

**Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)**

**Submission Title:** [MSC figures in draft and updated figures status]

**Date Submitted:** [August . 2009]

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**Re:** []

**Abstract:** [MSC figures in draft and updated figures status]

**Purpose:** [Contribution to IEEE 802.15.7 TG-VLC]

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# **MSC figures in draft and updated figures status**

**2010. 09**

**Samsung Electronics**

# MSC in D1 draft

- Total MSC figures: 42
- MSC figure in D1: 20
  - Fig. 52, 53, 54, 55, 56, 57, 58, 59, 60, 61 (update), 111, 112, 113, 166, 167, 168, 169, 170, 171, 172
  - ⇒ including updated MSC ( FFD -> Device)
- Draw again MSC style: 22
  - figure 109, 115, 116, 117, 118, 119, 120, 121, 122, 129, 133, 134, 157, 158, 159, 160
  - 161, 162, 163, 164, 165, new fig. in 7.1.17.1

⇒ Update and organize with Jason's figure and MSC file.

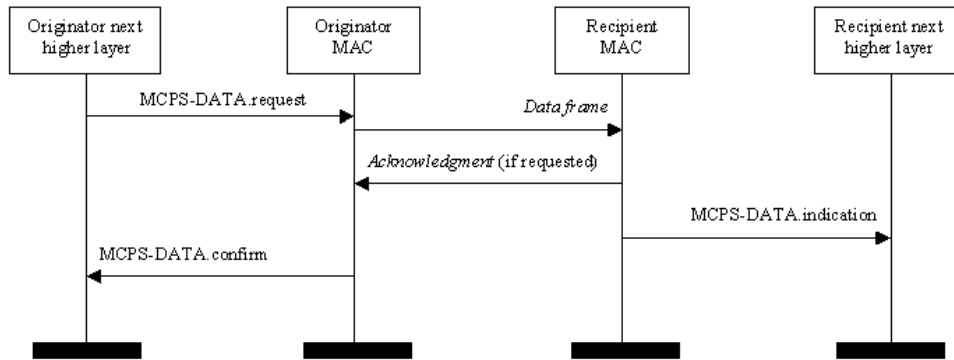
D1 Figure #	Originally MSC	update MSC	Newly made MSC
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53	○	○	
54	○	○	
55	○	○	
56	○	○	
57	○	○	
58	○	○	
59	○	○	
60	○	○	
61	○	○	
109			○
111	○	○	
112	○	○	
113	○	○	
115			○
116			○
117			○
118			○
119			○
120			○
121			○

# MSC in D1 draft

- Total MSC figures: 42
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    - Fig. 52, 53, 54, 55, 56, 57, 58, 59, 60, 61 (update), 111, 112, 113, 166, 167, 168, 169, 170, 171, 172
    - ⇒ including updated MSC ( FFD -> Device)
  - Draw again MSC style: 22
    - figure 109, 115, 116, 117, 118, 119, 120, 121, 122, 129, 133, 134, 157, 158, 159, 160, 161, 162, 163, 164, 165, new fig. in 7.1.17.1
- ⇒ Update and organize with Jason's figure and MSC file.

D1 Figure #	Originally MSC	update MSC	Newly made MSC
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129			0
133			0
134			0
157			0
158			0
159			0
160			0
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167	0	0	
168	0	0	
169	0	0	
170	0	0	
171	0		
172	0		
7.1.17.1 New figure			0
	20	18	22

**Figure 52—Message sequence chart describing the MAC data service**

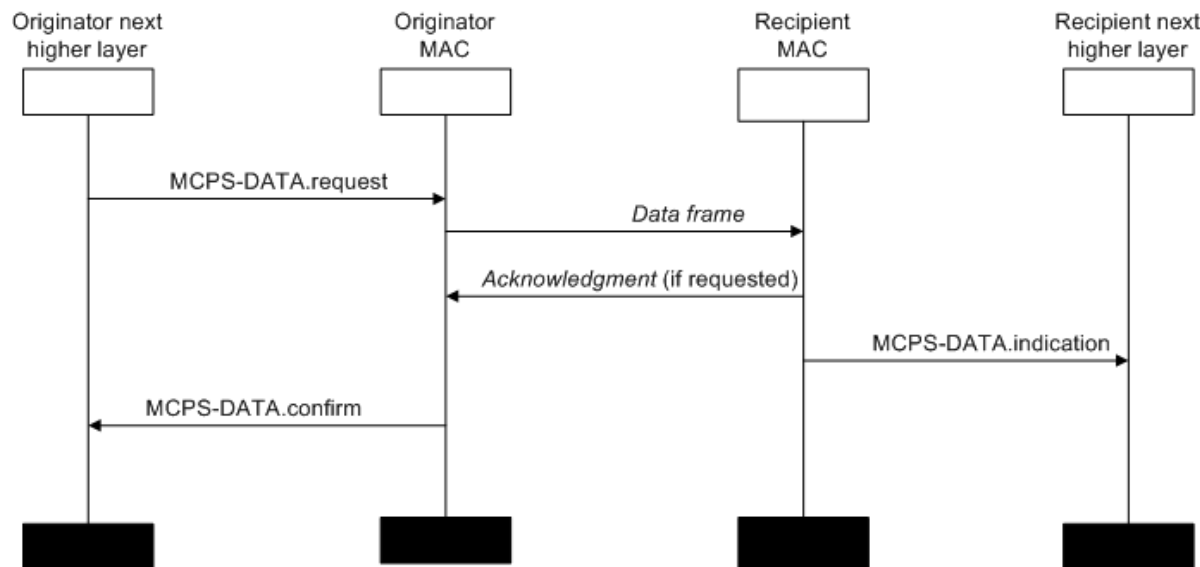


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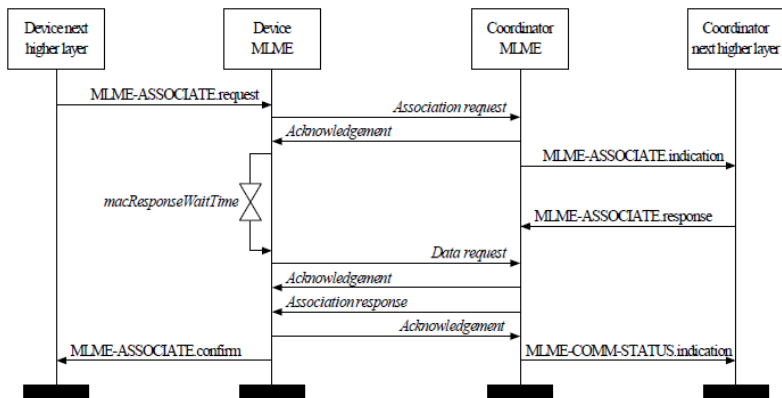
❖ made new figure

❖ No change.



**NEW**

Figure 53—Message sequence chart for association

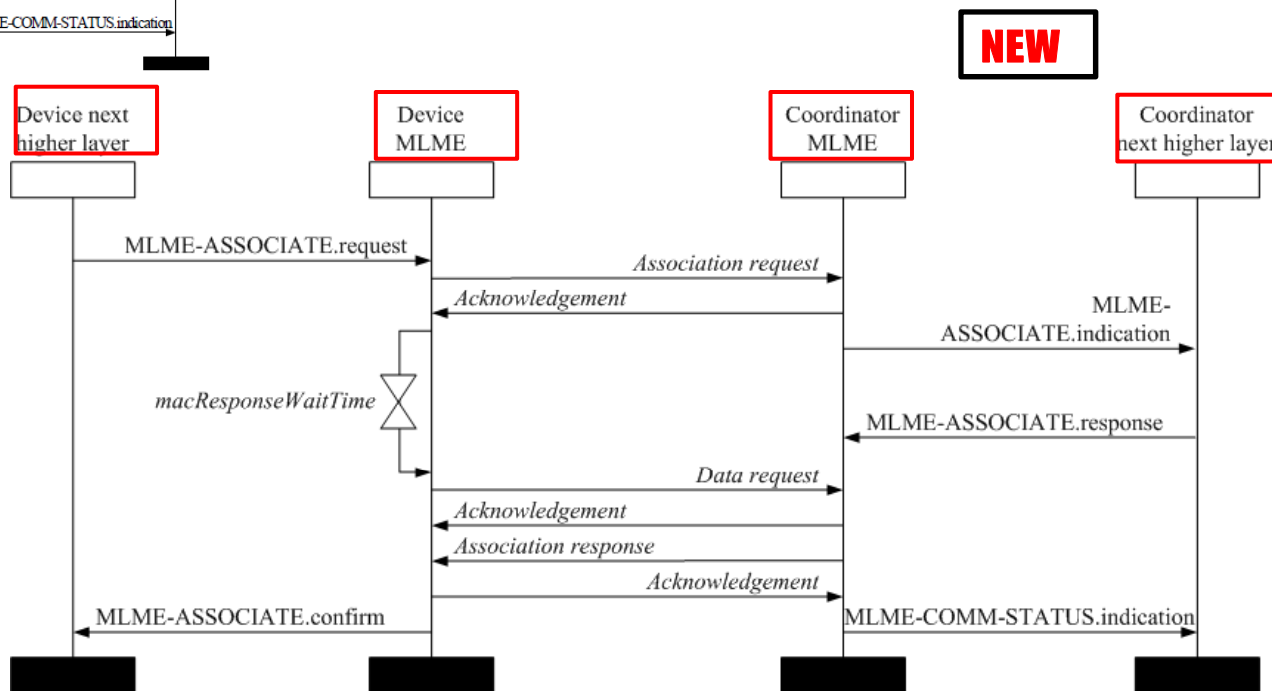


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❖ Original figure MSC style :  
editable.

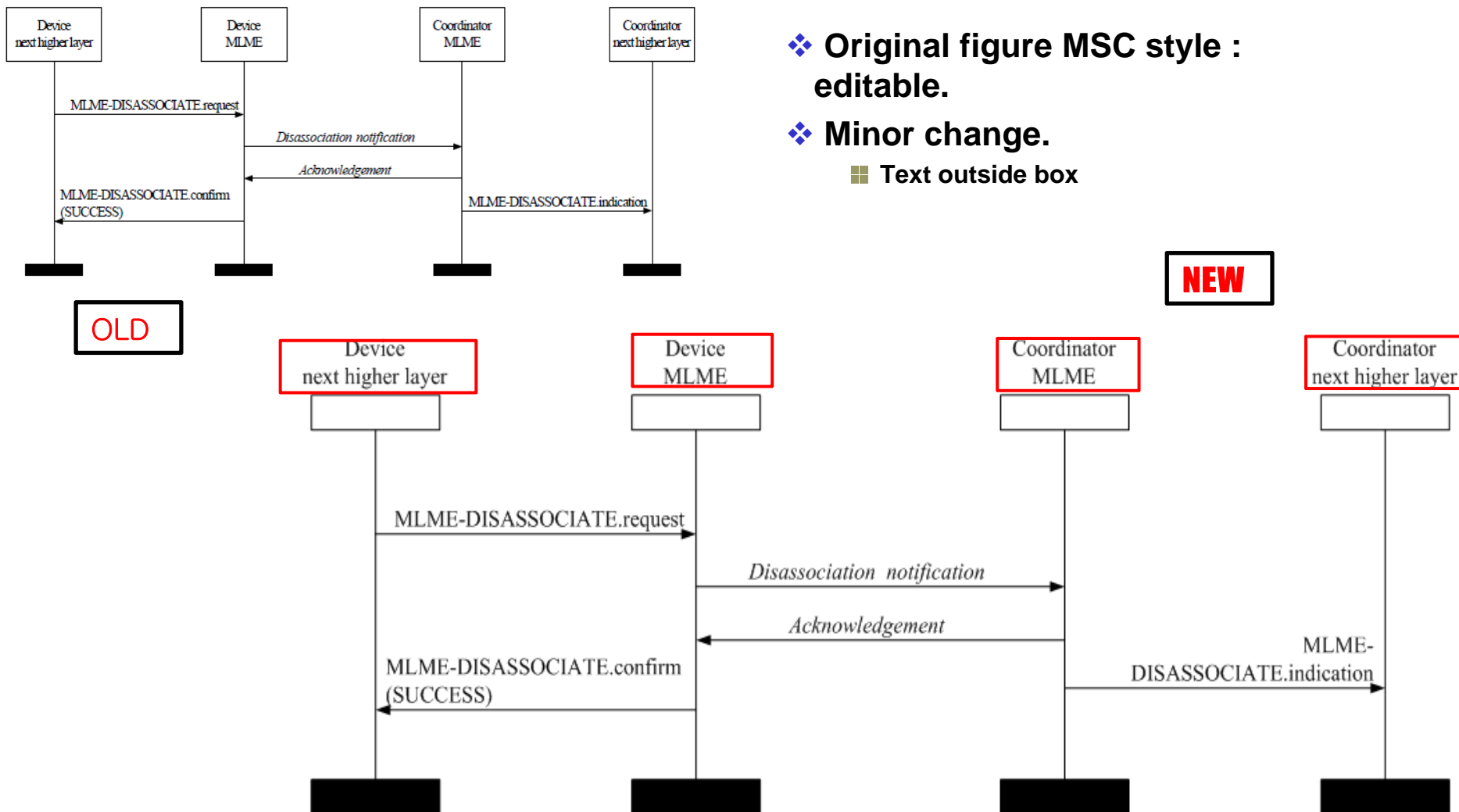
❖ Minor change.

■ Text outside box



NEW

**Figure 54—Message sequence chart for disassociation initiated by a device**



❖ Original figure MSC style :  
editable.

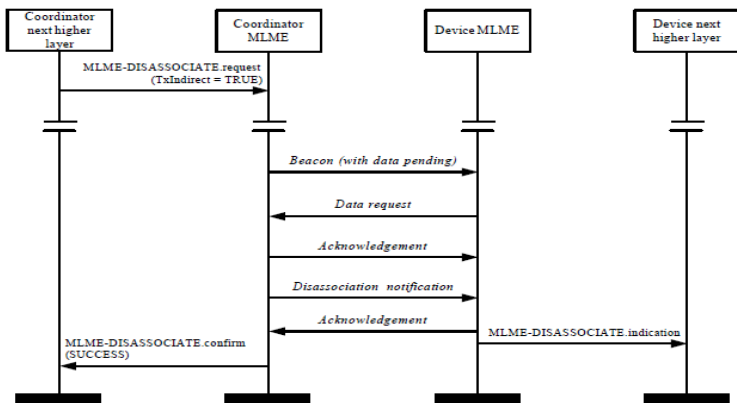
❖ Minor change.

■ Text outside box

**NEW**

**OLD**

### Figure 55—Message sequence chart for disassociation initiated by a coordinator, using indirect transmission, in a beacon-enabled VLC WPAN



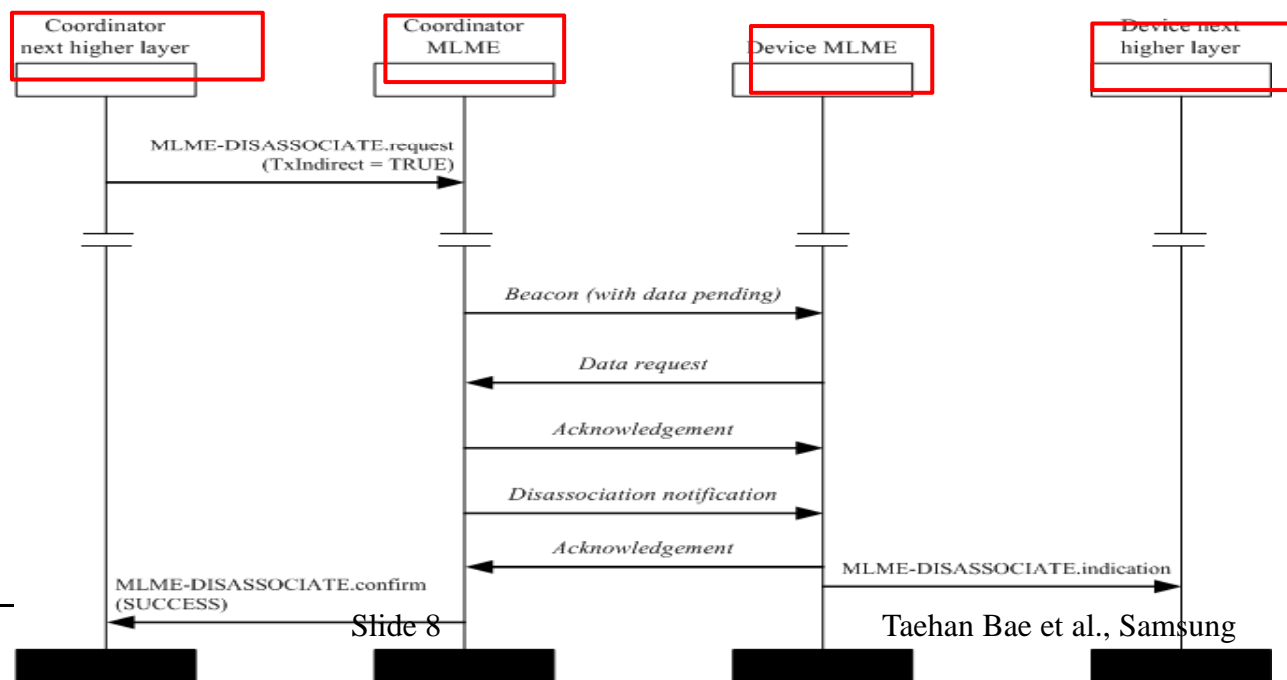
❖ Original figure MSC style :  
editable.

❖ Minor change.

■ Text outside box

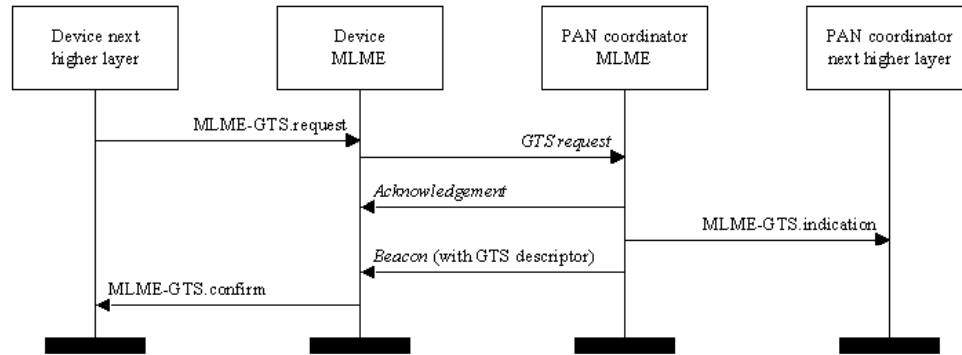
**NEW**

**OLD**



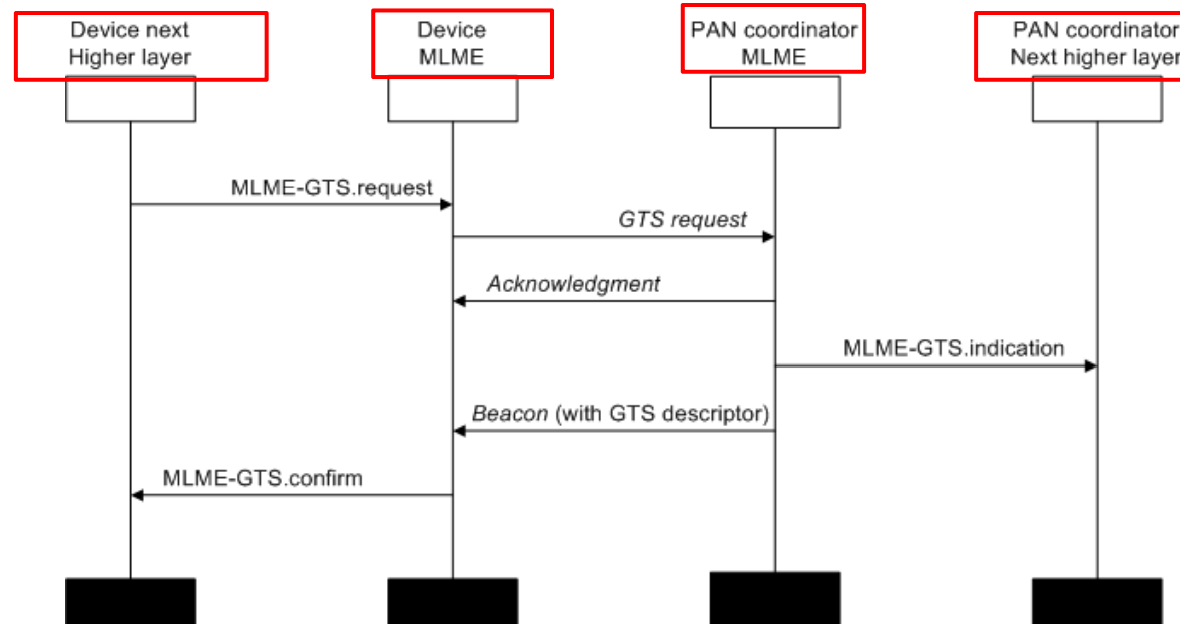


**Figure 56—Message sequence chart for GTS allocation initiated by a device**



**OLD**

❖ Original figure MSC style : Not exist, Not editable.

