

Reduced Neighbor Information Generation and Customized Delivery

IEEE 802.16 Presentation Submission Template (Rev. 8.3)

Document Number:

IEEE S80216j-07/139

Date Submitted:

2007-1-16

Source:

Rakesh Taori, Misun Do

E-mail: rakesh.taori@samsung.com

Samsung Advanced Institute of Technology

Hyunjeong Kang, Hyoung Kyu Lim, Sungjin Lee, Jungje Son

Samsung Electronics

Hyunjeong Lee, Wendy C. Wong, Jerry Sydir, Kerstin Johnsson

E-mail: hyunjeong.hannah.lee@intel.com

Intel

Chie-Ming Chou, I-Kang Fu, Fang-Ching Ren, Wern-Ho Sheen

E-mail: chieming@itri.org.tw; IKFu@itri.org.tw

ITRI/NCTU

Venue:

IEEE 802.16 Session#47, London, UK

Base Document:

IEEE C80216j-07/139

Purpose:

Proposes methods for facilitating efficient delivery of the neighborhood information in the MR network.

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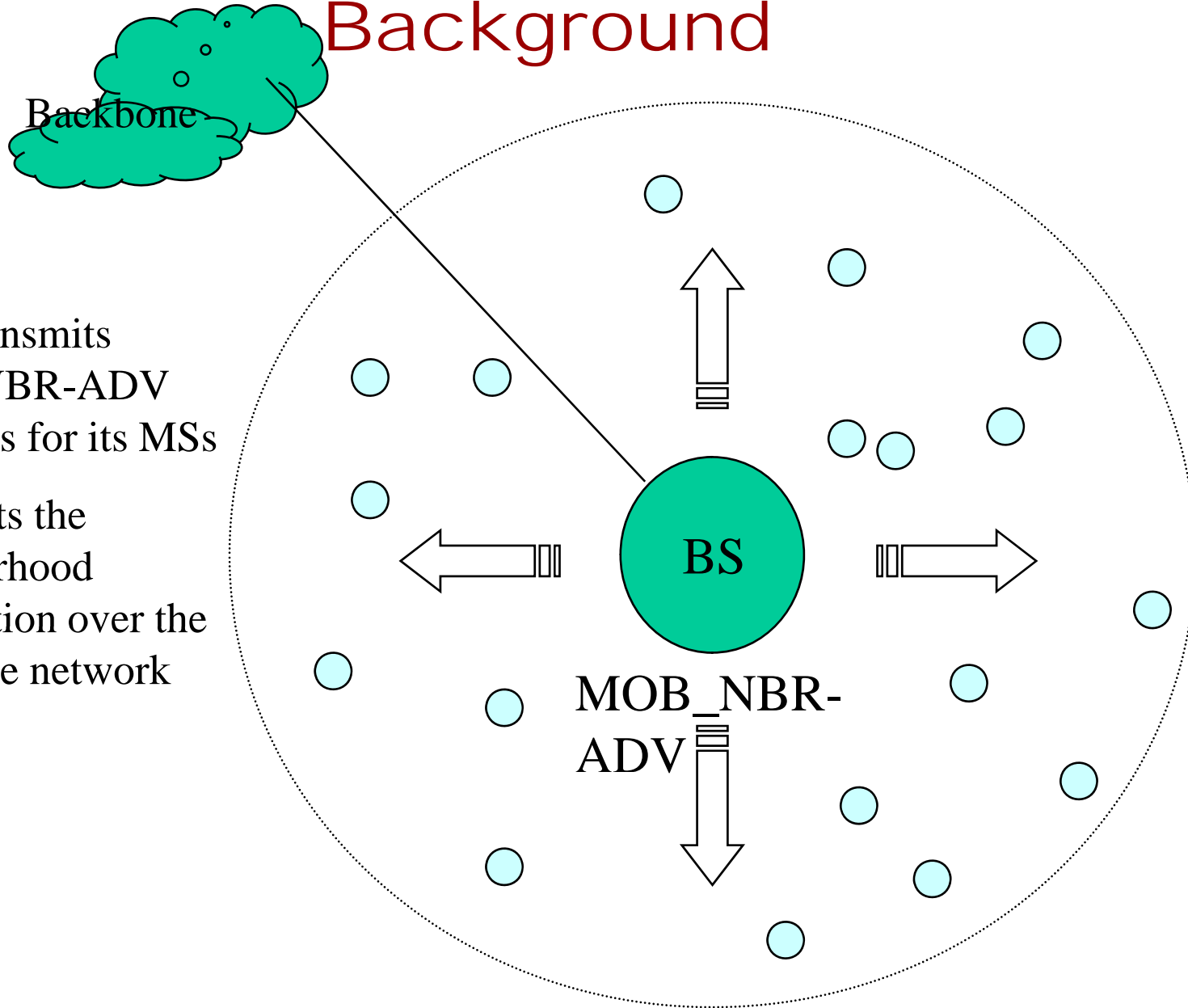
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Considerations

