

Agenda Item: 5.2.3

Source: T2

Title: Change Requests on MMS

Document for: Approval

Spec	CR	Rev	Rel	Subject	Cat	Vers-Current	Vers-New	T2 doc	Workitem
23.140	140	-	Rel-6	Correction in MM1-MM4/MM7 header mapping	F	6.3.0	6.4.0	T2-030587	MMS6
23.140	141	-	Rel-6	Clarifying the Element of Information "Linked ID"	F	6.3.0	6.4.0	T2-030624	MMS6
23.140	142	-	Rel-6	Cleaning up last references to RFC822, and deletion of non existing /TYPE=rfc822	F	6.3.0	6.4.0	T2-030625	MMS6
23.140	143	-	Rel-6	Conditional delivery mechanism for MMS	B	6.3.0	6.4.0	T2-030629	MMS6
23.140	144	-	Rel-6	Automatic and Manual Retrieval Modes	F	6.3.0	6.4.0	T2-030630	MMS6
23.140	145	-	Rel-6	MM4 addressing	F	6.3.0	6.4.0	T2-030631	MMS6
23.140	146	-	Rel-6	Addition of missing MM7 Delivery report status codes	F	6.3.0	6.4.0	T2-030635	MMS6
23.140	147	-	Rel-6	MM7, Allow Adaptations default value	F	6.3.0	6.4.0	T2-030636	MMS6
23.140	148	-	Rel-5	Correcting references to ENUM & HLR	F	5.8.0	5.9.0	T2-030642	MESS5-MMS

CHANGE REQUEST

⌘ **23.140 CR 140** ⌘ rev **-** ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ⌘ ME Radio Access Network Core Network

Title:	⌘ Correction in MM1-MM4/MM7 header mapping		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 05/11/2003
Category:	⌘ F	Release:	⌘ Rel-6
	<i>Use <u>one</u> of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ correction
Summary of change:	⌘ Error in mapping MM1_Forward.Req to MM4_Forward.Req and MM7_Deliver.REQ in Annex I&K
Consequences if not approved:	⌘ Inconsistence exists between text and Annex I & K

Clauses affected:	⌘ Annex I & K										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	X	Other core specifications	⌘
Y	N										
X	<input type="checkbox"/>										
<input type="checkbox"/>	X										
<input type="checkbox"/>	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex I (normative): MM1 <-> MM4 header mapping

This annex maps the information elements found on MM1 onto the STD 11 header fields of MM4.

The tables below are provided to give a normative end-to-end description of MMS. It provides mapping of MM1 with respect to MM4/STD11.

In many cases there is no mapping between MM1 information elements and MM4 STD 11 header fields, this is according to specifications. These information elements are included in the tables below in order to give a complete picture of how the MM1 information elements are handled.

Table I.1: Mapping MM1_submit.REQ -> MM4_forward.REQ

Information elements in MM1_submit.REQ	STD11 Header fields in Egress MM4_forward.REQ
Message Type	-
MMS Version	-
Transaction ID	-
Recipient address	To:, Cc:, Bcc: (NOTE 1, NOTE 2)
Content type	Content-Type:
Sender address	From:
Message class	X-Mms-Message-Class:
Date and time	Date:
Time of Expiry	X-Mms-Expiry:
Earliest Delivery Time	-
Delivery report	X-Mms-Delivery-Report:
-	X-Mms-Originator-R/S-Delivery-Report
Reply-Charging	-
Reply-Deadline	-
Reply-Charging-Size	-
Priority	X-Mms-Priority:
Sender visibility	X-Mms-Sender-Visibility:
Store	-
MM State	-
MM Flags	-
Read reply	X-Mms-Read-Reply:
Subject	Subject:
Reply-Charging-ID	-
Content	<message body>
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Message-Id
-	X-Mms-Acq-Request
-	X-Mms-Forward-Counter
-	X-Mms-Previously-sent-by
-	X-Mms-Previously-sent-date-and-time
NOTE 1: A "Bcc:" field is created on MM4 only when the original MM on MM1 contains only blind-carbon-copy recipient(s). In this case the "Bcc:" field is left blank, see clause 8.4.4.2.	
NOTE 2: Recipient addresses for blind-carbon-copy recipient(s) on MM1 are mapped onto <RCPT TO:> commands on SMTP level on MM4.	

Table I.2: Mapping MM1_submit.RES -> MM4_forward.REQ

Information elements in MM1_submit.RES	STD11 Header fields in Egress MM4_forward.REQ
Message Type	-
MMS Version	-
Transaction ID	-
Request Status	-
Request Status Text	-
Message ID	X-Mms-Message-ID:
Store Status	-
Store Status Text	-
Stored Message Reference	-
-	To:, Cc:, Bcc: (NOTE 1, NOTE 2)
-	Content-Type:
-	From:
-	X-Mms-Message-Class:
-	Date:
-	X-Mms-Expiry:
-	X-Mms-Delivery-Report:
-	X-Mms-Originator-R/S-Delivery-Report
-	X-Mms-Priority:
-	X-Mms-Sender-Visibility:
-	X-Mms-Read-Reply:
-	Subject:
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Acq-Request
-	X-Mms-Forward-Counter
-	X-Mms-Previously-sent-by
-	X-Mms-Previously-sent-date-and-time
NOTE 1: A "Bcc:" field is created on MM4 only when the original MM on MM1 contains only blind-carbon-copy recipient(s). In this case the "Bcc:" field is left blank, see clause 8.4.4.2.	
NOTE 2: Recipient addresses for blind-carbon-copy recipient(s) on MM1 are mapped onto <RCPT TO:> commands on SMTP level on MM4.	

Table I.3: Mapping MM1_notification.REQ <- MM4_forward.REQ

Information elements in MM1_notification.REQ	STD11 Header fields in Ingress MM4_forward.REQ
Message Type	-
MMS Version	-
Transaction ID	-
Message class	X-Mms-Message-Class:
Message size	-
Time of expiry	X-Mms-Expiry:
Message Reference	-
Subject	Subject:
Priority	X-Mms-Priority:
Sender address	From:
Stored	-
Delivery report	X-Mms-Delivery-Report:
-	X-Mms-Originator-R/S-Delivery-Report
Reply-Charging	-
Reply-Deadline	-
Reply-Charging-Size	-

Reply-Charging-ID	-
Element-Descriptor	-
Message Distribution Indicator	-
-	To:, Cc:, Bcc: (NOTE 1, NOTE 2)
-	Content-Type:
-	Date:
-	X-Mms-Sender-Visibility:
-	X-Mms-Read-Reply:
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Acq-Request
-	X-Mms-Forward-Counter
-	X-Mms-Previously-sent-by
-	X-Mms-Previously-sent-date-and-time
<p>NOTE 1: A "Bcc:" field is created on MM4 only when the original MM on MM1 contains only blind-carbon-copy recipient(s). In this case the "Bcc:" field is left blank, see clause 8.4.4.2.</p> <p>NOTE 2: Recipient addresses for blind-carbon-copy recipient(s) on MM1 are mapped onto <RCPT TO:> commands on SMTP level on MM4.</p>	

Table I.4: Information elements in the MM1_notification.RES.

Information elements in MM1_notification.RES	MM4 STD 11 Header fields
Message Type	-
MMS Version	-
Transaction ID	-
MM Status	-
Report allowed	-

Table I.5: Information elements in the MM1_retrieve.REQ

Information elements in MM1_retrieve.REQ	MM4 STD 11 Header fields
Message Reference	-

Table I.6: Mapping MM1_retrieve.RES <- MM4_forward.REQ

Information elements in MM1_retrieve.RES	STD11 Header fields in Ingress MM4_Forward.REQ
Message Type	-
MMS Version	-
Transaction ID	-
Message ID	X-Mms-Message-ID:
Sender address	From:
Content type	Content-type:
Recipient address	To:
Message class	X-Mms-Message-Class:
Date and time	Date:
Delivery report	X-Mms-Delivery-Report:
-	X-Mms-Originator-R/S-Delivery-Report
Priority	X-Mms-Priority:
Read reply	X-Mms-Read-Reply:
Subject	Subject:
Request Status	-
MM State	-
MM Flags	-
Request Status Text	-
Reply-Charging	-
Reply-Charging-ID	-
Reply-Deadline	-
Reply-Charging-Size	-
Previously-Sent-By	X-Mms-Previously-Sent-By
Previously-Sent-Date	X-Mms-Previously-Sent-Date
Content	<message body>
Message Distribution Indicator	-
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Expiry
-	X-Mms-Sender-Visibility:
-	X-Mms-Read-Reply:
-	X-Mms-Acq-Request
-	X-Mms-Forward-Counter

Table I.7: Information elements in the MM1_acknowledgement.REQ

Information elements in MM1_acknowledgement.REQ	MM4 STD 11 Header fields
Message Type	-
MMS Version	-
Transaction ID	-
Report allowed	-

Table I.8: Mapping MM1_forward.REQ -> MM4_forward.REQ

Information elements in MM1_forward.REQ	STD11 Header fields in Egress MM4_Forward.REQ
Message Type	-
MMS Version	-
Transaction ID	-
Recipient address	To:, Cc:, Bcc: (NOTE 1, NOTE 2)
Forwarding address	From:
Date and time	Date:
Time of Expiry	X-Mms-Expiry:
Earliest delivery time	-
Store	-
MM State	-
MM Flags	-
Delivery report	X-Mms-Delivery-Report:
-	X-Mms-Originator-R/S-Delivery-Report
Read reply	X-Mms-Read-Reply:
Reply-Charging	-
Reply-Deadline	-
Reply-Charging-Size	-
Message Reference	-
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Message-ID:
-	Content-Type:
-	X-Mms-Message-Class:
-	X-Mms-Priority:
-	X-Mms-Sender-Visibility:
-	Subject:
-	X-Mms-Acq-Request
-	X-Mms-Forward-Counter
-	X-Mms-Previously-Sent-By
-	X-Mms-Previously-Sent-Date
-	Content
NOTE 1: A "Bcc:" field is created on MM4 only when the original MM on MM1 contains only blind-carbon-copy recipient(s). In this case the "Bcc:" field is left blank, see clause 8.4.4.2.	
NOTE 2: Recipient addresses for blind-carbon-copy recipient(s) on MM1 are mapped onto <RCPT TO:> commands on SMTP level on MM4.	

Table I.9: Information elements in the MM1_forward.RES.

Information elements in MM1_forward.RES	MM4 STD 11 Header fields
Message Type	-
MMS Version	-
Transaction ID	-
Request Status	-
Request Status Text	-
Message ID	-
Store Status	-
Store Status Text	-
Stored Message Reference	-

Table I.10: Mapping MM1_delivery_report.REQ <- MM4_delivery_report.REQ

Information elements in MM1_delivery_report.REQ	STD11 Header fields in Ingress MM4_delivery_report.REQ
Message Type	-
MMS Version	-
Message ID	X-Mms-Message-ID
Recipient address	From:
Date and Time	Date:
MM Status	X-Mms-MM-Status-Code
-	X-Mms-MM-Status-Extension
-	X-Mms-Forward-To-Originator-UA

Table I.11: Mapping MM1_read_reply_recipient.REQ -> MM4_read_reply_report.REQ

Information elements in MM1_read_reply_recipient.REQ	STD11 Header fields in Egress MM4_read_reply_report.REQ
Message Type	-
MMS Version	-
Recipient address	From:
Originator address	To:
Message ID	X-Mms-Message-ID:
Date and Time	Date:
Read Status	X-Mms-Read-Status:
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Acq-Request
-	X-Mms-Read-Status

Table I.12: Mapping MM1_read_reply_originator.REQ <- MM4_read_reply_report.REQ

Information elements in MM1_read_reply_originator.REQ	Ingress STD11 Header fields in MM4_read_reply_report.REQ
Message Type	-
MMS Version	-
Recipient address	From:
Originator address	To:
Message ID	X-Mms-Message-ID:
Date and Time	Date:
Read Status	X-Mms-Read-Status:
-	X-Mms-3GPP-MMS-Version
-	X-Mms-Message-Type
-	X-Mms-Transaction-Id
-	X-Mms-Acq-Request
-	X-Mms-Read-Status

Annex K (informative): MM1, MM4 <-> MM7 header mapping

This annex maps the abstract messages from MM1 and MM4 to MM7.

