

Protocols and procedures (part II)

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Abstract

- **This contribution is the second part of the proposal on coexistence protocols and procedures**

Summary of procedures

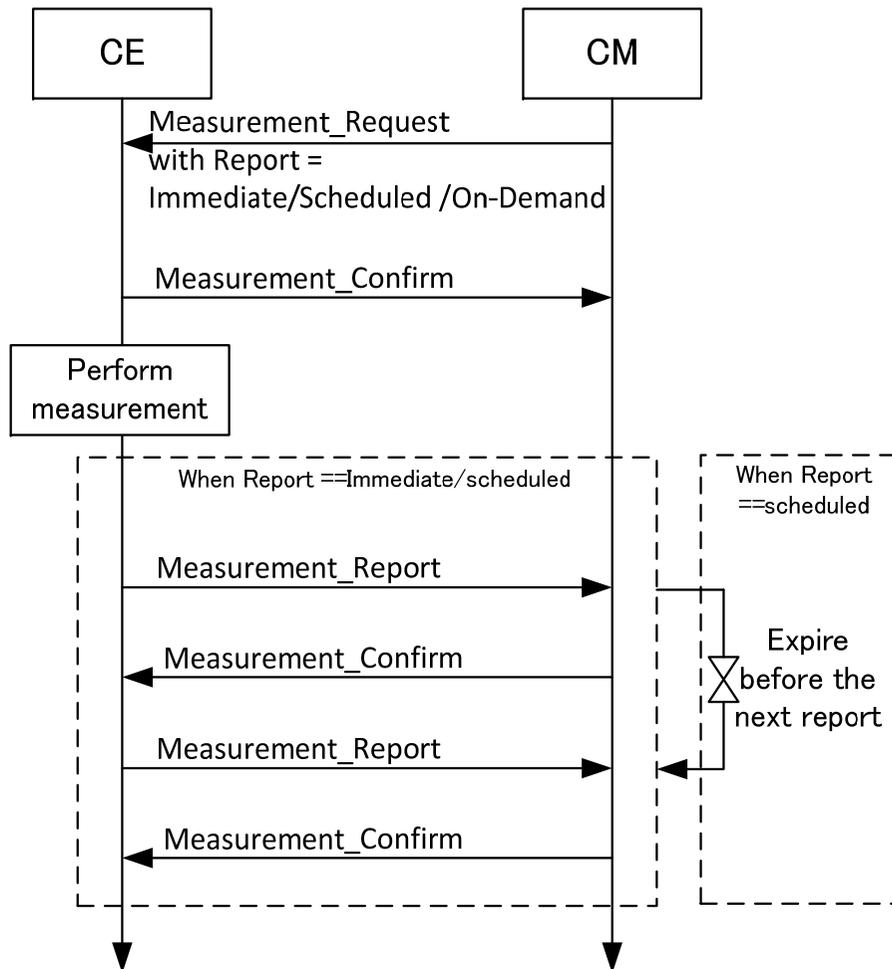
- **Registration procedures**
- **Neighbour discovery procedures**
- **Get available channel list procedures**
- **Measurement procedures**
- **Information collection procedures**
- **Event procedures**
- **Reconfiguration procedures**
- **Session activity check procedures**
- **Example procedures**
 - Coexistence decisions are done by TVBD
 - Coexistence decisions are done by Coexistence System

Measurement procedures

- **Outline**
 - Procedures
 - CM requests CE to perform measurements
 - Messages
 - Measurement_Request
 - Measurement_Report
 - Measurement_Confirm

Measurement request and report

- This procedure is used by CM to request CE to perform measurements and to obtain measurement results from CE. The procedure is shown in the following Figure.



When report type is set to on-demand value, the measurement results are collected from CE by using CE information collection procedure.

Measurement procedure messages (1/3)

- **Measurement_Request:** This message is sent from CM to CE to request CE to perform measurements

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CM ID	Source identifier
Destination Identifier	CE ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Note: Information elements below are repeated for each requested measurement.		
Channel number	Integer	Channel number
Measurement schedule	TBD	Measurement schedule
Measurement ID	TBD	Measurement ID
Reporting mode	Immediate / Schedule / On-demand	Reporting mode. If reporting mode is On-demand, measurement results are not reported by CE, they are collected by CM.

Measurement procedure messages (2/3)

- **Measurement_Report:** This message is sent from CE to CM to report measurement results.

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE ID	Source identifier
Destination Identifier	CM ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Measurement ID	TBD	Measurement ID
Measurement result	TBD	Measurement result

Measurement procedure messages (3/3)

- **Measurement_Confirm:** This message is sent from CE to CM to confirm reception of measurement request. This message is also sent from CM to CE to confirm reception of measurement results. This message does not have any payload.

