Discussion on R-zone/R-MAP and Frame Structure for MMR

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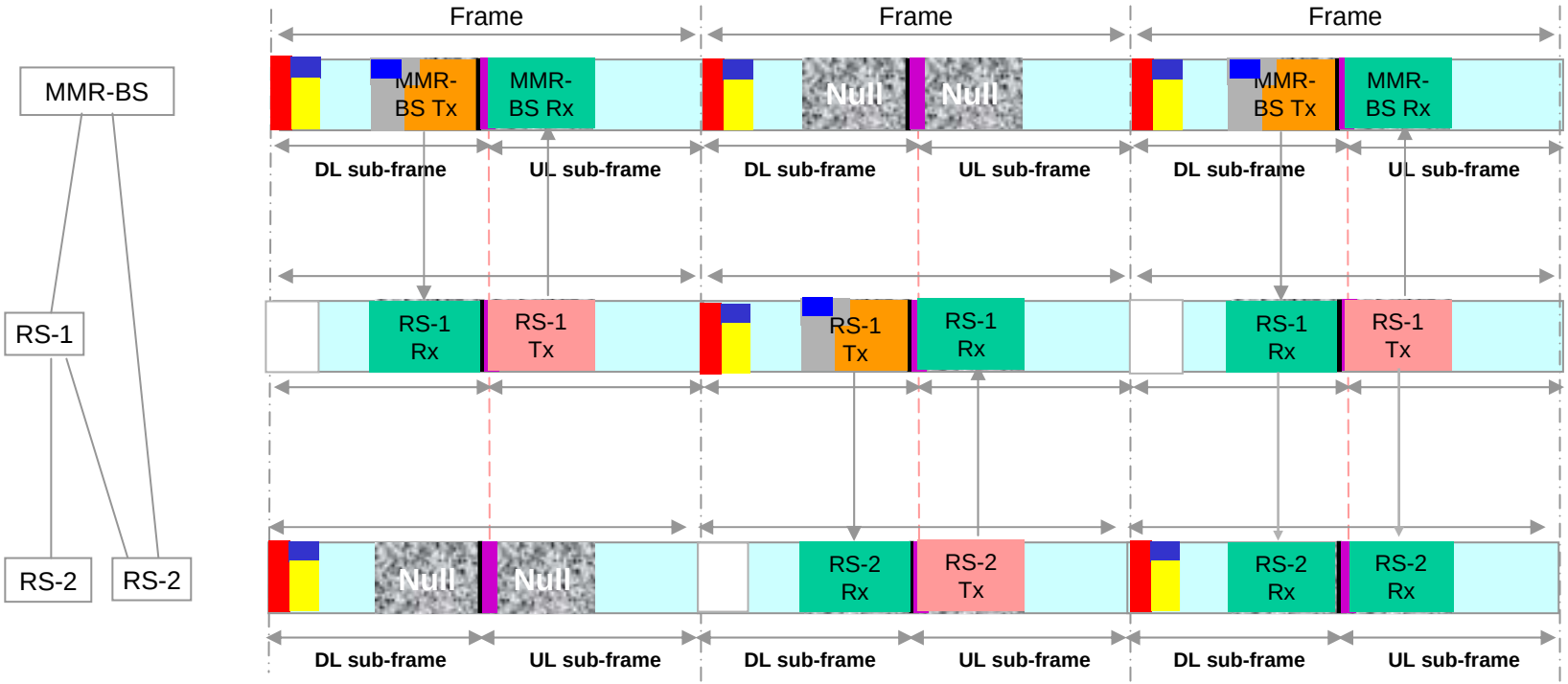
IEEE 802.16 Session #44, San Diego, USA
Base Document: C80216j-06_041:"Harmonized definitions and terminology for Mobile Multihop Relay"
Purpose:
To introduce the terminologies of R-Frame, R-zone and R-MAP

Introduction and Background

- Based on IEEE802.16j PAR, the new node RS is introduced and new function/capability is added for MMR-BS without modification of MS, in order to retain the backward compatibility,
- We define the following:
  - Frame structure that enables the relay →MMR-frame,
  - Relay zone → R-zone
  - Relay zone MAP → R-MAP

MMR Frame Structure Example (3 hops)