The abstract messages mapped between MM1 and MM7 are:

- MM1_Submit.REQ to the MM7_Deliver.REQ
- MM7_Submit.REQ to the MM1_Notification.REQ and the MM1_Retrieve.RES
- MM1_Read_Reply_Recipient.REQ to the MM7_Read_Reply_Report.REQ

- MM1_Forward.REQ to the MM7_Deliver.REQ

The abstract messages mapped between MM4 and MM7 are:

- MM4_Forward.REQ to the MM7_Deliver.REQ
- MM7_Submit.REQ to the MM4_Forward.REQ
- MM4_Delivery_Report.REQ to the MM7_Delivery_Report.REQ
- MM4_Read_Reply_Report.REQ to the MM7_Read_Reply.REQ

The tables below shows the mapping and are provided to give an end-to-end description of MMS. There is a table for each MM1, MM4 abstract message that maps to a MM7 abstract message. In many cases there is no mapping between MM1, MM4 and MM7 information elements, this is according to specifications. These information elements are included in the tables below in order to give a complete picture of how the information elements are handled.

There are also several abstract messages over MM1, MM4 that have no relevant mapping to MM7 and vice versa. These abstract messages are omitted from this annex.

Table K.1: Mapping MM1_submit.REQ -> MM7_deliver.REQ

Information elements in MM1_submit.REQ	Information elements in MM7_deliver.REQ
Message Type	-
Transaction ID	-
MMSVersion	-
Recipient address, -	Recipient address, - (NOTE 1)
Content type	Content type
Sender address	Sender address, - (NOTE 2)
Message class	-
Date and time	Date and time
Time of Expiry	-
Earliest delivery time	-
Delivery report	-
Reply-Charging	-
Reply-Deadline	-
Reply-Charging-Size	-
Priority	Priority
Sender visibility	-
Store	-
MM State	-
MM Flags	-
Read reply	-
Subject	Subject
Reply-Charging-ID	Reply-Charging-ID
Content	Content
-	Transaction ID
-	Message type
-	MM7 version
-	MMS Relay/Server ID
-	Linked ID
-	Sender SPI
-	Recipient SPI
NOTE 1: The recipient address over MM1 may or may not be mapped to recipient address over MM7. The recipient address over MM7 may also be independent of the recipient address over MM1.	
NOTE 2: If the Sender Visibility flag is set over MM1, the Sender address from MM1 is not mapped onto MM7.	

Table K.2: Mapping MM7_submit.REQ -> MM1_notification.REQ, MM1_Retrieve.RES

Information elements in MM7_submit.REQ	Information elements in MM1_notification.REQ	Information elements in MM1_retrieve.RES
-	Message Type	-
-	Transaction ID	-
-	MMS Version	-
Message class	Message class	Message class
Time of Expiry	Time of expiry	-
Subject	Subject	Subject
Priority	Priority	Priority
Sender address	Sender address	Sender address
Reply-Charging	Reply-Charging	Reply-Charging
-	-	Reply-Charging-ID
Reply-Deadline	Reply-Deadline	Reply-Deadline
Reply-Charging-Size	Reply-Charging-Size	Reply-Charging-Size
Transaction ID	-	-
Message type	-	-
MM7 version	-	-
VASP ID	-	-
VAS ID	-	-
Recipient address	-	Recipient address
Service code	-	-
Linked ID	-	-
Date and time	-	Date and time
Earliest delivery time	-	-
Delivery report	-	-
Read reply	-	Read reply
Adaptations	-	-
Content type	-	Content type
Content	-	Content
Message Distribution Indicator	Message Distribution Indicator	Message Distribution Indicator
Charged Party	-	-
Charged Party ID	-	-
-	Message size	-
-	Message Reference	-
-	Stored	-
-	Delivery report	Delivery report
-	Reply-Charging-ID	-
-	Element-Descriptor	-
-	-	Message ID
-	-	MM State
-	-	MM Flags
-	-	Request Status
-	-	Request Status Text
-	-	Previously-sent-by
-	-	Previously-sent-date-and-time
-	-	Message Type
-	-	Transaction ID
-	-	MMS Version

Table K.3: Mapping MM1_read_reply_recipient.REQ -> MM7_read_reply_report.REQ

Information elements in MM1_read_reply_recipient.REQ	Information elements in MM7_read_reply_report.REQ
Message Type	-
MMS Version	-
Recipient address	Recipient address
Originator address	Sender address
Message-ID	Message-ID
Date and Time	Date and Time
Read Status	Read Status
-	Transaction ID
-	Message Type
-	MM7 Version
-	MMS Relay/Server ID
-	Status text

Table K.4: Mapping MM1_Forward.REQ -> MM7_Deliver.REQ

Information elements in MM1_Forward.REQ	Information elements in MM7_Deliver.REQ
Message Type	-
Transaction ID	-
MMS Version	-
Recipient address	Recipient address
Forwarding address	Sender address
Date and time	Date and time
Time of Expiry	-
Earliest delivery time	-
Store	-
MM State	-
MM Flags	-
Delivery report	-
Read reply	-
Reply-Charging	-
Reply-Deadline	-
Reply-Charging-Size	-
Message Reference	<Content>, Content Type, Subject, Priority (NOTE)
-	Transaction ID
-	Message type
-	MM7 version
-	MMS Relay/Server ID
-	Linked ID
-	Reply Charging ID
-	Sender SPI
-	Recipient SPI
NOTE:	The message reference is used to map fields and content from the original MM. The mapping of these fields is identical to the MM1_Submit.REQ/MM7_Deliver.REQ mapping in table K.1.

Table K.5: Mapping MM4_Forward.REQ -> MM7_Deliver.REQ

Information elements in MM4_Forward.REQ	Information elements in MM7_Deliver.REQ
3GPP MMS Version	-
Message Type	-
Transaction ID	-
Message ID, -	Linked ID, - (NOTE 1)
Recipient(s) address	Recipient address
Sender address	Sender address (NOTE 2)
Content type	Content type
Message class	-
Date and time	Date and time
Time of Expiry	-
Delivery report	-
Priority	Priority
Sender visibility	-
Read reply	-
Subject	Subject
Acknowledgement Request	-
Forward counter	-
Previously-sent-by	Previously-sent-by
Previously-sent-date and time	Previously-sent-date-and-time
Content	Content
-	Transaction ID
-	Message type
-	MM7 version
-	MMS Relay/Server ID
-	Recipient address
-	Reply-Charging-ID
-	Sender SPI
-	Recipient SPI
<p>NOTE 1: The Message ID over MM1 may or may not be mapped to the Linked ID over MM7. The Linked ID over MM7 may also be independent of the Message ID over MM1.</p> <p>NOTE 2: If the Sender Visibility flag is set over MM4, the Sender address from MM4 is not mapped onto MM7.</p>	

Table K.6: Mapping MM7_Submit.REQ -> MM4_Forward.REQ

Information elements in MM4_Forward.REQ	Information elements in MM7_Submit.REQ
3GPP MMS Version	-
Message Type	-
Transaction ID	-
Message ID	-
Recipient(s) address	Recipient address
Sender address	Sender address
Content type	Content type
Message class	Message class
Date and time	Date and time
Time of Expiry	Time of Expiry
Delivery report	Delivery report
Priority	Priority
Sender visibility	-
Read reply	Read reply
Subject	Subject
Acknowledgement Request	-
Forward counter	-
Previously-sent-by	-
Previously-sent-date and-time	-
Content	Content
-	Transaction ID
-	Message type
-	MM7 version
-	VASP ID
-	VAS ID
-	Service code
-	Linked ID
-	Earliest delivery time
-	Reply-Charging
-	Reply-Deadline
-	Reply-Charging-Size
-	Adaptations
-	Message Distribution-Indicator
-	Charged Party ID

Table K.7: MM4_delivery_report.REQ -> MM7_delivery_report.REQ

Information elements in MM4_delivery_report.REQ	Information elements in MM7_delivery_report.REQ
3GPP MMS Version	-
Message Type	-
Transaction ID	-
Message ID	Message ID
Recipient address	Sender address
Sender address	Recipient address
Date and time	Date and time
Acknowledgement Request	-
MM Status	MM Status
MM Status Extension	MM Status Extension
MM Status Text	Status text
-	Transaction ID
-	Message Type
-	MM7 Version
-	MMS Relay/Server ID

Table K.8: MM4_Read_reply_report.REQ -> MM7_read_reply_report.REQ

Information elements in MM4_Read_reply_report.REQ	Information elements in MM7_read_reply.REQ
3GPP MMS Version	-
Message Type	-
Transaction ID	-
Recipient address	Recipient address
Sender address	Sender address
Message-ID	Message-ID
Date and time	Date and time
Acknowledgement Request	-
Read Status	Read Status
Status text	Status text
-	Transaction ID
-	Message Type
-	MM7 Version
-	MMS Relay/Server ID

CHANGE REQUEST

⌘ **23.140 CR 141** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Clarifying the Element of Information "Linked ID"		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 2003/11/19
Category:	⌘ F	Release:	⌘ Rel-6
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Better document the usage of the Element of Information "Linked ID"
Summary of change:	⌘ Provides possible use cases about the usage of the LinkedID. 1) Is typically equal to the MessageID, and can be used by the MMS R/S to logically relate the VASP response to the original request. 2) Can be used to keep track of a sequence of MM7_Submit, meant to distribute the same MM content to several recipients.
Consequences if not approved:	⌘ Unclear usage of LinkedID.

Clauses affected:	⌘ 8.7.1.3, 8.7.2.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	
Y	N										
⌘	X										
⌘	X										
⌘	X										
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.7 Technical realisation of MMS on reference point MM7

The MMSE may support Value Added Services in addition to the basic messaging services defined for MMS. These Value Added Services may be provided by the network operator of the MMSE or by third-party Value Added Service Providers (VASP). This clause defines the interworking between the MMS Relay/Server and the VASP.