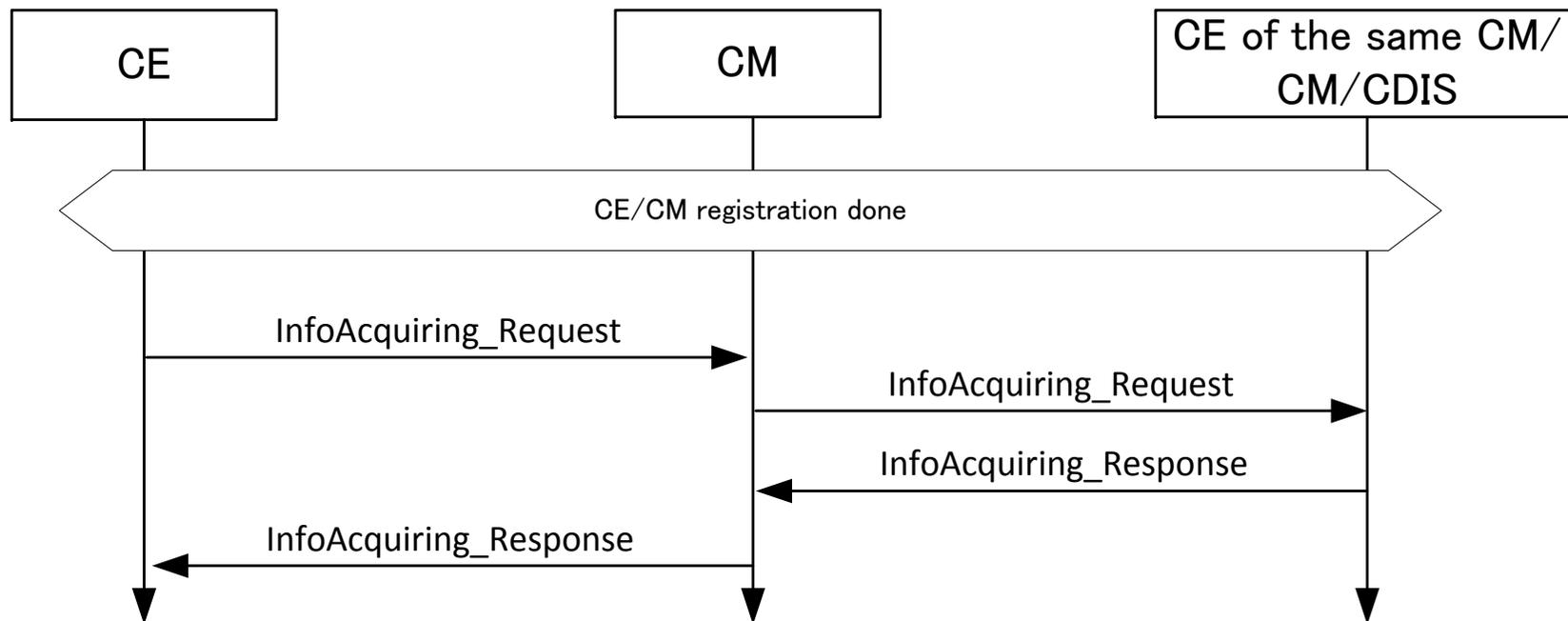
Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE/CM ID	Source identifier
Destination Identifier	CM/CE ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Status	Success/Failure	Status

Information collection procedures

- **Outline**
 - Procedures
 - CE information collection
 - CM information collection
 - Messages
 - InfoAquiring_Request
 - InfoAquiring_Response

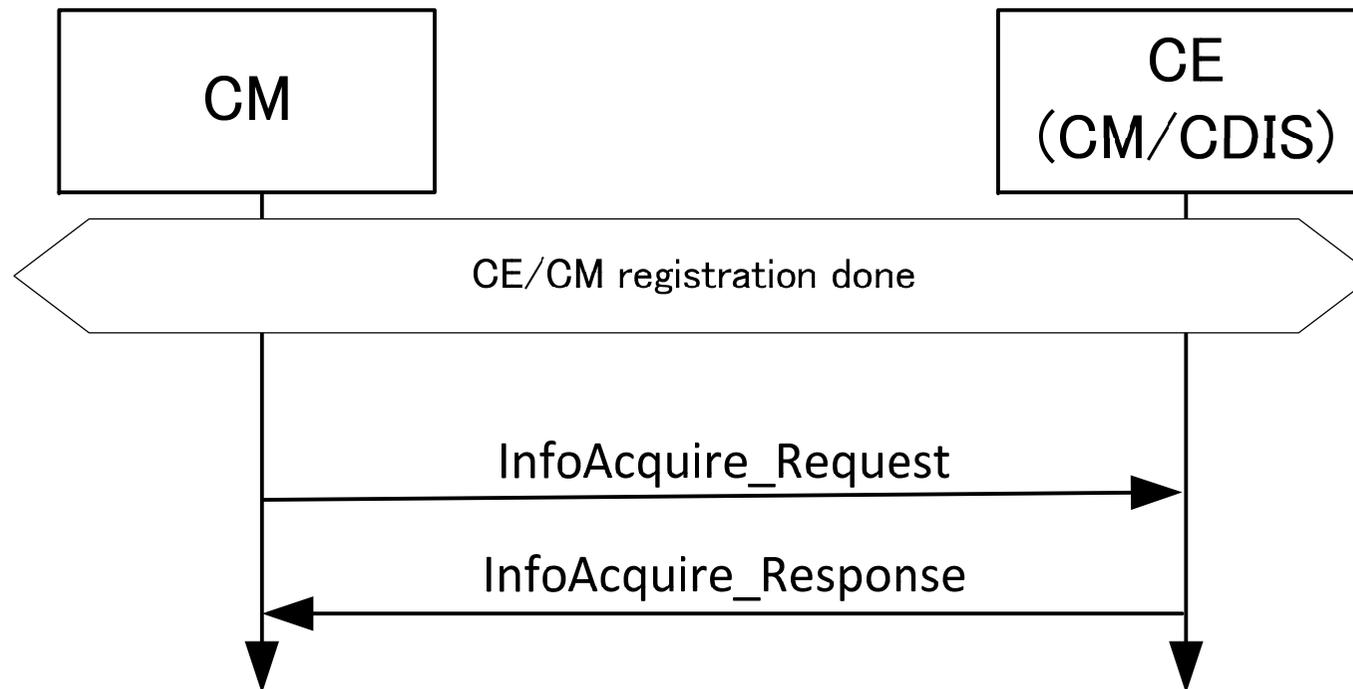
Information collection procedures (1/2)

