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Re:	IEEE 802.16j-07/034: "WG LB #28"	
Abstract	This proposal clarifies the MRS handover using distributed security model.	
Purpose	Discuss and adopt proposed text.	
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Clarification on MRS Handover

1. Introduction

MRS handover was written using centralized security model. The baseline has also accepted distributed security model. This contribution clarifies how the MRS handover works in both cases.

2. Specific Text Change

Change subclause 6.3.22.4.2.2:

6.3.22.4.2.2 Network entry/reentry

During network entry/re-entry, the MRS informs the MR-BS that it is an MRS. The serving MR-BS may exchange backbone messages with the target MR-BS to pass the MAC addresses, SFIDs and CIDs of all the MSs attached to the MRS. The details of the backbone messages are beyond the scope of this specification. In the non-tunneling case, the target MR-BS may allocate new CIDs to MSs during ranging procedure with the MRS. If new CIDs are assigned, then MR-BS shall send old and new CID pairs to the MRS in RNG-RSP. The MRS creates mapping between old and new CID. It replaces old CID with the new CID in the UL MPDUs. Similarly, it replaces new CID with the old CID in the DL MPDUs.

If the centralized security control (section 7.1.6) is used, the MR-BS calculates CMAC using old CID. If the distributed security control (section 7.1.7) is used, the MRS calculates CMAC using old CID.

In the tunneling case, the target MR-BS may allocate new CIDs to tunnels during the ranging procedure and then send old and new tunnel CID pairs to the MRS in RNG-RSP. After getting the relationship of old and new tunnels, MRS can route MS MAC PDU according to the combination of Tunnel CID and MS CID.

Insert new subclause 6.3.22.4.3:

6.3.22.4.3 ~~Mobile~~ RS handover with preamble change (Inter MR-BS)

This subclause describes the MRS handover (Inter MR-BS), which hands over an MRS as well as all the MS attached to it, with a detection of a preamble change. Both of the MR-BS and the MRS ~~would~~ maintain a list of MSs which are served through an MRS. An MRS HO begins with a decision for an MRS to handover itself and to make MSs to handover from a serving MR-BS to a target MR-BS. The decision may originate either at the MRS or the serving MR-BS.

The operation of MRS Handover is divided into two steps: a negotiation between an MRS and a serving MR-BS for MRS Handover, and a procedure for MS Handover.

MRS initiates handover by sending MOB_MSHO-REQ message to the serving MR-BS with its basic CID.

The serving MR-BS recognizes that an MRS is requesting HO from the basic CID in MAC header. Upon reception of MOB_MSHO-REQ message, the MR-BS sends MOB_BSHO-RSP message to the MRS.

If the target MR-BS decides to change the MRS' preamble after the handover it sends a preamble index to the serving MR-BS over the backbone. Then the serving MR-BS sends it to the MRS using the Preamble Index TLV in the MOB_BSHO-REQ/RSP messages.

If the centralized security control (section 7.1.6) is used, the serving MR-BS exchanges handover decision and initiation stage signaling (6.3.22.2.2) with each MS before the MRS conducts handover and preamble change. If the distributed security control (section 7.1.6) is used, the MRS exchanges handover decision and initiation stage signaling (6.3.22.2.2) with each MS before the MRS sends MOB_HO-IND message to the MR-BS.

The MOB_BSHO-REQ message is sent to the subordinate MSs with the "HO operation mode" set to 1.