The following figure illustrates an example data-flow of the message exchange involved in a VAS distribution of a MM as outlined by the abstract messages specified here:

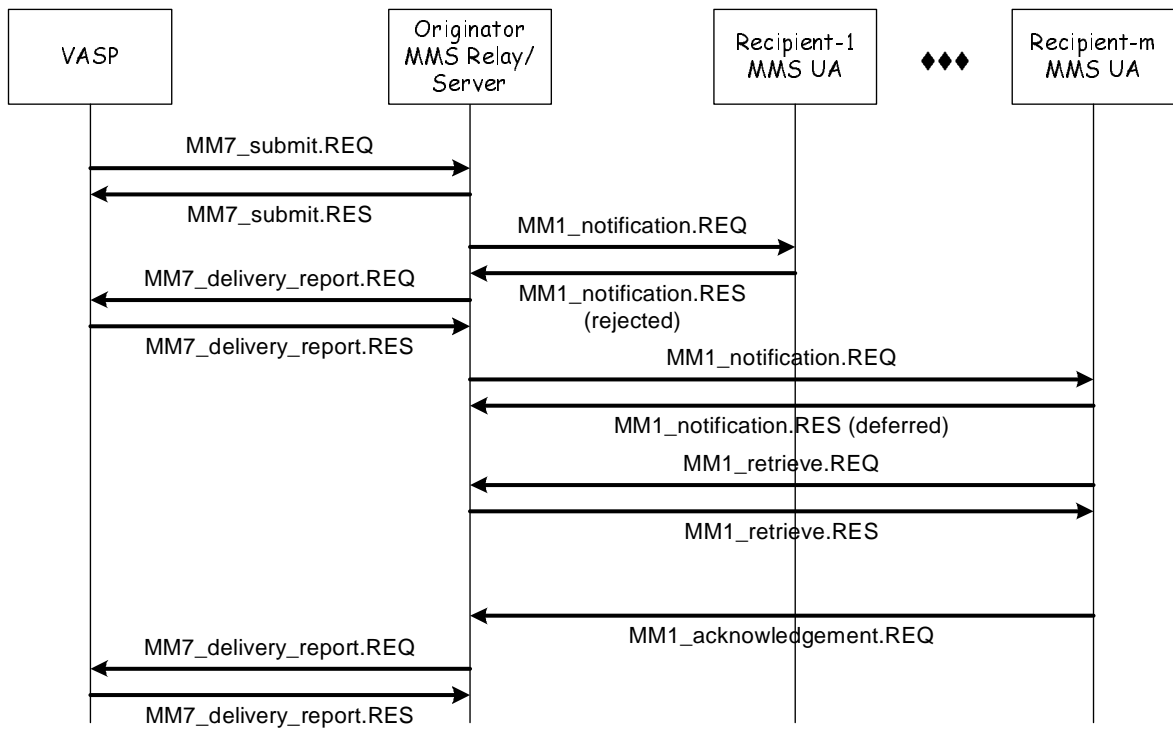


Figure 8. Sample data flow of MM7 message distribution

Subsequent sub-clauses will specify the abstract messages that will define the MM7 protocol.

8.7.1 Submitting a VAS MM

This section addresses the operations necessary for a VASP to provide the service by sending a multimedia message to one or more subscribers or to a distribution list. The involved abstract messages are outlined in Table 47 from type and direction points of view.

Table 1: Abstract messages for submitting VAS message

Abstract messages	Type	Direction
MM7_submit.REQ	Request	VASP -> MMS Relay/Server
MM7_submit.RES	Response	MMS Relay/Server -> VASP

8.7.1.1 Normal Operation

The VASP submits a message to the MMS Relay/Server by sending the MM7_submit.REQ supplying the multimedia message (MM) as the payload of the message. The message may be directed to one or more subscribers or to a distribution list. If the MMS Relay/Server accepts the submission, the MMS Relay/Server must send a MM7_submit.RES with a “success” status. This in no way indicates that the MM was actually delivered to the destinations but states that the request has been accepted.

Support for MM7_submit.REQ and MM7_submit.RES is mandatory for all MMS Relay/Servers that support MM7.

8.7.1.2 Abnormal Operation

The MMS Relay/Server should reject the MM7_submit.REQ if the VAS cannot be authorized or if the parameters of the request exceed the service level for the service being employed, or if the Relay/Server does not support third party charging. Similarly, if none of the destinations can be resolved then the response status should indicate an error. If one or several (but not all) addresses can be resolved, the MMS Relay/Server should deliver the message to those addresses and respond to the VAS using the MM7_submit.RES with a partial success to the VASP. Partial success does not indicate that the MM was actually delivered to the destinations but states that the request has been at least partially accepted.

8.7.1.3 Features

Authorisation: The VASP must supply its own identifier or the VAS identifier as part of the request.

Addressing: The VASP may direct the MM to a one or more subscribers or to a distribution list. In the addressing information, it may be indicated whether a recipient address is meant for informational purposes only or to be used for routing. In the addressing information, it may be indicated whether a recipient address has been encrypted or obfuscated. The originator of a submitted MM may be indicated in addressing-relevant information field(s) of the MM7_submit.REQ

Version: The MM7 protocol shall provide unique means to identify the version supported by both the MMS Relay/Server and VASP.

Message Type: The type of message used on reference point MM7 indicating MM7_submit.REQ and MM7_submit.RES as such.

Transaction Identification: The VASP shall provide an unambiguous transaction identification within an MM7_submit.REQ. The MM7_submit.RES shall unambiguously refer to the corresponding MM7_submit.REQ using the same transaction identification.

Linked message identification: The VASP will supply a message identifier when submitting a message, that defines a correspondence to a previous message that was delivered by the MMS Relay/Server to the VASP.

Note: Use case examples:

- 1) The Linked ID can be used by the Relay/Server to logically relate a VASP reply (MM7_Submit.REQ) to an original user's request (MM1_Submit.REQ, and MM7_Deliver.REQ), in which case the Linked ID corresponds to the Message ID returned in the original MM1_Submit.RES.
- 2) The LinkedID can as well be used by the VASP to keep track of a sequence of MM7_Submit.REQ (e.g. MMs to multiple users) triggered by a single MM7_Deliver.REQ (e.g. which was triggered by a user's MM1_submit.REQ).

Message class, priority, and subject: The VASP may qualify the MM further by adding a message class, a priority and/or subject to the MM7_submit.REQ.

Service code: The VASP may mark the content of the message with a service code that may be transferred by the MMS Relay/Server in the form of charging information for use by the billing system to properly bill the user for the service being supplied.

Time stamping: The VASP may time stamp the MM.

Time constraints: The VASP may request an earliest desired time of delivery of the MM. The VASP may request a time of expiry for the MM

Reply-Charging: The originator VASP may indicate that it wants to pay for a reply-MM and convey the reply-charging limitations (e.g. the latest time of submission and/or the maximum size of a reply-MM) in the MM7_submit.REQ.

Delivery reporting: The VASP may request a delivery report for the MM

Read reporting: The VASP may request a read-reply report when the user has viewed the MM.

Content adaptation restriction: The VASP may request that the content of the MM will not be subjected to content adaptation.

NOTE: From REL-6 onwards, in case of misalignment, DRM-protection rules shall prevail on the Content Adaptation Restriction feature.

Content type: The MIME type of the multimedia content shall always be identified in the MM7_submit.REQ.

Content: The VASP may add content in the MM7_submit.REQ.

Message identification: The MMS Relay/Server shall always provide a message identification for an MM, which it has accepted for submission in the MM7_submit.RES.

Request status: The MMS Relay/Server shall indicate the status of the MM7_submit.REQ in the associated MM7_submit.RES. The reason code given in the status information element of the MM7_submit.RES may be supported with an explanatory text further qualifying the status.

Charged-Party: The VASP may indicate in the MM7_submit.REQ which party is expected to be charged for an MM submitted by the VASP, e.g. the sending, receiving, both parties or neither.

Charged party ID: The address of the third party which is expected to pay for the MM.

Message Distribution Indication: The VASP may indicate whether the content of the MM is intended for redistribution.

NOTE: From REL-6 onwards, in case of misalignment, DRM-protection rules shall prevail on the Message Distribution Indication feature.

8.7.1.4 Information Elements

Table 2: Information elements in the MM7_submit.REQ .

Information element	Presence	Description
Transaction ID	Mandatory	The identification of the MM7_submit.REQ/MM7_submit.RES pair.
Message type	Mandatory	Identifies this message as a MM7_submit request.
MM7 version	Mandatory	Identifies the version of the interface supported by the VASP
VASP ID	Optional	Identifier of the VASP for this MMS Relay/Server.
VAS ID	Optional	Identifier of the originating application.
Sender address	Optional	The address of the MM originator.
Recipient address	Mandatory	The address of the recipient MM. Multiple addresses are possible or the use of the alias that indicates the use of a distribution list. It is possible to mark an address to be used only for informational purposes. It is possible to mark that a recipient address is provided in encrypted or obfuscated format. E.g. the address was originally provided in encrypted or obfuscated form in an associated MM7_deliver.REQ.
Service code	Optional	Information supplied by the VASP which may be included in charging information. The syntax and semantics of the content of this information are out of the scope of this specification.
Linked ID	Optional	This identifies a correspondence to a previous valid message delivered to the VASP.
Message class	Optional	Class of the MM (e.g. advertisement, information service, accounting)
Date and time	Optional	The time and date of the submission of the MM (time stamp).
Time of Expiry	Optional	The desired time of expiry for the MM (time stamp).
Earliest delivery time	Optional	The earliest desired time of delivery of the MM to the recipient (time stamp).
Delivery report	Optional	A request for delivery report.
Read reply	Optional	A request for confirmation via a read report to be delivered as described in section 8.1
Reply-Charging	Optional	A request for reply-charging.
Reply-Deadline	Optional	In case of reply-charging the latest time of submission of replies granted to the recipient(s) (time stamp).
Reply-Charging-Size	Optional	In case of reply-charging the maximum size for reply-MM(s) granted to the recipient(s).
Priority	Optional	The priority (importance) of the message.
Subject	Optional	The title of the whole multimedia message.
Adaptations	Optional	Indicates if VASP allows adaptation of the content (default True) (NOTE 1)
Charged Party	Optional	An indication which party is expected to be charged for an MM submitted by the VASP, e.g. the sending, receiving, both parties third party or neither.
Content type	Mandatory	The content type of the MM's content.
Content	Optional	The content of the multimedia message
Message Distribution Indicator	Optional	If set to "false" the VASP has indicated that content of the MM is not intended for redistribution. If set to "true" the VASP has indicated that content of the MM can be redistributed. (NOTE 2)
Charged Party ID	Optional	The address of the third party which is expected to pay for the MM
NOTE 1: From REL-6 onwards, in case of misalignment between the value assigned to Adaptations and DRM-protection rules, the latter shall prevail.		
NOTE 2: From REL-6 onwards, in case of misalignment between the value assigned to MDI and DRM-protection rules, the latter shall prevail.		

Table 3: Information elements in the MM7_submit.RES .

Information element	Presence	Description
Transaction ID	Mandatory	The identification of the MM7_submit.REQ/MM7_submit.RES pair.
Message type	Mandatory	Identifies this message as a MM7_submit response.
MM7 version	Mandatory	Identifies the version of the interface supported by the MMS Relay/Server
Message ID	Conditional	If status indicates success then this contains the MMS Relay/Server generated identification of the submitted message. This ID may be used in subsequent requests and reports relating to this message.
Request Status	Mandatory	Status of the completion of the submission, no indication of delivery status is implied.
Request Status text	Optional	Text description of the status for display purposes, should qualify the Request Status.

8.7.2 Delivery Request

This section addresses cases where a message that is passed by the MMS Relay/Server to a VASP for processing. For example, this may include cases where the message originated from the MMS User-Agent.

The involved abstract messages are outlined in Table 50 from type and direction points of view.

Table 4: Abstract messages for demanding a service from a VASP

Abstract messages	Type	Direction
MM7_deliver.REQ	Request	MMS Relay/Server -> VASP
MM7_deliver.RES	Response	VASP -> MMS Relay/Server

8.7.2.1 Normal Operation

The MMS Relay/Server will deliver messages to the VASP by supplying the MM as the payload of the MM7_deliver.REQ. The message originates, for example, from a MMS User Agent, an external application, or from outside the MMSE. This delivery may include an identification of the request that may be used by the VASP to correlate a response to the message. The VASP should reply with a MM7_deliver.RES message indicating that the message has been successfully received and will be processed.

The following figure illustrates the data flow of a use case where a MMS User Agent requesting a service from a VAS that requires a response.