- **CE information collection:** This procedure is used by CE to collect information from CM. The procedure is shown in the following Figure.



Information collection procedures (2/2)

- **CM information collection:** This procedure is used by CM to collect information from CE, another CM, or CDIS. The procedure is shown in the following Figure.



Information collection procedure messages (1/2)

- **InfoAcquiring_Request:** This message is sent from CM to CE to request CE to obtain information from CE. Also, this message is sent from CE to CM to obtain information from CM. Also, this message is sent from CM to another CM to obtain information from another CM. Also, this message is sent from CM to CDIS to obtain information from CDIS.

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CM/CE ID	Source identifier
Destination Identifier	CE/CM/CDIS ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source network ID	TBD	Source Network ID
Destination network ID	TBD	Destination Network ID
Requested information ID	TBD	Requested information ID

Information collection procedure messages (1/2)

- **InfoAcquiring_Response:** This message is sent from CE to CM to provide requested information to CM. Also, this message is sent from CM to CE to provide requested information to CE. Also, this message is sent from CM to another CM to provide requested information to this CM. Also, this message is sent from CDIS to CM to provide requested information to CM.

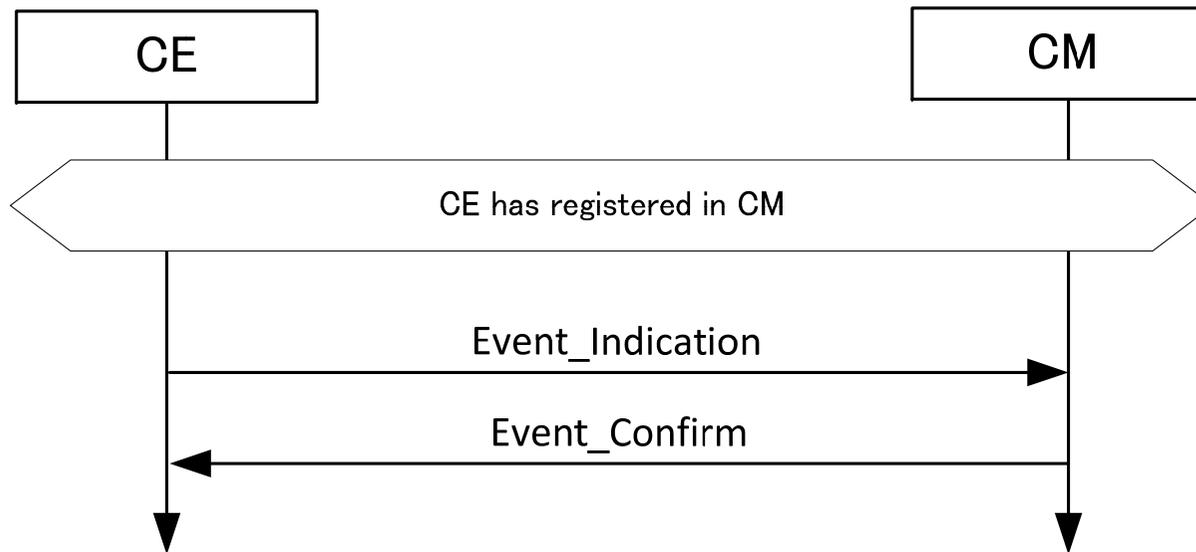
Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE/CM/CDIS ID	Source identifier
Destination Identifier	CM/CE ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source network ID	TBD	Source Network ID
Destination network ID	TBD	Destination Network ID
Requested information value	TBD	Requested information value

Event procedures

- **Outline**
 - Procedures
 - Event from CE to CM
 - Event from CM to CE
 - Event from CM to CM
 - Event from CM to CDIS
 - Event from CDIS to CM
 - Messages
 - Event_Indication
 - Event_Confirm