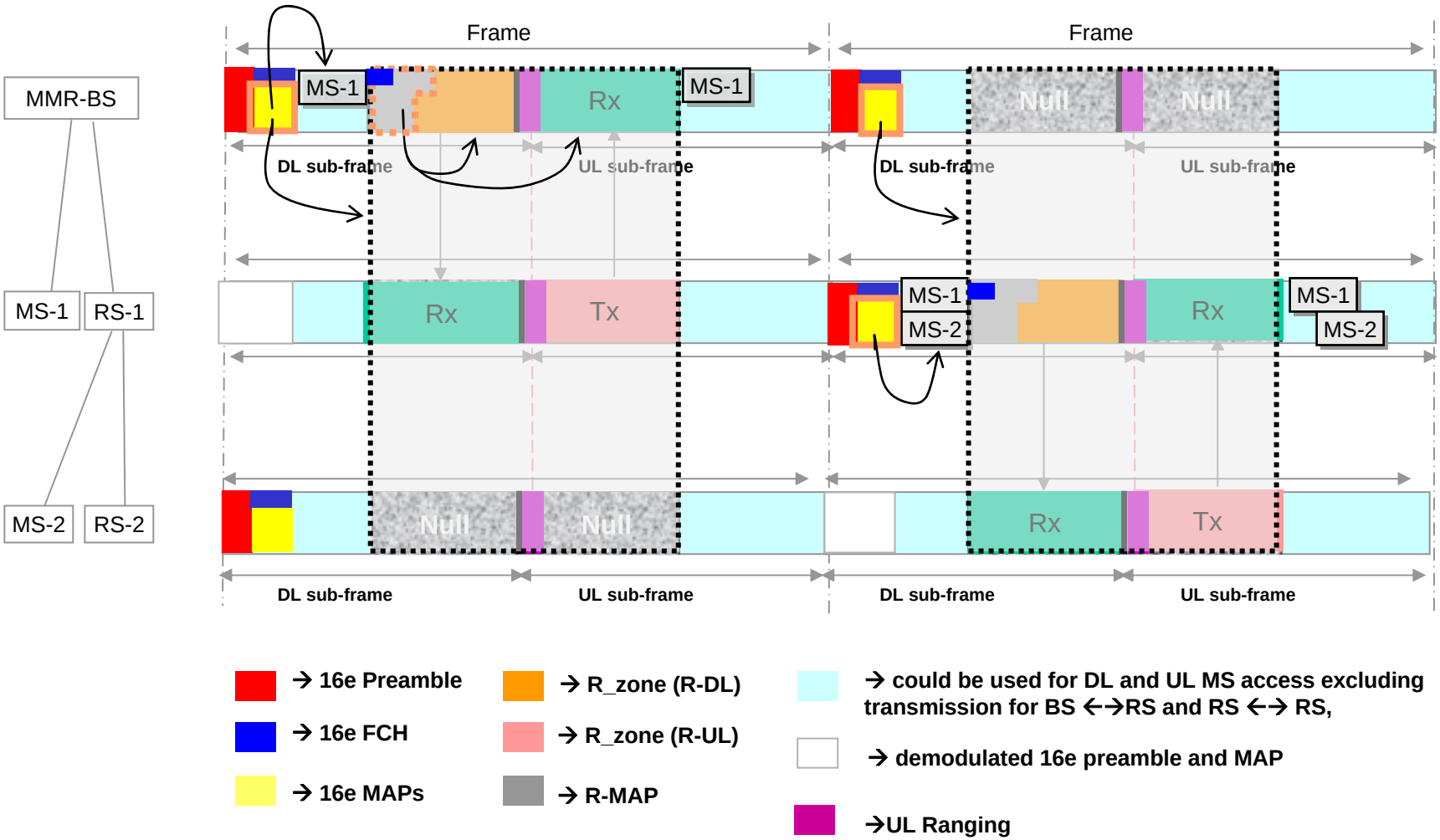
- Single carrier and single radio RS case



→ 16e Preamble
→ 16e FCH
→ 16e MAPs
→ R_zone (R-DL)
→ R_zone (R-UL)
→ R-MAP
→ could be used for DL and UL MS access excluding transmission for BS ←→RS and RS ←→ RS,
→ demodulated 16e preamble and MAP
→UL Ranging

R-zone and R-MAP Example (3 hops)

- Each R-zone is associated with a R-MAP, R-zone can be dynamically allocated and de-allocated by MMR-BS



Summary

- MMR-Frame is introduced to support the mapping of R-zone which maintain the backward compatibility based on PAR
- 16e MAP_IE is reused to support the links
  - MMR-BS ←→MS
  - RS ←→MS
  - No impact on MS
- R-zone is introduced to support dedicated links for
  - MMR-BS←→RS
  - RS ←→ RS
  - Serving MMR-BS and Serving RS are required to
    - transmit 802.16e preamble
    - transmit 802.16e FCH and MAP
- R-MAP is introduced for RS related resource assignment

Text Proposal

- MMR-Frame

  "The frame support the links between MMR-BS and RS and between RSs"

- R-Zone

  "The OFDMA resource dedicated to the links between MMR-BS and RS and between RSs"

- R-MAP

  "The MAP dedicated to the R-zone resource allocation"