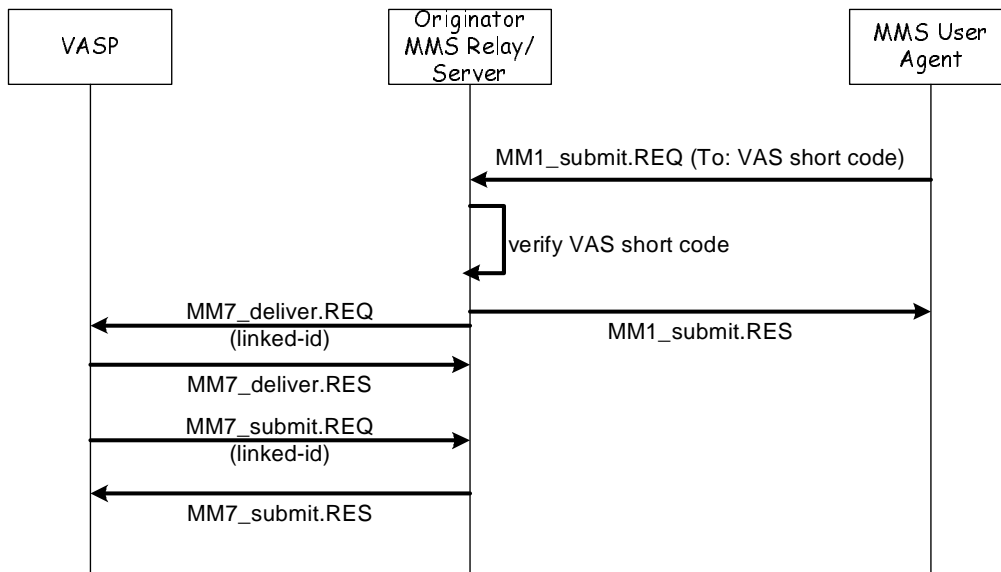


Figure 9: Use of MM7_deliver and subsequent response

Support for MM7_deliver.REQ and MM7_deliver.RES is mandatory for a MMS Relay/Server that supports MM7

8.7.2.2 Abnormal Operation

If the VASP cannot identify the requested content then it should indicate the failure in the MM7_deliver.RES status fields.

8.7.2.3 Features

Authentication: The MMS Relay/Server may supply its own identifier as part of the request.

Addressing: All relevant address information for the delivery of the message to the VASP – including the addressing information from the original message and from the MMS Relay/Server should be included in the relevant information elements of MM7_deliver.REQ. In the addressing information, it may be indicated whether a certain recipient address is meant for informational purposes only or to be used for routing. In the addressing information, it may be indicated whether the sender address has been encrypted or obfuscated.

Previously-sent-by: The address(es) of the MMS User Agent(s) that submitted or forwarded the MM prior to the last forwarding MMS User Agent. In the multiple forwarding case the order of the provided addresses shall be indicated and the address of the originator MMS User Agent shall be marked, if present.

NOTE: The address of the last forwarding MMS User Agent is carried in other addressing elements.

Version: The MM7 protocol shall provide unique means to identify the version supported by both the MMS Relay/Server and VASP.

Message Type: The type of message used on reference point MM7 indicating MM7_deliver.REQ and MM7_deliver.RES as such.

Transaction Identification: The VASP shall provide an unambiguous transaction identification within a request. The response shall unambiguously refer to the corresponding request using the same transaction identification.

Message priority and subject: The MMS Relay/Server may qualify the MM further by adding a priority and/or subject to the MM7_deliver.REQ. This information will originate from the end-user’s original request.

Linked message identification: The MMS Relay/Server will supply an identifier for the request that may be used by the VASP.

Note: Use case examples:

- 1) The Linked ID can be used by the Relay/Server to logically relate a VASP reply (MM7_Submit.REQ) to an original user's request (MM1_Submit.REQ, and MM7_Deliver.REQ), in which case the Linked ID corresponds to the Message ID returned in the original MM1_Submit.RES.
- 2) The LinkedID can as well be used by the VASP to keep track of a sequence of MM7_Submit.REQ (e.g. MMs to multiple users) triggered by a single MM7_Deliver.REQ (e.g. which was triggered by a user's MM1_submit.REQ).

Service code: The VASP may mark the response to the message with a service code that will be transferred to the charging information for use by the billing system to properly bill the user for the service being supplied.

Service Provider Identification: The MMS Relay/Server may provide the SPI (Service Provider Identification) for the sender. In case a message is delivered to a VASP based on the recipient address, the MMS Relay/Server may provide the SPI for the recipient. The SPI information can originate from e.g. a user profile or a MAP query.

Time stamping: The MM may include the date and time-of the most recent handling of the MM by an MMS User Agent (i.e. either submission or forwarding of the MM). In the case of forwarding the MM7_deliver.REQ may carry the date and time of the submission of the MM.

Reply-Charging: In case of reply-charging when the reply-MM is submitted within the MM7_deliver.REQ MMS Relay/Server should indicate that the message is free-of-charge reply.

Content type: The MIME type of the multimedia content shall always be identified in the MM7_deliver.REQ.

Content: The originator of the MM may supply content that is delivered to the VASP in the MM7_deliver.REQ.

Request status: The MMS Relay/Server shall indicate the status of the request in the associated response. The reason code given in the status information element of the response may be supported with an explanatory text further qualifying the status.

8.7.2.4 Information Elements

Table 5: Information elements in the MM7_deliver.REQ .

Information element	Presence	Description
Transaction ID	Mandatory	The identification of the MM7_deliver.REQ/ MM7_deliver.RES pair.
Message type	Mandatory	Identifies this message as a MM7_deliver request.
MM7 version	Mandatory	Identifies the version of the interface supported by the MMS Relay/Server
MMS Relay/Server ID	Optional	Identifier of the MMS Relay/Server
Linked ID	Optional	Identifier that may be used by the VASP in a subsequent MM7_submit.REQ
Sender address	Mandatory	The address of the MM originator. It is possible to mark that the sender address has been encrypted or obfuscated by the MMS Relay/Server.
Recipient address	Optional	The address(es) of the intended recipients of the subsequent processing by the VASP or the original recipient address(es). It is possible to mark an address to be used only for informational purposes.
Previously-sent-by	Optional	In case of forwarding this information element contains one or more address(es) of MMS User Agent(s) that handled (i.e. forwarded or submitted) the MM prior to the MMS User Agent whose address is contained in the Sender address information element. The order of the addresses provided shall be marked. The address of the originator MMS User Agent shall be marked, if present.
Previously-sent-date-and-time	Optional	The date(s) and time(s) associated with submission and forwarding event(s) prior to the last handling of the MM by an MMS User Agent (time stamps).
Sender SPI	Optional	The SPI of the MM originator.
Recipient SPI	Optional	The SPI of the intended MM recipient, in case the MM was delivered to VASP based on the recipient address.
Date and time	Optional	The time and date of the submission of the MM (time stamp).
Reply-Charging-ID	Optional	In case of reply-charging when the reply-MM is submitted within the MM7_deliver.REQ this is the identification of the original MM that is replied to.
Priority	Optional	The priority (importance) of the message.
Subject	Optional	The title of the whole MM.
Content type	Mandatory	The content type of the MM's content.
Content	Optional	The content of the multimedia message

Table 6: Information elements in the MM7_deliver.RES .

Information element	Presence	Description
Transaction ID	Mandatory	The identification of the MM7_deliver.REQ/ MM7_deliver.RES pair.
Message type	Mandatory	Identifies this message as a MM7_deliver response.
MM7 version	Mandatory	Identifies the version of the interface supported by the VASP
Service code	Optional	Information supplied by the VASP which may be included in charging information. The syntax and semantics of the content of this information are out of the scope of this specification.
Request Status	Mandatory	Status of the completion of the request.
Request Status text	Optional	Text description of the status for display purposes, should qualify the Request Status

The MMS Relay/Server shall create the MM7_delivery_report.REQ and send it to the VASP when the appropriate information is available.

Support for MM7_delivery_report.REQ and MM7_delivery_report.RES is mandatory for a MMS Relay/Server that supports MM7.

CHANGE REQUEST

⌘ **23.140 CR 142** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Cleaning up last references to RFC822, and deletion of non existing /TYPE=rfc822		
Source:	⌘ T2		
Work item code:	⌘ MMS6 Date: ⌘ 2003/11/18		
Category:	⌘ F Release: ⌘ Rel-6		
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. </td> <td style="width: 50%; vertical-align: top;"> <i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) </td> </tr> </table>	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)
<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)		

Reason for change:	⌘ Previous CRs changed reference to RFC822 to RFC2822. There are still some leftovers though. This CR removes last instances of RFC822. It as well deletes reference /TYPE=rfc822, as that MM1 addressing is not allowed in the related OMA specification (e.g., encapsulation).
Summary of change:	⌘ Change all remaining "RFC822" to "RFC2822". Delete references to /TYPE=rfc822
Consequences if not approved:	⌘ Inconsistency within 23.140 & with OMA MMSG.

Clauses affected:	⌘ 4.3, 7.2.1, 8.4.4.7, 8.4.4.8, B.2.5.1, D.1									
Other specs affected:	<table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘ Other core specifications ⌘ ⌘ Test specifications ⌘ ⌘ O&M Specifications ⌘
Y	N									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
Other comments:	⌘									

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.3 Addressing

MMS shall support the use of E-Mail addresses (RFC [8222822](#)) [5] or MSISDN (E.164) or both to address the recipient of an MM. MMS may support the use of service provider specific addresses to address the recipient of an MM. In the case of E-Mail addresses standard internet message routing should be used. MMS may support short codes to address Value Added Services.

NOTE: The length of short codes shall be defined by the service provider and will not be specified for this release.

The usage of MSISDN for addressing a recipient in a different MMS service provider's domain shall be possible. For that the need of MSISDN translation to a routable address has been identified. Service provider specific addresses may be used to e.g. deliver messages to MMS VAS Application within one MMSE.

MMS connectivity across different networks (MMSEs) is provided based on Internet protocols. According to this approach, each MMSE should be assigned a unique domain name (e.g. mms.operatora.net).

MMS recipient addresses provided by an MMS User Agent may be in a format of an RFC [8222822](#) routable address, e.g. E-Mail address, or other formats, such as E.164 or service provider specific addresses. In those cases where a non-routable address is used to specify a recipient and the recipient belongs to another MMSE or the recipient is outside of any MMSE, it is required to translate the address to an RFC [8222822](#) routable address format. The sender MMS Relay/Server's shall make this mapping before routing forward the message to the recipient's MMS Relay/Server.

The mapping to the correct recipient's MMS Relay/Server domain name is described in clause 7.2.1.

MMS shall support address hiding i.e. anonymous messages where the sender's address is not shown to the recipient MMS User Agent. If the peer entity is not known to be an MMS Relay/Server the originator MMS Relay/Server shall not provide the originator address. If the peer entity is known to be an MMS Relay/Server, both the originator address and request of address hiding shall be forwarded to the recipient MMS Relay/Server. The recipient MMS Relay/Server shall not show the originator address to the recipient MMS User Agent.

7.2.1 Address Formats on MM1

The MMS addressing model on MM1 contains three addresses: the address of the MMS Relay/Server, the address of the recipient and the address of the originator. The address of the MMS Relay/Server shall be the URI of the MMS Relay/Server given by the MMS service provider. Thus, the URI needs to be configurable in the MMS User Agent.

The originator's address could be either a user's address or a user's terminal address. The recipient's address can be a user's address, a user's terminal address, or a short code. For this release the user's terminal addresses (e.g. terminal IP addresses) are not supported. The MMS User Agent's responsibility is to format these addresses before it submits the message to the originator MMS Relay/Server.

The user's address can be either an E.164 (MSISDN) or RFC~~822~~2822 address.

The MMS User Agent and MMS Relay/Server shall support both E.164 (MSISDN) and RFC~~822~~2822 addressing formats. The reference point MM1 should support a way to indicate the used address type to enable future extension. The encoding of the addressing is up to the corresponding implementation.

E.g. the originator MMS User Agent may specify each of the address fields in one of the following formats:

- 1) RFC 2822 address (FQDN or unqualified) ~~["/TYPE=rfe822"]~~
- 2) PLMN address: ["+" | "*" | "#"] [*digit* / "*" / "#"] ... ["/TYPE= PLMN"]
- 3) Other "/TYPE= "

The "/TYPE= " field specifies the address type. When PLMN ~~or RFC822~~ formats ~~are~~ is used the type is optional. The "/TYPE= " convention provides flexibility for future enhancements.