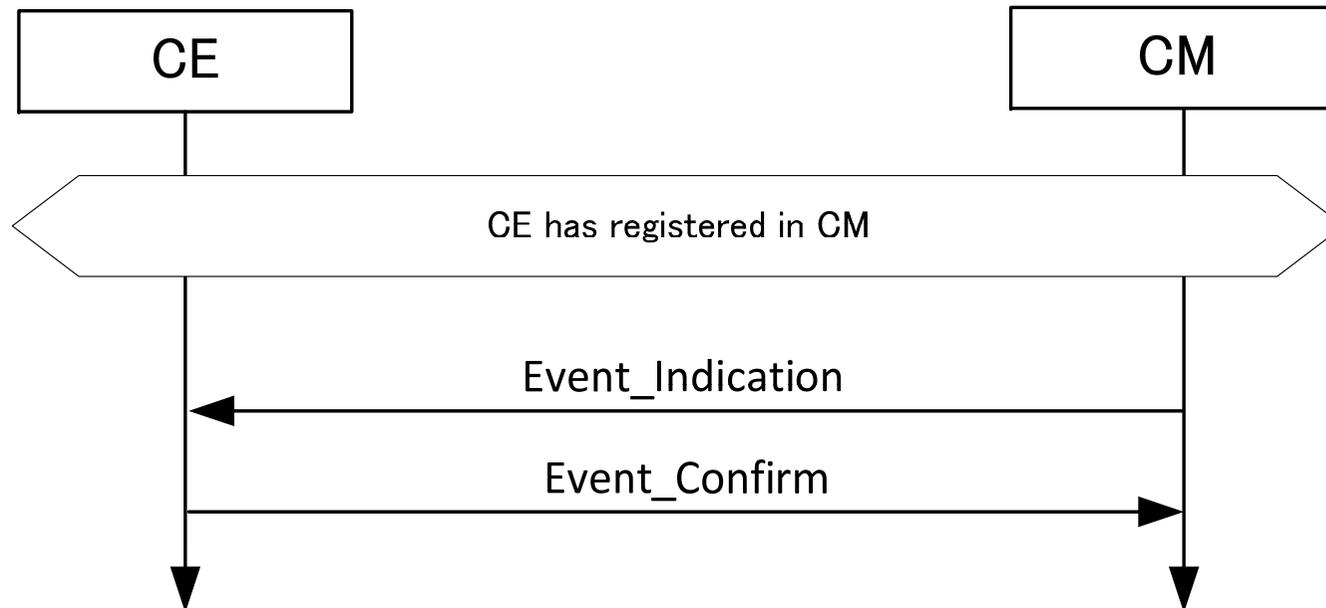
Event procedures (1/5)

- **Event from CE to CM:** This procedure is used by CE to indicate an event to CM. The procedure is shown in the following Figure



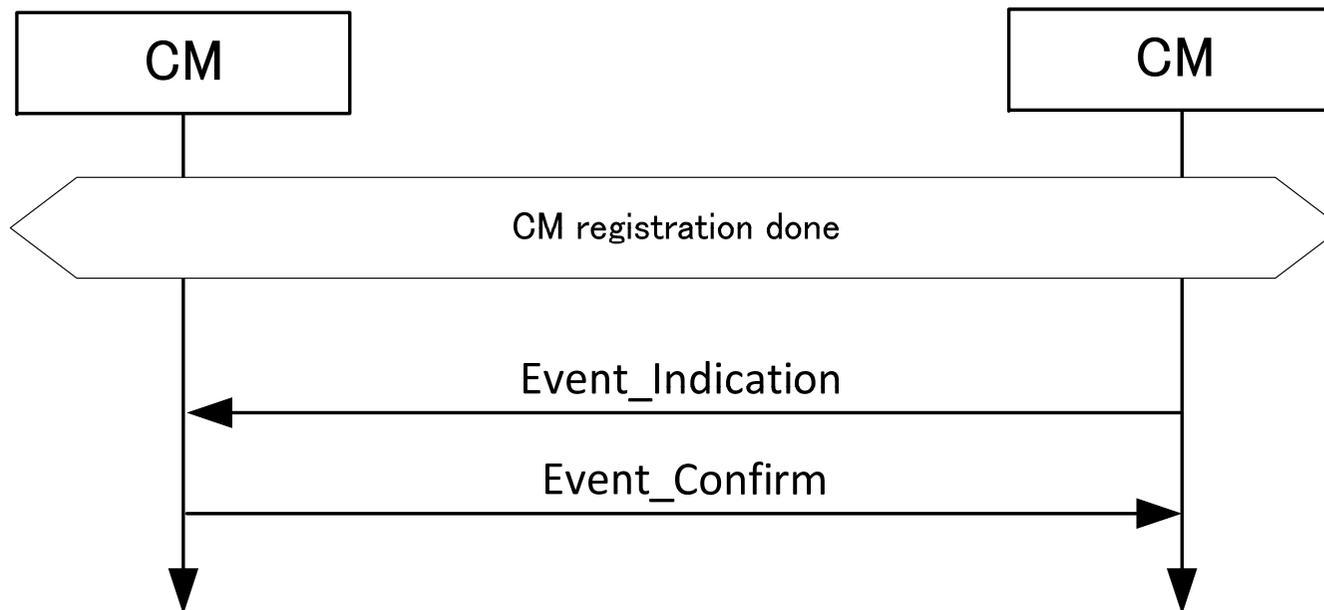
Event procedures (2/5)