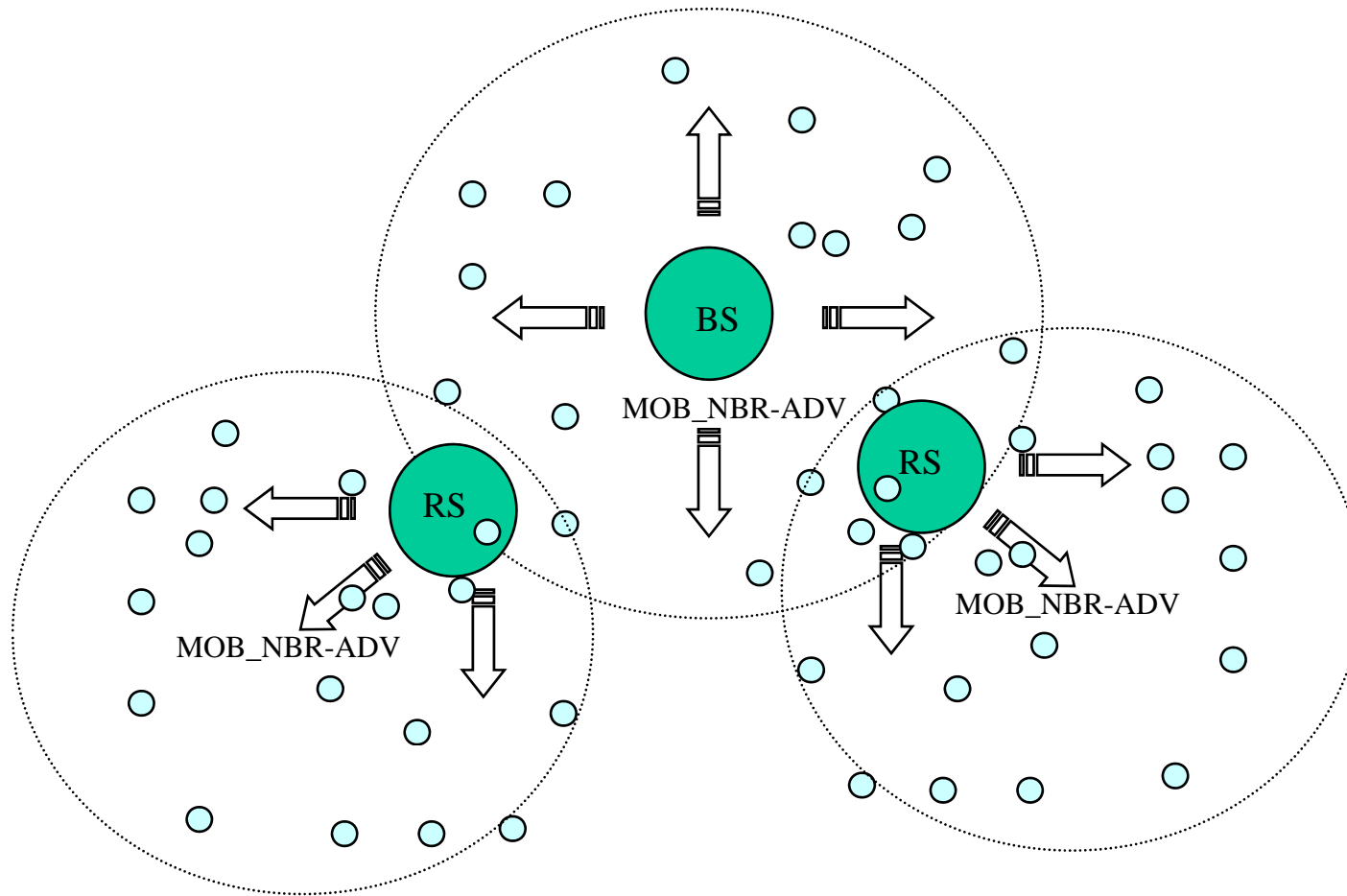
- Background
 - 802.16 provides the following mechanisms
 - BS transmits MOB_NBR-ADV messages to facilitate handover
 - BS receives neighbor information over the backbone
 - The goal is to extend the mechanisms to 802.16j.
 - Issues
 - Informing the RS about the neighborhood
 - Neighbor information message size
 - Not all information is relevant to all RSs and all MSs