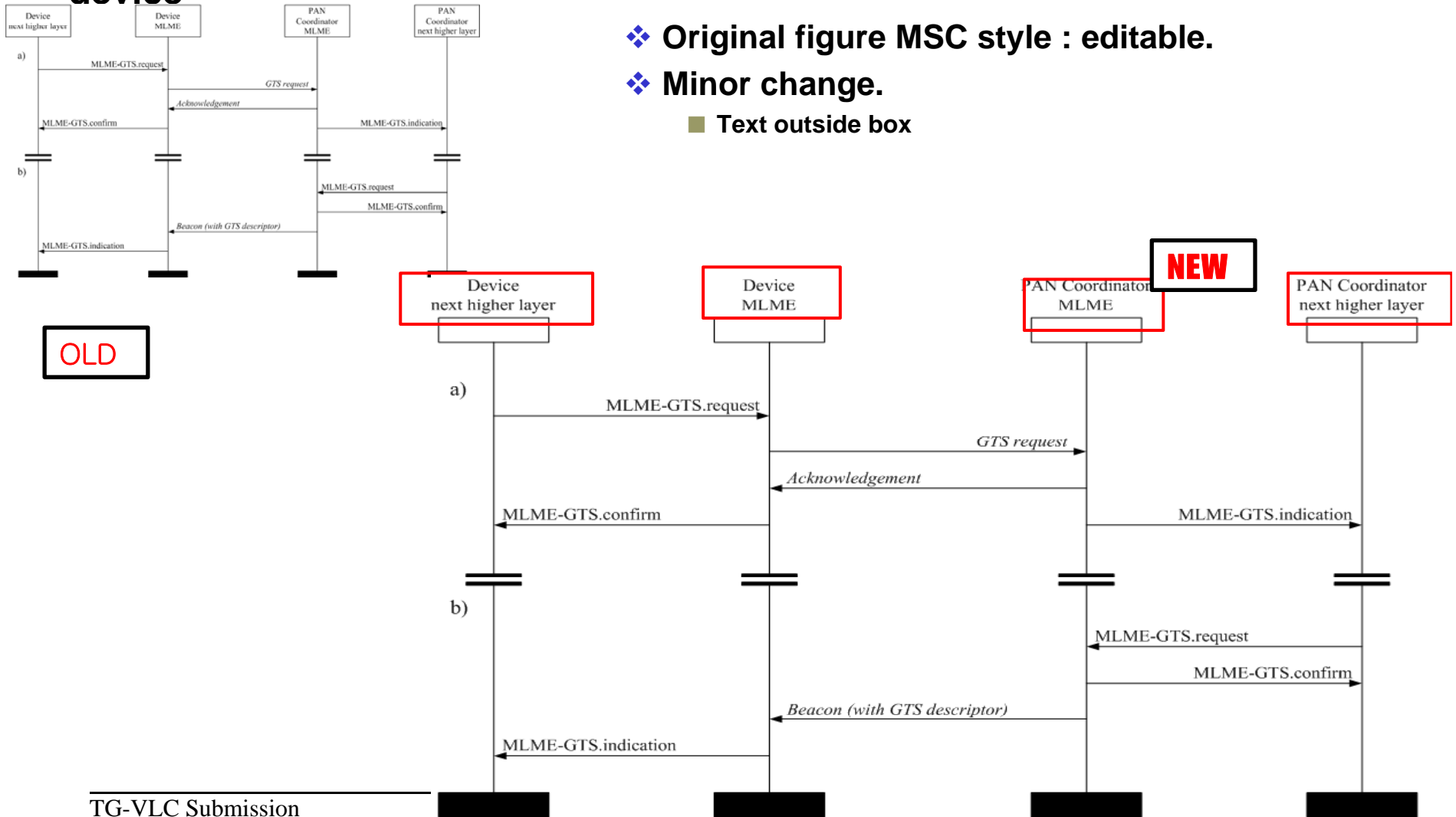


**NEW**

❖ made new figure  
❖ minor change.

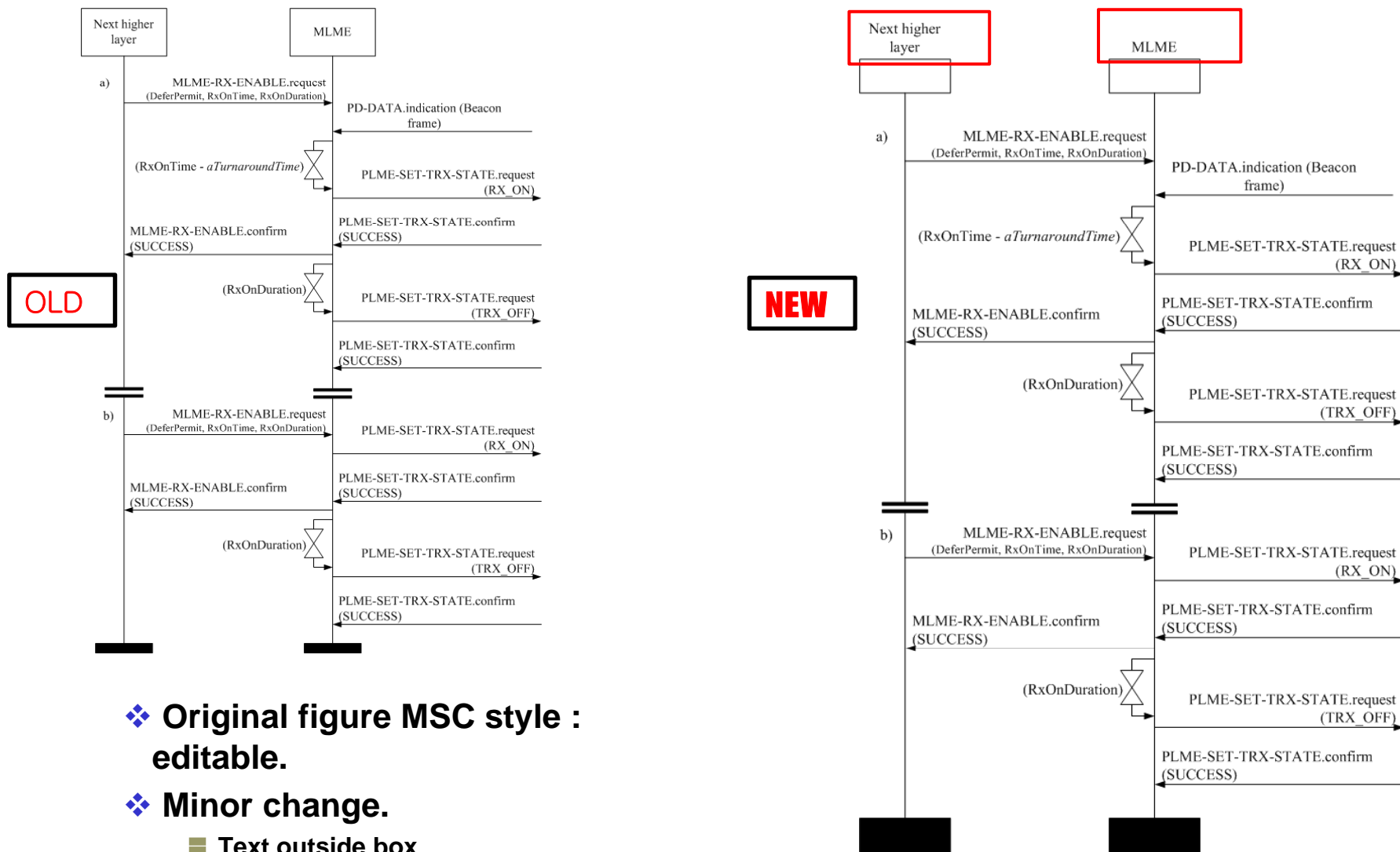
■ Text place in outside box

**Figure 57—Message sequence chart for GTS deallocation initiated by a device (a) and the PAN coordinator (b)chart for GTS allocation initiated by a device**

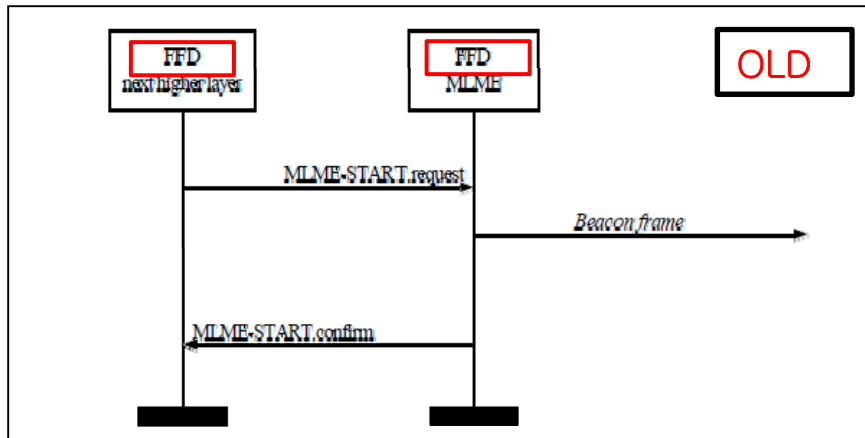


- ❖ Original figure MSC style : editable.
- ❖ Minor change.
- Text outside box

**Figure 58—Message sequence chart for changing the state of the receiver**

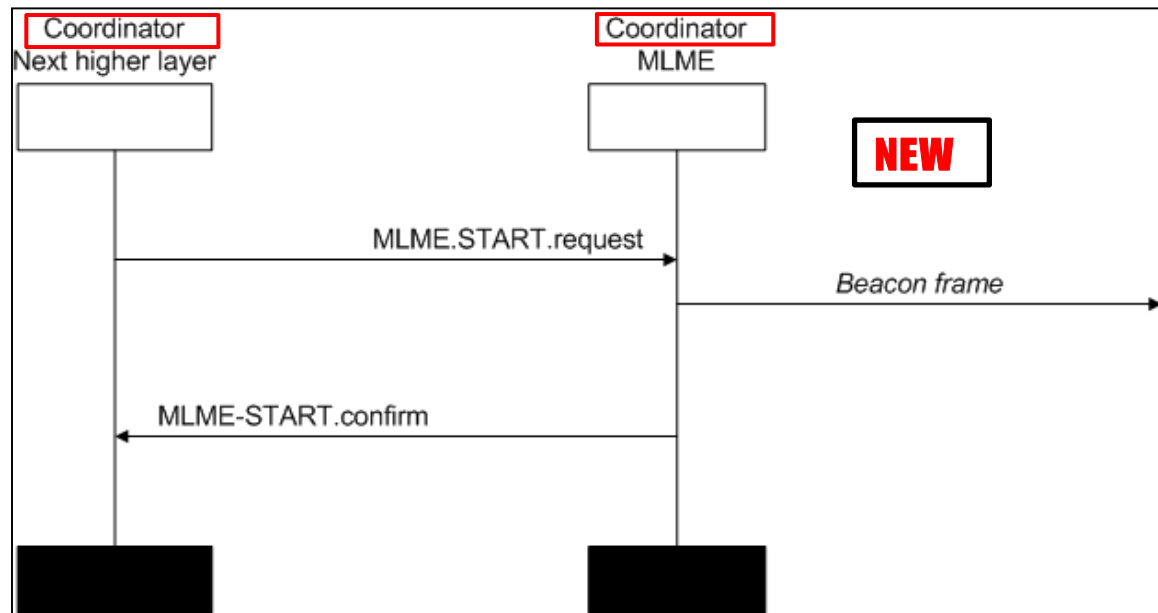


**Figure 59—Message sequence chart for updating the superframe configuration**

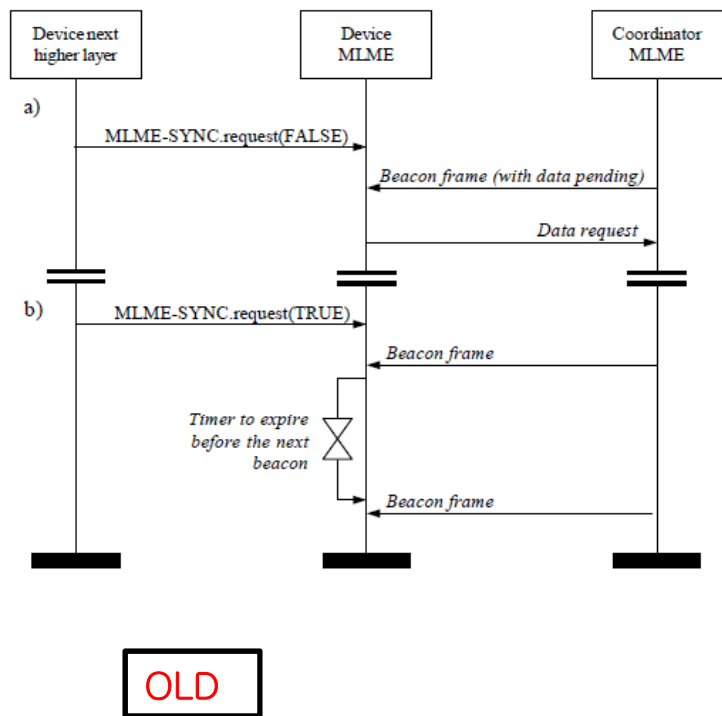


❖ Original figure MSC style : Not exist, Not editable.

❖ made new figure  
❖ change FFD into Coordinator



**Figure 60—Message sequence chart for synchronizing to a coordinator in a beacon-enabled VLC WPAN**



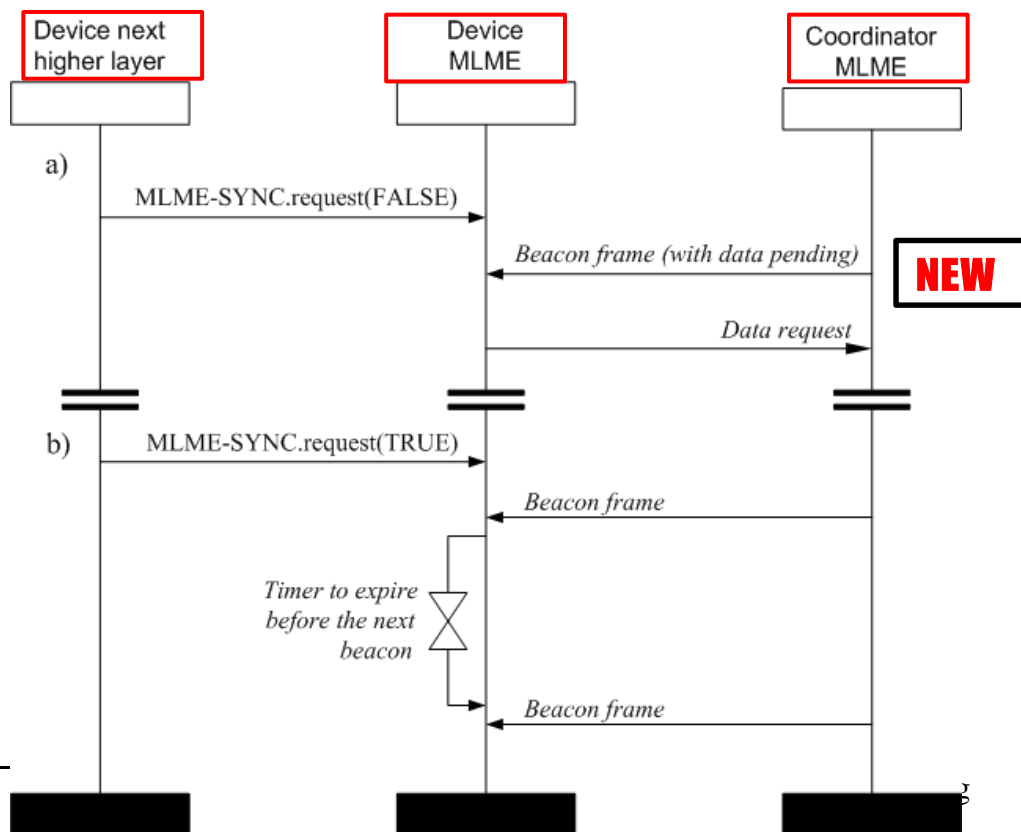
OLD

❖ Original figure MSC style : Not exist, Not editable.

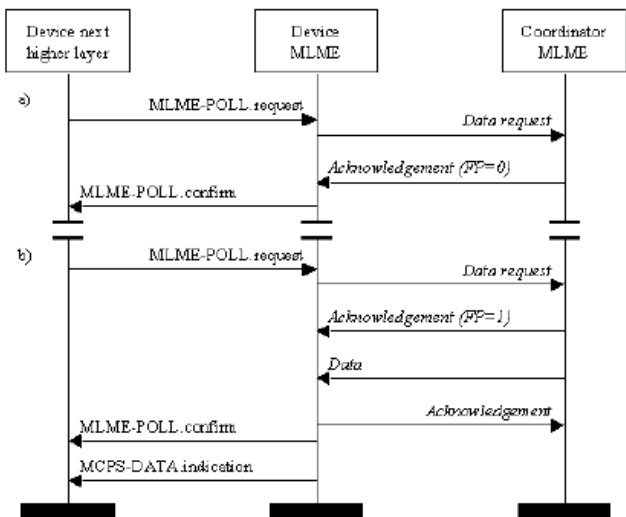
❖ made new figure

❖ Minor change

■ Text place in outside box.



### Figure 61—Message sequence chart for performing the dimming function



**OLD**

❖ Original figure MSC style : **Wrong Figure.**  
CID 627, 632, 632a

❖ made new figure based on the resolution

❖ Text place in outside box

**NEW**

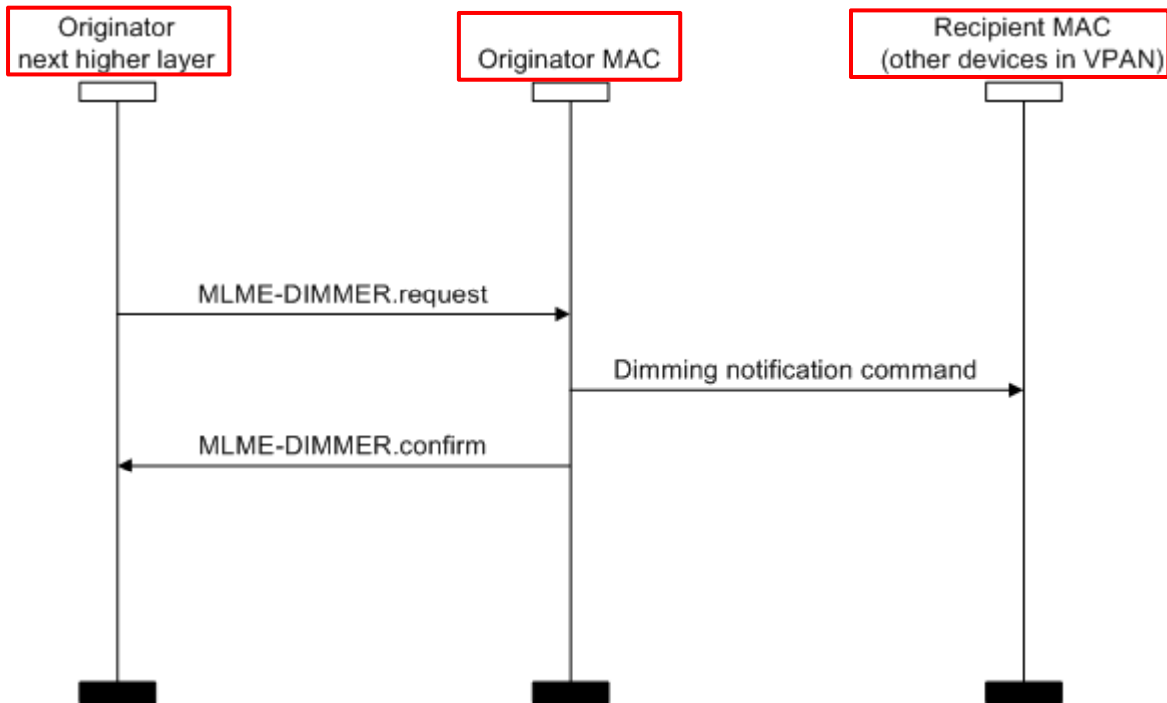
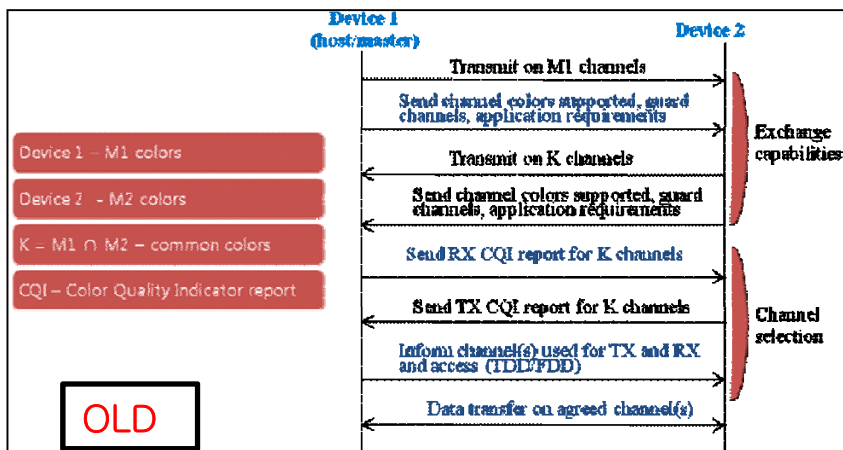


Figure 109—Starting a PAN



- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure
- ❖ No change.