- **Event from CM to CE:** This procedure is used by CM to indicate an event to CE. The procedure is shown in the following Figure



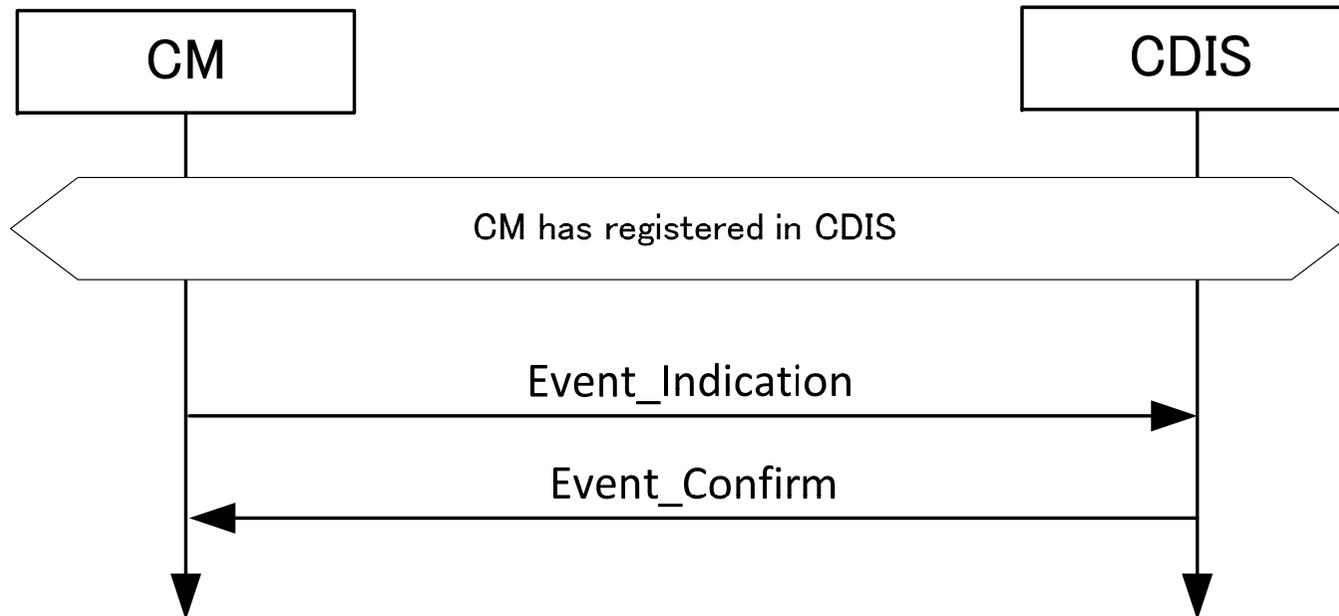
Event procedures (3/5)

- **Event from CM to CM:** This procedure is used by CM to indicate an event to another CM. The procedure is shown in the following Figure.



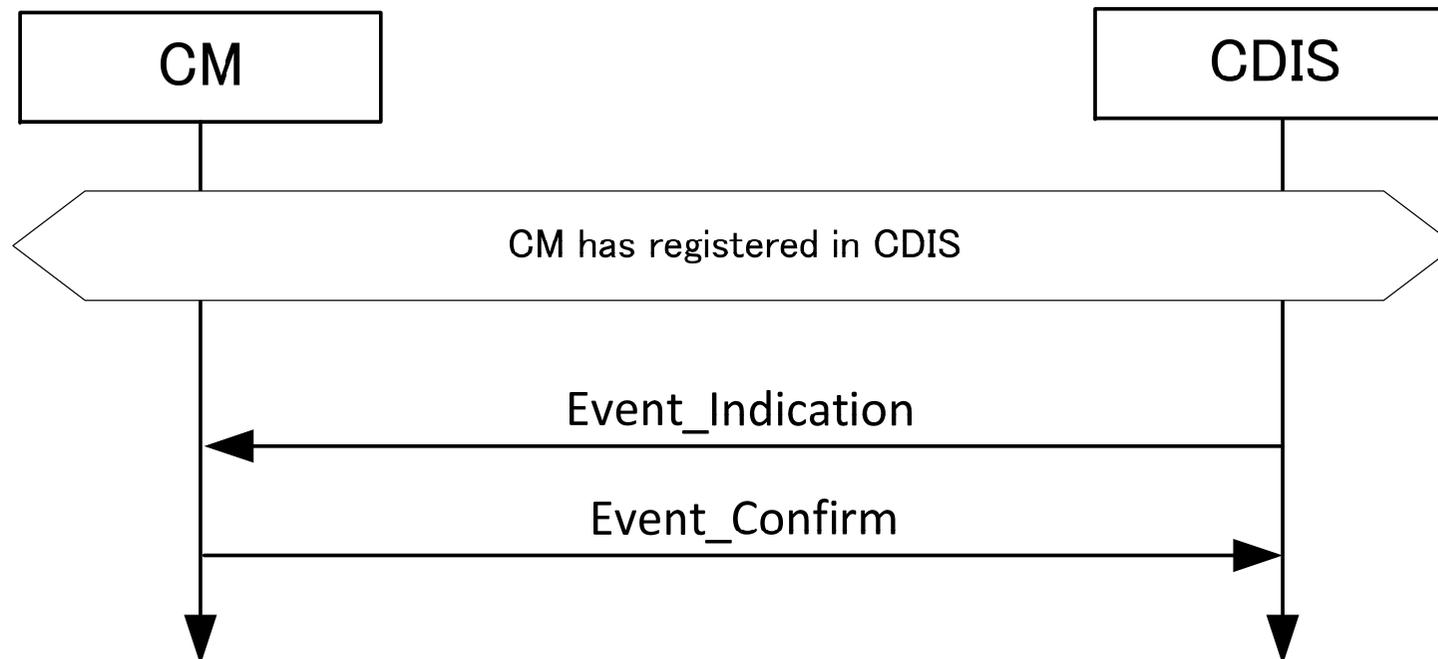
Event procedures (4/5)