When the "/TYPE=" qualifier is absent, the MMS Relay/Server should resolve potential ambiguities by applying the following logic to the address in the following order:

1. if it contains the "@" character, the address should be interpreted as an FQDN RFC~~822~~2822 address
2. if it is completely numeric, except possibly including "+", "*", or "#", it should be interpreted as "/TYPE= PLMN", e.g. an E.164 address, a local telephone number, or a numeric short code,
3. otherwise, it should be interpreted as an unqualified RFC~~822~~2822 address (alphanumeric short code)

8.4.4.7 MM4_Read_reply_report.RES Header Mappings

The mappings of the MM4_Read_reply_report.RES information elements to STD 11 headers is detailed in the table below.

Table 1: MM4_Read_reply_report.RES Information Elements to STD 11 Header Mappings

Information element	STD 11 Header
3GPP MMS Version	X-Mms-3GPP-MMS-Version:
Message Type	X-Mms-Message-Type:
Transaction ID	X-Mms-Transaction-ID:
Request Status	X-Mms-Request-Status-Code:
Request Status text	X-Mms-Status-Text:
-	Sender:
-	To:
-	Message-ID:
-	Date:

The STD 11 "Sender:" header value shall be the system address of the MMS Relay/Server that is replying to the MM4_Read_reply_report.REQ.

The STD 11 "To:" header value of the MM4_Delivery_report.RES abstract message shall be obtained from the corresponding MM4_Read-reply_report.REQ Sender: header value.

The STD 11 "Date:" and "Message-ID:" headers, which do not have corresponding information elements, shall be provided appropriate values automatically by the MMS Server/Relay.

8.4.4.8 Header Field Value Range

MMS information elements that are mapped to standard STD 11 "header fields", i.e. which do not have an "X-Mms-" prefix, should be used according to [5].

The rest of the header definitions used in this clause, including the mechanisms and pre-defined tokens, are described in an augmented Backus-Naur Form (BNF) defined in [48], similar to that used by RFC [8222822](#) [5]. Implementers will need to be familiar with the notation in order to understand these definitions.

For the residual MMS information elements the following applies:

X-Mms-3GPP-MMS-Version:

```
3GPP-MMS-Version = "X-Mms-3GPP-MMS-Version" ":" 1*DIGIT "." 1*DIGIT "."
1*DIGIT
```

Note that the numbers MUST be treated as separate integers and that each may be incremented higher than a single digit. Thus, 2.1.4 is a lower version than 2.1.13, which in turn is lower than 2.3.0. Leading zeros shall be ignored by recipient MMS Relay/Server and shall NOT be sent. The version is according to the version of the present document (see also clause "Foreword").

X-Mms-Message-Type:

```
Message-type = "X-Mms-Message-Type" ":" ( "MM4_forward.REQ" |
"MM4_forward.RES" | "MM4_delivery_report.REQ" | "MM4_delivery_report.RES" |
"MM4_read_reply_report.REQ" | "MM4_read_reply_report.RES" )
```

X-Mms-Transaction-Id:

```
Transaction-id = "X-Mms-Transaction-ID" ":" quoted-string
```

X-Mms-Message-Id:

```
Message-id = "X-Mms-Message-ID" ":" quoted-string
```

X-Mms-Message-Class:

```
Message-class = "X-Mms-Message-Class" ":" ( Class-identifier | quoted-string )
```

```
Class-identifier = "Personal" | "Advertisement" | "Informational" | "Auto"
```

X-Mms-Expiry:

```
Expiry-value = "X-Mms-Expiry" ":" ( HTTP-date | delta-seconds )
```

X-Mms-Delivery-Report:

```
Delivery-report = "X-Mms-Delivery-Report" ":" ( "Yes" | "No" )
```

X-Mms-Originator-R/S-Delivery-Report:

```
Originator-R/S-Delivery-Report = "X-Mms-Originator-R/S-Delivery-Report" ":" ( "Yes" | "No" )
```

X-Mms-Priority:

```
Priority = "X-Mms-Priority" ":" ( "Low" | "Normal" | "High" )
```

X-Mms-Sender-Visibility:

```
Sender-visibility = "X-Mms-Sender-Visibility" ":" ( "Hide" | "Show" )
```

X-Mms-Read-Reply:

```
Read-reply = "X-Mms-Read-Reply" ":" ( "Yes" | "No" )
```

X-Mms-Ack-Request:

```
Ack-Request = "X-Mms-Ack-Request" ":" ( "Yes" | "No" )
```

X-Mms-Forward-To-Originator-UA:

```
Forward-To-Originator-UA = "X-Mms-Forward-To-Originator-UA" ":" ( "Yes" | "No" )
```

X-Mms-Request-Status-Code:

```
Request-status-code = "X-Mms-Request-Status-Code" ":" ( "Ok" | "Error-  
unspecified" | "Error-service-denied" | "Error-message-format-corrupt" |  
"Error-sending-address-unresolved" | "Error-message-not-found" | "Error-  
network-problem" | "Error-content-not-accepted" | "Error-unsupported-  
message" )
```

The meaning of the X-Mms-Request-Status-Code header field is further described in section 8.4.4.10 of this specification.

X-Mms-MM-Status-Code:

```
MM-Status-Code = "X-Mms-MM-Status-Code" ":" ( "Expired" | "Retrieved" |  
"Rejected" | "Deferred" | "Indeterminate" | "Forwarded" | "Unrecognised" )
```

X-Mms-MM-Status-Extension:

```
MM-Status-Extension = "X-Mms-MM-Status-Extension" ":" ( "Rejection-By-MMS-  
Recipient" | "Rejection-by-Other-RS" )
```

The meaning of the X-Mms-MM-Status-Extension header field is further described in section 8.4.4.11 of this specification.

X-Mms-Read-Status:

```
Read-Status = "X-Mms-Read-Status" ":" ( "Read" | "Deleted without being read" )
```

X-Mms-Forward-Counter

```
Forward-Counter = "X-Mms-Forward-Counter" ":" 1*DIGIT
```

X-Mms-Previously-sent-by

Previously-sent-by = "X-Mms-Previously-sent-by" ":" 1*DIGIT "," mailbox

The address should be machine-usable, as defined by "mailbox" in RFC 2822 [5].

NOTE: The number indicates the chronological order of the submission and forwarding event(s). The number "0" is associated with the submission of the MM. A higher number indicates an event at a later point in time.

X-Mms-Previously-sent-date-and-time

Previously-sent-date-and-time = "X-Mms-Previously-sent-date-and-time" ":" 1*DIGIT "," HTTP-date

The date should be machine-usable, as defined by "HTTP-date" in RFC 2616 [48].

NOTE: The number indicates the chronological order of the submission and forwarding events. The number "0" is associated with the submission of the MM. The number indicates the correspondence to the MMS User Agent's address in the "X-Mms-Previously-sent-by" header field with the same number.

B.2.5 MMS Message Contents

The MMS Message Contents would be video mail, audio mail, image mail, text mail and so on.

B.2.5.1 Multimedia Messages

The Multimedia Messages would be based on RFC ~~822~~[2822](#) (Standard for the format of ARPA Internet text messages) and MIME (Multipurpose Internet Mail Extensions, RFC 2045 - 2049).

B.2.6 MMS Presentation

The MMS Presentation would be based on MIME (Multipurpose Internet Mail Extensions, RFC 2045 - 2049) and Internet standard.

B.2.7 MMS Security Model between MMS User Agent and MMS Relay/Server

What kind of security mechanism could be used, would be defined by a profile.

Annex D (informative): MM3 principles

D.1 Sending of MMs

On sending an MM to an external server the MMS Relay/Server:

- should map as many fields as possible to corresponding fields of the message format or protocol of the external server while suppressing MMS-only relevant fields (e.g. MMS-version) or sensitive fields (e.g. originator Address when address hiding is requested) and fields that cannot be mapped (e.g. Content-type in case fax gateway).
- In the case the external server uses RFC ~~822~~[822](#) formatted messages the mapping should be according to the mapping on MM4 under consideration of the above mentioned constraints.
- May add relevant fields that cannot be mapped to fields of the message format or protocol of the external server to the content body of the message if suitable (e.g. Print Content-Type, Priority, etc. on fax).
- should convert the content itself into the appropriate format used by the external server (e.g. WAV(G.723) attachment to AMR attachment for voice mail system).

CHANGE REQUEST

⌘ **23.140 CR 143** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Conditional delivery mechanism for MMS		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 19/11/2003
Category:	⌘ B	Release:	⌘ Rel-6
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ During SA#21 meeting, a CR on 22.140 "conditional delivery behaviour" was approved. This CR considers the fact that in certain situations, different delivery mechanisms are needed to improve the user experience. To be consistent with the requirements in 22.140, an equivalent functional description needs to be introduced in the current specification.
Summary of change:	⌘ Two new information elements ('MM recommended retrieval mode' and 'text explaining MM recommended retrieval mode ') are added in the notification transaction. The MMS end-to-end service behaviour for MMS notification and MMS retrieval is modified.
Consequences if not approved:	⌘ Misalignment between 3GPP TS 22.140 MMS Stage 1 and 3GPP TS 23.140 MMS Stage 2 specifications

Clauses affected:	⌘ 7.1.2.1; 8.1.4.3; 8.1.4.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X						⌘ OMA MMS specs	
Y	N										
X											
Other comments:	⌘										

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.1.2 Reception of a Multimedia Message in the recipient MMSE

Upon reception of an MM the recipient MMS Relay/Server

- may verify the MM recipient's user profile(s);
- shall store the MM at least until
 - the associated time of expiry is reached,
 - the MM is delivered,
 - the recipient MMS User Agent requests the MM to be routed forward or
 - the MM is rejected;
- may store the MM into an MMBox.

The term "associated time of expiry" refers to either the desired time of expiry set by the originator MMS User Agent or an MMS Relay/Server time of expiry setting.

- shall generate a notification to the recipient MMS User Agent.

Incoming messages from legacy systems may be expected to be converted to MMs.

7.1.2.1 Multimedia Message Notification

With the MM notification the recipient MMS User Agent shall receive a message reference that can be used for retrieving the MM from the recipient MMS Relay/Server. The message reference that is conveyed in a notification shall at least be valid throughout the message expiry period, till the successful retrieval of the MM or until the MM was rejected.

With the MM notification the recipient MMS User Agent may receive additional information on the MM.

If the originator MMS User Agent has requested address hiding the recipient MMS Relay/Server shall not include the originator address into the MM notification.

[The MMS Relay/Server may include an indication in the MM notification recommending manual retrieval mode. This recommendation may be based on user settings in the User Profile.](#)

In a response to the notification the MMS User Agent shall be able to

- reject the MM or
- retrieve the MM, either immediately or at a later time, either manually or automatically, as possibly determined by the operator configuration and user profile.

[The retrieval mode employed by the recipient MMS User Agent for a particular MM may be based either on the user settings in the terminal or on the recommendation carried in the MM notification. The recipient MMS User Agent may follow this recommendation to retrieve the MM, through manual retrieval.](#)

8.1.4 Multimedia Message Notification

This part of the MMS service covers the notification about MM from the recipient MMS Relay/Server to the corresponding recipient MMS User Agent and involving abstract messages are outlined in Table 4 from type, and direction points of view.

Table 1: abstract messages for notification of MM in MMS

Abstract message	Type	Direction
MM1_notification.REQ	Request	MMS Relay/Server -> MMS UA
MM1_notification.RES	Response	MMS UA -> MMS Relay/Server

8.1.4.1 Normal Operation

Upon receiving the MM1_notification.REQ, the recipient MMS User Agent shall respond with the MM1_notification.RES to the recipient MMS Relay/Server to acknowledge the successful reception of the MM1_notification.REQ.