Background

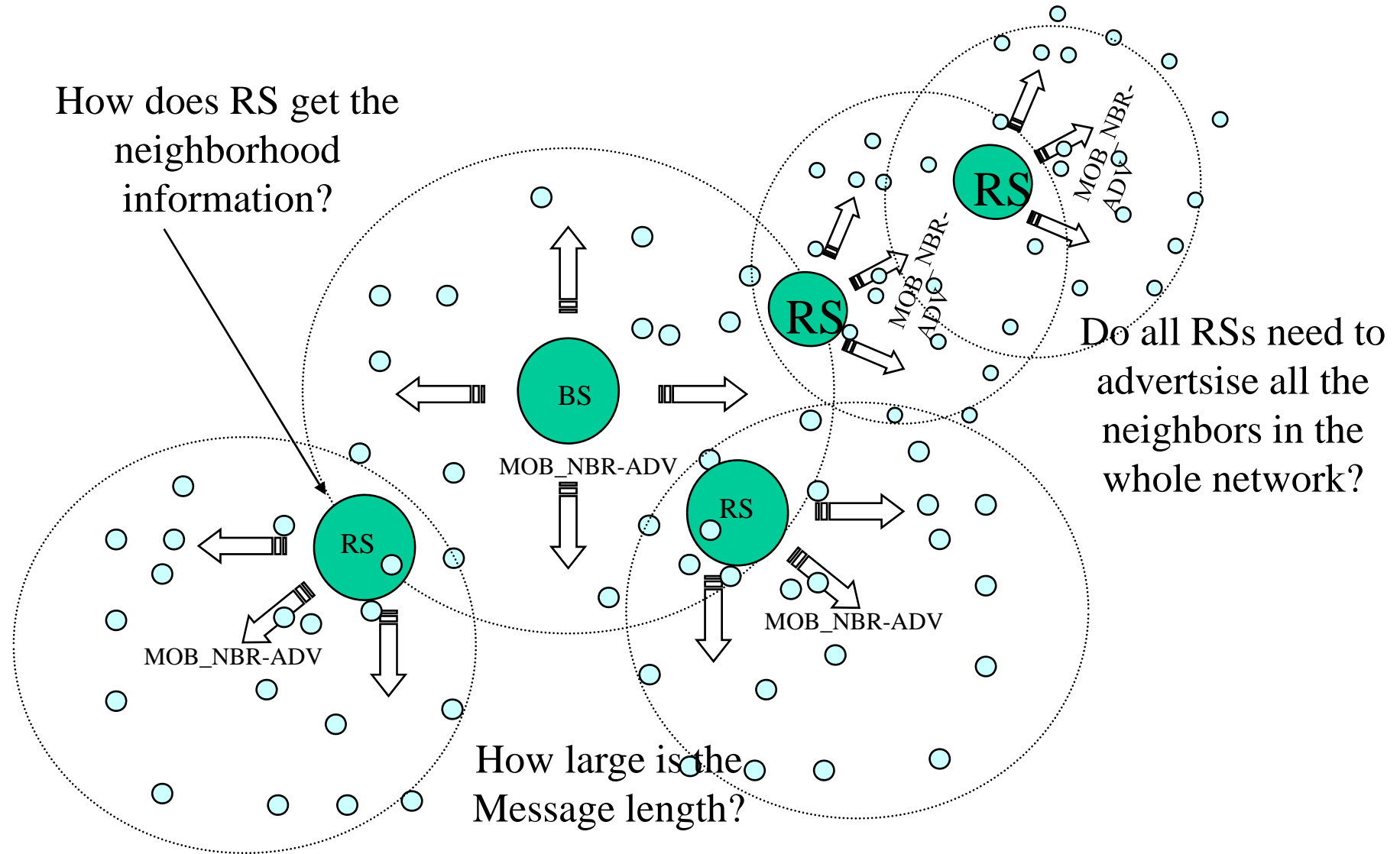
- BS transmits MOB_NBR-ADV messages for its MSs
- BS gets the neighborhood information over the backbone network



Extending the mechanisms to 802.16j



Issues



In scope of the 802.16j specification

- Techniques/methods to facilitate RS to broadcast NBR-ADV message for its neighborhood
 - Backward compatibility requirement
- Techniques/methods to facilitate BS/RS to inform subordinate RSs of their neighborhood
- Techniques/methods to make the neighbor information delivery process efficient.

Messages

- From BS/RS to MS: Unchanged (Just use MOB_NBR-ADV message)
- BS to RS
 - Customized messages regarding NBR-ADV for MS
 - Messages regarding RS neighborhood (replacing what was done using the wired backbone in case of BS)
- RS to RS (depending on the capability)
 - Customized messages regarding NBR-ADV for subordinate RSs
 - Messages regarding subordinate RSs neighborhood

Results of the Harmonization Effort

(Captured in C802_16j-139.doc)

- MR-BS and RS shall broadcast MOB_NBR-ADV message in their cell
 - Access Zone
- Agreed on centralized method for neighborhood information delivery
 - MR-BS will provide customized information to each RS about its neighborhood
 - Unicast message
 - MR_NBR-INFO
 - Transmitted on relay link
- Message format for the neighborhood information delivery
 - Full or incremental (add/delete/update)
 - Location information and interference measurement reports may be used by the MR-BS to compose the MR_NBR-INFO message.
- Composition of MOB_NBR-ADV message
 - Shall broadcast MOB_NBR-ADV message
 - Copy all the neighbors as informed by the BS
 - Further customize (reduce) the neighbors based on its own information