- **Event from CM to CDIS** : This procedure is used by CM to indicate an event to CDIS. The procedure is shown in the following Figure.



Event procedures (5/5)

- **Event from CDIS to CM** :This procedure is used by CM to collect information from CE, another CM, or CDIS. The procedure is shown in the following Figure.



Event procedure messages (1/2)

- **Event_Indication:** This message is sent from CE to CM to indicate an event. Also, this message is sent from CM to CE to indicate an event. Also, this message is sent from CM to another CM to indicate an event. Also, this message is sent from CM to CDIS to indicate an event. Also, this message is sent from CDIS to CM to indicate an event.

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE/CM/CDIS ID	Source identifier
Destination Identifier	CM/CE/CDIS ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Event ID	TBD	Event ID
Event description	TBD	Event description

Event procedure messages (2/2)

- Event_Confirm:** This message is sent from CM to CE to confirm reception of the event indication. Also, this message is sent from CE to CM to confirm reception of the event indication. Also, this message is sent from CM to another CM to confirm reception of the event indication. Also, this message is sent from CDIS to CM to confirm reception of the event indication. Also, this message is sent from CM to CDIS to confirm reception of the event indication. This message does not have any payload.

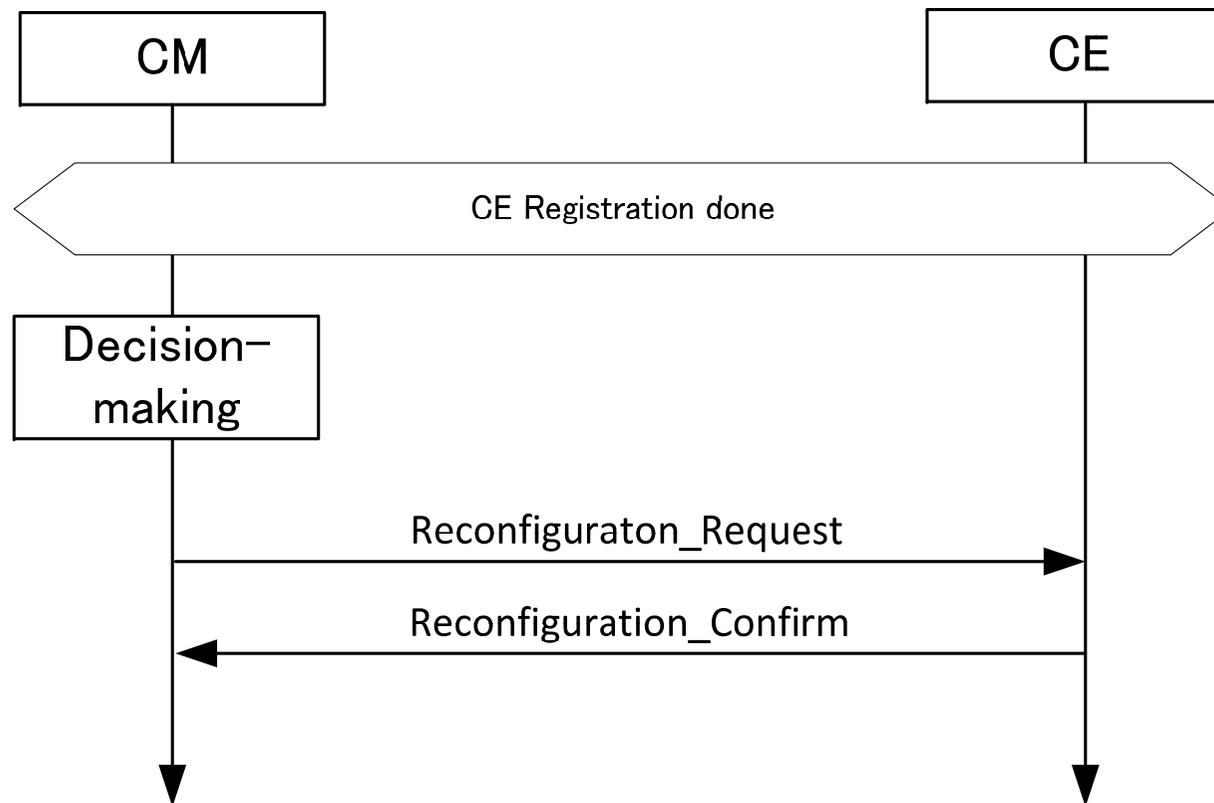
Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CM/CE/CDIS ID	Source identifier
Destination Identifier	CE/CM/CDIS ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
None	None	None