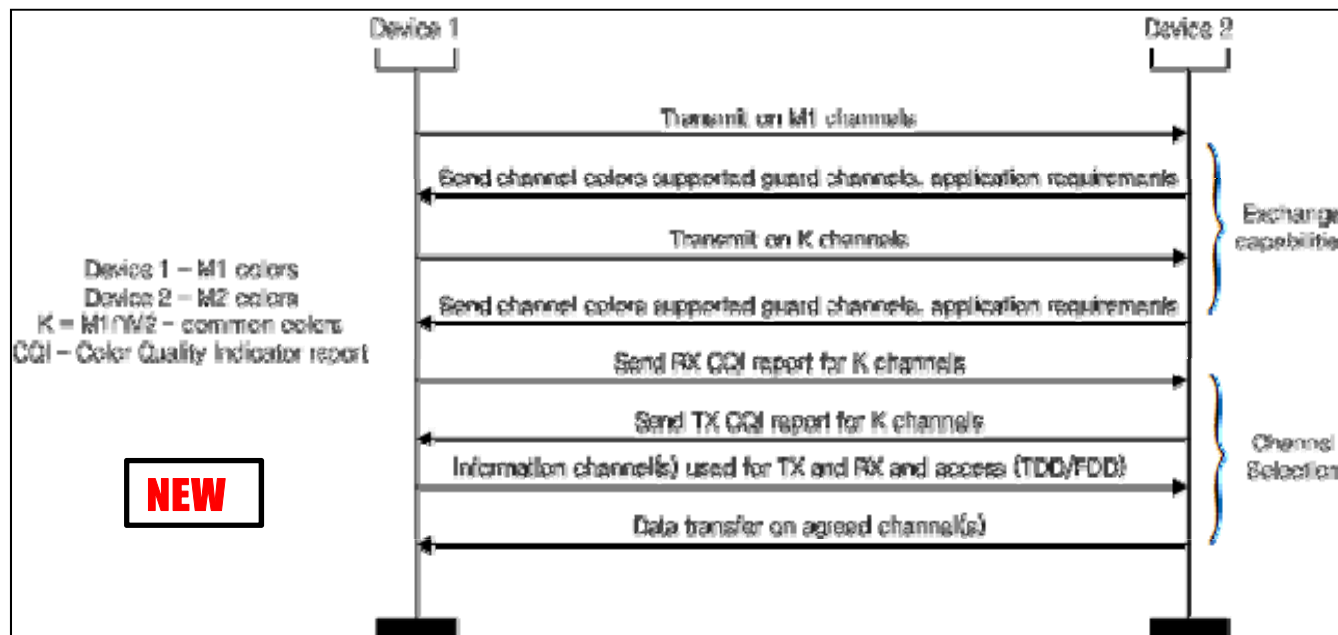
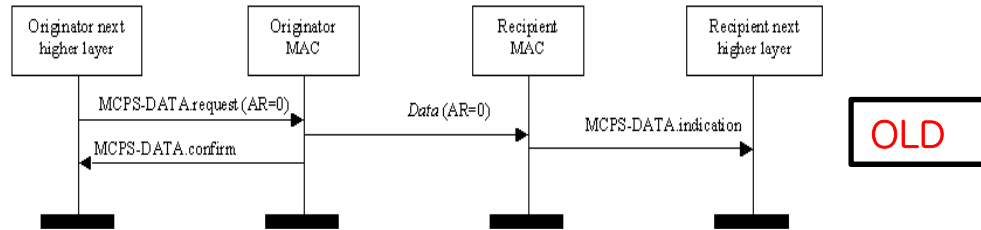


Figure 111—Successful data transmission without an acknowledgment



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❖ made new figure

❖ Text placed in outside

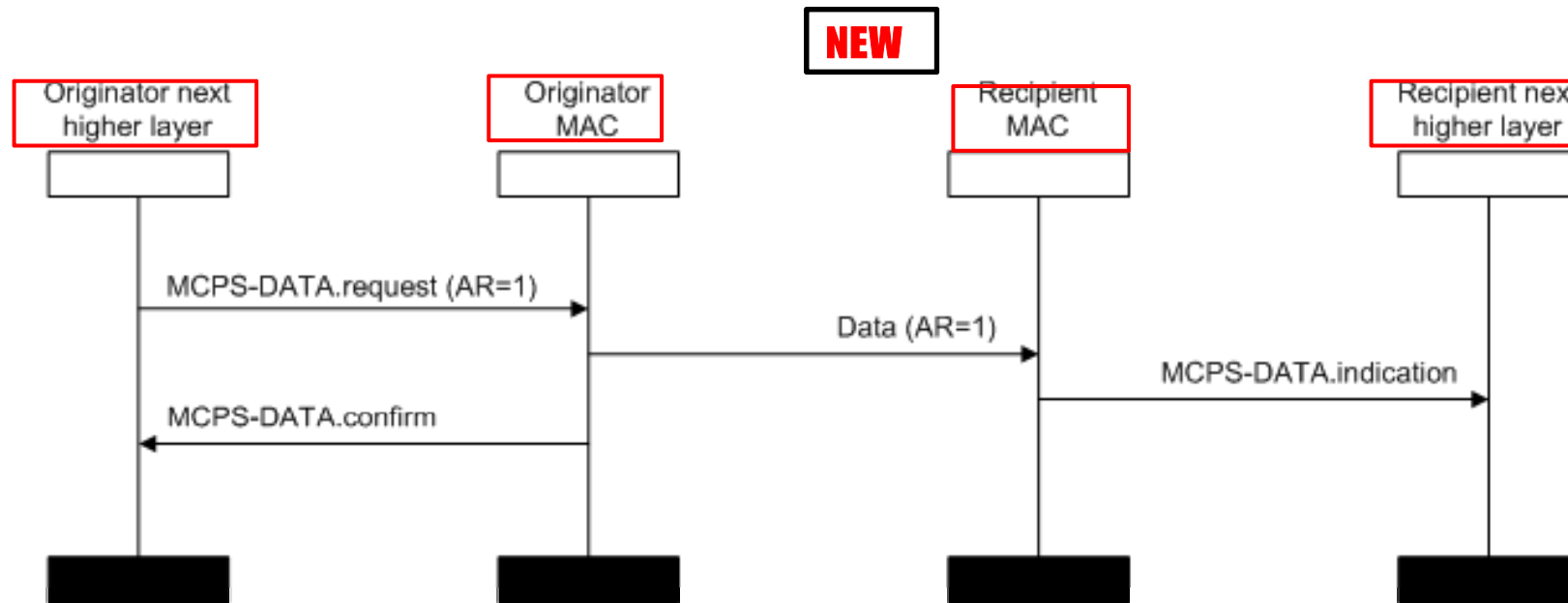
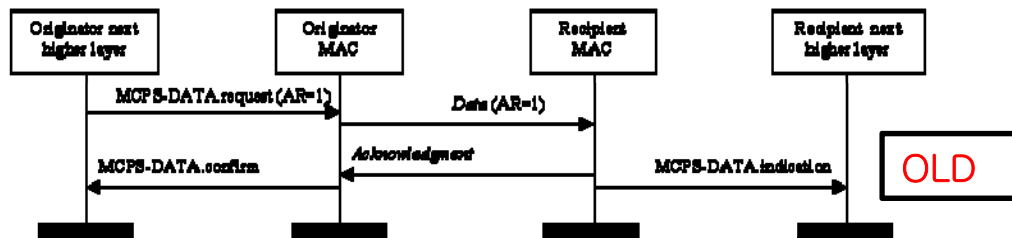




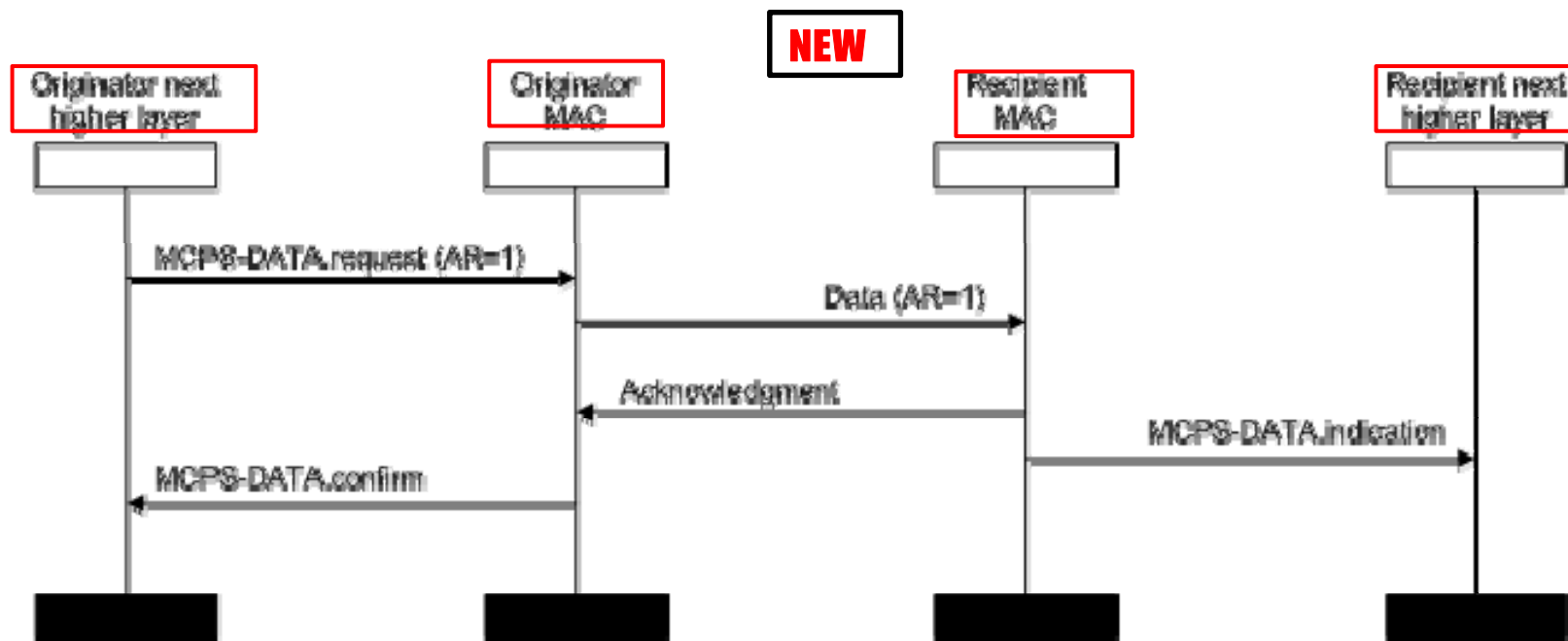
Figure 112—Successful data transmission with an acknowledgment



❖ Original figure MSC style :  
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❖ made new figure

❖ Text placed in outside

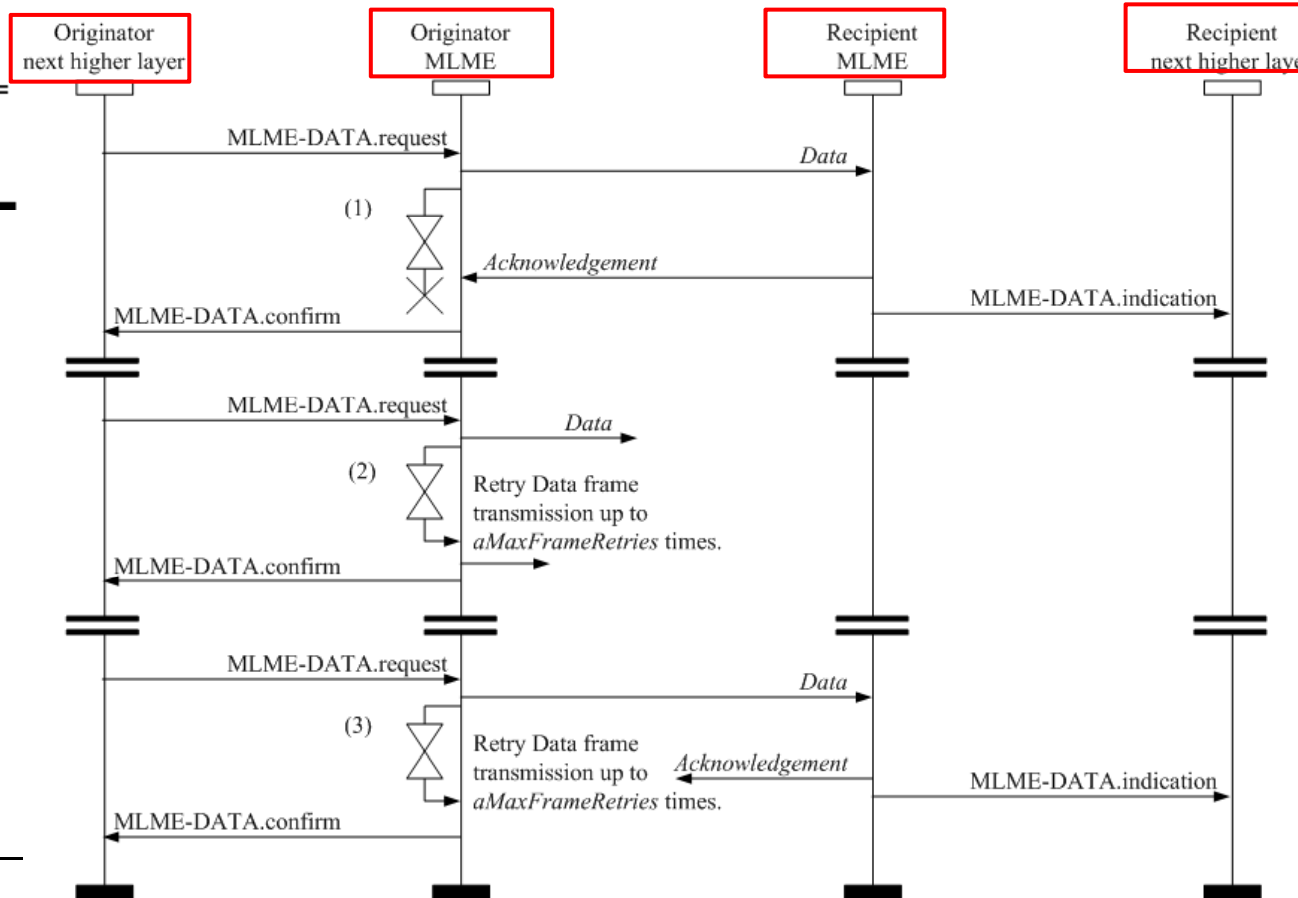
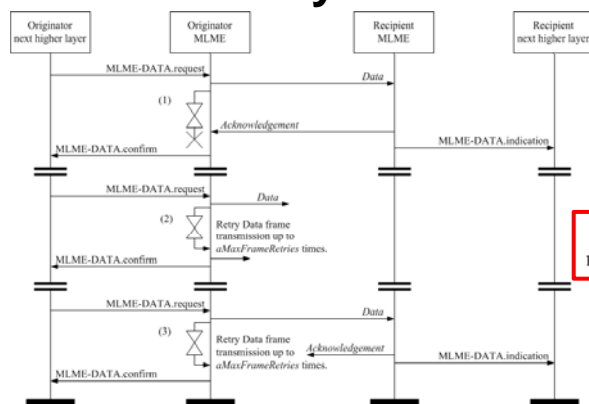


**Figure 113—Transmission scenarios, using direct transmission, for frame reliability**

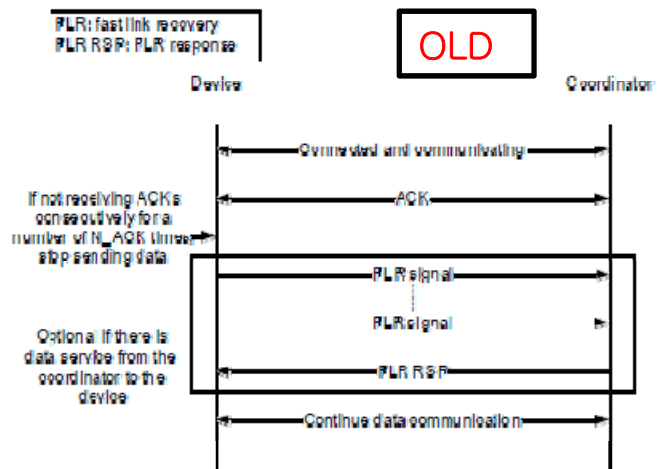
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❖ Minor change.

■ Text outside box



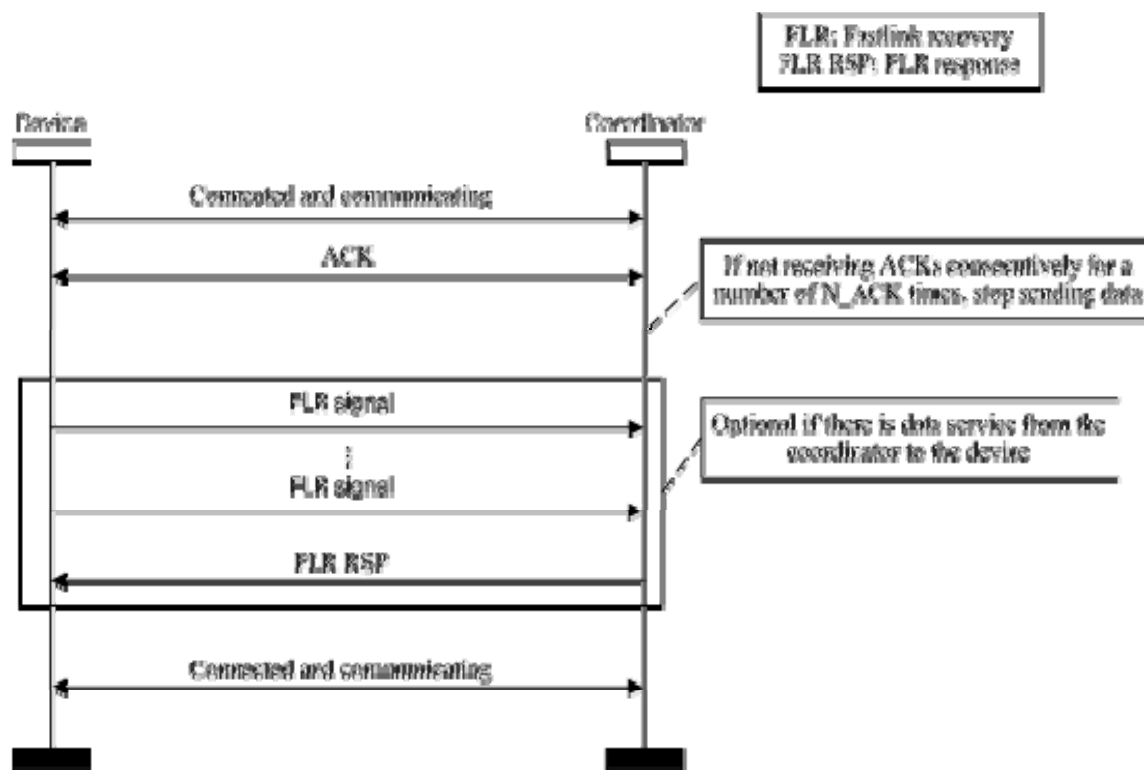
**Figure 115—An example of the process of device stopping data transmission based on the retransmission count, and triggering FLR.**



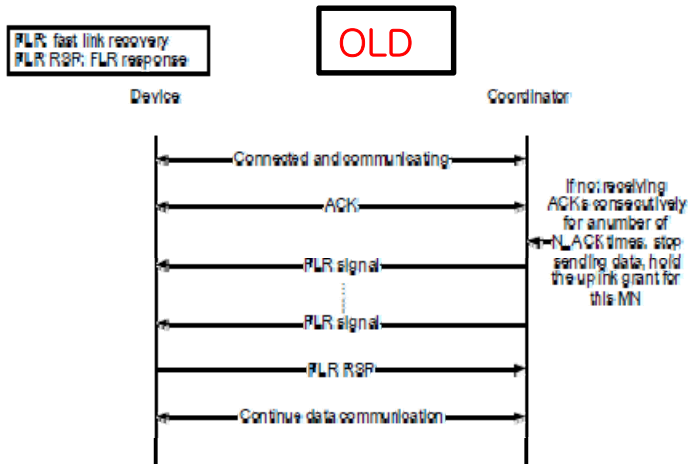
❖ Original figure **NOT** a MSC style

❖ Re draw a figure

**NEW**



**Figure 116—An example of the process of device stopping data transmission based on the retransmission count, and triggering FLR.**