The MM1_notification.RES shall unambiguously refer to the corresponding MM1_notification.REQ.

8.1.4.2 Abnormal Operation

In this case the MMS UA shall respond with a MM1_notification.RES encapsulating a status which indicates the reason the notification could not be processed. If the MMS UA does not provide the MM1_notification.RES the MMS Relay/Server should be able to retransmit the notification at a later state.

8.1.4.3 Features

Addressing: The MM originator address may be provided to the recipient MMS User Agent in the MM1_notification.REQ. The MM originator address shall not be provided to the recipient MMS User Agent if the MM originator has requested her address to be hidden from the MM recipient. In the case of forwarding, the address of the latest forwarding MMS User Agent shall be provided.

Time constraints: The recipient MMS User Agent shall be provided a time of expiry of the MM. In case of reply-charging the deadline for the latest time of submission of a reply-MM should be conveyed within the MM1_notification.REQ.

Reply-Charging: In case of reply-charging the MMS Relay/Server may indicate in the MM1_notification.REQ that a reply to the notified original MM is free of charge and the reply-charging limitations.

Message class, message size, priority and subject: The MM shall be qualified further by adding a message class and an approximate size to the MM in the MM1_notification.REQ. The MM may be qualified further by adding a priority and/or subject to the MM. Additional qualifiers may be added.

Reporting: If the originator MMS User Agent has requested to have a delivery report, the recipient MMS Relay/Server may convey this information to the recipient MMS User Agent in the MM1_notification.REQ. The recipient MMS User Agent may indicate in the MM1_notification.RES that it would not wish a delivery report to be created.

Identification: In case of reply-charging when a reply-MM is notified within the MM1_notification.REQ the MMS Relay/Server should convey the identification of the original MM replied to within the same MM1_notification.REQ.

Persistent storage: When the MMBBox is configured such that incoming MMs are stored automatically, the MM1_notification.REQ shall contain the Stored information element.

Message Reference: The recipient MMS Relay/Server shall always provide a reference, e.g., URI, for the MM in the MM1_notification.REQ. When incoming MMs are stored automatically, the Message Reference will refer to the newly stored MM within the MMBBox.

MM Status: The recipient MMS User Agent may indicate in the MM1_notification.RES how it intends the MM to be handled, e.g. the immediate rejection of the MM.

MM element descriptor: The recipient MMS Relay/Server may provide one or more description(s) of message elements in the MM1_notification.REQ. A description shall contain a reference to the message element, e.g. a URI, an index number etc.. A description of a message element may be further qualified by adding one or more of such parameters as:

- name of the message element
- type and format of the message element

- approximate size of the message element

Message Distribution Indication: The VASP may indicate whether the content of the MM is intended for redistribution.

NOTE: From REL-6 onwards, in case of misalignment, DRM-protection rules shall prevail over the Message Distribution Indication feature.

Transaction Identification: The originator MMS Relay/Server shall provide an unambiguous transaction identification within a request. The response shall unambiguously refer to the corresponding request using the same transaction identification.

Version: The MMS protocol shall provide unique means to identify the current version of the particular protocol environment.

Message Type: The type of the message used on the reference point MM1 indicating MM1_notification.REQ and MM1_notification.RES as such.

MM recommended retrieval mode: the MMS Relay/Server may include an indication about the recommended manual retrieval mode of the MM. This indication code may be supported with an explanatory text (e.g. indication about charging related information if recipient has to pay for the retrieval or roaming condition) further expliciting why the manual retrieval mode is recommended for the MM.

8.1.4.4 Information Elements

Table 2: Information elements in the MM1_notification.REQ.

Information element	Presence	Description
Message Type	Mandatory	Identifies this message as MM1_notification.REQ
Transaction ID	Mandatory	The identification of the MM1_notification.REQ/MM1_notification.RES pair.
MMS Version	Mandatory	Identifies the version of the interface supported by the MMS Relay/Server.
Message class	Mandatory	The class of the MM (e.g., personal, advertisement, information service; default = personal)
Message size	Mandatory	The approximate size of the MM
Time of expiry	Mandatory	The time of expiry for the MM (time stamp).
Message Reference	Mandatory	a reference, e.g., URI, for the MM
Subject	Optional	The title of the whole MM.
Priority	Optional	The priority (importance) of the message.
Sender address	Conditional	The address of the MMS User Agent that most recently handled the MM, i.e. that either submitted or forwarded the MM. If the originator MMS User Agent has requested her address to be hidden from the recipient her address shall not be provided to the recipient.
Stored	Optional	Indicates that the MM was automatically stored into the MMBox.
Delivery report	Optional	Request for delivery report
Reply-Charging	Optional	Information that a reply to this particular original MM is free of charge.
Reply-Deadline	Optional	In case of reply-charging the latest time of submission of a reply granted to the recipient (time stamp).
Reply-Charging-Size	Optional	In case of reply-charging the maximum size of a reply-MM granted to the recipient.
Reply-Charging-ID	Optional	The identification of the original MM replied to if this notification indicates a reply-MM.
Element-Descriptor	Optional	The reference for an element of the MM, which may contain further information about the referenced element of the MM, e.g. the name, the size and/or the type and format of the message element
MM recommended retrieval mode	Optional	Indication that manual retrieval mode is recommended for this MM
Text explaining MM recommended retrieval mode	Optional	Description that explicits why the manual retrieval mode is recommended for the MM.
Message Distribution Indicator	Optional	If set to "false" the VASP has indicated that content of the MM is not intended for redistribution. If set to "true" the VASP has indicated that content of the MM can be redistributed (NOTE).
NOTE: From REL-6 onwards, in case of misalignment between the value assigned to MDI and DRM-protection rules, the latter shall prevail.		

Table 3: Information elements in the MM1_notification.RES.

Information element	Presence	Description
Message Type	Mandatory	Identifies this message as MM1_notification.RES.
Transaction ID	Mandatory	The identification of the MM1_notification.REQ/MM1_notification.RES pair.
MMS Version	Mandatory	Identifies the version of the interface supported by the MMS User Agent.
MM Status	Optional	The status of the MM's retrieval
Report allowed	Optional	Request to allow or disallow the sending of a delivery report to the MM originator

CHANGE REQUEST

⌘ **TS 23.140 CR 144** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Automatic and Manual Retrieval Modes		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 10/11/2003
Category:	⌘ F	Release:	⌘ Rel-6
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Missing is a description of the different retrieval modes that the MMS UA can perform. This CR is to add that description.
Summary of change:	⌘ To add a new section with a few paragraphs that describe the automatic and manual mode of retrieval of an MM by the MMS UA.
Consequences if not approved:	⌘ No documentation will exist of the manual and automatic retrieval modes.

Clauses affected:	⌘ 5.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
Other comments:	⌘						

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downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5 Functional Description of Involved MMS Elements

5.1 MMS User Agent

5.1.1 MMS User Agent operations

The MMS User Agent shall provide the following application layer functionalities:-

- the retrieval of MMs (initiate MM delivery to the MMS User Agent);
- terminal capability negotiation.

The MMS User Agent may provide additional application layer functionalities such as:-

- the MM composition ;
- the presentation of an approximate MM Size prior to MM submission;
- the MM submission;
- the MM presentation;
- the presentation of notifications to the user;
- the signing of an MM on an end-user to end-user basis;
- the decryption and encryption of an MM on an end-user to end-user basis;
- all aspects of storing MMs on the terminal;
- handling of MMS-related information on the (U)SIM;
- management and presentation of MMBox content;
- the handling of external devices;
- the user profile management.

This optional list of additional functionalities of the MMS User Agent is not exhaustive.

5.1.1.1 MMS Retrieval Modes

MMS allows for the retrieval of MMs in a manual or automatic fashion. The retrieval mode is a terminal behavior and is based on different factors. These factors may include roaming conditions, message size, MMS User Agent configuration, recommendation from the MMS Relay/Server for retrieval, and the originator of an MM.

In automatic mode the retrieval of an MM and its storage to local memory is accomplished without any interaction with the end user. Depending on terminal implementation, the MM may be displayed to the end user with or without any pre-notice. In this mode the end user is probably not aware of the MM notification and whether it's stored on the device or not.

In manual mode the end user is made aware of the MM notification and is allowed to make a decision whether to download the MM or not. In this mode the end user is aware of an MM notification and where it's stored on the terminal.

5.1.2 Minimum set of supported formats

In order to guarantee a minimum support and compatibility between multimedia messaging capable terminals, the following media and file formats shall be supported as defined below and in 3GPP TS 26.140 [74].

5.1.2.1 Interoperability with SMS

In order to guarantee SMS interoperability, SMS 3GPP TS 24.011 [11] RP-DATA RPDU encapsulation defined in clause 7.3.1 shall be supported. MIME type "application/vnd.3gpp.sms" shall be used for this purpose. In order to maintain backward compatibility, MIME type "application/x-sms" shall be supported by the MMS UA for mobile-terminated messages only.

5.1.2.2 Plain Text

Plain Text coding used inside MMS shall be according to [74].

5.1.2.3 Speech

Speech coding used inside MMS shall be according to [74].

5.1.2.4 Audio

Audio coding used inside MMS shall be according to [74].

5.1.2.5 Synthetic audio

Synthetic audio coding used inside MMS shall be according to [74].

5.1.2.6 Still Image

Still image coding used inside MMS shall be according to [74].

5.1.2.7 Bitmap graphics

Bitmap graphics coding used inside MMS shall be according to [74].

5.1.2.8 Video

Video coding used inside MMS shall be according to [74].

5.1.2.9 Vector graphics

Vector graphics coding used inside MMS shall be according to [74].

5.1.2.10 File Format for dynamic media

Support for file formats for dynamic media used inside MMS shall be according to [74].

5.1.2.11 Media synchronization and presentation format

Support for media synchronization and presentation format used inside MMS shall be according to [74].

5.1.2.12 DRM format

Support for DRM protected MM elements (i.e. 'DRM Message' and 'DRM Content Format (DCF)') shall be according to section 7.1.15.

5.2 MMS Relay/Server

CHANGE REQUEST

⌘ **23.140 CR 145** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ MM4 addressing		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 17/11/2003
Category:	⌘ F	Release:	⌘ Rel-6
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ When using unique, standardized MMS Domain Names the administration of the addresses on MMS Relay Server level will be enhanced. Furthermore, when using the MM3 interface for generic internet traffic and out of this the internet specific addressing schemes and using on the other hand the MM4 interface connected to the GRX network infrastructure also with the GPRS specific address models needs to be handled by the MMS Relay/Server.
Summary of change:	⌘ Introduction of additional text, which describes the MM4 addressing, Reference added
Consequences if not approved:	⌘ GPRS specific addressing models may not be supported by the MMS Relay/Server

Clauses affected:	⌘ 2 References, 8.4.5.1 Address Encoding								
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N						
Y	N								
Other comments:	⌘								

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 22.140: "Multimedia Messaging Service; Stage 1".
- [2] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [3] WAP Forum: "Wireless Application Environment Specification, Version 1.2", WAP-WAESpec-19991104, . URL: <http://www.wapforum.org/>.
- [4] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".
- [5] IETF; STD 0011 (RFC 2822): "Internet Message Format", URL: <http://www.ietf.org/rfc/rfc2822.txt>.
- [6] IETF; RFC 2046: "Multipurpose Internet Mail extension (MIME) Part Two: Media Types", URL: <http://www.ietf.org/rfc/rfc2046.txt>.
- [7] The Unicode Consortium: "The Unicode Standard", Version 2.0, Addison-Wesley Developers Press, 1996. URL: <http://www.unicode.org/>.
- [8] ANSI X3.4, 1986: "Information Systems; Coded Character Set 7 Bit; American National Standard Code for Information Interchange".
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- [10] IETF; RFC 2279: "UTF-8, A Transformation format of ISO 10646", URL: <http://www.ietf.org/rfc/rfc2279.txt>.
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- [12] void
- [13] void
- [14] void
- [15] void
- [16] void
- [17] void
- [18] void
- [19] void
- [20] void
- [21] void

