to comment 2085 in [2]) with respect to UTC format harmonization and reference. With respect to this, this contribution provides editorial text remedies on UTC time stamp.

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.

Proposed text changes

[Modify subclause 6.3.2.3.64 as indicate:]

6.3.2.3.64 Master Advertisement Discovery Descriptor (MADD) message

The Master Advertisement Discovery Descriptor (MADD) message specifies the advertisement discovery information sent out by the master BS towards the slave SSs located in the overlapped area of this master system and the surrounding slave systems. This information is sent out periodically by the master BS in MATI (see ***Error! Reference source not found.***) in downlink within the coexistence control channel CXCC. MADD provides the necessary information to these slave SSs to enable then these slave SSs to inform their home BS about radio resources sharing opportunities offered by this master BS.

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 system on that channel. This starting time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message.

T_End_M: The Ending time of the period opened for renting by this master system on that channel. This ending time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message.

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

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

Table 108ac—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	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
T_End_M	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
MRCTN	TBD	Minimum number of credit tokens required by the master BS
LC	TBD	List of other channels (frequency domain) of master system opened for renting
}		

[Modify subclause 6.3.2.3.65 as indicate:]

6.3.2.3.65 Slave Advertisement Discovery Descriptor (SADD) message

The Slave Advertisement Discovery Descriptor (SADD) message specifies the advertisement discovery information sent out by the slave BS towards the master SSs located in the overlapped area of this slave system and the surrounding master systems. This information is sent out periodically by the slave BS in SATI in downlink within the coexistence control channel CXCC. SADD provides the necessary information to these master SSs to enable then these master SSs to inform their home BSs about a radio resources sharing request with this master system.

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. This starting time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message.

T_End_S: Ending time of the period the slave BS would be interested to rent. This ending time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message.

Table 108ad—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	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
T_End_S	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
}		

[Modify subclause 6.3.2.3.66 as indicate:]

6.3.2.3.66 Advertisement Discovery Policy Descriptor (ADPD) message

The Advertisement Discovery Policy Descriptor (ADPD) message is sent out by the slave BS in SATI in downlink within the coexistence control channel CXCC. ADPD specifies when some slave SSs (located in the overlapped area of this slave system and surrounding master systems, and receiving MADD message from master BS) associated to this slave BS have to relay toward this slave BS the MADD messages received within MATI. ADPD message shall include the following parameters:

T_START_S: Starting time from which the slave BS would be interested to rent in a period opened for renting. For values received below this specified time in MATI, the SSs associated to that slave BS are not allowed to report MADD content to this BS. This starting time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message.

T_End_S: Ending time of the period the slave BS would be interested to rent in. This ending time is identified by a UTC time stamp following the format HH:MM:SS:ms (Table h1) after the transmission of the message. After this time, the SSs associated to that slave BS are not allowed to report MADD content to this BS.

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

Table 108ae—ADPD message format

Syntax	Size	Notes
ADPD_Message_Format( ) {		
Management Message Type = 71	8 bits	
T_START_S	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
T_End_S	32~~16~~ bits	Absolute time based on UTC time stamp following the format HH:MM:SS:ms (Table h1)
RCTN_MAX	16 bits	
}		

[Modify Table h8 as indicate:]

56	Radius of protection area	2	In meters
57	Date	3~~2~~	Format: day (5~~8~~ bits): month (4 bits):year(8bits) - decimal digits
58	Absolute time	4~~3~~	Format: hour (5~~8~~ bits): minutes (6~~8~~ bits): seconds (6~~8~~ bits) – milliseconds (10 bits) – milliseconds (10 bits) decimal digits
59	Antenna direction	2	In degrees, clock-wise, reference North (180 for South)
60	Absolute frequency	3	In kHz, decimal ASCII notation
61	Long duration	3	In minutes, hex number

[Modify Table h47 as indicate:]

Table h47—Regulatory Authority Request Message attributes

Attribute	Contents
Radio Application identifier	Radio Application identifier
Tx power	Tx power (EIRP) of the application to be protected

