Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>	
Title	**Comment on duration of subframe in DL-MAP/UL-MAP**	
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Re:	IEEE 802.16-08/028: "IEEE 802.16 Working Group Letter Ballot Recirc #28d: Announcement"	
Abstract	Comment on duration of subframe in DL-MAP/UL-MAP	
Purpose	Text proposal for 802.16j Draft Document.	
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Comment on duration of subframe in DL-MAP/UL-MAP

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Introduction

In P802.16j/D5, it may divide the downlink (uplink) subframe into one access zone following by relay zones for multi-hop relay operation. For non-transparent MR systems, the DL-MAP (UL-MAP) only describes the radio resource allocations in the access zone, but the number of OFDMA symbols of the downlink (uplink) subframe described in the DL-MAP (UL-MAP) includes both access and relay zones, i.e., the entire downlink (uplink) subframe. In order to avoid MS communicating with MR-BS in the downlink (uplink) relay zone, an extra GAP (Safety) zone IE must be used in DL-MAP (UL-MAP). (see Figure 1)

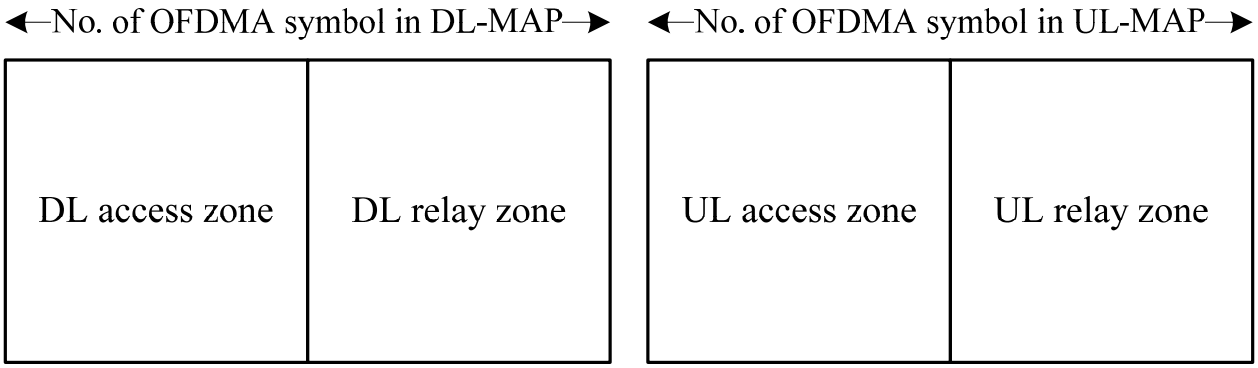

Figure 1 Current scenario

To reduce MAP overhead in the access zone and eliminate the dependency of the GAP (Safety) zone IE, we propose to change "*the number of OFDMA symbols in the downlink (uplink) subframe*" of the DL-MAP (UL-MAP) to only include the downlink (uplink) access zone. Thus the GAP (Safety) zone IE for describing the downlink (uplink) relay zone in DL- MAP (UL- MAP) could be omitted.

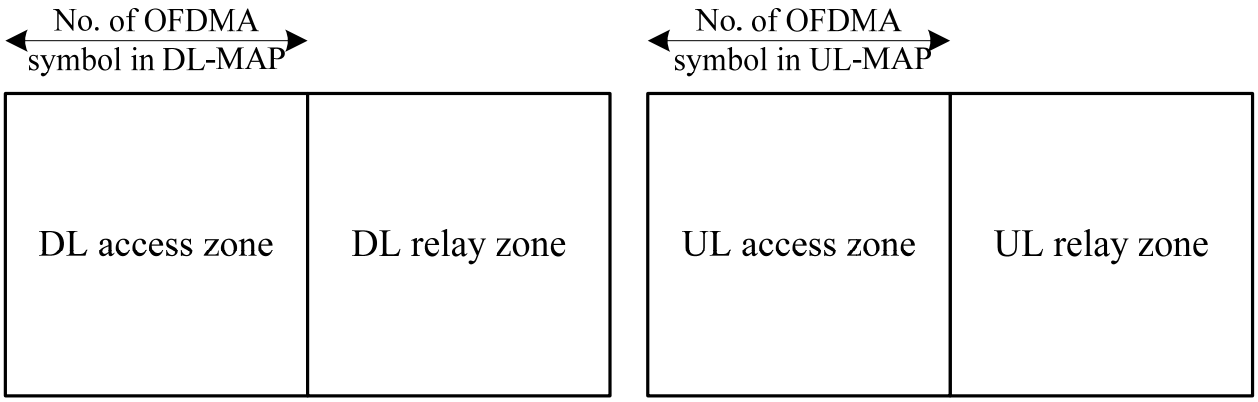

Figure 2 Proposed scenario

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the draft standard P802.16j/D5 are listed below.

Spec changes

[Modify the following text in line 59 of page 26 as indicated:]

6.3.2.3.2 Downlink map (DL map) message

Table 40—DL-MAP message format

Syntax	Size (bit)	Notes
DL-MAP_Message_Format() {	-	-
Management Message Type = 2	8	-
PHY Synchronization Field	*variable*	See appropriate PHY specification.
DCD Count	8	-
Base Station ID	48	-
Begin PHY-specific section {	-	See applicable PHY subclause.
if (WirelessMAN-OFDMA) {	-	-
No. OFDMA symbols	8	For TDD, the number of OFDMA symbols in the DL subframe including all AAS/permutation zone and including the preamble. (it may exclude the relay zones) For FDD, see section 8.4.4.1.2
}	-	-
for (*i* = 1; *i* <= *n*; *i*++) {	-	For each DL-MAP element 1 to *n*.
DL-MAP_IE()	*variable*	See corresponding PHY specification.
}	-	-
}	-	-
if !(byte boundary) {	-	-
Padding Nibble	4	Padding to reach byte boundary.
}	-	-
}	-	-

6.3.2.3.4 UL-MAP (UL map) message

Table 42—UL-MAP message format

Syntax	Size (bit)	Notes
UL-MAP_Message_Format() {	-	-

Management Message Type = 3	8	-
FDD Partition Change Flag	1	For FDD only. Indicates the next possible partition change. 0b0:Possible partition change in next frame 0b1:Minimum number of frames (excluding current frame) before next possible change is given by TLV 'FDD frame partition change timer'
Reserved	7	Shall be set to zero.
UCD Count	8	
Allocation Start Time	32	
Begin PHY-specific section {	-	See applicable PHY subclause.
if (WirelessMAN-OFDMA) {	-	-
No. OFDMA symbols	8	For TDD, the number of OFDMA symbols in the UL subframe. (it may exclude the relay zones) For FDD, see Section 8.4.4.1.2
}	-	-
for (*i* = 1; *i* <= *n*; *i*++) {	-	For each UL-MAP element 1 to *n*.
UL-MAP_IE()	*variable*	See corresponding PHY specification.
}	-	-
}	-	-
if !(byte boundary) {	-	-
Padding Nibble	4	Padding to reach byte boundary.
}	-	-