- [22] IETF; STD 0010 (RFC 2821): "Simple Mail Transfer Protocol", URL: <http://www.ietf.org/rfc/rfc2821.txt>.
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- [24] WAP Forum (November 1999): "WAP Push Access Protocol", WAP-PAP-19991108, URL: <http://www.wapforum.org/>.
- [25] WAP Forum (November 1999): "WAP User Agent Profile Specification", WAP-UAProf-19991110, URL: <http://www.wapforum.org/>.
- [26] W3C Recommendation 22 February 1999 "Resource Description Framework (RDF) Model and Syntax Specification", URL: <http://www.w3.org/TR/REC-rdf-syntax>.
- [27] WAP Forum (November 1999): "WAP Wireless Markup Language Specification, Version 1.2 ", WAP-WML-19991104, URL: <http://www.wapforum.org/>.
- [28] W3C Recommendation 15-June-1998: "Synchronized Multimedia Integration Language (SMIL) 1.0 Specification" - <http://www.w3.org/TR/REC-smil/>.
- [29] WAP Forum (November 1999): "WAP Wireless Transport Layer Security Specification", WAP-WTLS-19991105, URL: <http://www.wapforum.org/>.
- [30] WAP Forum (November 1999): "WAP Identity Module Specification", WAP-WIM-19991105, URL: <http://www.wapforum.org/>.
- [31] ITU-T Recommendation T.37 (06/98): "Procedures for the transfer of facsimile data via store-and-forward on the Internet".
- [32] ITU-T Recommendation T.30 (1996): "Procedures for document facsimile transmission in the general switched telephone network".
- [33] IETF; RFC 2421 (Sept. 1998): "Voice Profile for Internet Mail – version 2, VPIM" , URL: <http://www.ietf.org/rfc/rfc2421.txt>.
- [34] IETF; STD 0053 (RFC 1939): "POP 3, Post Office Protocol - Version 3" , URL: <http://www.ietf.org/rfc/rfc1939.txt>.
- [35] IETF; RFC 1730 (December 1994): "IMAP4, Internet Message Access Protocol - Version 4" , URL: <http://www.ietf.org/rfc/rfc1730.txt>.
- [36] Adobe Systems: "Tag Image File Format (TIFF), Version 6", URL:, <http://www.adobe.com>.
- [37] 3GPP TR 23.039: "Interface protocols for the connection of Short Message Service Centres (SMSCs) to Short Message Entities (SMEs)".
- [38] void
- [39] void
- [40] 3GPP TS 26.233: "End-to-end transparent streaming Service (PSS); General Description".
- [41] 3GPP TS 26.234: "End-to-end transparent streaming Service (PSS); Protocols and Codecs".
- [42] IETF; RFC 3481: "TCP over Second (2.5G) and Third (3G) Generation Wireless Networks"; URL: <http://www.ietf.org/rfc/rfc3481.txt>
- [43] WAP Forum: "Wireless profiled TCP", WAP-225-TCP-20010331-a, URL: <http://www.wapforum.org>
- [44] IETF; RFC 2045: "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", URL: <http://www.ietf.org/rfc/rfc2045.txt>
- [45] IETF; RFC 2047: "Multipurpose Internet Mail Extensions (MIME) Part Three: Message Header Extensions for Non-ASCII-Text", URL: <http://www.ietf.org/rfc/rfc2047.txt>

- [46] IETF; RFC 2048: "Multipurpose Internet Mail Extensions (MIME) Part Four: Registration Procedures", URL: <http://www.ietf.org/rfc/rfc2048.txt>.
- [47] IETF; RFC 2049: "Multipurpose Internet Mail Extensions (MIME) Part Five: Conformance Criteria and Examples", URL: <http://www.ietf.org/rfc/rfc2049.txt>.
- [48] IETF; RFC 2616: "Hypertext Transfer Protocol, HTTP/1.1", URL: <http://www.ietf.org/rfc/rfc2616.txt>.
- [49] IETF; STD 13 (RFC 1034, 1035): "Domain Names -- concepts and facilities", "Domain names -- implementation and specification", URL: <http://www.ietf.org/rfc/rfc1034.txt>, <http://www.ietf.org/rfc/rfc1035.txt>.
- [50] IETF; STD 14 (RFC 947): "Multi-network broadcasting within the Internet", URL: <http://www.ietf.org/rfc/rfc947.txt>.
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- [52] IETF; RFC 1893: "Enhanced Mail System Status Codes", URL: <http://www.ietf.org/rfc/rfc1893.txt>.
- [53] IETF; RFC 1327: "Mapping between X.400(1988)/ISO 10021 and [RFC 822](#)", URL: <http://www.ietf.org/rfc/rfc1327.txt>.
- [54] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting Packet Based Services and Packet Data Networks (PDN)"
- [55] Open Mobile Alliance; OMA-WAP-ProvCont-v1_1-20021112-C, Provisioning Content Version 1.1, URL: <http://www.openmobilealliance.org/>
- [56] Open Mobile Alliance; OMA-MMS-ENC-v1_1, Multimedia Messaging Service, Encapsulation Protocol, Version 1.1, URL: <http://www.openmobilealliance.org/>
- NOTE: Reference [56] is the REL-4 MM1 stage 3 specification. OMA is committed to develop a REL-6 version. Consequently, reference [56] is to be replaced by the appropriate document identifier once the REL-6 MM1 stage 3 specification is approved within OMA.
- [57] IETF; RFC 1870: "SMTP Service Extension for Message Size Declaration", URL: <http://www.ietf.org/rfc/rfc1870.txt>
- [58] IETF; RFC 1652: "SMTP Service Extension for 8bit-MIME transport", URL: <http://www.ietf.org/rfc/rfc1652.txt>
- [59] 3GPP TS 32.235: "Charging Management; Charging Data Description for Application Services".
- [60] IETF, RFC 2915: "The Naming Authority Pointer (NAPTR) DNS Resource Record", URL: <http://www.ietf.org/rfc/rfc2915.txt>
- [61] IETF, RFC 2916: "E.164 number and DNS", URL: <http://www.ietf.org/rfc/rfc2916.txt>
- [62] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [63] 3GPP TS 22.066: "Support of Mobile Number Portability (MNP); Service description. Stage 1".
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- [65] IETF; RFC 2617 "Access Authentication", URL: <http://www.ietf.org/rfc/rfc2617.txt>
- [66] IETF; RFC 2246 "TLS protocol, version 1.0" , URL: <http://www.ietf.org/rfc/rfc2246.txt>
- [67] 3GPP TS 31.102 "Characteristics of the USIM Application".
- [68] W3C Note 08 May 2000 "Simple Object Access Protocol (SOAP) 1.1", URL: <http://www.w3.org/TR/SOAP>
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- [70] IETF; RFC 2376: "XML Media Type", URL: <http://www.ietf.org/rfc/rfc2376.txt>.
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- [72] IETF; RFC 2111: "Content-ID and Message-ID Uniform Resource Locators", URL: <http://www.ietf.org/rfc/rfc2111.txt>.
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- [74] 3GPP TS 26.140: "Multimedia Messaging Service; Media formats and codecs".
- [75] 3GPP TS 51.011 (Rel-4): "Specification of the Subscriber Identity Module – Mobile Equipment (SIM-ME) interface".
- [76] "Digital Rights Management", Open Mobile Alliance™, OMA-Download-DRM-v1_0, <http://www.openmobilealliance.org/>
- [77] "DRM Rights Expression Language", Open Mobile Alliance™, OMA-Download-DRMREL-v1_0, <http://www.openmobilealliance.org/>
- [78] "DRM Content Format", Open Mobile Alliance™, OMA-Download-DRMCF-v1_0, <http://www.openmobilealliance.org/>
- [79] [ITU-T Recommendation E.212: "The international identification plan for mobile terminals and mobile users"](#).

8.4.5 Message Transfer Protocol on MM4

Interworking between different MMSEs shall be based on SMTP according to STD 10 [22] as depicted in figure 5.

The originator MMS Relay/Server should use an SMTP connection to transfer MMs/abstract messages. The originator MMS Relay/Server should use the sender's address as indicated in the corresponding MM/abstract message in the SMTP "MAIL FROM:" command (subject to the sender's visibility) and should use the recipient's address(es) as indicated in the corresponding MM/abstract message in the SMTP "RCPT TO:" command. The originator MMS Relay/Server should use SMTP "DATA" command to transfer the message.

Private agreements may utilise additional connection and security (e.g. IPSec) methods. Such methods are out of the scope of standardisation for this release.

8.4.5.1 Address Encoding

In the case where E.164 addressing is used and the address resolution returns an RFC 2822 recipient address (ENUM based resolution), this address shall become the 'forward-path' argument to the 'RCPT TO:' SMTP command as it is described in [22]. The 'Reverse-Path' argument to the 'MAIL FROM:' SMTP command shall be determined by the originator MMS Relay/Server as it is described in [22].

In the case where E.164 addressing is used and the address resolution returns only the domain of the recipient MMSE, the addresses shall be encoded in the following way:

SMTP protocol level:

```
SMTP-address = "<" MMS-address "@" domain ">"
```

```
MMS-address = "+" E.164 "/TYPE=PLMN"
```

```
E.164 = 1*DIGIT
```

```
domain = dom-fragment *( "." dom-fragment )
```

```
dom-fragment = ( ALPHA | DIGIT ) *( ALPHA | DIGIT | "-" )
```

MM4 MMSE Domain Name:

For the addressing of the MMSE on the MM4 interface a unique domain name should be used. To allow inter PLMN DNS translation the MM4 MMSE domain name should be composed as follows:

mms.mnc<MNC>.mcc<MCC>.gprs, where

- <MNC> identifies the network operator. The MNC shall consist of 3 digits. For two digit MNC a "0" digit shall be inserted at the left side [79].
- <MCC> identifies the country of the network operator. The MCC shall consist of 3 digits[79].

In addition to the standardised MM4 MMSE Domain Name network operators may utilise additional public MM4 domain names for the MMSE, e.g. to allow interworking with networks not utilising the E.212[79] network identification.

In addition the MMSE implementation shall take public addressing requirements into account, e.g. for the MMS interworking with external (legacy) messaging systems via the MM3 interface.

Example:

If the originator's address was an E.164 address, the address fields used in RCPT shall be converted to the following format by the sender's MMS Relay/Server:

+E.164/TYP=PLMN@recipient-mmse

where recipient-mmse is a FQDN of the recipient's MMS Relay/Server, e.g.

