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Title	**Zone switching operations in 16e/16m mixed mode operations**
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Re:	IEEE 802.16m-09/0012: Call for Contributions on Project 802.16m Amendment Working Document (AWD) Content
Abstract	This contribution proposes text for the legacy handover section of the 802.16m amendment document
Purpose	For discussion and adoption by TGm
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Zone switching operations in 16e/16m mixed mode operations

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Introduction

Text Proposal

---Start of the text proposal --

10.3.3 Handover Process supporting WirelessMAN OFDMA reference system

10.3.3.1 Network topology acquisition

The WirelessMAN-OFDMA Reference System/WirelessMAN-OFDMA Advanced System co-existing system consists of WirelessMAN-OFDMA Reference System and WirelessMAN-OFDMA Advanced System cells/sectors. An YBS advertises the system information for its neighbor YBSs and the LZones of its neighbor ABSs in MOB_NBR-ADV message. An YBS advertises the system information for its neighbor ABSs and the MZones of its neighbor ABSs in SII-ADV message, which contains the 16m preamble, MAC version, basic PHY configuration parameters. An ABS advertises the system information for its neighbor YBSs in its both LZone and Mzone. It advertises the Lzones of its neighbor ABSs in its Lzone. It also advertises the system information for its neighbor ABSs in Mzone.

The ABS shall indicate its WirelessMAN-OFDMA Advanced capability and information in its LZone broadcast information by using MAC version TLV. This information is also available in the MOB_NBR-ADV broadcast of YBS before handover.

AMS in the LZone of an ABS performs scanning of the MZone if it has not obtained all the SFH information of MZone.

10.3.3.2 Handover from YBS to ABS

When a handover from a WirelessMAN-OFDMA Reference System to a WirelessMAN-OFDMA Advanced System is triggered for a YMS, the YMS handover is from the serving YBS to the LZone of the target ABS using WirelessMAN-OFDMA Reference System handover signaling and procedures.

An AMS may handover from the serving YBS to the LZone of the target ABS using a WirelessMAN-OFDMA Reference System handover signaling and procedures, and switch to the MZone of the ABS following the zone switching procedure defined in Section 10.3.3.x after AMS finishes handover in the LZone. A mixed mode ABS is able to unicast MAC messages defined in WirelessMAN-OFDMA Advanced System to AMS in LZone to initiate zone switching.

An AMS may also handover from a YBS to a WirelessMAN-OFDMA-Advanced-System-only ABS or MZone of ABS directly if AMS is able to scan WirelessMAN-OFDMA-Advanced-System-only ABS or MZone prior to handover. The handover preparation is done using WirelessMAN-OFDMA signaling, and network re-entry follows WirelessMAN-OFDMA-Advanced-System procedure without dedicated handover ranging code

assignment. Capability negotiation is required during network re-entry. ARQ remapping procedure is required after network re-entry. DSC transaction may be performed after network re-entry if necessary.

10.3.3.x Zone switching procedure

The zone switching procedure is shown in Figure 1, which detailed steps include the follows.

1. zone switching is only initiated by ABS. A ZS-CMD message is sent in the LZone, indicating the new ST-ID to be used. If no ST-ID is assigned, the 12-bit MSB of LZone CID shall be used as ST-ID in MZone. A switch time is defined for zone switching to happen.
2. From ZS-CMD to disconnect time, the MS may perform other required PHY/MAC procedures (e.g. ranging, 16m capability negotiation, additional QoS transactions etc.) in MZone, while maintaining regular data communications in LZone.
3. During zone switching, for ARQ-enabled connections, ARQ state remapping and resynchronization is required, as described in section 10.n.n.
4. All other MS context remains valid in the MZone.
5. After zone switching finishes, the MS has its control plane in MZone.
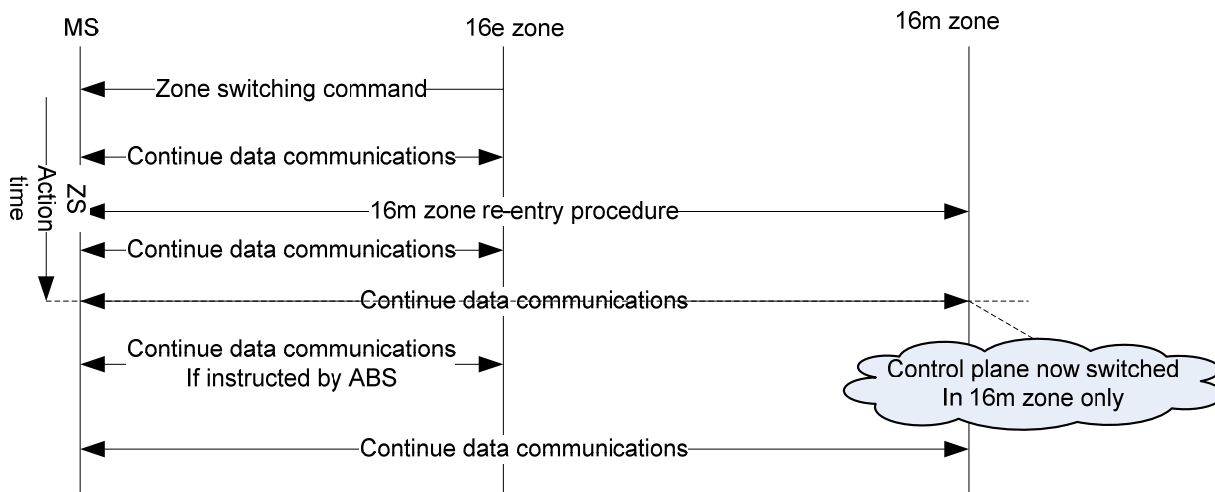6. ABS may instruct AMS to perform data communications in LZone.

Figure 1 Zone switching procedure and mixed-mode operation for 16m MS in both LZone and MZone

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