Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**HO Overview Section Cleanup 3 – HO Decision & Initiation Section**
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Source(s)	Phillip Barber Broadband Mobile Technologies, Inc. 8302 Sebastian Inlet Frisco, Tx 75035 Voice: +1 (972) 365-6314 Fax: +1 (925) 396-0269 [mailto:pbarber@BroadbandMobileTech.com]
Re:	Response to IEEE 802.16e-04/06 (Call for Contributions on IEEE 802.16e/D1)
Abstract	HO Overview Section Cleanup 3 – HO Decision & Initiation Section
Purpose	Correct overview section flow and language in HO Overview Section
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HO Overview Section Cleanup 3

Phillip Barber
Broadband Mobile Technologies

Problem:
As currently defined, mechanics for hand-over are incomplete or poorly defined. Elements are out of order.

Remedy:
Revise hand-over process overview to more logical format and increase language clarity.

Remedy 1:
Include overview discussion of the HO decision mechanism and consummation to HO initiation. Merge previous disparate sections dealing with cell selection and backbone communications contributing to HO decision and initiation. Incorporate HO rejection concepts in the Decision/Initiation section. Provide language clarifying status of MSS post- HO-IND.
*[Modify **1.4.1.2.2.2 HO initiation**, pages 11&12, lines 57-15, relocate modified/normative text for section to section **6.4 Data/Control Plane**; editor will make appropriate allocation of numbering (??) for subsection:]*
~~**1.4.1.2.2.2**~~**6.4.??.2 HO Decision & Initiation** ~~**initiation**~~

A hand-over begins with a decision for an MSS to hand-over its air interface, service flow, and network attachment from a Serving BS to a Target BS. The decision may originate either at the MSS, the Serving BS, or on the network. The HO Decision consummates with a notification of MSS intent to hand-over through either ~~Either an MSS or a BS may initiate a HO by transmitting~~ the MOB_MSSHO-REQ or MOB_BSHO-REQ MAC Management messages. The HO notification is recommended, but not required. The HO notification may originate with either the Serving BS or MSS. Acknowledgement with MOB_xxxHO-RSP of a notification is required.~~It is anticipated that in most situations the MSS will be the initiator of the HO, but sometimes a BS may be the initiator of a HO to facilitate load sharing among BS or because of uplink connection quality.~~

~~An MSS may scan neighbor BS presented in the MOB_NBR-ADV message before transmitting MOB_MSSHO-REQ message.~~ When MOB_MSSHO-REQ is sent by an MSS, the MSS may indicate one or more possible Target BS. MSS may evaluate possible Target BS through previously performed scanning, ranging, and Association activity.

When MOB_BSHO-REQ is sent by a Serving BS, the Serving BS may indicate one or more~~the~~ recommended Target BS. Serving BS criteria for recommendation of Target BS may include factors like expected Target BS QoS performance to MSS requirements~~(based on their capability to meet the MSS QoS requirements)~~. Serving BS may obtain expected Target BS QoS performance indication through the exchange of backbone messaging with Neighbor BS (see section Backbone network HO procedures). Serving BS and Neighbor BS backbone transfer of MSS operational information need not be made in conjunction with any specific contemplated HO and may precede any MOB_xxxHO-REQ. The MOB_MSSHO-REQ message may also include an indication of the estimated time for performing the HO.

MSS actual pursuit of hand-over to Target BS in MOB_xxxHO-RSP is recommended, but not required. MSS may elect to attempt hand-over to a different Target BS, a Target BS that may or may not have been included in MOB_xxxHO-RSP, with the understanding that the different Target BS may not receive notification of the pending hand-over from the Serving BS over the backbone network prior to MSS Initial Ranging of Target BS (see section Backbone network HO procedures). If the MSS signals rejection of Serving BS instruction to HO

through HO_type field in the MOB_MSSHO-RSP set value of 10 (HO reject option), the BS may reconfigure the Target BS list and retransmit MOB_BSHO-RSP message including a new Target BS list.

~~At the BS side, before sending MOB_BSHO-REQ or after receiving a MOB_MSSHO-REQ message, the BS may acquire from the neighbor BS information regarding their capability of serving the requesting MSS.~~ Serving ~~The~~ BS may ~~further choose to~~ notify one or more Target ~~neighboring~~ BS over ~~(through~~ the backbone network~~)~~ of MSS intent to ~~the impending~~ hand-over to Target BS (see section Backbone network HO procedures). Serving BS may also send MSS information to Target BS over the backbone that can expedite hand-over.~~See Annex C for specifications of the communication through the backbone network, and the information exchanged between BSs.~~

~~After receiving MOB_MSSHO-REQ or MOB_BSHO-REQ message, the receiving party shall respond with a MOB_BSHO-RSP or MOB_MSSHO-RSP MAC message. The MOB_BSHO-RSP and MOB_MSSHORSP messages shall include an estimation of the time (Estimated HO time) when the HO would take.~~
Once MSS sends MOB_HO-IND with option HO_IND_type = 00 indicating commitment to HO and intent to release the Serving BS, the MSS is released from any obligation to monitor Serving BS DL traffic, for as long as MSS attachment to Serving BS persists, or until such time as MSS may cancel the pending HO.