❖ Original figure **NOT** a MSC style

❖ Re draw a figure

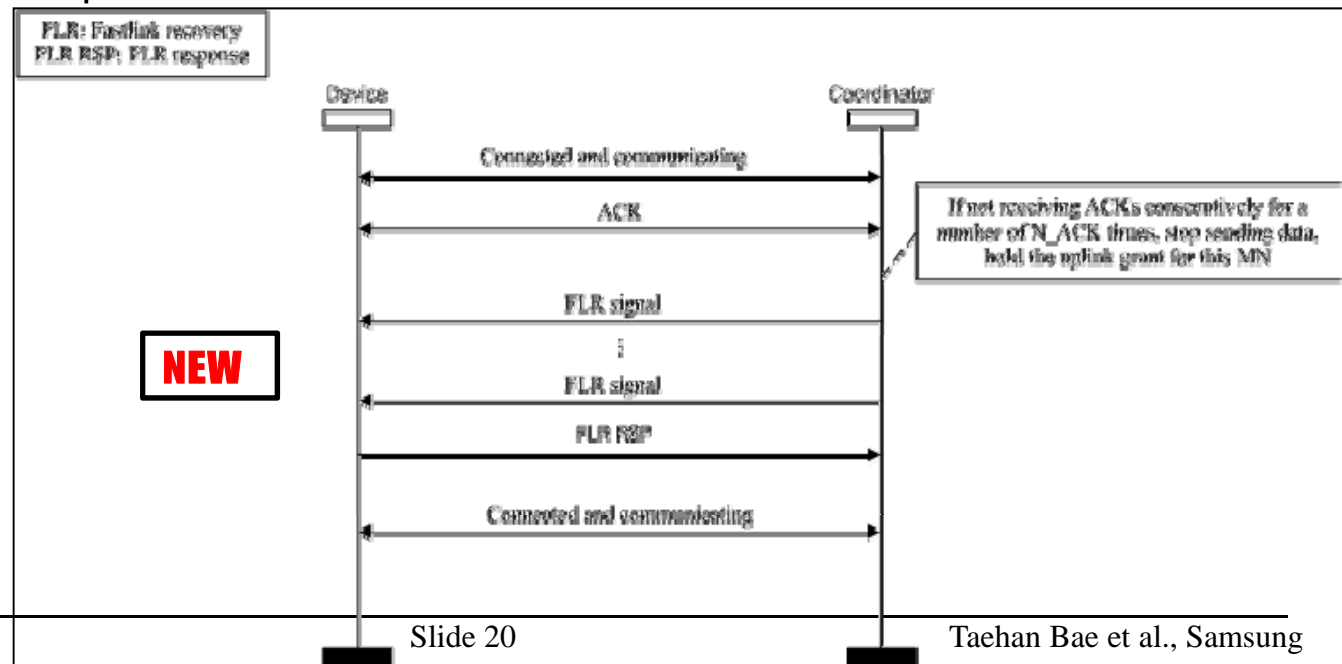
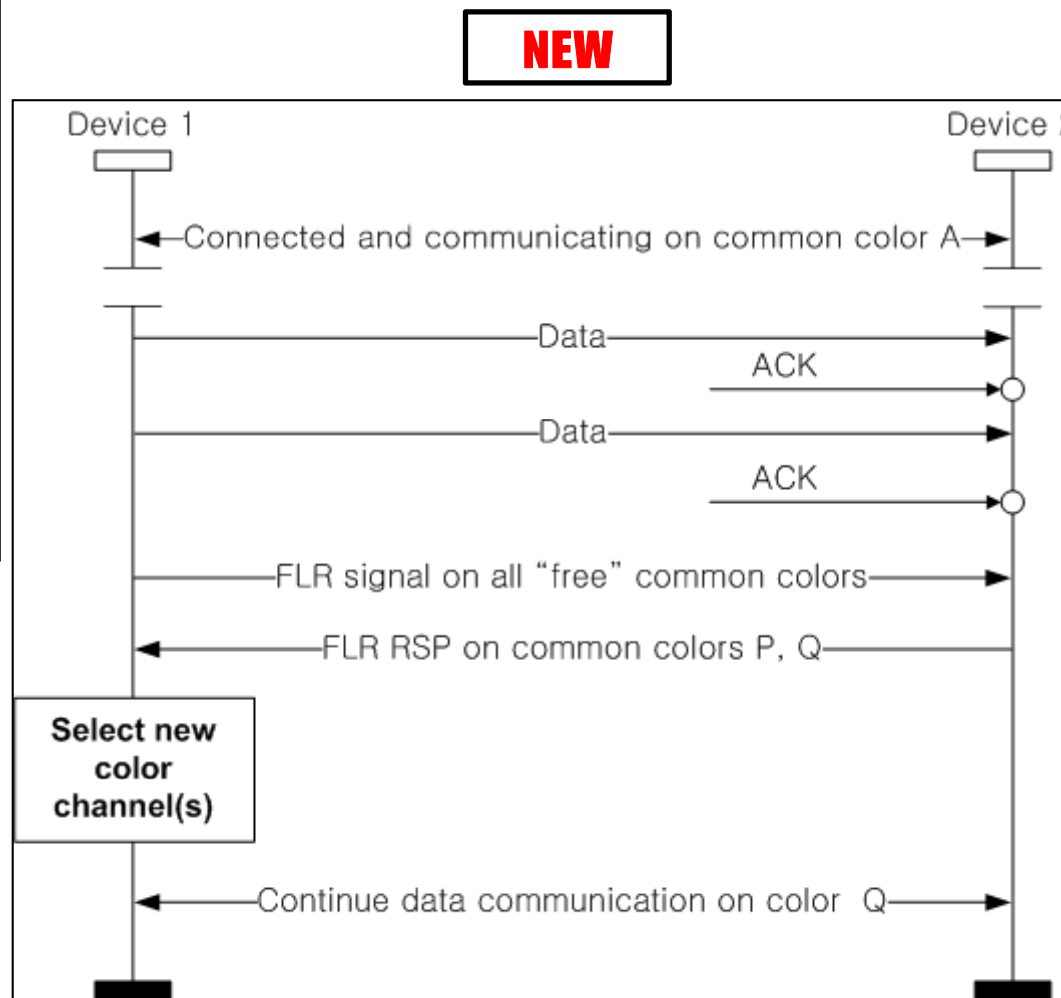
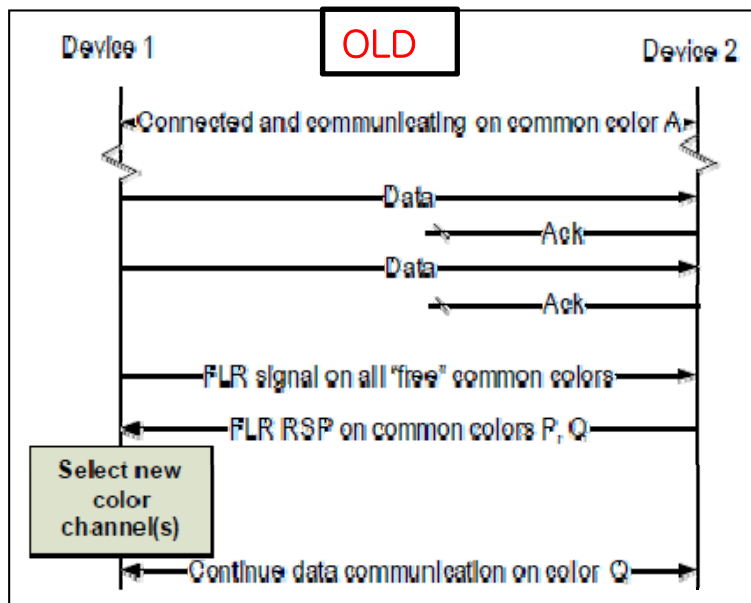


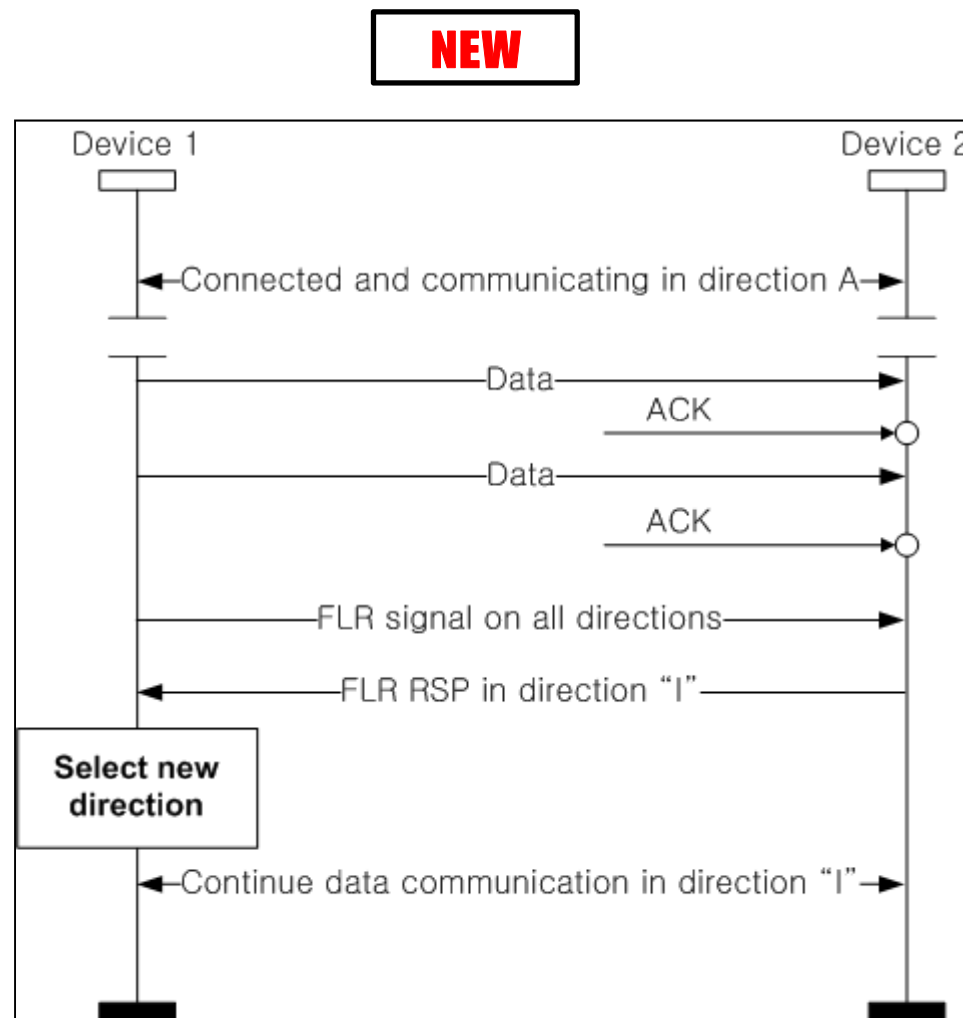
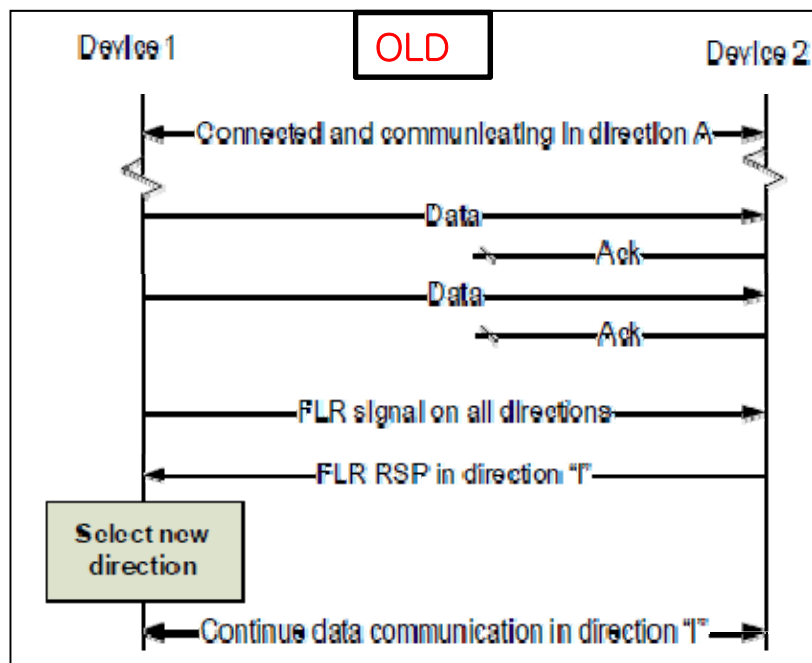
Figure 117—Flowchart of process for color band assisted fast link recovery



❖ Original figure **NOT** a MSC style

❖ Re draw a figure

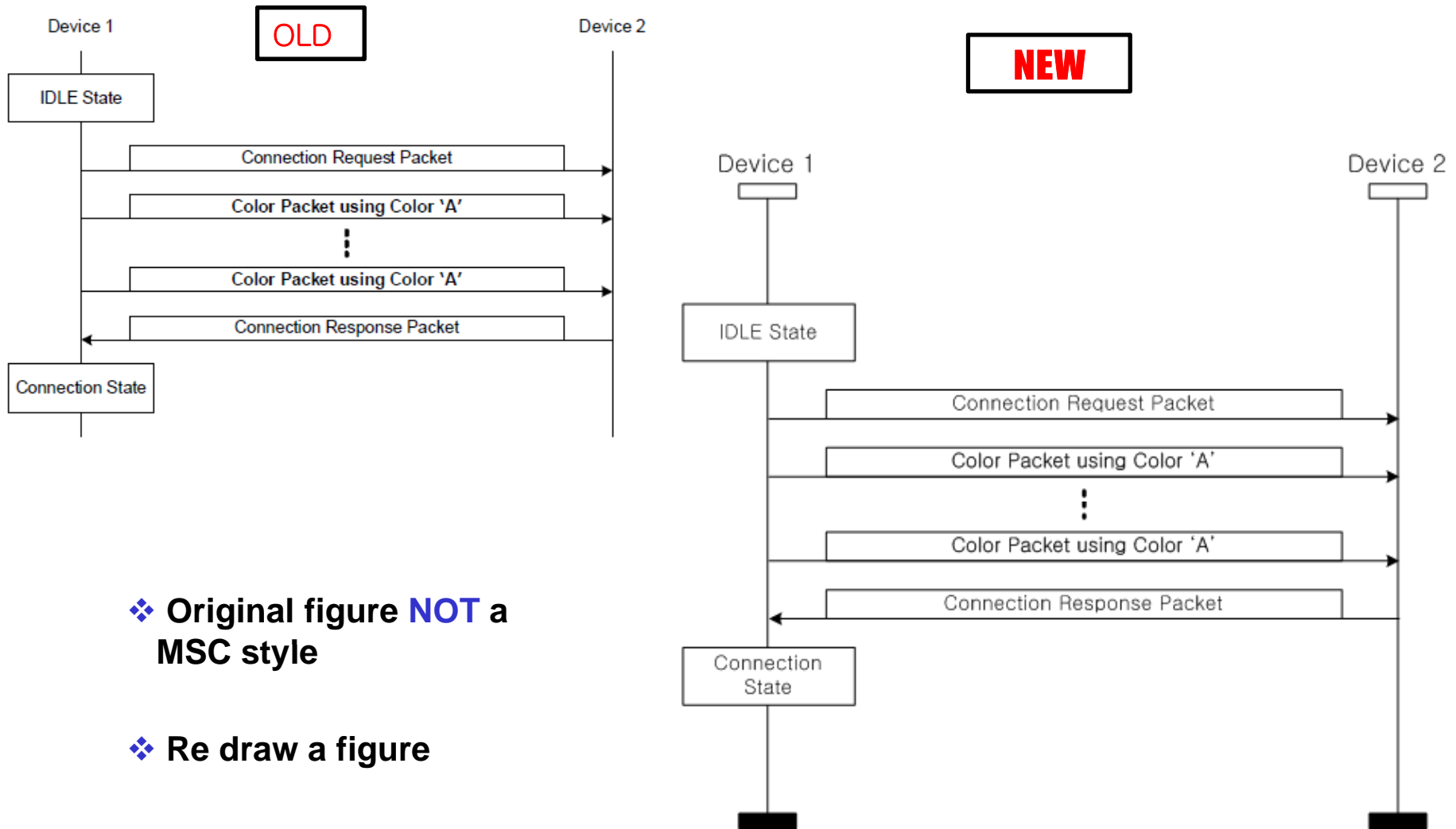
**Figure 118—Flowchart showing process of multiple angles assisted fast link recovery**



❖ Original figure **NOT** a MSC style

❖ Re draw a figure

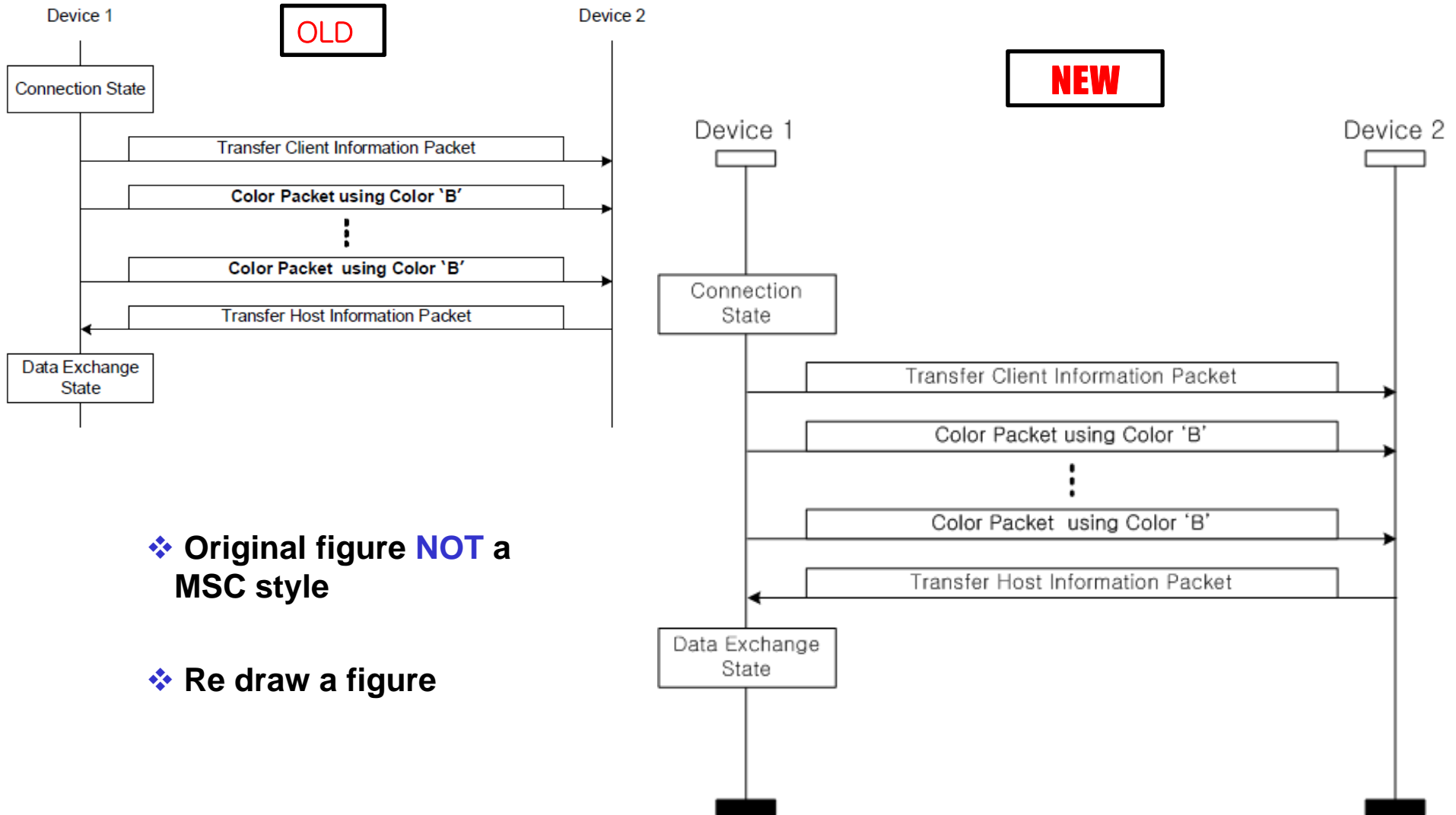
Figure 119—Step1 - Color Packet Usage for Connection procedure



