Relay Zone Indicator, Frame signaling

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Purpose:

The purpose of this slide is to support proposed relay zone indicator, frame signaling, and amble location for the relay link.

Relay zone indicator and Frame signaling : #07/235, #07/236

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Outline

- Introduction

- Relay zone indicator

- Frame signaling

- Summary

Introduction

- **Relay Zone Indicator**

  - STC_DL_ZONE_IE (one reserved bit for relay zone indicator)

    - RS is informed of OFDMA Symbol offset of the relay zone

    - MS recognizes the existence of another zone for other MSs

- **Frame Configuration Signaling**

  - Propose MAC message

Relay Zone Indicator #07/235

Relay Zone Indicator [1/2]

◆ Problem Statement:

After completing its initial network entry in the access zone,

RS needs to be informed of the location of the relay zone

◆ Suggested Remedy

➢ MR-BS or RS transmits STC_DL_ZONE_IE

    ➢ **One reserved bit is being used for relay zone indicator**

    ➢ RS recognizes the relay zone by relay zone indicator

    ➢ MS recognizes another zone for other MSs

◆ Propose

➢ Change STC_DL_ZONE_IE

    ➢ One reserved bit into relay zone indicator

Relay Zone Indicator [2/2]

RS perspective: relay zone

STC_DL_ZONE_IE (with relay zone indicator)

MR-BS or RS ⟶

**MS perspective:
another zone for other MSs**

DL subframe						TTG	UL subframe		
Preamble	FCH / DLMAP	DL burst #1	DL burst #2	R-FCH / R-DLMAP	DL burst #1	DL burst #2		UL burst #1	UL burst #2
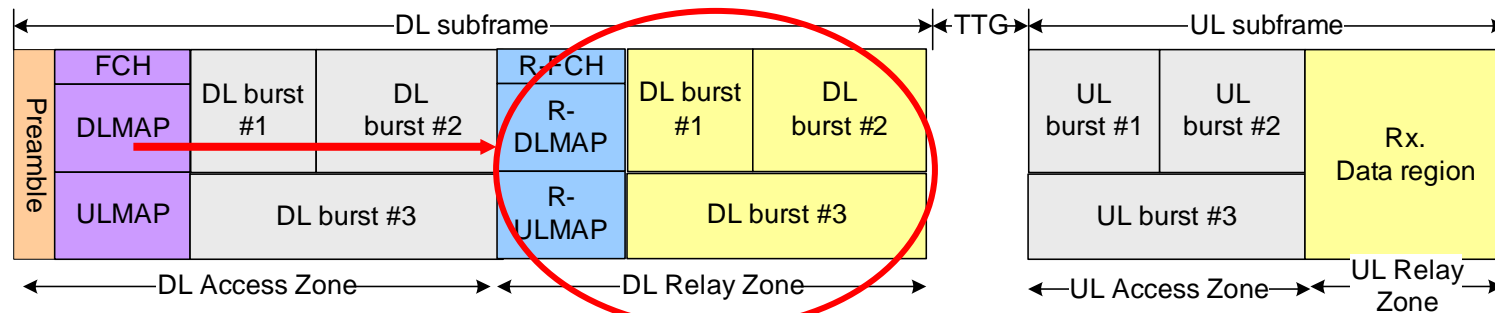
Figure 1: STC_DL_ZONE_IE (with relay zone indicator) indicates DL relay zone

- DL Access Zone — DL Relay Zone — UL Access Zone — UL Relay Zone

◆ After RS moves to the relay zone, RS receives frame configuration message
[802.16j-07/265] at relay zone

Frame Configuration
Signaling
#07/236

Frame Configuration Signaling [1/2]

◆ The agreed Multi-hop relay Frame Structure supports

  ➢ Single frame and multi frame

  ➢ Number of relay zone in a single frame is configurable

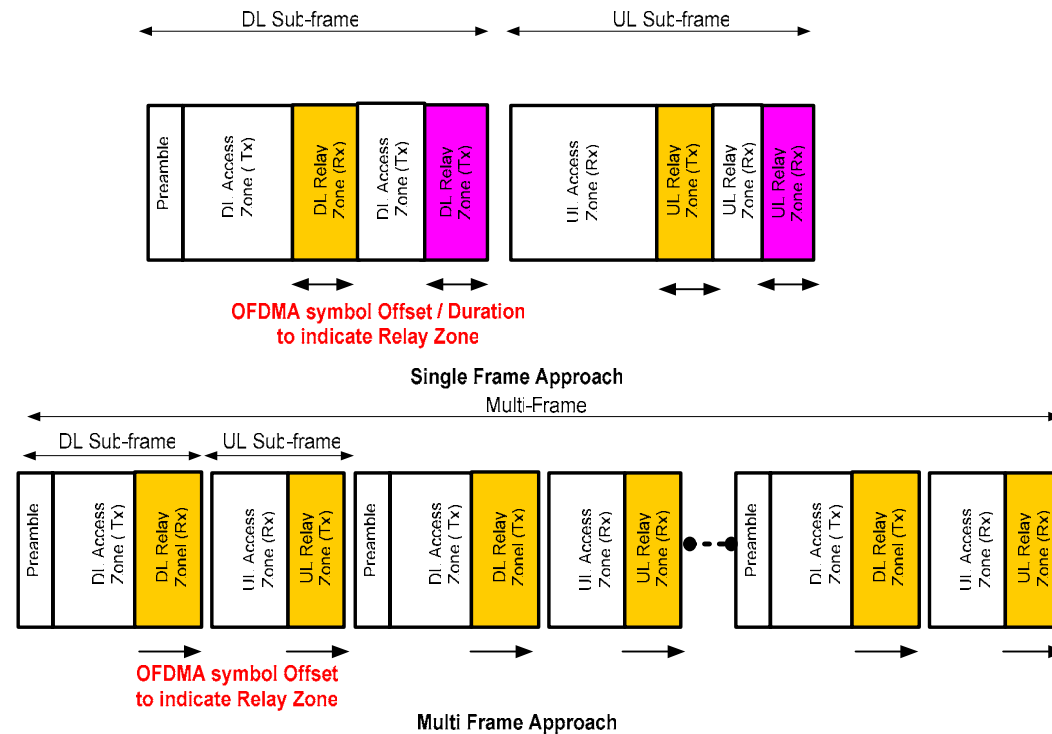 ➢ Number of frame in a multi frame is configurable

Figure 2: An examples of Single frame / Multi frame

Frame Configuration Signaling [2/2]

◆ For RS to configure Multi-hop relay Frame structure,

◆ Propose

   ◆ Relay Configuration MAC message

   ➢ Frame type : Single frame / Multi frame

   ➢ Frame Number (to take effect)

   ➢ Single Frame

      ➢ Number of relay zone, offset, and duration

      ➢ Transceiver mode (Tx,Rx, idle) for each relay zone

   ➢ Multi Frame

      ➢ Number of frame

      ➢ Transceiver mode for each relay zone

   ◆ Text proposal

   ➢ R-FCH and R-DL-MAP shall be transmitted in the first DL relay zone that is in Tx mode

Summary

- **Relay zone indicator**

  - STC_DL_Zone_IE (one reserved bit for relay zone indicator)

- **Frame Configuration Signaling**

  - Propose MAC message

  - Single frame/ multi frame

  - Frame number (to take effect)

  - Number of relay zone in single frame, offset, duration

  - Number of frame in multi frame