Reconfiguration procedures

- **Outline**
 - Procedures
 - CE reconfiguration
 - Messages
 - Reconfiguration_Request
 - Reconfiguration_Confirm

Reconfiguration procedures

- **CE reconfiguration:** This procedure is used by CM to request reconfiguration of one of its TVBD network or device.



Reconfiguration procedure messages (1/2)

- **Reconfiguration_Request:** This message is sent from CM to CE to request reconfiguration of TVBD network or device served by this CE.

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CM ID	Source identifier
Destination Identifier	CE ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Reconfiguration description	TBD	Reconfiguration description

Reconfiguration procedure messages (2/2)

- **Reconfiguration_Confirm:** This message is sent from CE to CM to report the result of the requested reconfiguration of TVBD network or device served by this CE.

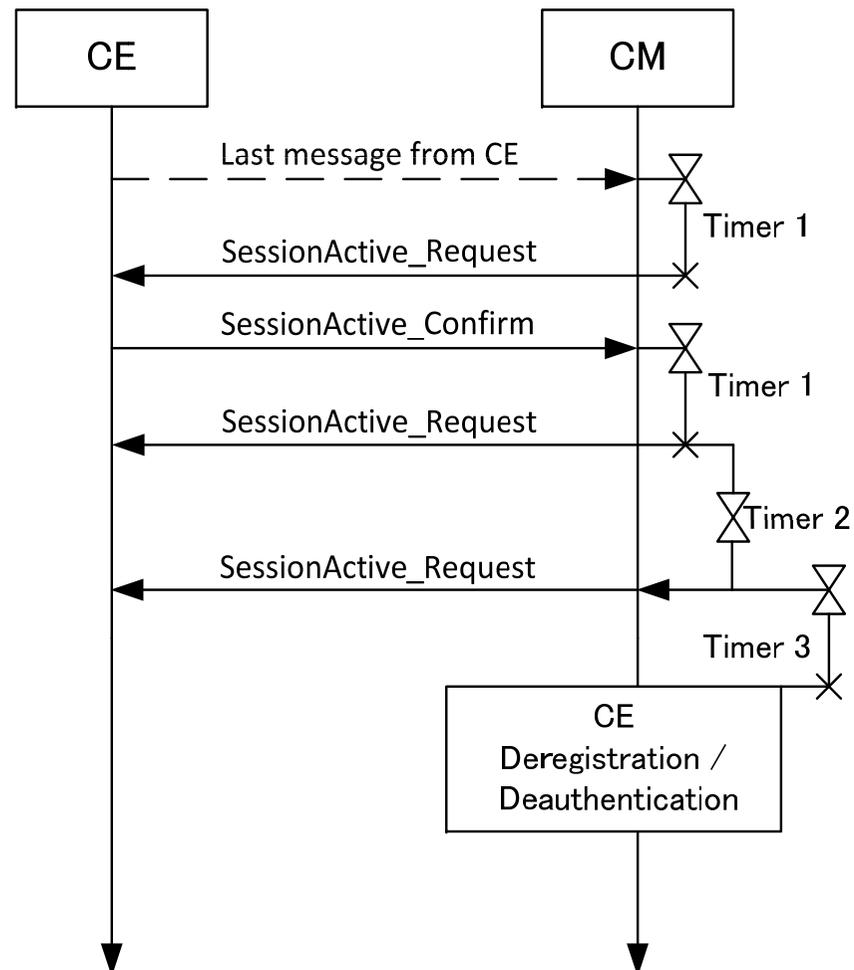
Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE ID	Source identifier
Destination Identifier	CM ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Reconfiguration status	TBD	Reconfiguration status

Session activity check procedures

- **Outline**
 - Procedures
 - CE session activity check
 - CM session activity check
 - Messages
 - SessionActive_Request
 - SessionActive_Confirm

Session activity check procedures (1/2)

- **CE session activity check** : This procedure is used by CM to check that session with one of its CEs is still active.



Session activity check procedure messages (1/2)

- **SessionActive_Request:** This message is sent from CM to CE to check that this CE is still active. Also, this message is sent from CDIS to CM to check that this CM is still active. This message does not have any payload.

Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CM/CDIS ID	Source identifier
Destination Identifier	CE/CM ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
None	None	None

Session activity check procedure messages (2/2)

- **SessionActive_Confirm:** This message is sent from CE to CM to confirm that this CE is still active. Also, this message is sent from CM to CDIS to confirm that this CM is still active. This message does not have any payload.

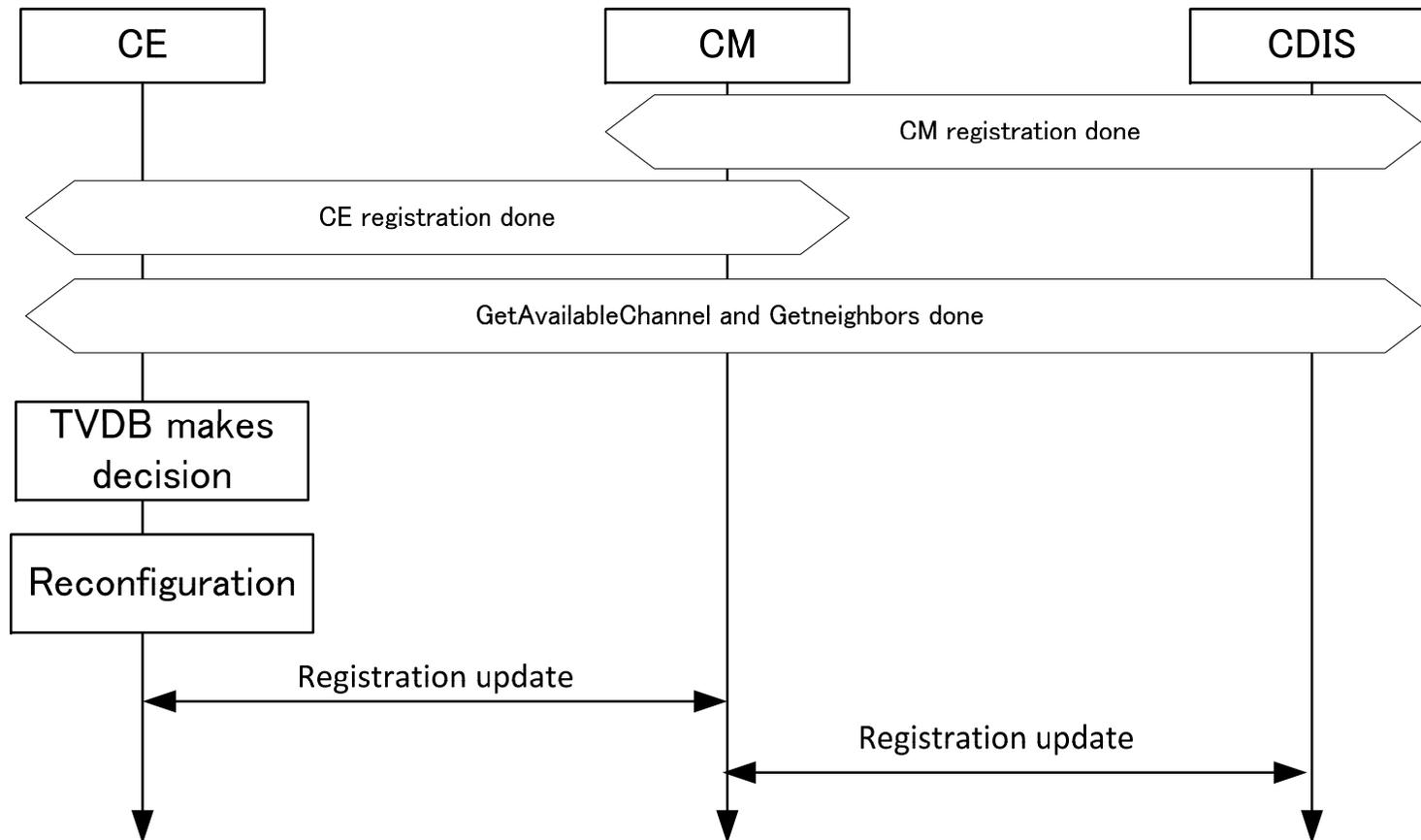
Header		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
Source Identifier	CE/CM ID	Source identifier
Destination Identifier	CM/CDIS ID	Destination identifier
ACK Policy	ACK required / ACK not required	Request to send acknowledgement of reception
Payload		
<i>Information element</i>	<i>Value</i>	<i>Description</i>
None	None	None

Examples of the procedures

- **Outline**
 - Coexistence decisions are done by TVBD
 - Coexistence decisions are done by Coexistence System

Examples of the procedures (1/2)

- **Coexistence decisions are done by TVBD:** The following Figure shows example of using the above described procedure for scenario when decisions are done by TVBD network or device.



Examples of the procedures (2/2)

- **Coexistence decisions are done by Coexistence System:** The following Figure shows example of using the above described procedure for scenario when decisions are done by coexistence system.