❖ Original figure **NOT** a MSC style

❖ Re draw a figure

### Figure 120—Step 2 - A Color Packet Usage for Exchange Information Procedure

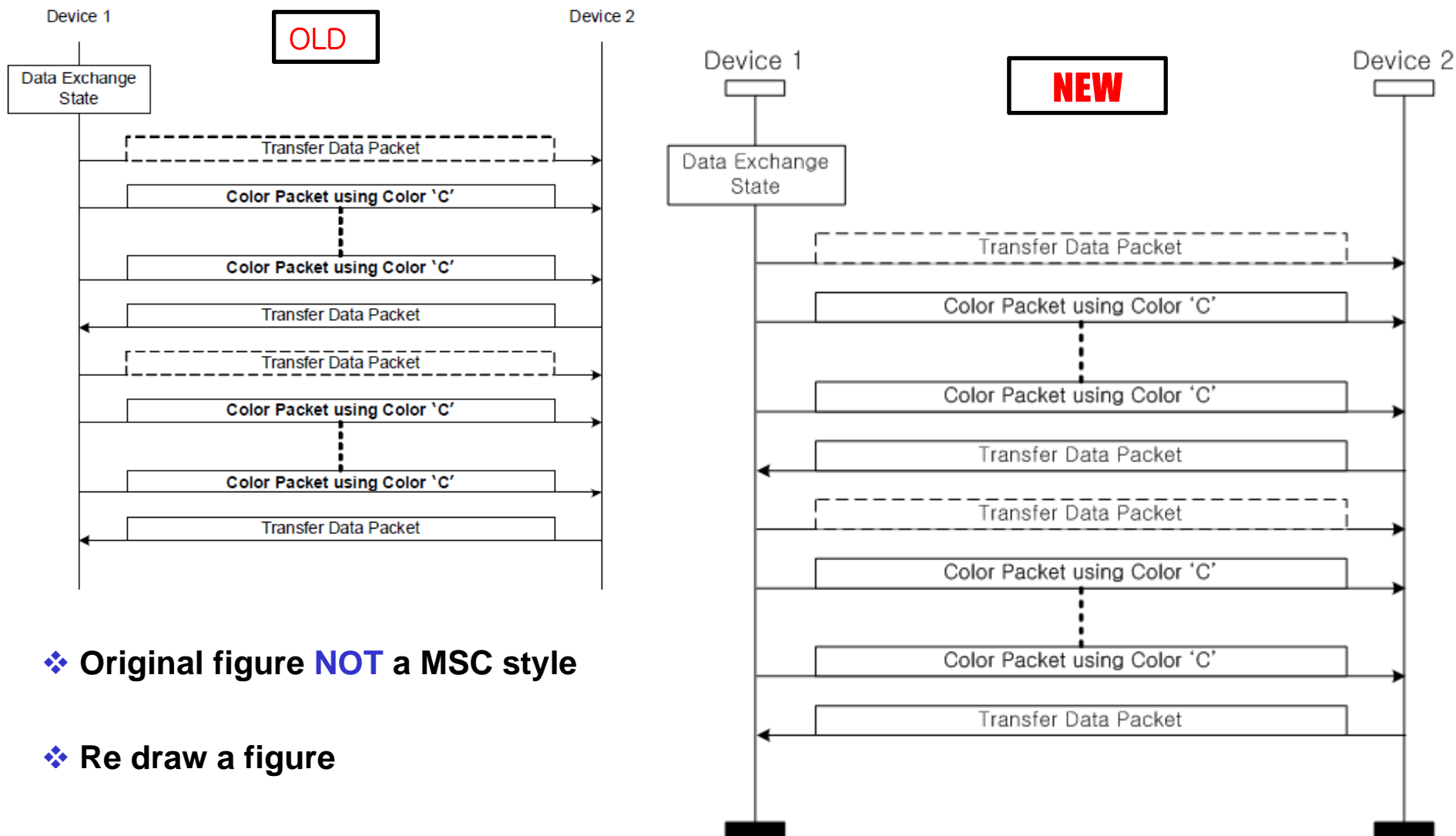


❖ Original figure NOT a MSC style

❖ Re draw a figure



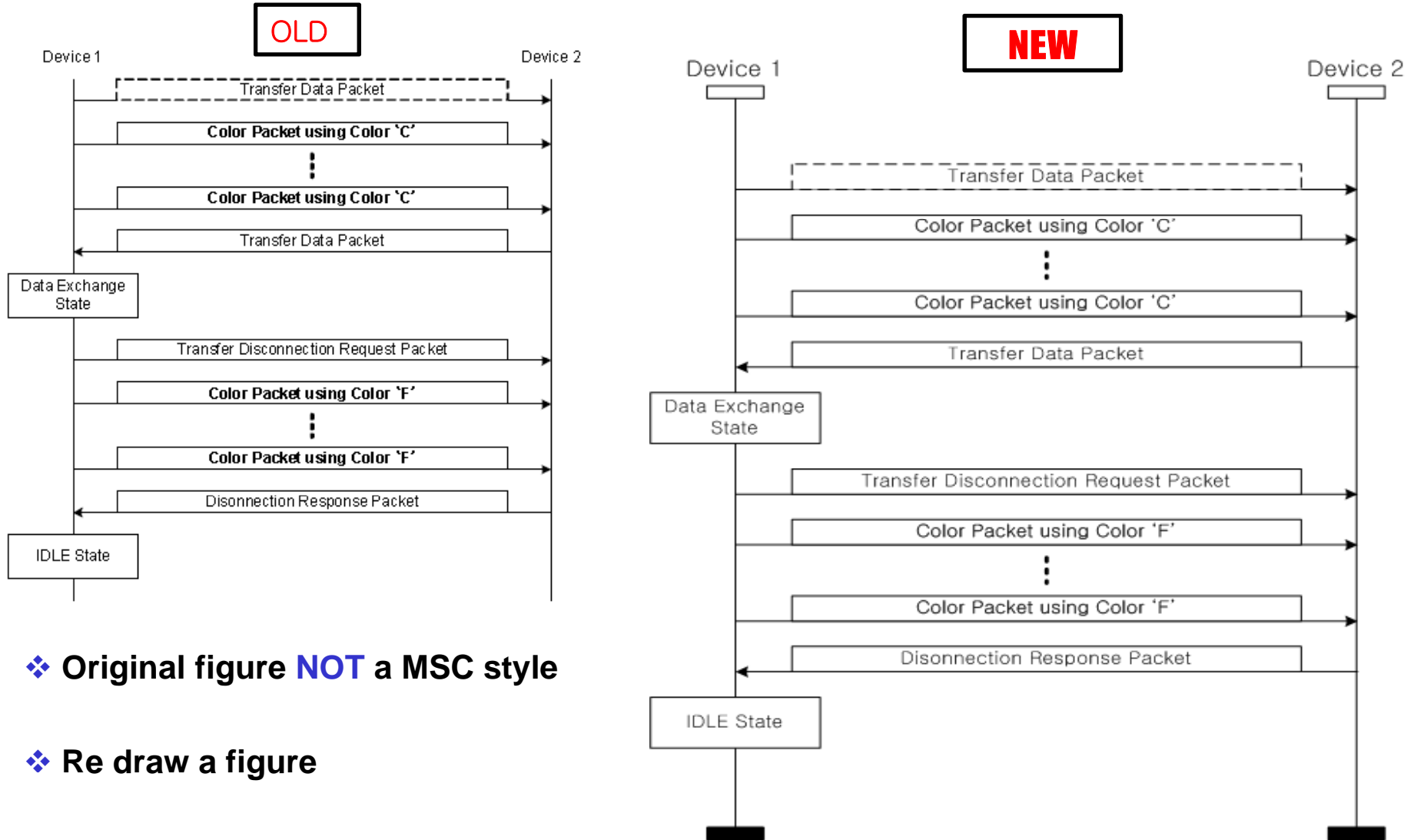
### Figure 121—Step 3 - A Color Packet Usage for Transfer Data Procedure



❖ Original figure **NOT** a MSC style

❖ Re draw a figure

### Figure 122—Step 4 - A Color Packet Usage for Transfer Disconnection Procedure1

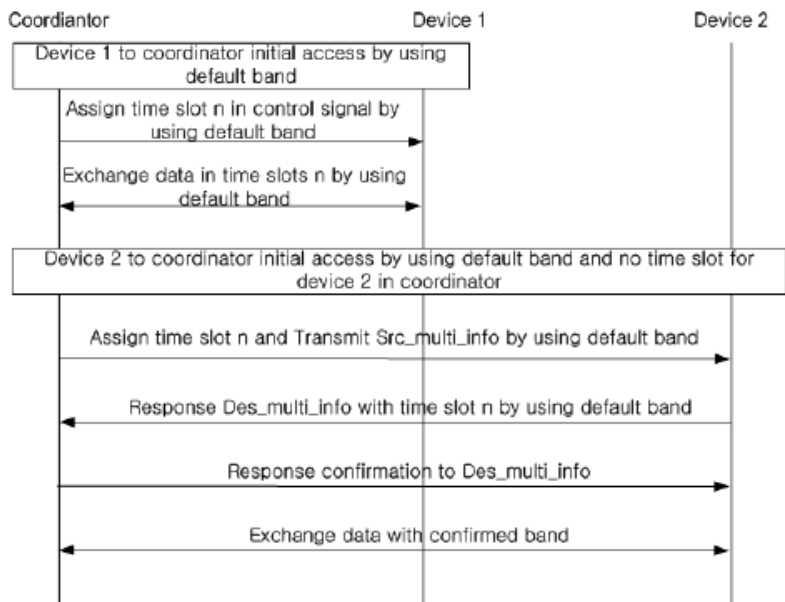


❖ Original figure NOT a MSC style

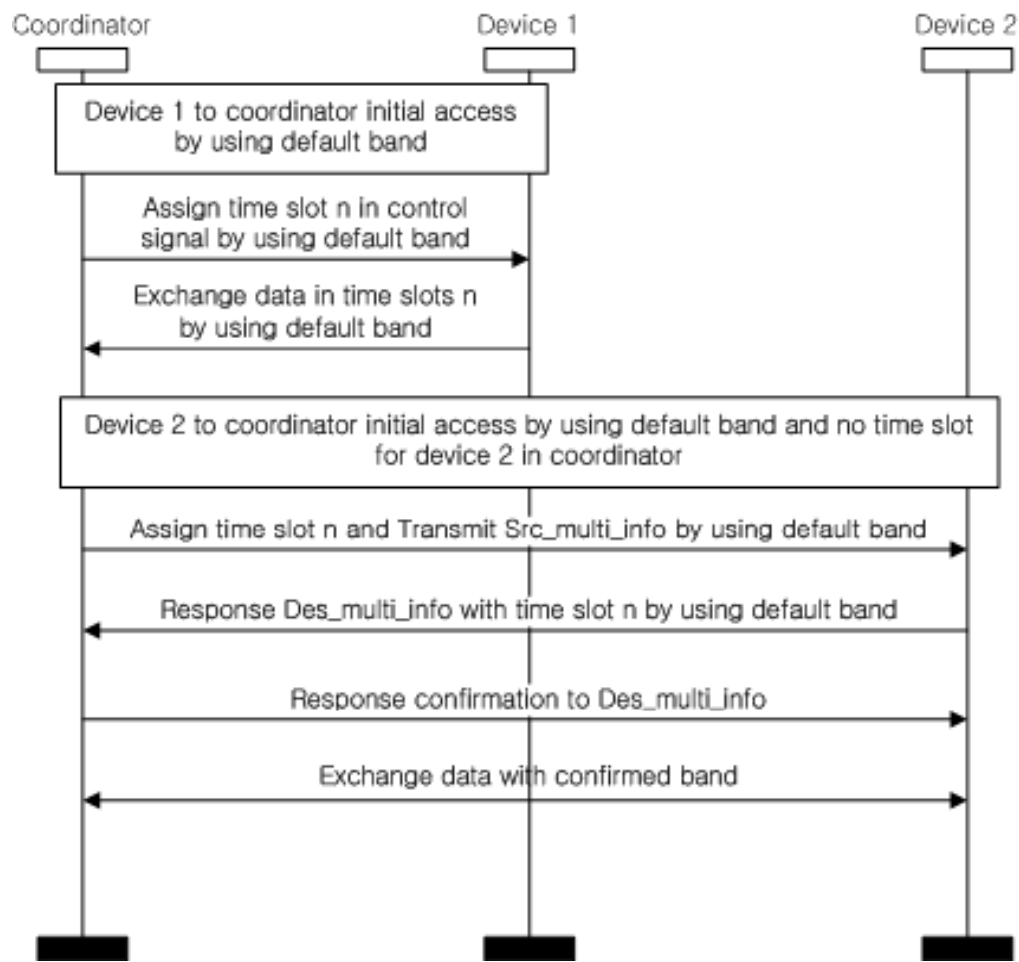
❖ Re draw a figure

Figure 129—Multi-channel information

**OLD**



**NEW**



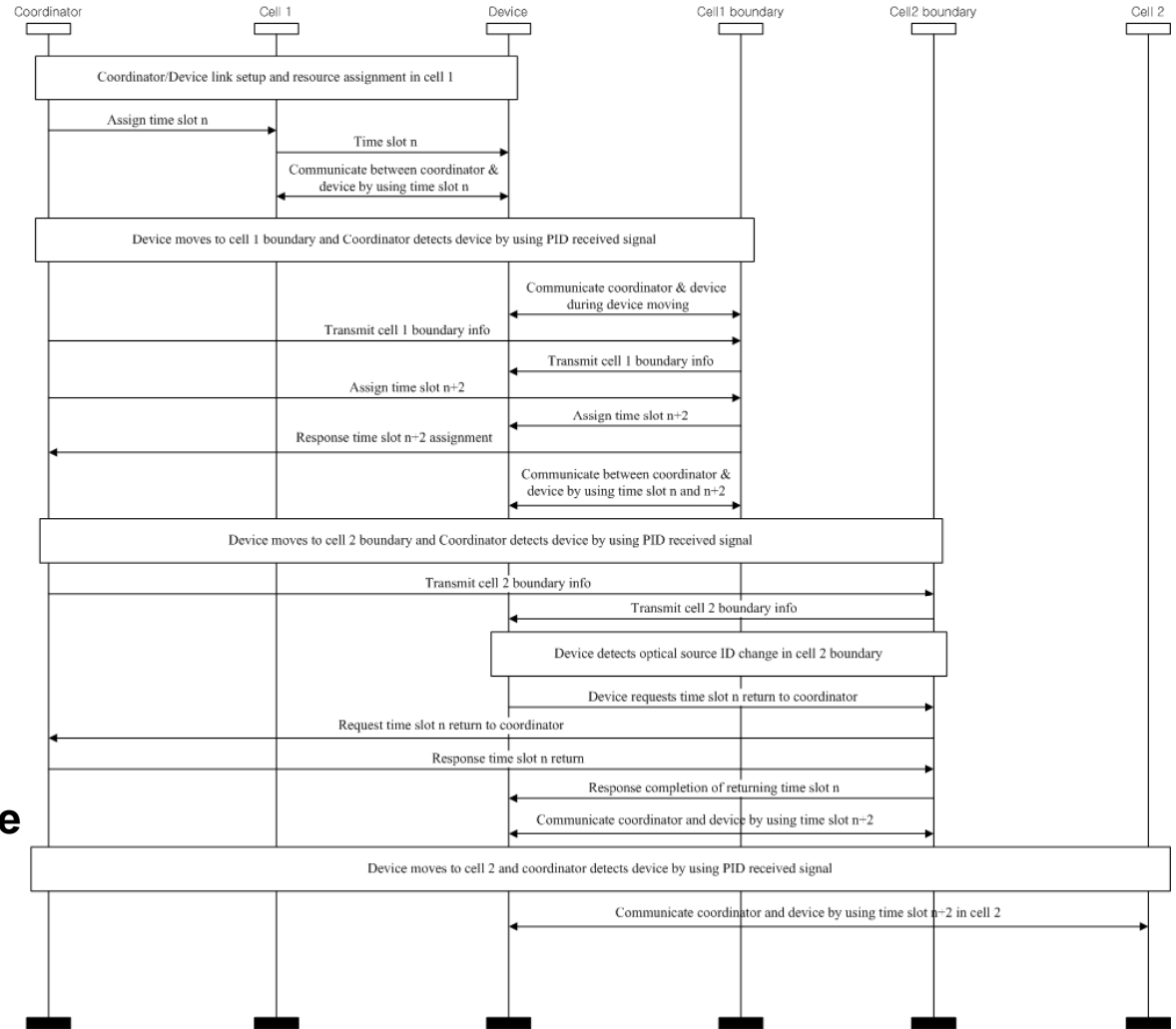
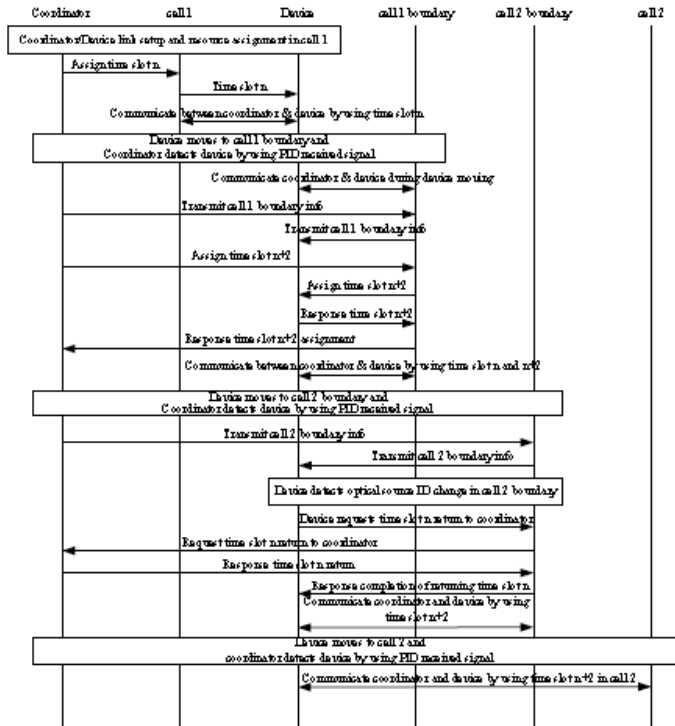
❖ Original figure **NOT** a MSC style

❖ Re draw a figure

Figure 133—Mobility using boundary information

**OLD**

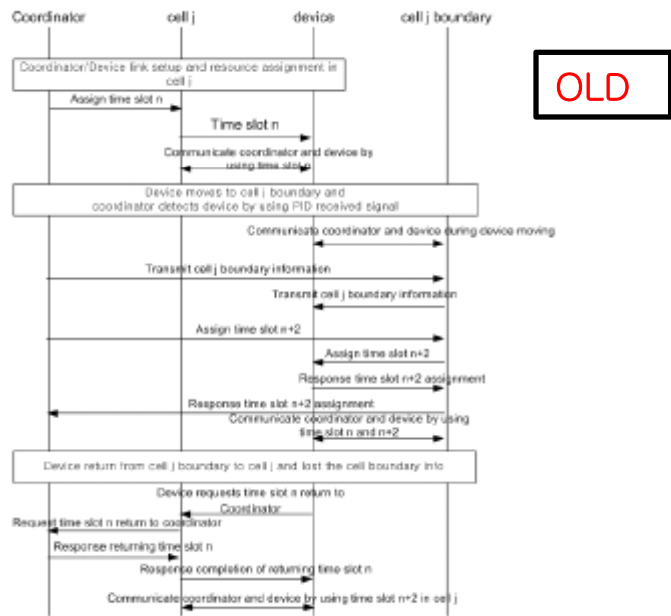
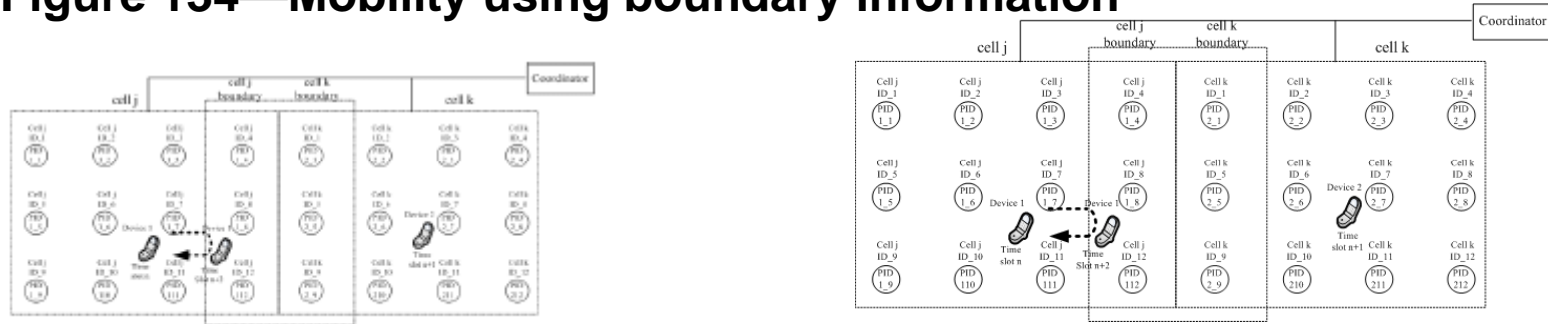
**NEW**