Antenna type	Of the application to be protected, same for Tx and Rx
Antenna gain	Of the application to be protected, same for Tx and Rx
Antenna direction	Of the application to be protected, same for Tx and Rx
Latitude	The latitude information of the center of the area to be protected.
Longitude	The longitude information of the center of the area to be protected.
Altitude	The altitude information of the center of the area to be protected.
Maximum coverage	Required radius of the protection area (optional) for a transmitter power of 1W EIRP
Number of structures	Number of elements of the following seven fields structures
Number of TLVs in a structure	7
Absolute frequency of the transmit channel	Center frequency of Tx operation of the protected application
Channel width of the transmit channel	Channel width of operation of the protected application
Absolute frequency of the receive channel	Center frequency of Rx operation of the protected application
Tx power	Maximum transmitted power in the channel
ACLR	ACLR of the first adjacent channel, for the protected application
ACLR	ACLR of the second adjacent channel, for the protected application
Channel width of the receive channel	Channel width of operation of the protected application
Date	Date of the requested operation start
Absolute time	Hour/min/sec/millisecond of the requested operation start
Long duration	Duration of the requested operation

[Modify Table h48 as indicate:]

Table h48—Regulatory Authority Response attributes

Attribute	Contents
Radio Application identifier	Radio Application identifier
Date	Date of the requested operation start
Absolute time	Hour/min/sec/millisecond of the requested operation start
Long duration	Duration of the requested operation

[Modify Table h49 as indicate:]

Table h49—FREQ_AVOIDANCE Request Message attributes

Attribute	Contents
Radio Application identifier	Radio Application identifier
Tx power	Tx power (EIRP) of the application to be protected
Antenna type	Of the application to be protected, same for Tx and Rx
Antenna gain	Of the application to be protected, same for Tx and Rx
Antenna direction	Of the application to be protected, same for Tx and Rx
Latitude	The latitude information of the center of the area to be protected.
Longitude	The longitude information of the center of the area to be protected.
Altitude	The altitude information of the center of the area to be protected.
Maximum coverage	Required radius of the protection area (optional) for a transmitter power of 1W EIRP
Number of structures	Number of elements of the following seven fields structures
Number of TLVs in a structure	7
Absolute frequency of the transmit channel	Center frequency of Tx operation of the protected application
Channel width of the transmit channel	Channel width of operation of the protected application
Absolute frequency of the receive channel	Center frequency of Rx operation of the protected application
Tx power	Maximum transmitted power in the channel
ACLR	ACLR of the first adjacent channel, for the protected application
ACLR	ACLR of the second adjacent channel, for the protected application
Channel width of the receive channel	Channel width of operation of the protected application
Date	Date of the requested operation start
Absolute time	Hour/min/sec/millisecond of the requested operation start
Long duration	Duration of the requested operation

[Modify Table h50 as indicate:]

Table h50—FREQ_AVOIDANCE Response attributes

Attribute	Contents
Radio Application identifier	Radio Application identifier
Date	Date of the requested operation start
Absolute time	Hour/min/sec/millisecond of the requested operation start
Long duration	Duration of the requested operation

Table h50—

References

[1] IEEE 802.16h/D2a: Part 16: Air Interface for Fixed Broadband Wireless Access Systems Amendment for Improved Coexistence Mechanisms for License-Exempt Operation; 2007-03-28.
[2] IEEE 80216h-07_016r4: New Call for Reply Comments to address the comments from *Letter Ballot #24a Commentary file with resolutions from Session #48.*

Annex

This annex contains the comment from [2] to be resolved via this action item covered by the contribution.

Comment 2085:
(Shulan Feng)

Page: 74
Line: 56
Subclause:

Comment:
How to use "UTC Time Stamp Word"?

Suggested Remedy:
Define how to use "UTC Time Stamp Word"

Resolution:
AI taken to David, to clarify the relevant messages of UTC Time Stamp.