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Title	**Mobility control in 16m relay**
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Re:	Change request to the 802.16m SDD (section 15)
Abstract	This contribution proposes to include relaying functionalities for AMS mobility in 802.16m SDD.
Purpose	For review and discussion in 802.16m
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Mobility control in 16m relay

1 Introduction

When relaying is applied to IEEE 802.16m system, a relaying feature to support AMS's mobility such as handover and power saving should be considered. The feature can follow the MS mobility support functionalities defined in IEEE P802.16j [1].

This document proposes a high level description on the relaying feature to support AMS's mobility. The suggestions to the SDD text are summarized below:

- AMS handover support

  All handover procedures are controlled by superordinate ABS. An ARS relays the handover related signals between an AMS and an ABS. When all contexts of AMS are managed by the ABS, 16m relaying can support AMS's handover under the same ABS without AMS's context transfer.

- AMS sleep mode support

  Transaction on sleep mode is negotiated between an ABS and an AMS and the related signals are relayed by an ARS. If an ARS is involved in distributed scheduling, the AMS's sleep mode information can be informed to the ARS.

- AMS idle mode support

  Control signaling to enter idle mode is exchanged between an ABS and an AMS. The ARS is assigned with the same paging group or a subset of the paging group of its superordinate ABS.

2 Text Proposal

----------Start of the Text----------

15.4 Data and Control Functions

[Insert the texts in subclause 15.4 as follows:]

15.4.x AMS mobility support

15.4.x.1 AMS handover support

The ABS shall control the handover of AMS including scanning and network topology advertisement. The ARS only relays the MAC control signaling (e.g., HO command message and HO indication message) between the subordinate AMS and the ABS.

In the case that the same AMS's context is used between an ABS and the ABS's subordinate ARSs, the transfer

of the AMS's context can be omitted when the AMS moves around under the ABS.

15.4.x.2 AMS sleep mode support

The sleep mode shall be centrally controlled by an ABS. The ABS shall be responsible for generating MAC control signaling (e.g., MOB_SLP-RSP of WirelessMAN-OFDMA Reference system) which shall be relayed by an ARS to the subordinate AMS.

In the case of distributed scheduling, before determining AMS's sleep mode parameters such as sleep cycle, sleep window or listening window during sleep mode negotiation, an ABS informs an ARS about the subordinate AMS's sleep mode information.

15.4.x.3 AMS idle mode support

The ABS shall be responsible for generating MAC control signaling (e.g., DREG-CMD, MOB_PAG-ADV of WirelessMAN-OFDMA Reference system) which shall be relayed by an ARS to the subordinate AMS. An ARS can have the same or a subset of paging groups which are assigned to its superordinate ABS.

----------End of the Text----------

3 Reference

[1] IEEE P802.16j/D9, "Draft Amendment to IEEE Standard for Local and metropolitan area networks: Air Interface for Fixed and Mobile Broadband Wireless Access Systems, Multihop Relay Specification," Feb. 2009.