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Re:	Recirc #14c for review of IEEE P802.16e/D4-2004
Abstract	Description of mechanism to allow MSS to limit traffic that causes wakeup
Purpose	Adoption and inclusion in 802.16e specification
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Explicit signaling of CIDs for sleep

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1 Background

As specified currently, when an MSS is in sleep mode, any traffic on any downlink CID that is part of the MSS service context will result in transmission of TRF_IND to wake up the MSS.

There are various scenarios where this might not be desirable, such as:

- Non-essential broadcast packets in a LAN emulation environment
- a multicast flow (eg. a conference) in which the MSS is not actively participating
- unicast traffic for an inactive application
- etc.

Our aim is not to define the particular circumstances where TRF_IND is or is not desired, but to provide an appropriately general solution that maintains simplicity of operation.

2 Summary of Solution

When entering sleep mode, the MSS may explicitly specify a list of transport CIDs in its MSS Service Context for which arriving traffic should **not** trigger TRF_IND.

This list of sleep-thru CIDs becomes part of the MSS Service Context, and remains in effect until a SLP_REQ specifying another set of CIDs (or a TLV denoting CID 0 to signify cancellation) is sent.

Additionally, a new service flow parameter is defined so as to allow TRF_IND generation status to be set via DSx messaging on a per-SF basis.

3 Specific text changes

/6.3.14.4.1 Global Service Flows *Change the third paragraph as follows.]*

Global Service Class Name—A rules based, composite name parsed in eight, one-byte parts of format ISBRLSPT, elements reference extensible look-up tables. Byte placeholders must be expressed values; may not be omitted.

[Insert the following entries to the Table 122a.]

Table 122a-Global Service Flow Class Name Parameters

Position	Name	Size	Value
T	Traffic Indication Preference	1 byte	0 or 1; 0=No traffic indication; 1=Traffic indication

[page 59, line 52 modify:]

The BS may buffer (or it may drop) incoming PDUs addressed to unicast connections bound to a sleeping MSS, and shall send notification to the MSS in its listening-window about whether data has been addressed for it during an preceding interval.

The BS may choose to delay transmission of incoming PDUs addressed to multicast connections bound to a sleeping MSS until that MSS has returned to normal operation.

[page 59, line 57 insert the following paragraph:]

Optionally, an MSS may specify in the MOB_SLP_REQ a list of one or more downlink transport CIDs belonging to the MSS Service Context on which arriving PDUs should **not** trigger BS transmission of MOB_TRF_IND.

The BS shall make this list of “sleep-thru” CIDs part of the MSS Service Context, so that it remains in effect until it receives another MOB_SLP_REQ specifying a different list of CIDs. A list containing a CID value of 0 cancels the sleepthru CID list. A CID associated with a Service Flow that has the Traffic Indication Preference parameter (11.13.27) set to 0 is always “sleepthru”.

[On page 31, line 35, add the following fields to table 106a:]

"

Syntax	Size	Notes
N_Sleep_CID	8 bits	Number of Sleep_CID
For i=0; i<N_Sleep_CID; i++ {		
Sleep_CID	16 bits	
}		

"

{On page 31, line 55 add the following text:]

Sleep_CID
CID value for which the MSS does not want to be awakened

[modify section 11.3:]

11.13 Service Flow management encodings

[Insert the following entries to the Table 381a.]

Table 381a-Service flow encodings

Type	Parameter
29	Minimum Tolerable Traffic Rate
30	Type of Data Delivery Services
31	SUD Inter-arrival Interval
32	Time Base
33	Paging Preference
34	Traffic Indication Preference

[Insert new section.]

11.13.27 Traffic Indication Preference

This parameter specifies whether traffic on a Service Flow should generate MOB_TRF_IND messages to a sleeping MSS.

Type	Length	Value	DSX
[145/146].34	1	0: No traffic indication 1: Traffic indication	DSx-REQ DSx-RSP DSx-ACK