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Re:	
Abstract	This contribution defines Mobile Management Signaling for low power, limited resources 16e devices.
Purpose	Adopt changes
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Mobile Management Signaling

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Motivation

To define general purpose, simple and light MAC Management Signaling for mobile, low power, or limited resources 16e device.

Details

The proposal is to define 4 new MAC management messages that will enable the BS to Query and Set Information Elements on the MSS.

QRY_IE-REQ – sent by the BS to the MSS on its Primary Management connection to request data over one or more information elements.
QRY_IE-RSP – sent by the MSS in response to QRY_IE-REQ containing the results of the information elements sent in the corresponding QRY_IE-REQ.
SET_IE-REQ – sent by the BS on an MSS Primary Management connection to configure one or more information elements.
Sent by the MSS to the BS on its Primary connection to notify or alert the BS of an event or error condition.
SET_IE-RSP– sent by the MSS in response to SET_IE-REQ indicating success or failure of configuring the settings included in the information elements sent in the corresponding SET_IE-REQ.

Changes summary

[Add the following entries to Table 14:]

Type	Message name	Message description	Connection
xx	QRY_IE_REQ	Query IE request	primary management
xx	QRY_IE_RSP	Query IE response	primary management
xx	SET_IE_REQ	Set IE request	primary management
xx	SET_IE_RSP	Set IE response	primary management

[Add the following to sections to the end of 6.3.2.3:]

6.3.2.3.xx Query IE Request message (QRY_IE_REQ)

BS uses the QRY_IE_REQ message to query information on the MSS describing by one or more IEs.
The QRY_IE_REQ message is sent from the BS to the MSS on the MSS's primary management connection.

Table xxx— Query IE Request (QRY_IE_REQ) message format

Syntax	Size	Notes
QRY_IE_REQ_Message_Format() {		
Management message type = xxx	8 bits	
Transaction id	8 bits	
Response timeout	8 bits	In units of 5 frames
TLV Encoded Information	variable	
}		

Parameters shall be as follows:

Transaction id
A unique sequential identifier of the transaction set by the initiator.

Response timeout
In units of 5 frames (by which the sender expects to receive a corresponding QRY_IE_RSP message)

The QRY_IE_REQ shall include the following parameters encoded as TLV Tuples:

HMAC Tuple (see 11.12)
The HMAC Tuple shall be the last attribute in the message.

The base station will serialize all the QRY_IE-REQ messages sent to the MSS, waiting until the MSS has responded, or a timeout has occurred before querying the MSS again, or with more information. The BS may replay a message to override previously sent messages before the timeout has occurred. In this case the MSS will not respond to the previous request instead will process the newly received message.

6.3.2.3.xx Query IE Response message (QRY_IE_RSP)

The QRY_IE_RSP message is sent by the MSS in response to QRY_IE-REQ containing the results of the information elements sent in the corresponding QRY_IE-REQ.
The QRY_IE_RSP message is sent from the MSS to the BS on the MSS's primary management CID.

Table xxx— Query IE Response (QRY_IE_RSP) message format

Syntax	Size	Notes
QRY_IE_RSP_Message_Format() {		
Management message type = xxx	8 bits	
Transaction id	8 bits	
RSP Status	8 bits	Allowed values are: 0 – success 1 – Error Response timeout too short 2 – Error TLV
TLV Encoded Information	variable	
}		

Parameters shall be as follows:

Transaction id
A unique sequential identifier of the transaction set by the initiator.
RSP Status
Error encoding of the response status. Allowed values are:
0 – success
1 – Error Response timeout too short
2 – Error TLV

The QRY_IE_RSP shall include the following parameters encoded as TLV Tuples:

HMAC Tuple (see 11.12)
The HMAC Tuple shall be the last attribute in the message.

6.3.2.3.xx Set IE Request message (SET_IE_REQ)

BS uses the SET_IE_REQ message to set information on the MSS describing by one or more IEs.
MSS uses the SET_IE_REQ message to notify or alert the BS of an event or error condition.
The SET_IE_REQ message is sent from the BS to the MSS or from the MSS to the BS on the MSS's primary management CID.

Table xxx— Set IE Request (SET_IE_REQ) message format

Syntax	Size	Notes
SET_IE_REQ_Message_Format() {		
Management message type = xxx	8 bits	
Transaction id	8 bits	

Response timeout	8 bits	Number of frames x 5 by which the sender expects to receive a corresponding SET_IE_RSP message with either a success or error RSP Status. If this value is set to 0, the sender does not require a response and the receiver will not issue one.
TLV Encoded Information	variable	
}		

Parameters shall be as follows:

Transaction id
A unique sequential identifier of the transaction set by the initiator.
Response timeout
Number of frames x 5 by which the sender expects to receive a corresponding SET_IE_RSP message with either a success or error RSP Status. If this value is set to 0, the sender does not require a response and the receiver will not issue one.

The SET_IE_REQ shall include the following parameters encoded as TLV Tuples:

HMAC Tuple (see 11.12)
The HMAC Tuple shall be the last attribute in the message.

6.3.2.3.xx Set IE Response message (SET_IE_RSP)

The SET_IE_RSP message is sent by the MSS in response to SET_IE-REQ containing the results of the operation in the corresponding QRY_IE-REQ.
The SET_IE_RSP message is sent from the MSS to the BS on the MSS's primary management CID.

Table xxx— SET IE Response (SET_IE_RSP) message format

Syntax	Size	Notes
SET_IE_RSP_Message_Format() {		
Management message type = xxx	8 bits	
Transaction ID	16 bits	
RSP Status	8 bits	Allowed values are: 0 – success 1 – Error Response timeout too short 2 – TLV set Operation Error
TLV Encoded Information	variable	
}		

Parameters shall be as follows:

Transaction id
A unique sequential identifier of the transaction set by the initiator.
RSP Status
Error encoding of the response status. Allowed values are:
0 – success
1 – Error Response timeout too short
2 –TLV set operation Error

The SET_IE_RSP shall include the following parameters encoded as TLV Tuples:

HMAC Tuple (see 11.12)
The HMAC Tuple shall be the last attribute in the message.

The base station will serialize all the SET_IE-REQ messages sent to the MSS, waiting until the MSS has responded, or a timeout has occurred before configuring the MSS again, or with additional settings. In case a timeout has occurred