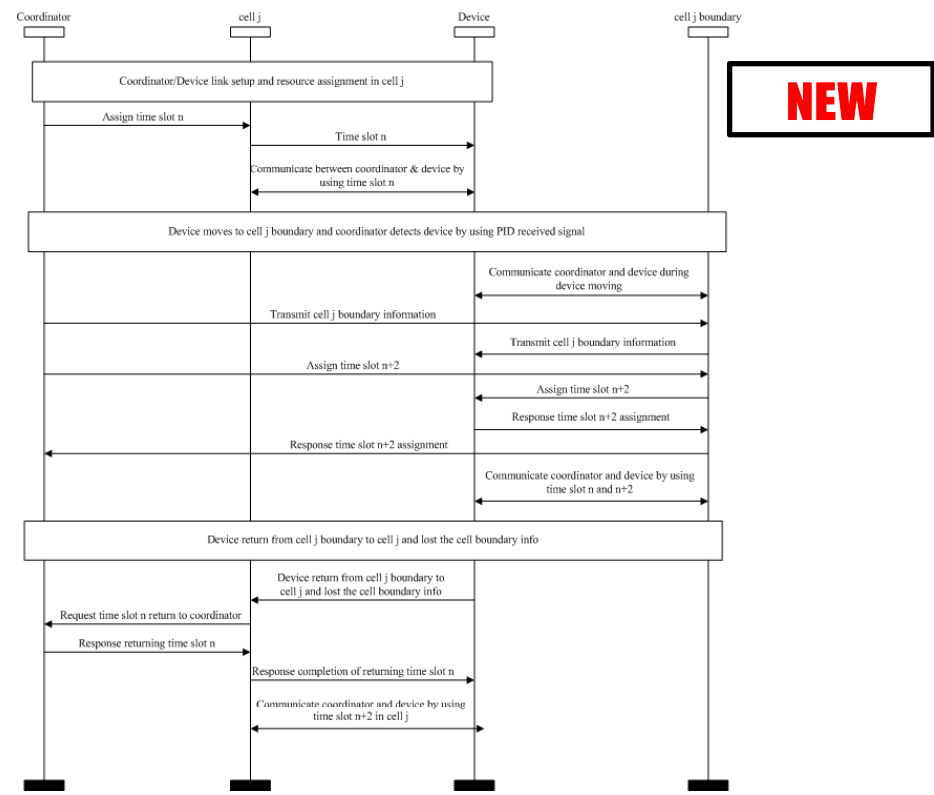
❖ Original figure **NOT** a MSC style

❖ Re draw a figure

Figure 134—Mobility using boundary information



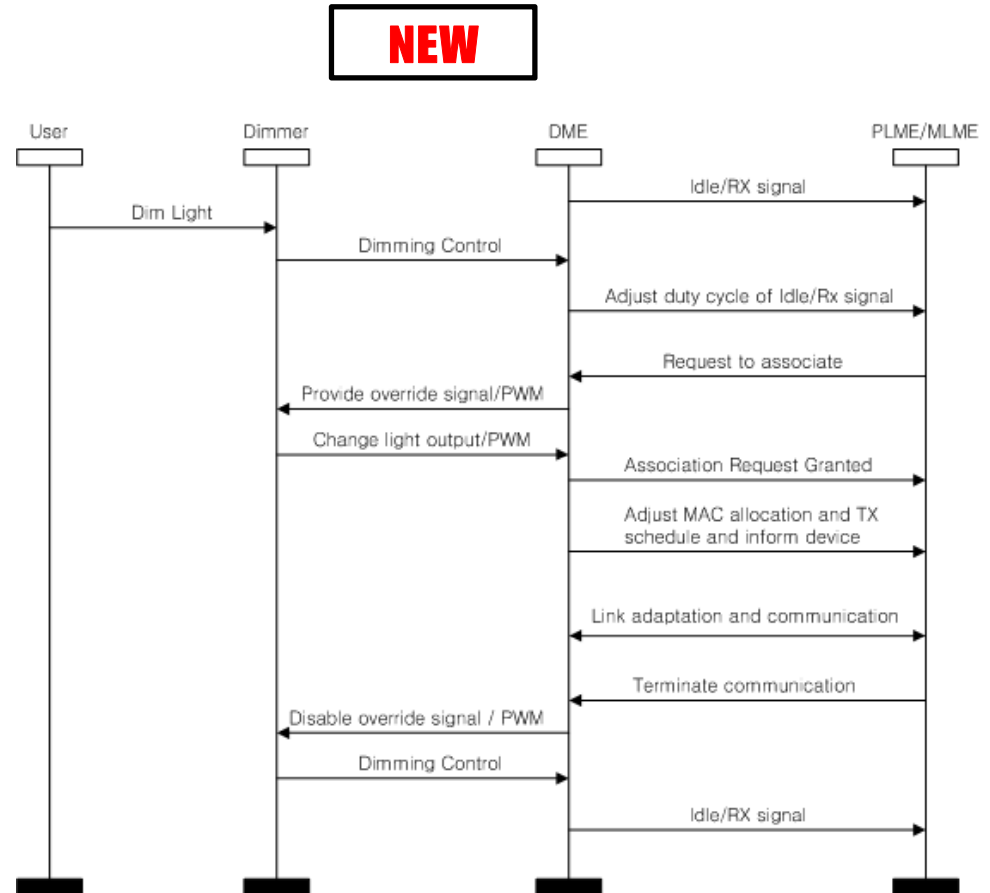
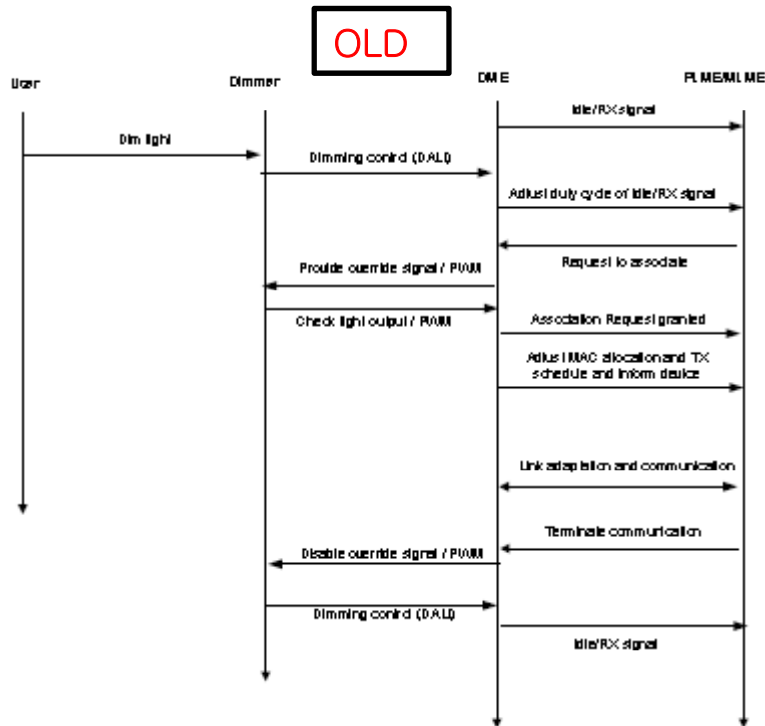
**OLD**



**NEW**

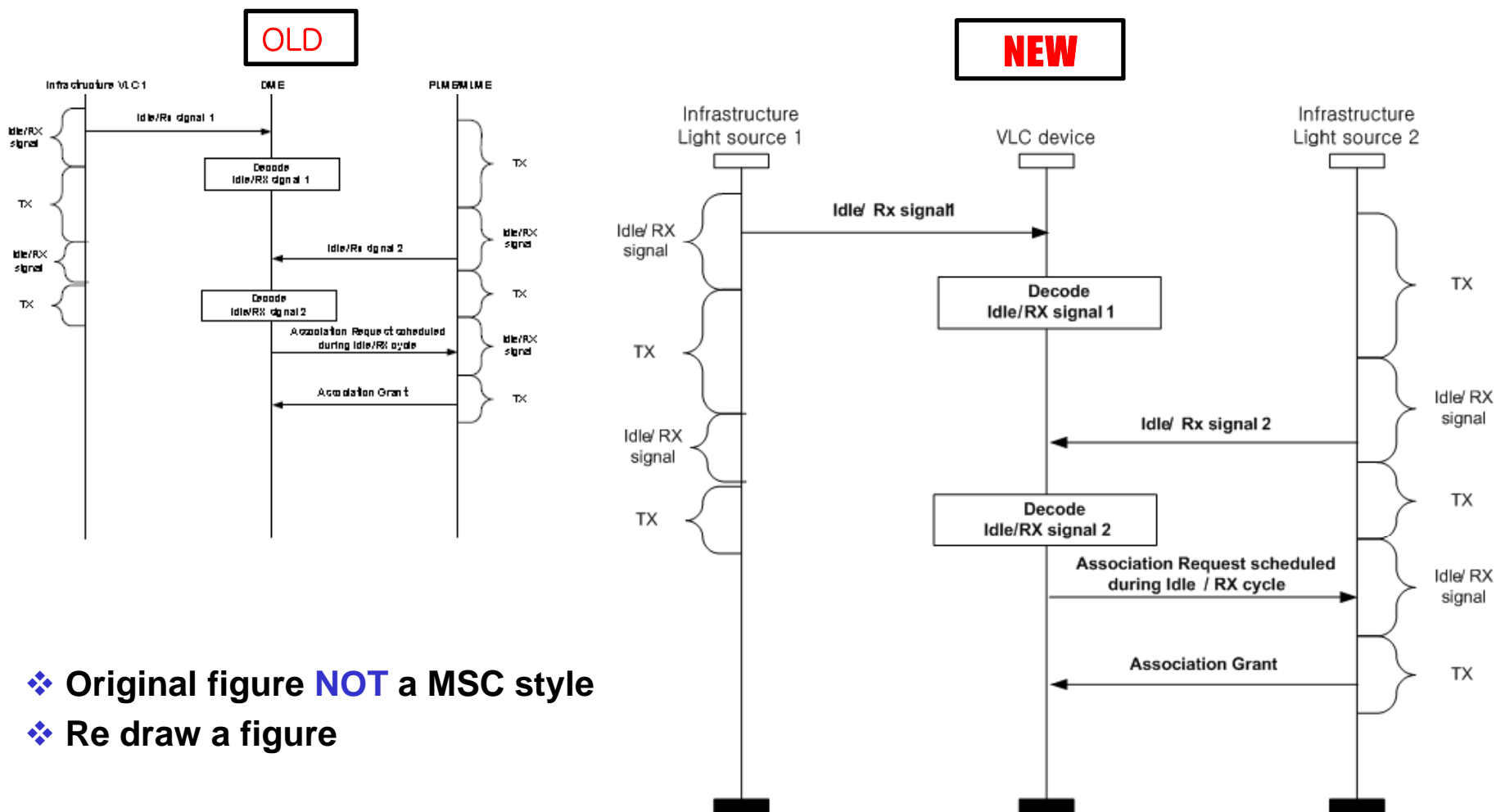
- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

Figure 157—MSC for Dimming



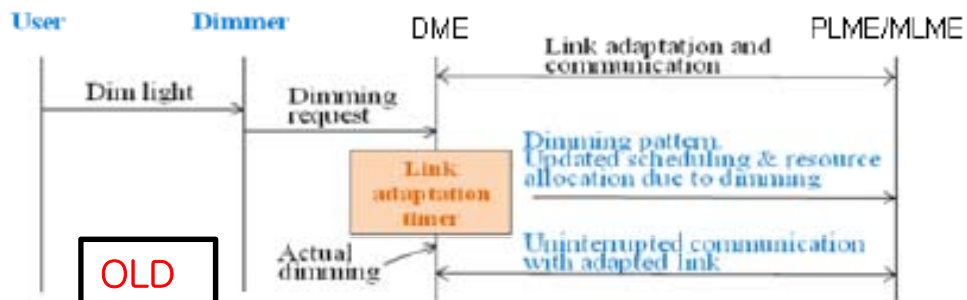
- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

**Figure 158—Using dimming pattern as signal to establish link to best infrastructure device**



- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

**Figure 159—Usage of MAC layer to delay dimming and adapt resources for uninterrupted link**



- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

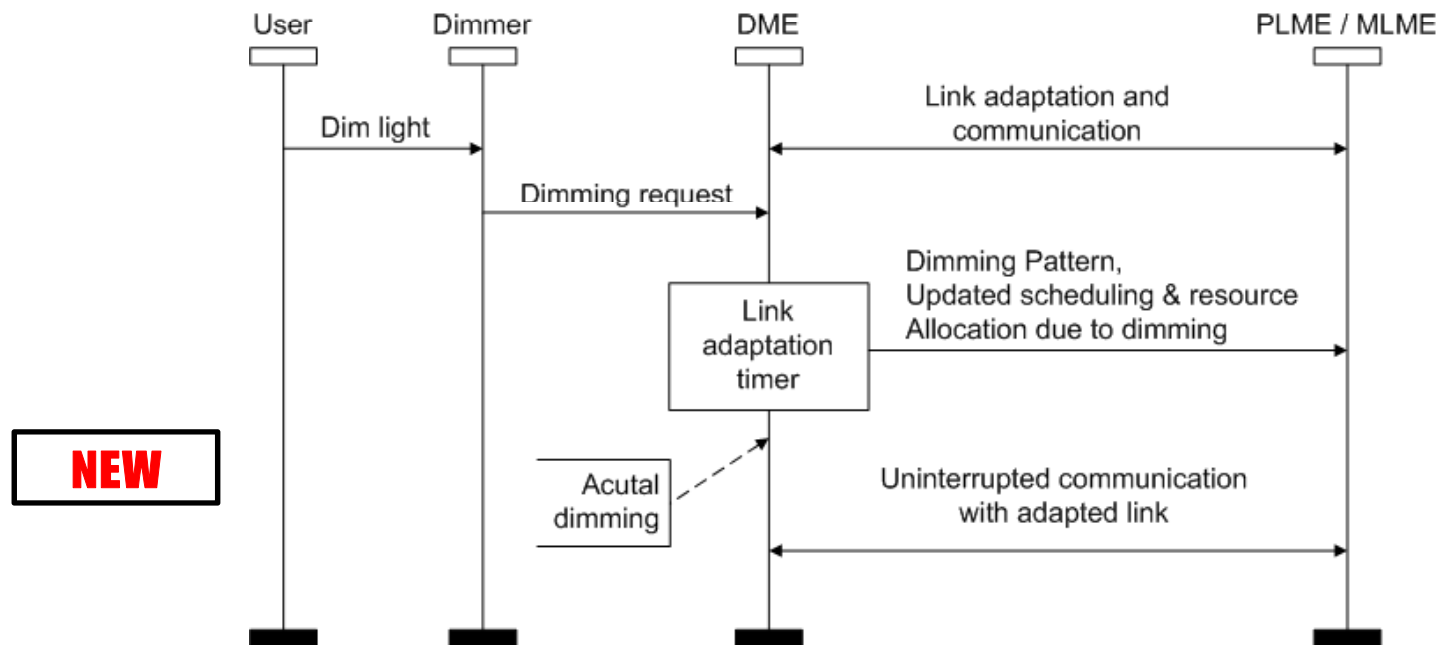
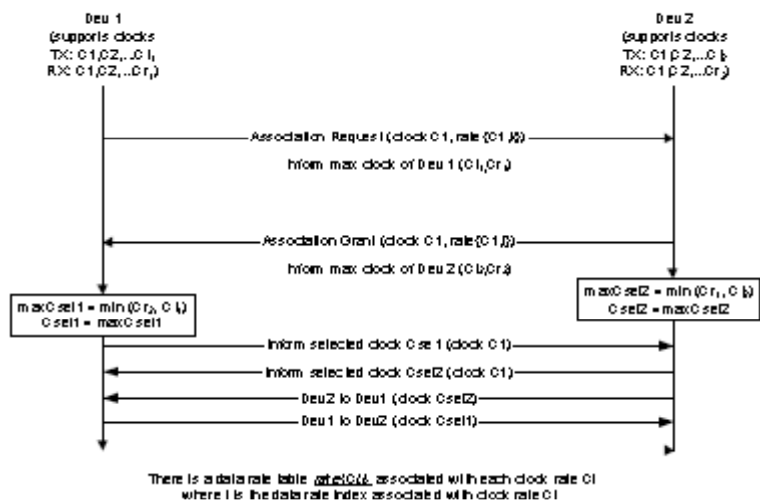




Figure 160—Clock rate selection for P2P topology (explicit notification)

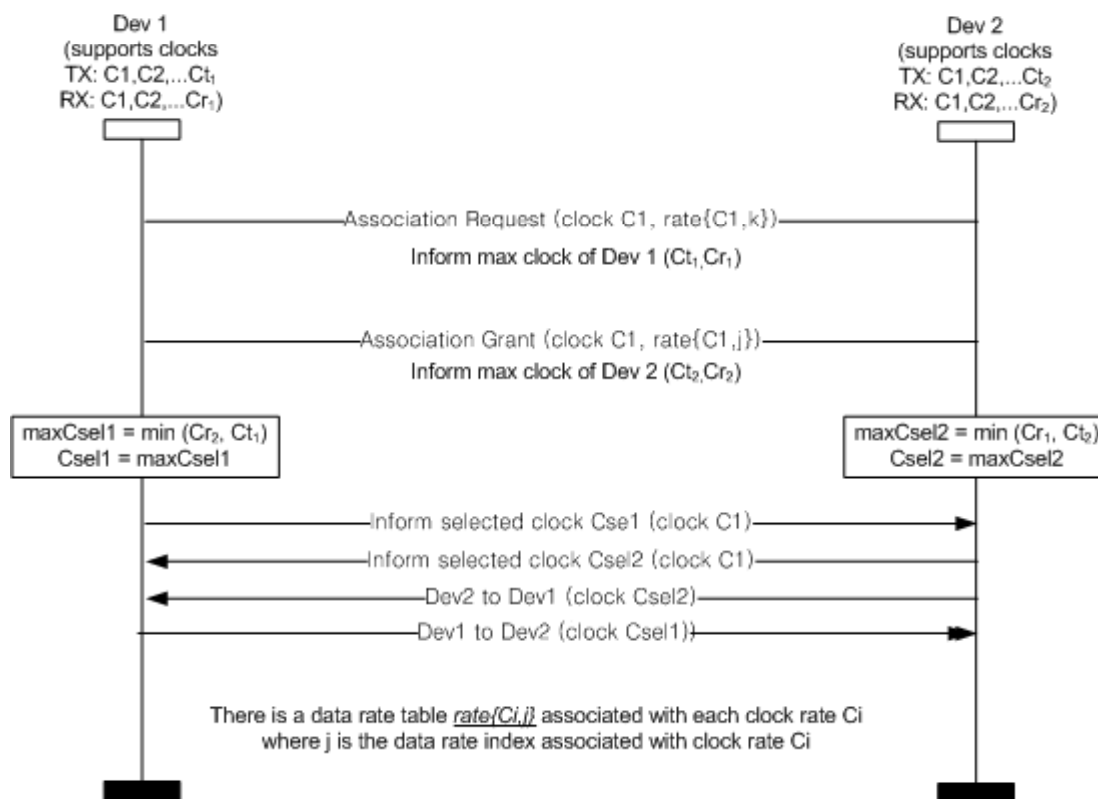
**OLD**

Clock rate selection for P2P topology



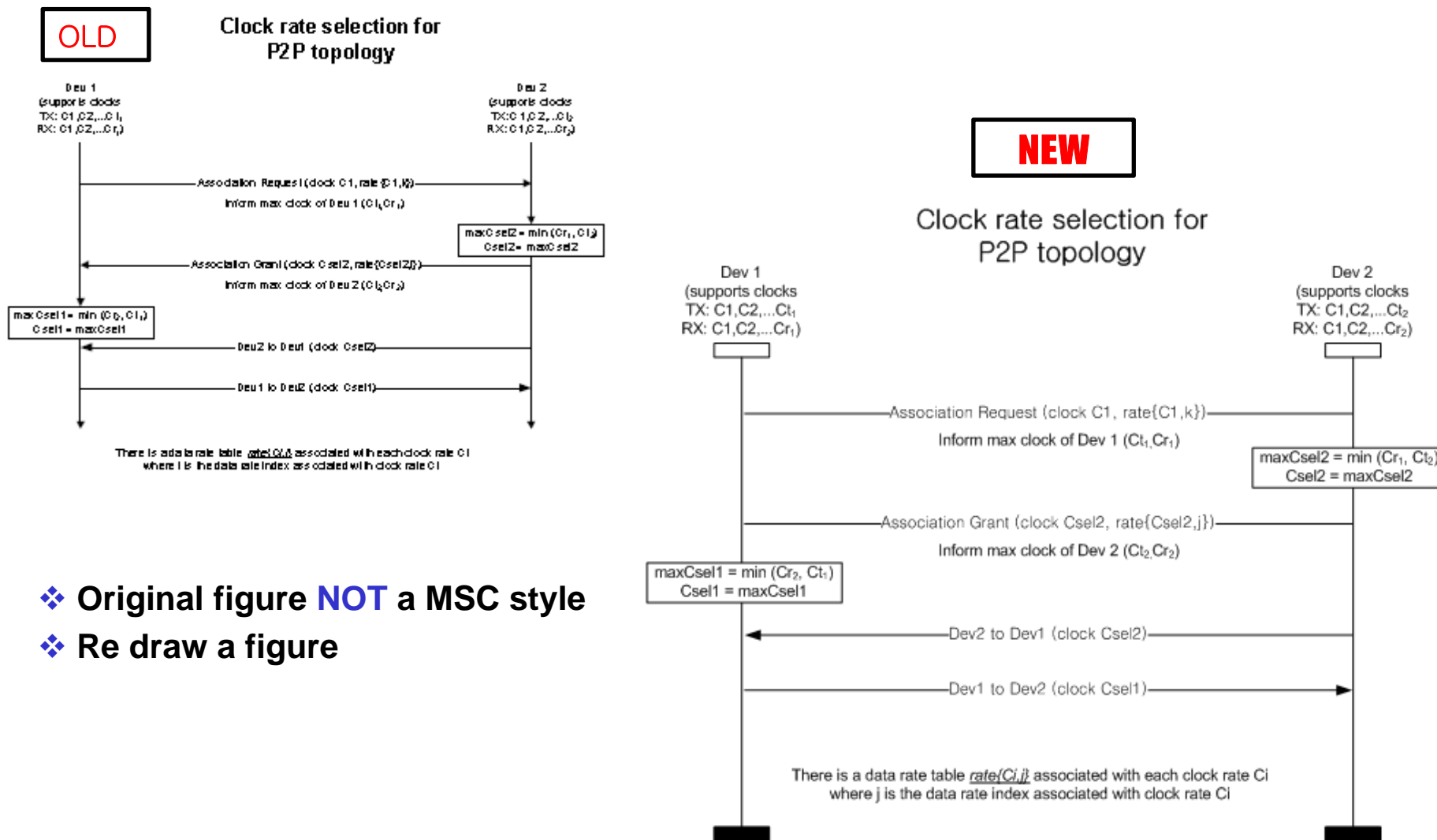
**NEW**

Clock rate selection for P2P topology



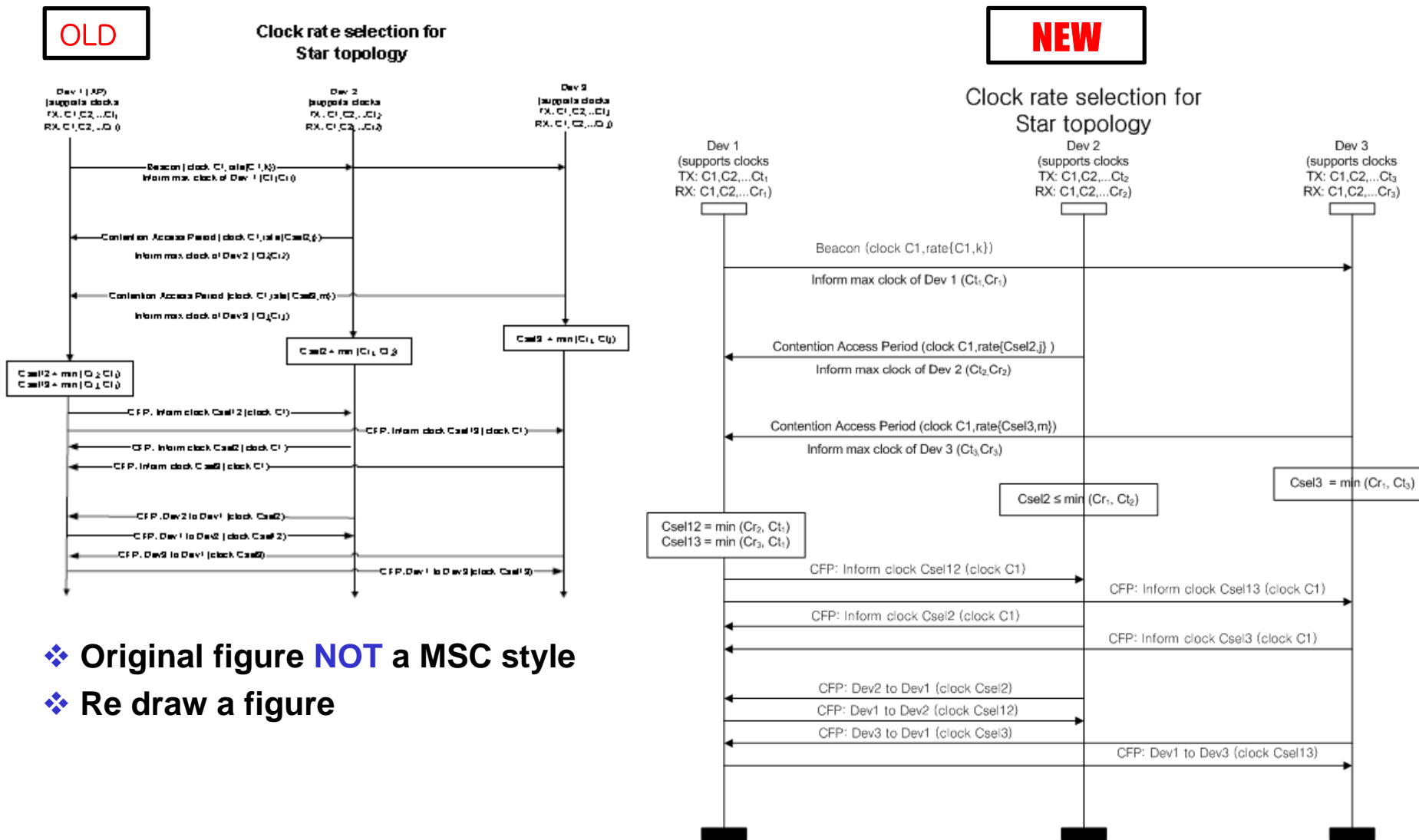
- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

