[Group Handover on the Mobile RS]

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Purpose:

This contribution proposes group handover procedure on the mobile RS.

Introduction

- This contribution proposes handover schemes for mobile relay network.

- Transmission path between MR-BS and MS riding on a vehicle
    - Both direct link and relay link available.
    - Only relay link provided by an MRS available.
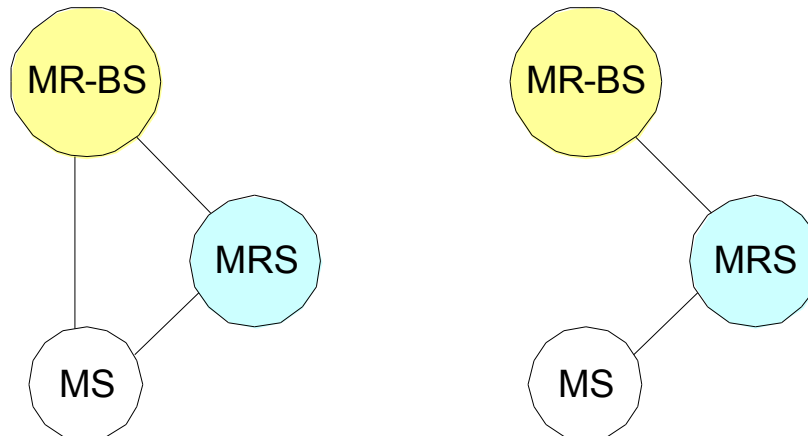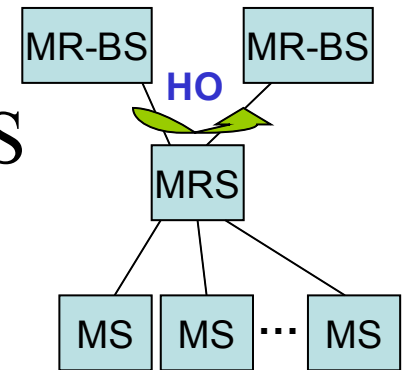
Motivation

- When an MRS moves, it also generates handovers of all the MS served through the relay link.

- Using the existing MOB_xxHO messages with small changes, the MRS handover itself can be easily performed.

- However, in case that there are many MS attached to the MRS,
  - According to the IEEE 802.16e specifications, the congestion on the radio link may occur due to trials of many handover executions.
  - If MRS performs handover earlier than MS, some discontinuations of communication or large access delay may occur.

- It is necessary for MSR to control MS handover
  → **Group Handover** on the MRS.

Group HO on the MRS

- Both an MR-BS and an MRS should maintain a list of MS which are served through the relay link.

- The operation of Group HO consists of two steps:
  - Negotiation with MR-BS through Group HO messages
  - Negotiation with MSs through MOB HO messages

- During a Group HO, a mobile RS may relay or boost up signals of the target MR-BS as well as the serving MR-BS in order to derive MS handover.

Group Handover Procedure
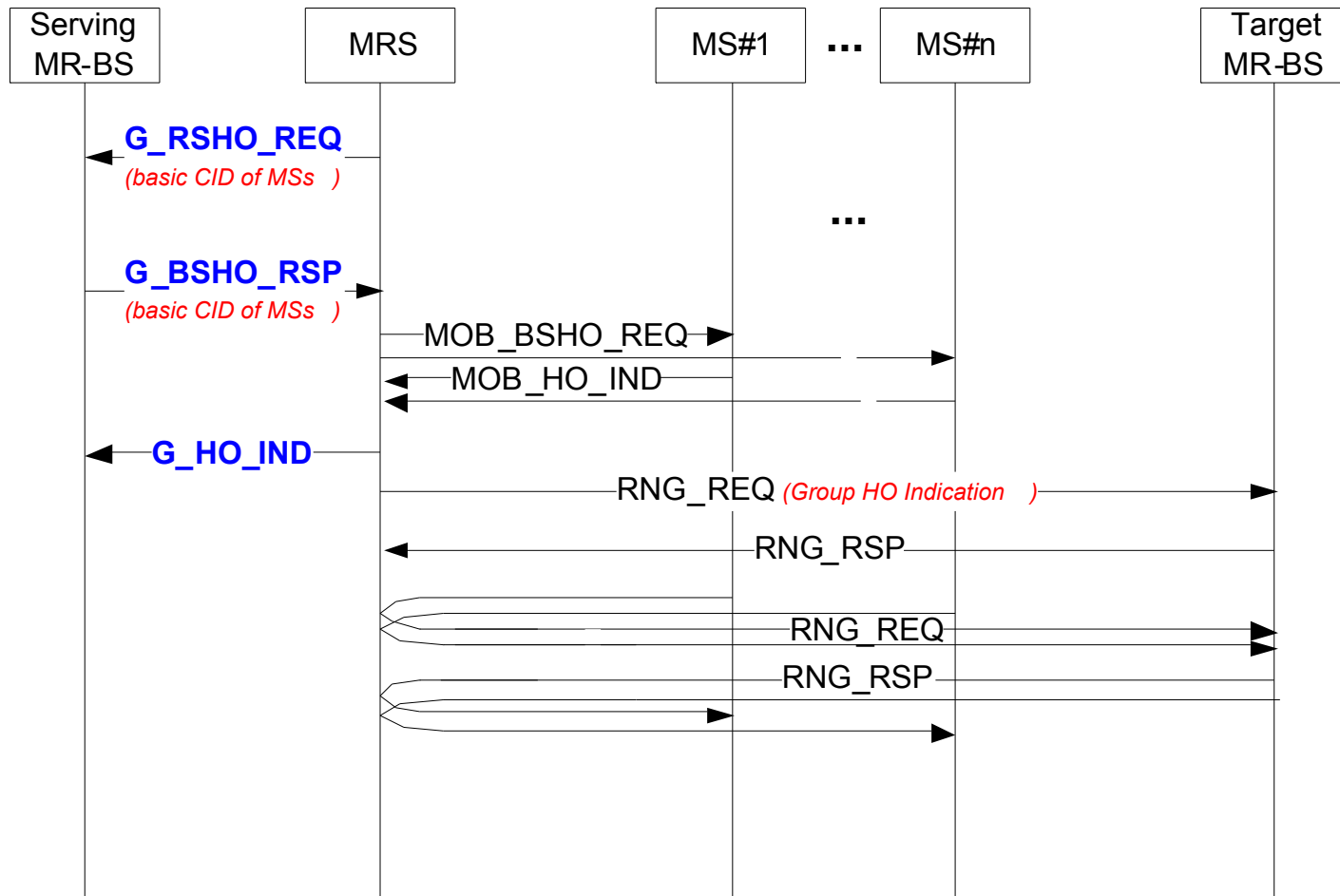
Conclusion

- Contribution provides text for
  - Group HO for MS and mobile RS.
  - New messages needed between MR-BS and MRS.
- Advantages of Group HO are
  - Bandwidth efficiency.
  - Avoidance of large access delay of MS during the HO.
  - Fast and Controllable HO.
  - Backward-compatibility in MS behavior.
- More details and proposed text proposals are in C80216j-06_227.doc