**Figure 161—Clock rate selection for P2P topology (without explicit notification)**



- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

Figure 162—clock rate selection for star topology (explicit notification)

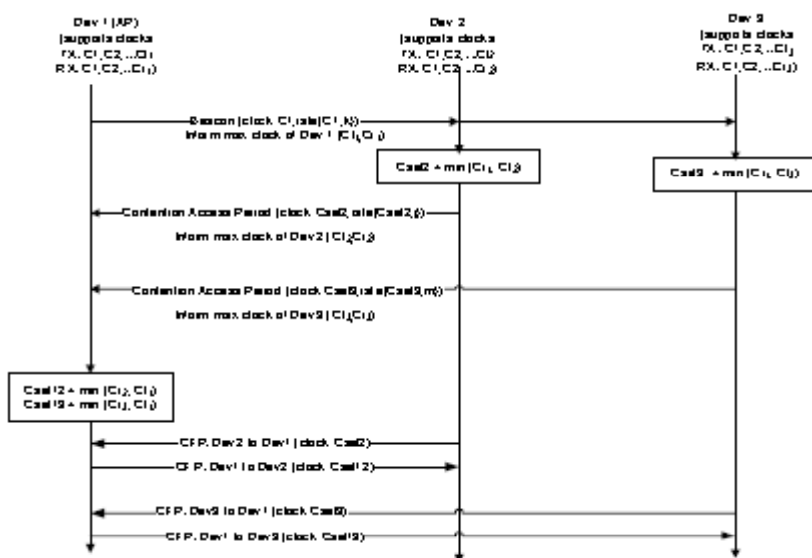


- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

**Figure 163—clock rate selection for star topology (without explicit notification)**

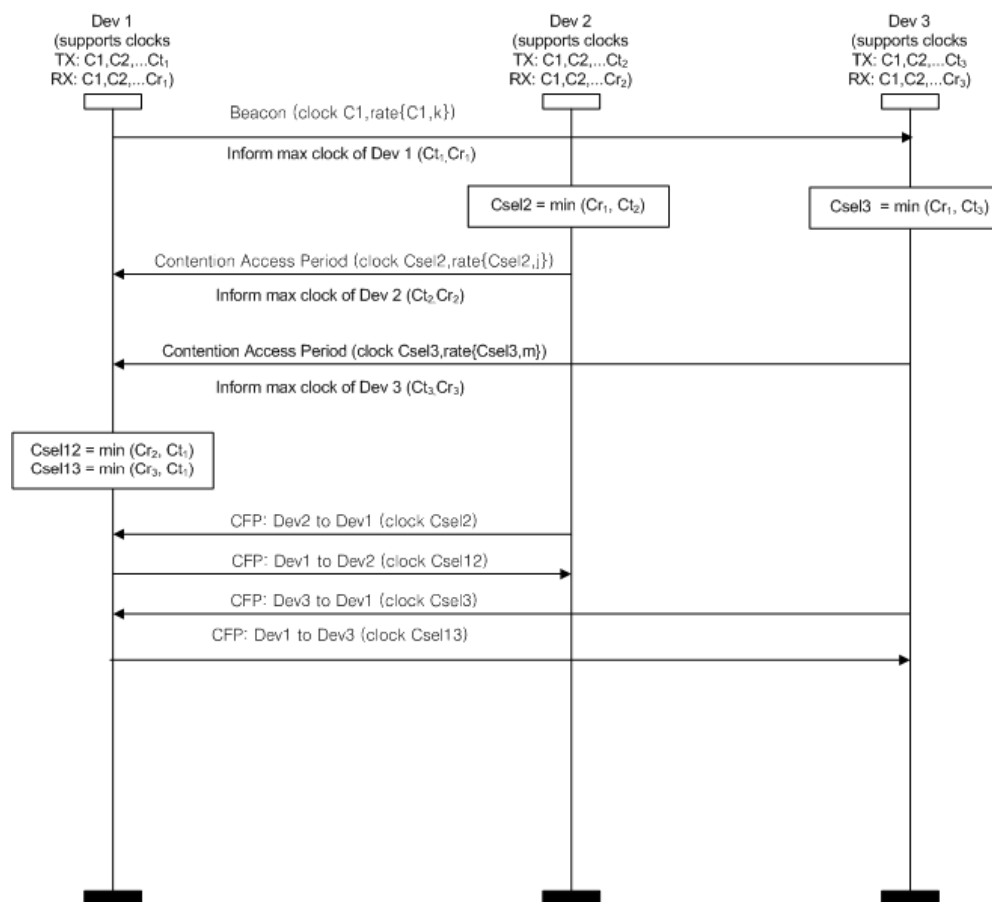
**OLD**

Clock rate selection for Star topology



**NEW**

Clock rate selection for Star topology

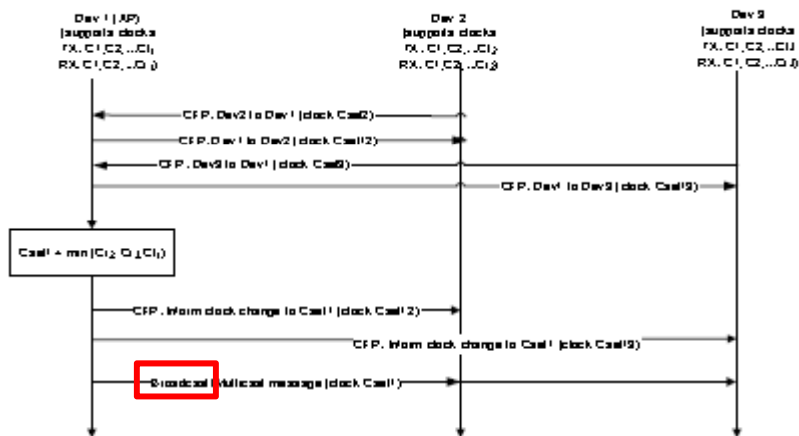


- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure

**Figure 164—Clock rate selection for broadcast/multicast (assuming bi-directional communication)**

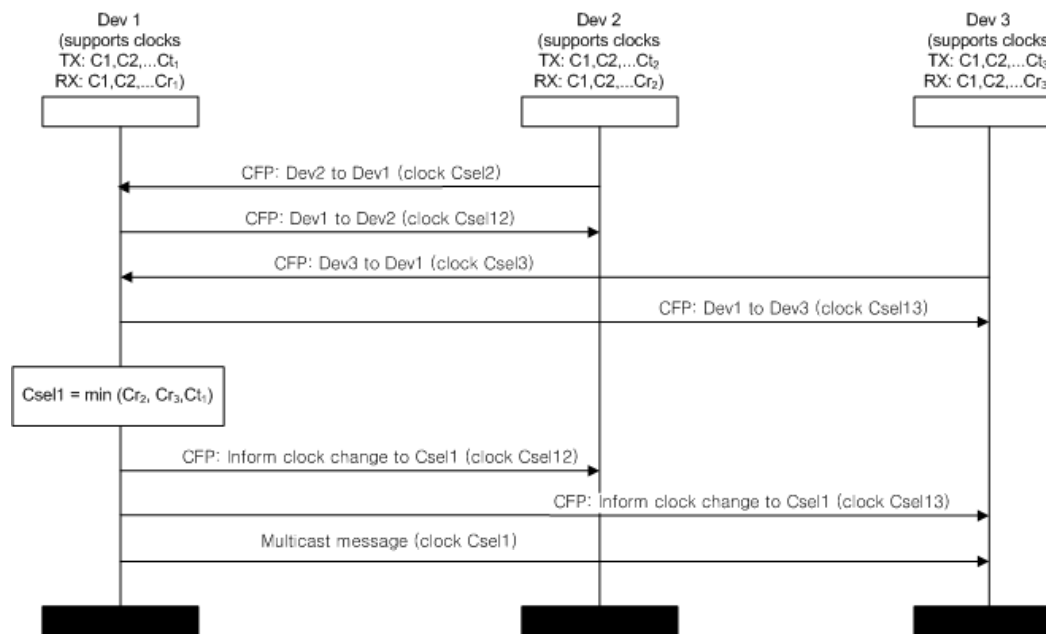
**OLD**

**Clock rate selection for Broadcast/multicast topology**



**NEW**

**Clock rate selection for multicast topology**

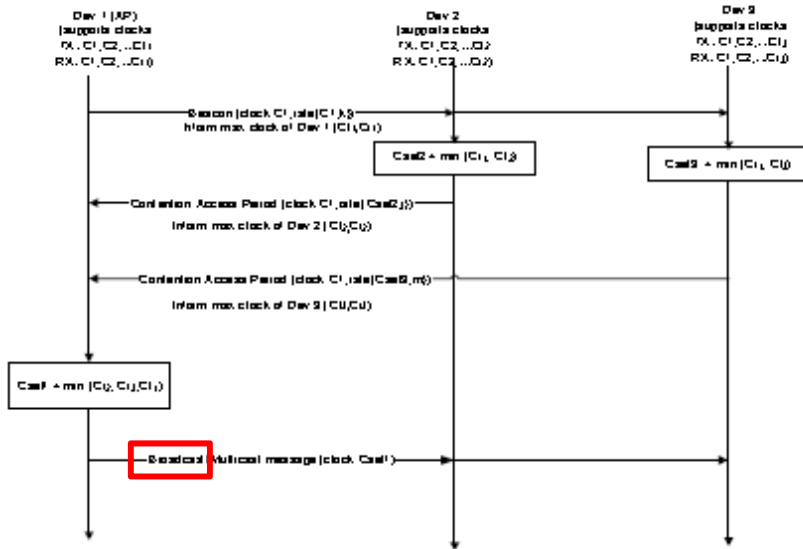


- ❖ Original figure **NOT** a MSC style
- ❖ Re draw a figure
- ❖ Delete Broadcast

Figure 165—clock rate selection for broadcast/multicast (bi-directional communication and no explicit notification)

OLD

Clock rate selection for Broadcast/multicast topology



- ❖ Original figure NOT a MSC style
- ❖ Re draw a figure
- ❖ Delete Broadcast

NEW

Clock rate selection for multicast topology

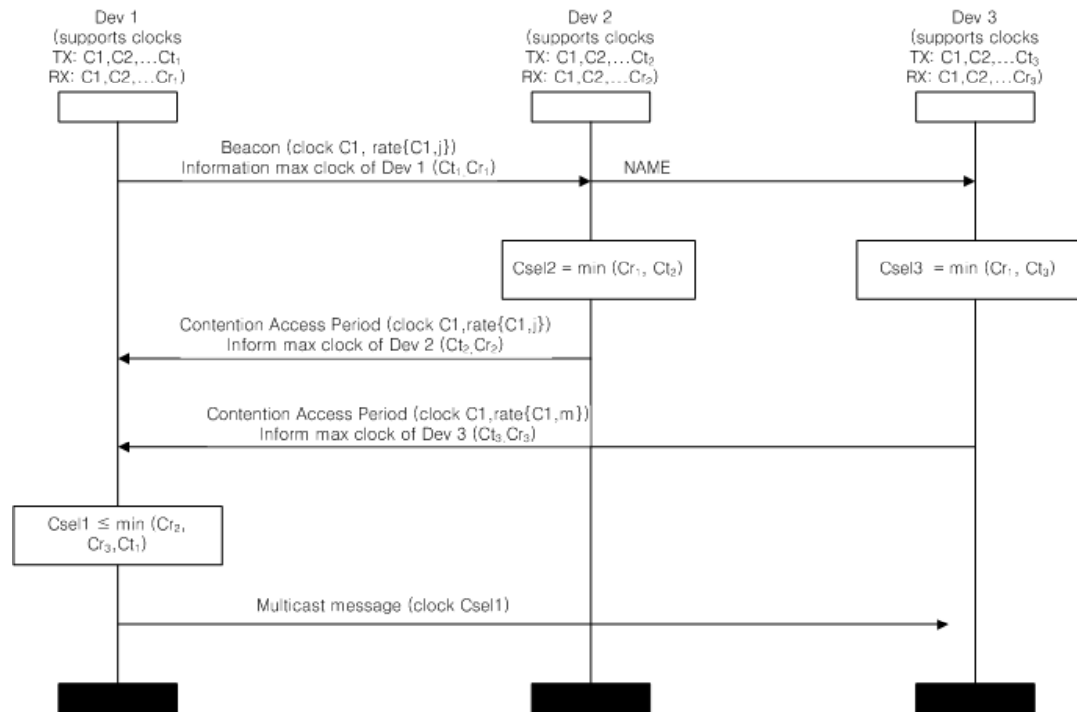


Figure 166—WPAN start message sequence chart—coordinator

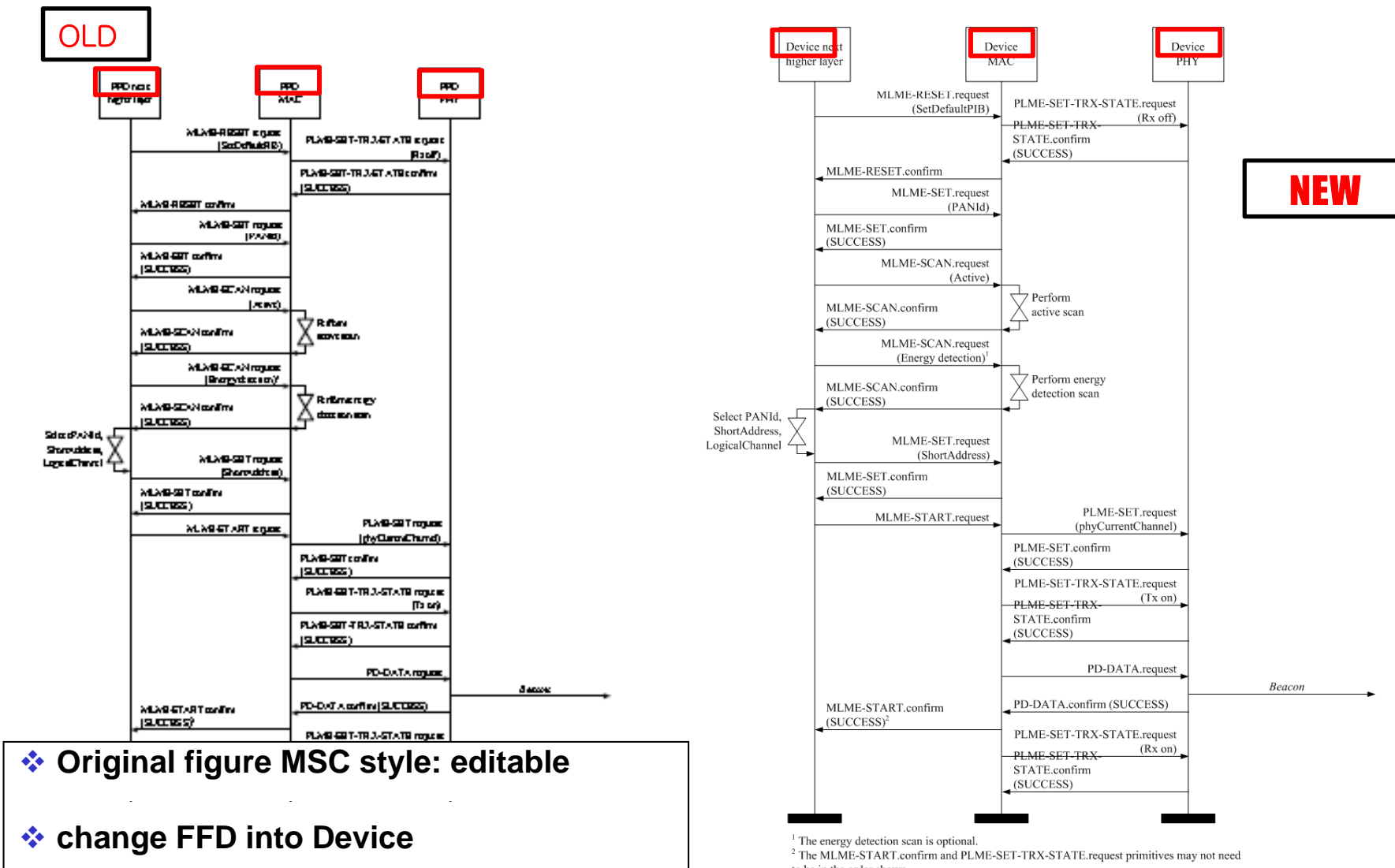


Figure 167—Association message sequence chart—device

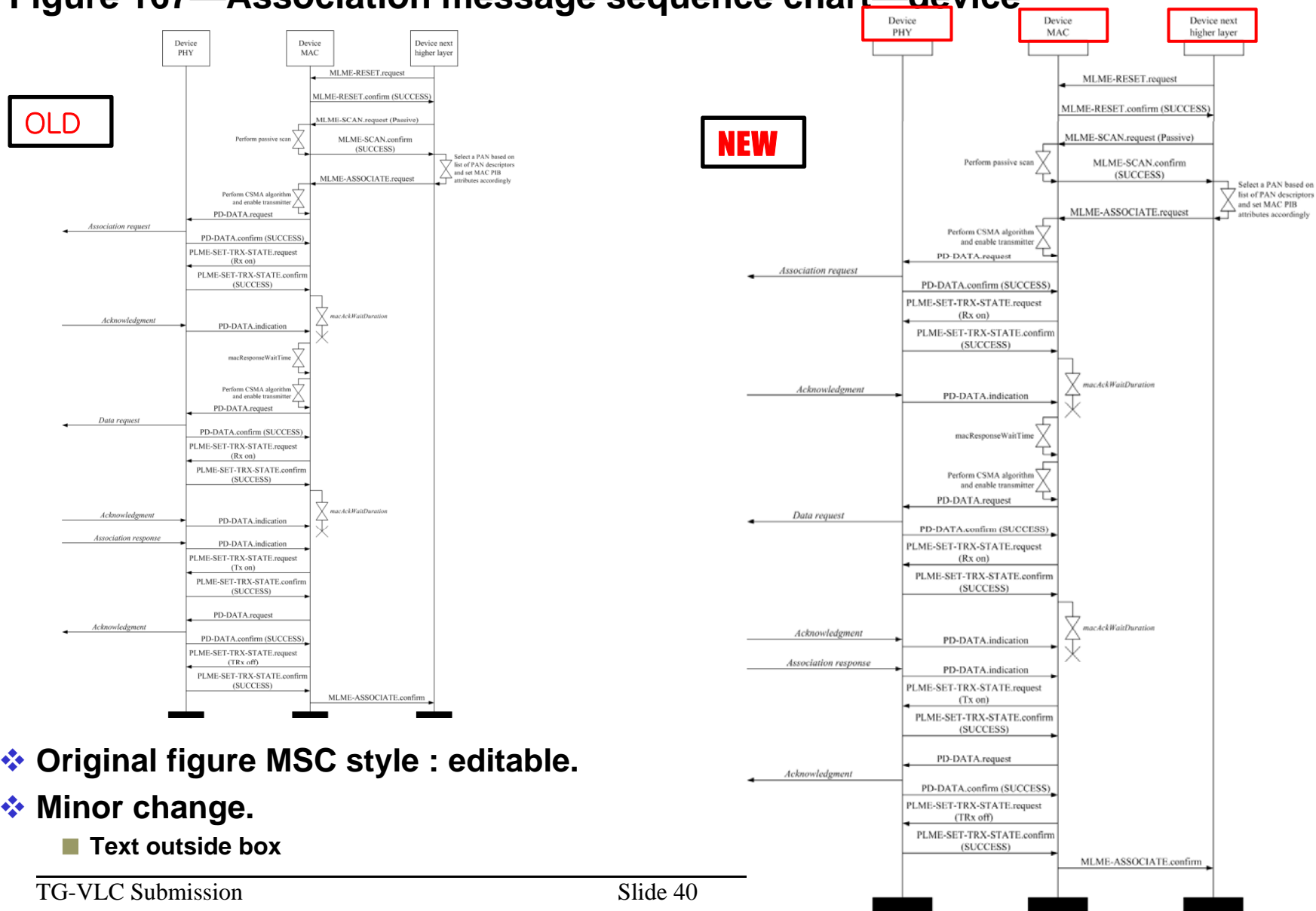




Figure 168—Association message sequence chart—coordinator

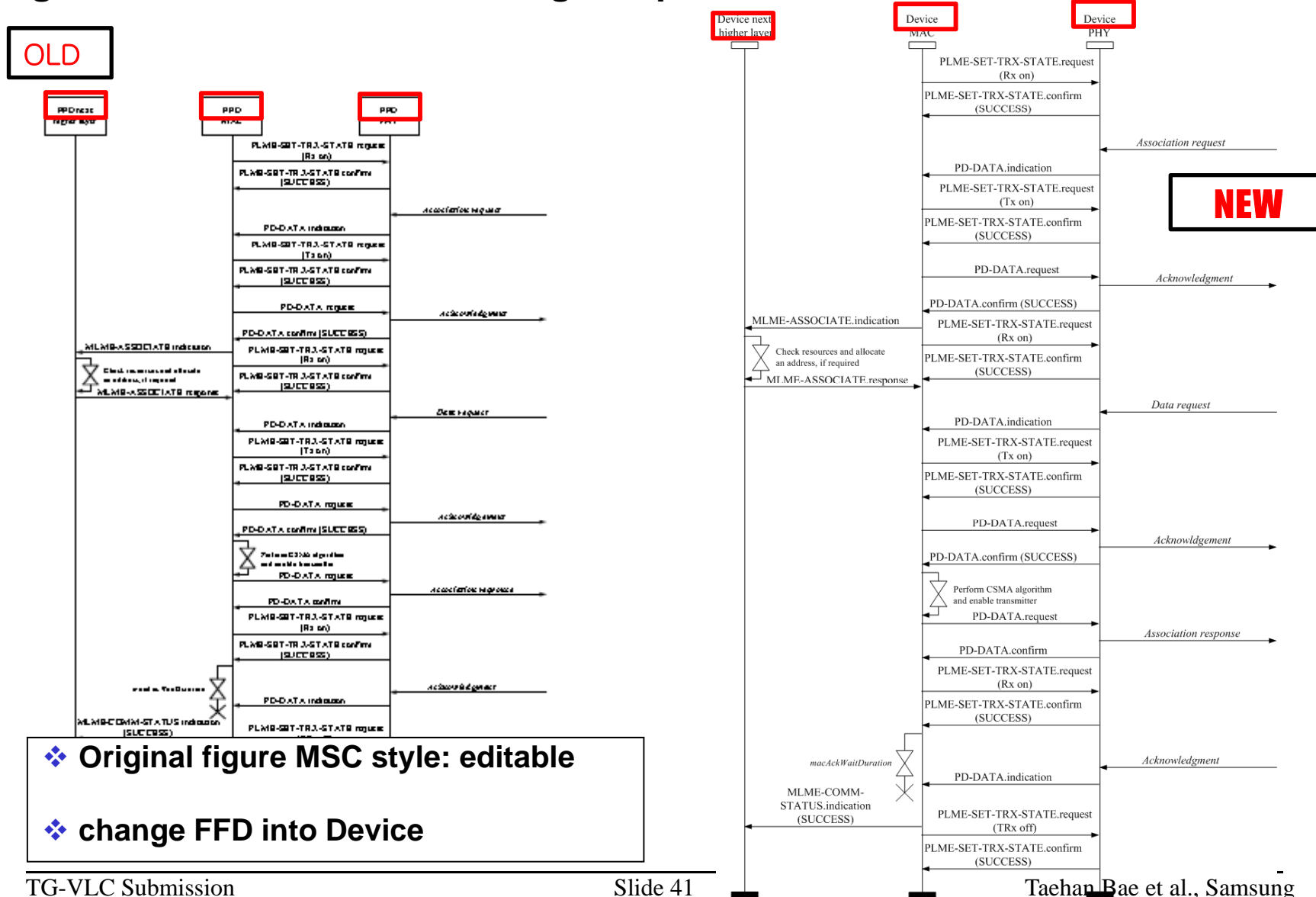


Figure 169—Passive scan message sequence chart

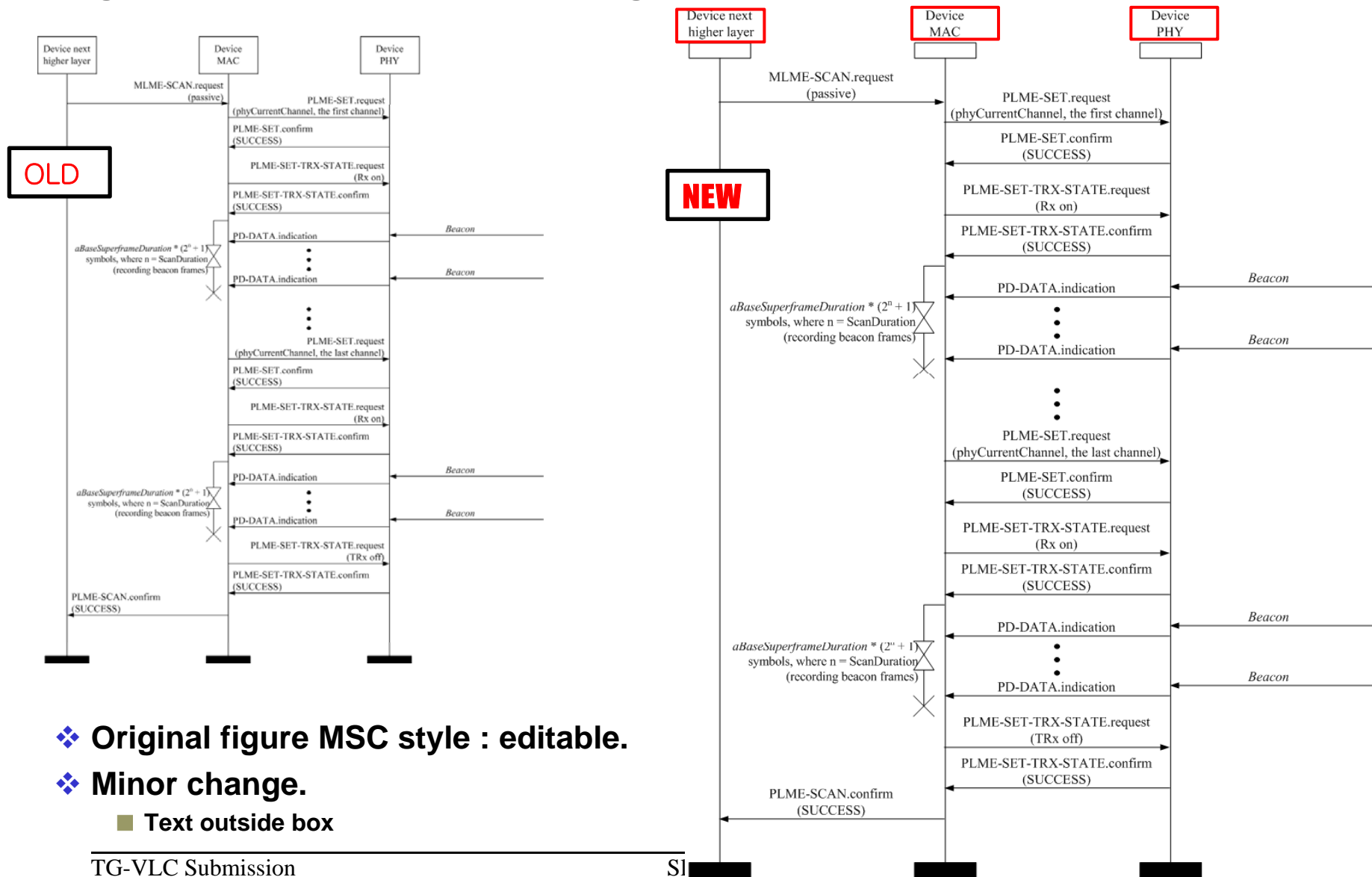


Figure 170—Active scan message sequence chart

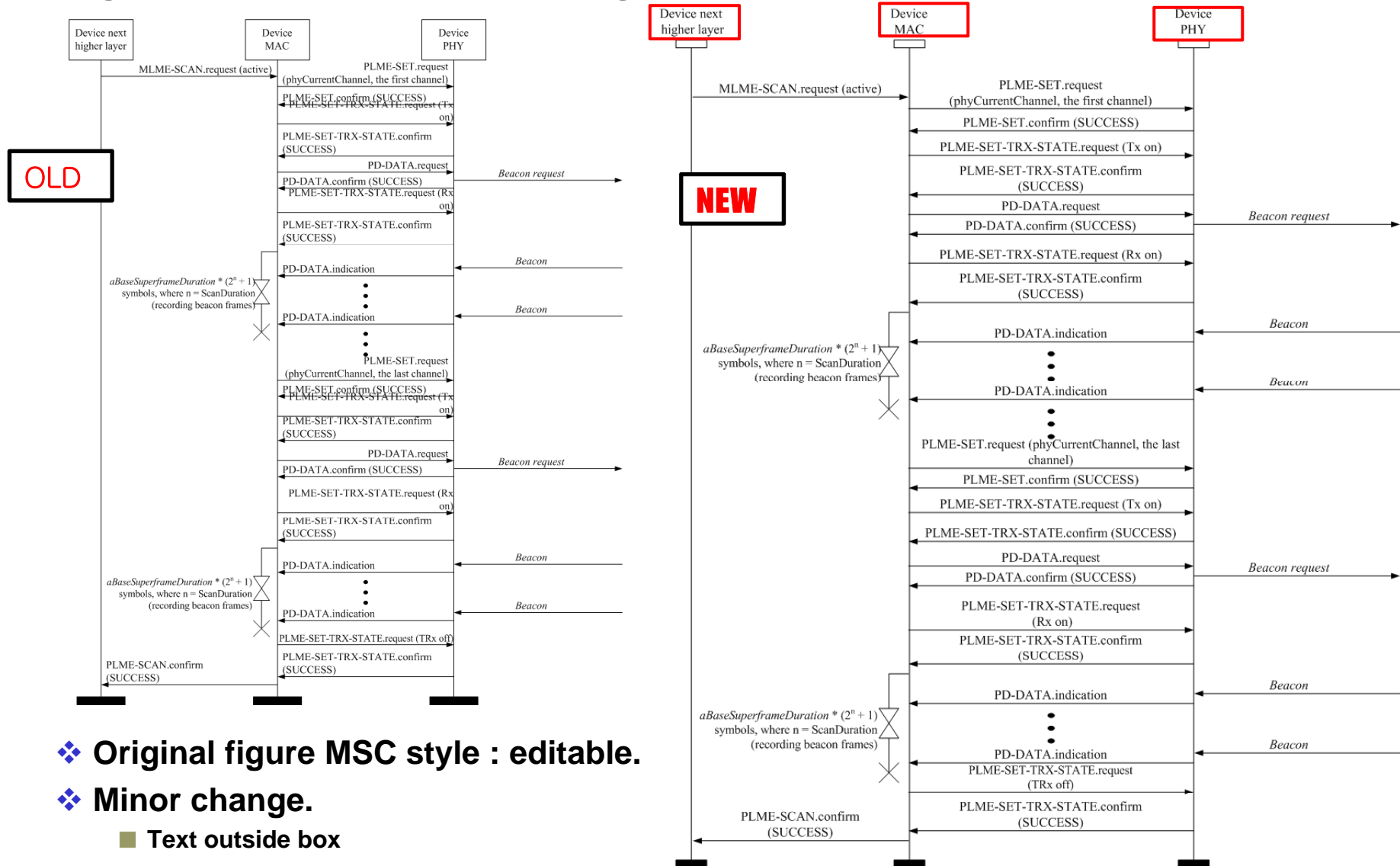
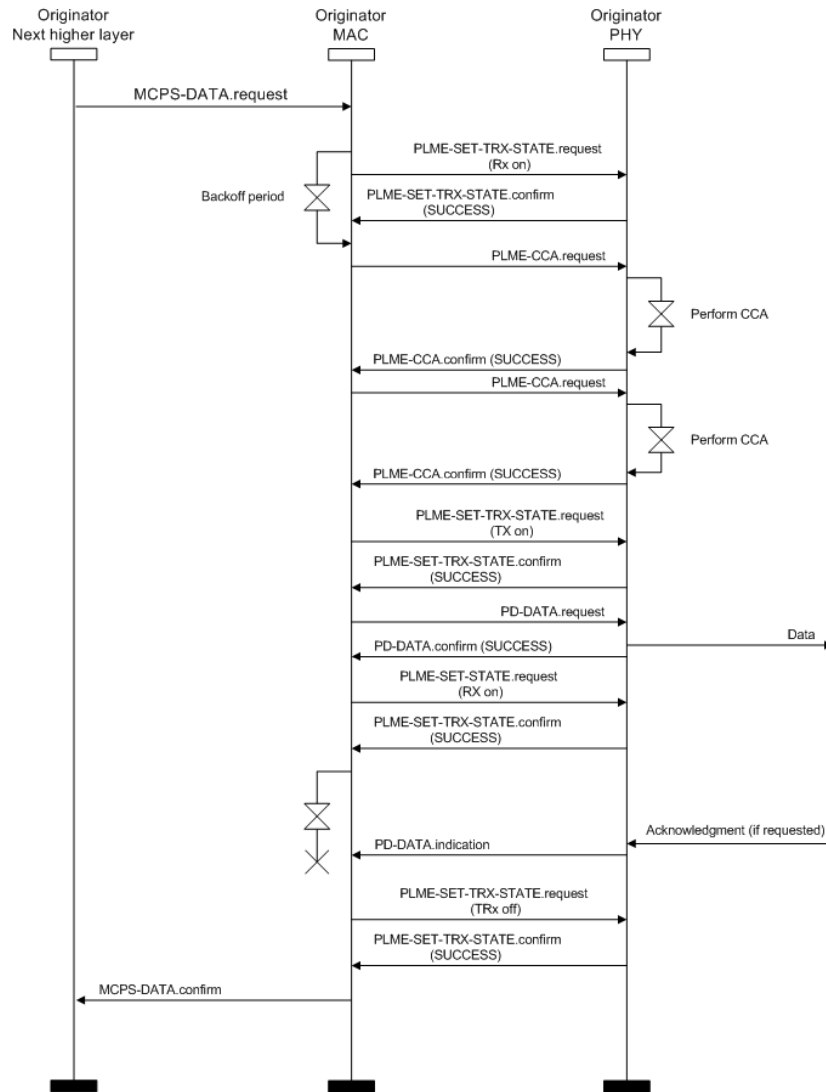


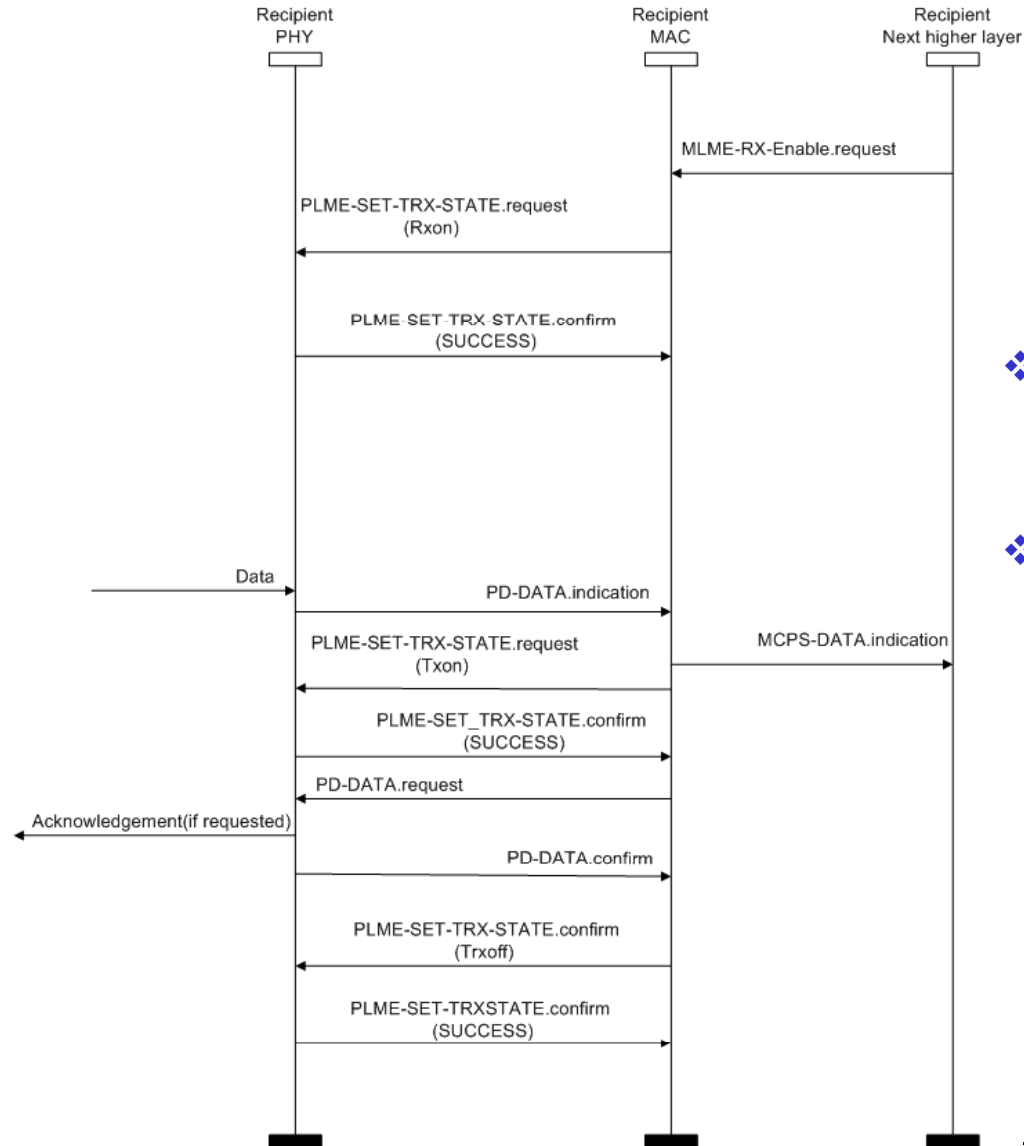
Figure 171—Data transmission message sequence chart—originator



❖ Original figure MSC style:  
Not exist

❖ Make new MSC figure.

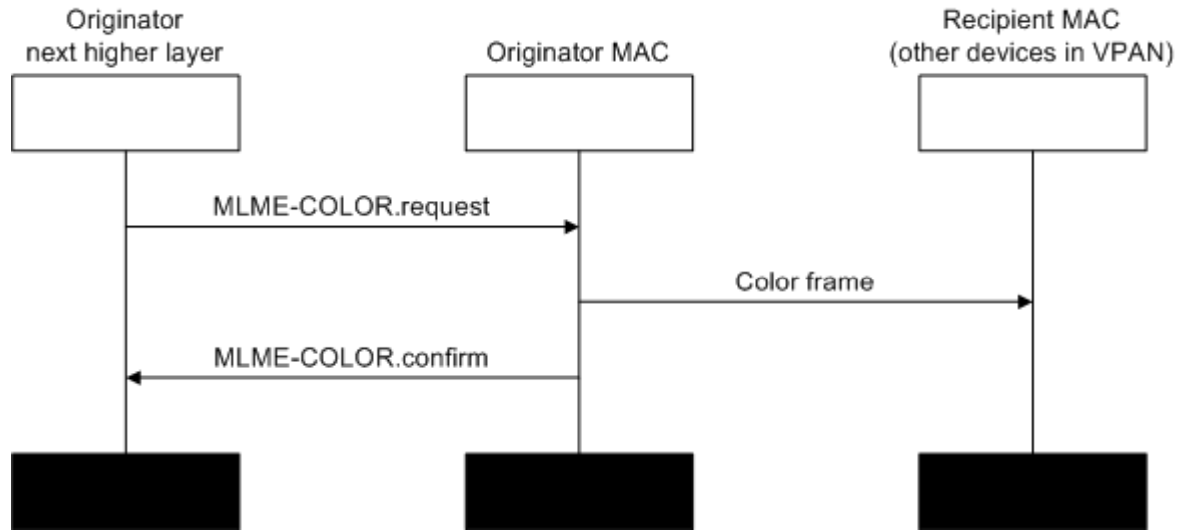
**Figure 172—Data transmission message sequence chart—recipient**



❖ Original figure MSC style:  
Not exist

❖ Make new MSC figure.

### Message sequence chart for color frame configuration



❖ New figure for color frame configuration