~~+358401234567/TYP=PLMN@mmse.sonera.net~~

+358401234567/TYP=PLMN@mms.mnc091.mcc244.gprs

CHANGE REQUEST

⌘ **23.140 CR 146** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Addition of missing MM7 Delivery report status codes ⌘		
Source:	⌘ T2 ⌘		
Work item code:	⌘ MMS6 ⌘	Date:	⌘ 18/11/2003 ⌘
Category:	⌘ F ⌘	Release:	⌘ Rel-6 ⌘
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ MM-Status-Code / X-Mms-MM-Status-Code, "Unrecognised" and "Deferred" status codes are missing from the MM7_mmDeliveryStatusType stage 3 schema. ⌘
Summary of change:	⌘ Enumerated Status code table in mmDeliverystatusType is ammended to include "Unrecognised" and "Deferred" values. ⌘
Consequences if not approved:	⌘ It shall not be possible to deliver status reports where MM1 MM-Status-Code/x-mms-MM-Status-Code contains "Unrecognised" or "Deferred" ⌘

Clauses affected:	⌘ Annex L ⌘						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘	Y	N	⌘	X		⌘
Y	N						
⌘	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">⌘</td> </tr> </table> Test specifications ⌘	Y	N	⌘	⌘		⌘
Y	N						
⌘	⌘						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">⌘</td> </tr> </table> O&M Specifications ⌘	Y	N	⌘	⌘		⌘
Y	N						
⌘	⌘						
Other comments:	⌘						

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex L (normative): MM7 XML Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema targetNamespace="http://www.3gpp.org/ftp/Specs/archive/23_series/23.140/schema/REL-6-MM7-
1-01" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:tns="http://www.3gpp.org/ftp/Specs/archive/23_series/23.140/schema/REL-6-MM7-1-01"
elementFormDefault="qualified" attributeFormDefault="unqualified">

<xs:import namespace="http://schemas.xmlsoap.org/soap/envelope/"
schemaLocation="http://schemas.xmlsoap.org/soap/envelope/" />

  <xs:element name="TransactionID">
    <xs:annotation>
      <xs:documentation>The transaction ID that shall be included in the SOAP
Header</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:simpleContent>
        <xs:extension base="xs:string">
          <xs:attribute ref="soap:mustUnderstand"/>
          <xs:attribute ref="soap:encodingStyle"/>
          <xs:attribute ref="soap:actor"/>
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
  </xs:element>
  <xs:element name="SubmitReq" type="tns:submitReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS : Sending MM from the VASP to one or more
recipients</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="SubmitRsp" type="tns:submitRspType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM submission
request</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliverReq" type="tns:deliverReqType">
    <xs:annotation>
      <xs:documentation>MMS to VASP : Delivery of MM from the MMS Relay/Server to the VASP
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliverRsp" type="tns:deliverRspType">
    <xs:annotation>
      <xs:documentation>VASP to MMS : Response to a message delivered to the VASP from the MMS
Relay/Server</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="CancelReq" type="tns:cancelReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Request to cancel a message submission
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="CancelRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM cancellation request
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReplaceReq" type="tns:replaceReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Request to replace a message which was submitted
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReplaceRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM replace request
</xs:documentation>
    </xs:annotation>
  </xs:element>

```

```

</xs:element>
<xs:element name="DeliveryReportReq" type="tns:deliveryReportReqType">
  <xs:annotation>
    <xs:documentation>MMS to VASP : Delivery Report from one of the MM
recipients</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="DeliveryReportRsp" type="tns:genericResponseType">
  <xs:annotation>
    <xs:documentation>VASP to MMS: Response to a delivery report delivered to the
VASP</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="ReadReplyReq" type="tns:readReplyReqType">
  <xs:annotation>
    <xs:documentation>MMS to VASP : Delivery Report from one of the MM
recipients</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="ReadReplyRsp" type="tns:genericResponseType">
  <xs:annotation>
    <xs:documentation>VASP to MMS: Response to a read reply delivered to the
VASP</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="RSErrorRsp" type="tns:genericResponseType">
  <xs:annotation>
    <xs:documentation>MMS to VASP: Error response to a any bad request sent to the MMS
Relay/Server</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="VASPErrorRsp" type="tns:genericResponseType">
  <xs:annotation>
    <xs:documentation>VASP to MMS: Error response to a any bad request sent to the
VASP</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:complexType name="senderIDType">
  <xs:sequence>
    <xs:element name="VASPID" type="tns:entityIDType" minOccurs="0"/>
    <xs:element name="VASID" type="tns:entityIDType" minOccurs="0"/>
    <xs:element name="SenderAddress" type="tns:addressType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="submitReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericVASPRequestType">
      <xs:sequence>
        <xs:element name="Recipients" type="tns:recipientsType"/>
        <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
        <xs:element name="LinkedID" type="tns:messageIDType" minOccurs="0"/>
        <xs:element name="MessageClass" type="tns:messageClassType"
default="Informational" minOccurs="0"/>
        <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="ReplyCharging" minOccurs="0">
          <xs:complexType>
            <xs:attribute name="replyChargingSize" type="xs:positiveInteger"
use="optional"/>
            <xs:attribute name="replyDeadline" type="tns:relativeOrAbsoluteDateType"
use="optional"/>
          </xs:complexType>
        </xs:element>
        <xs:element name="EarliestDeliveryTime" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
        <xs:element name="ExpiryDate" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
        <xs:element name="DeliveryReport" type="xs:boolean" minOccurs="0"/>
        <xs:element name="ReadReply" type="xs:boolean" minOccurs="0"/>
        <xs:element name="Priority" type="tns:priorityType" minOccurs="0"/>
        <xs:element name="Subject" type="xs:string" minOccurs="0"/>
        <xs:element name="ChargedParty" type="tns:chargedPartyType" minOccurs="0"/>
        <xs:element name="ChargedPartyID" type="tns:chargedPartyIDType" minOccurs="0"/>
        <xs:element name="DistributionIndicator" type="xs:boolean" minOccurs="0"/>
        <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="submitRspType">
  <xs:complexContent>
    <xs:extension base="tns:genericResponseType">
      <xs:sequence>

```

```

        <xs:element name="MessageID" type="tns:messageIDType"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexType>
  <xs:complexType name="deliverReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericRSReqType">
        <xs:sequence>
          <xs:element name="LinkedID" type="tns:messageIDType" minOccurs="0"/>
          <xs:element name="Sender" type="tns:addressType"/>
          <xs:element name="Recipients" type="tns:recipientsType" minOccurs="0"/>
          <xs:element name="Previouslysentby" type="tns:previouslySentByType"
minOccurs="0"/>
          <xs:element name="Previouslysentdateandtime" type="tns:previouslySentByDateTime"
minOccurs="0"/>
          <xs:element name="SenderSPI" type="tns:serviceProviderIDType" minOccurs="0"/>
          <xs:element name="RecipientSPI" type="tns:serviceProviderIDType" minOccurs="0"/>
          <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
          <xs:element name="ReplyChargingID" type="tns:messageIDType" minOccurs="0"/>
          <xs:element name="Priority" type="tns:priorityType" minOccurs="0"/>
          <xs:element name="Subject" type="xs:string" minOccurs="0"/>
          <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="deliverRspType">
    <xs:complexContent>
      <xs:extension base="tns:genericResponseType">
        <xs:sequence>
          <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="cancelReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericVASPRequestType">
        <xs:sequence>
          <xs:element name="MessageID" type="tns:messageIDType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="replaceReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericVASPRequestType">
        <xs:sequence>
          <xs:element name="MessageID" type="tns:messageIDType"/>
          <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
          <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
          <xs:element name="ReadReply" type="xs:boolean" minOccurs="0"/>
          <xs:element name="EarliestDeliveryTime" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
          <xs:element name="DistributionIndicator" type="xs:boolean" minOccurs="0"/>
          <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="deliveryReportReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericRSReqType">
        <xs:sequence>
          <xs:element name="MessageID" type="tns:messageIDType"/>
          <xs:element name="Recipient" type="tns:addressType"/>
          <xs:element name="Sender" type="tns:addressType"/>
          <xs:element name="TimeStamp" type="xs:dateTime"/>
          <xs:element name="MMStatus" type="tns:mmDeliveryStatusType"/>
          <xs:element name="MMStatusExtension" type="tns:MMStatusExtensionType"
minOccurs="0"/>
          <xs:element name="StatusText" type="xs:string" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="readReplyReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericRSReqType">
        <xs:sequence>
          <xs:element name="MessageID" type="tns:messageIDType"/>
          <xs:element name="Recipient" type="tns:addressType"/>

```



```

        <xs:element name="Sender" type="tns:addressType"/>
        <xs:element name="TimeStamp" type="xs:dateTime"/>
        <xs:element name="MMStatus" type="tns:mmReadStatusType"/>
        <xs:element name="StatusText" type="xs:string" minOccurs="0"/>
    </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:complexType name="genericRSReqType">
    <xs:annotation>
        <xs:documentation>base for all request messages from R/S to VASP</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="MMSRelayServerID" type="tns:entityIDType" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="genericVASPRequestType">
    <xs:annotation>
        <xs:documentation>Base type for all requests from VASP to R/S</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="SenderIdentification" type="tns:senderIDType"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="genericResponseType">
    <xs:annotation>
        <xs:documentation>Any simple response sent </xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="Status" type="tns:responseStatusType"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="responseStatusType">
    <xs:annotation>
        <xs:documentation>Status information conveyed in responses</xs:documentation>
    </xs:annotation>
    <xs:all>
        <xs:element name="StatusCode">
            <xs:simpleType>
                <xs:restriction base="tns:statusCodeType"/>
            </xs:simpleType>
        </xs:element>
        <xs:element name="StatusText" type="tns:statusTextType"/>
        <xs:element name="Details" type="tns:anyDataType" minOccurs="0"/>
    </xs:all>
</xs:complexType>
<xs:simpleType name="mmDeliveryStatusType">
    <xs:annotation>
        <xs:documentation>Statuses for MM7_delivery_report</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="Expired"/>
        <xs:enumeration value="Retrieved"/>
        <xs:enumeration value="Rejected"/>
        <xs:enumeration value="Indeterminate"/>
        <xs:enumeration value="Forwarded"/>
        <xs:enumeration value="Unrecognised"/>
        <xs:enumeration value="Deferred"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="mmReadStatusType">
    <xs:annotation>
        <xs:documentation>Statuses for MM7_read_reply</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="Indeterminate"/>
        <xs:enumeration value="Read"/>
        <xs:enumeration value="Deleted"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="messageIDType">
    <xs:annotation>
        <xs:documentation>Message ID</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string"/>
</xs:simpleType>
<xs:group name="AddressGroup">
    <xs:choice>
        <xs:element name="RFC2822Address">

```

```

        <xs:complexType>
          <xs:simpleContent>
            <xs:extension base="xs:string">
              <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false" />
              <xs:attributeGroup ref="tns:addressSecurity" />
            </xs:extension>
          </xs:simpleContent>
        </xs:complexType>
      </xs:element>
      <xs:element name="Number">
        <xs:complexType>
          <xs:simpleContent>
            <xs:extension base="xs:string">
              <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false" />
              <xs:attributeGroup ref="tns:addressSecurity" />
            </xs:extension>
          </xs:simpleContent>
        </xs:complexType>
      </xs:element>
      <xs:element name="ShortCode">
        <xs:complexType>
          <xs:simpleContent>
            <xs:extension base="xs:string">
              <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false" />
              <xs:attributeGroup ref="tns:addressSecurity" />
            </xs:extension>
          </xs:simpleContent>
        </xs:complexType>
      </xs:element>
    </xs:choice>
  </xs:group>
  <xs:complexType name="multiAddressType">
    <xs:sequence maxOccurs="unbounded">
      <xs:group ref="tns:AddressGroup" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="addressType">
    <xs:group ref="tns:AddressGroup" />
  </xs:complexType>
  <xs:attributeGroup name="addressSecurity">
    <xs:attribute name="addressCoding" type="tns:addressCodingType" use="optional" />
    <xs:attribute name="id" type="xs:ID" use="optional" />
  </xs:attributeGroup>
  <xs:simpleType name="addressCodingType">
    <xs:annotation>
      <xs:documentation>obfuscated or encrypted address type</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="encrypted" />
      <xs:enumeration value="obfuscated" />
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="previouslySentByType">
    <xs:sequence>
      <xs:element name="UserAgent" type="tns:userAgentInfoType" minOccurs="0"
maxOccurs="unbounded" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="previouslySentByDateTime">
    <xs:sequence>
      <xs:element name="DateTime" type="tns:userAgentDateTimeType" minOccurs="0"
maxOccurs="unbounded" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="userAgentInfoType">
    <xs:complexContent>
      <xs:extension base="tns:addressType">
        <xs:attribute name="sequence" type="xs:positiveInteger" use="optional" />
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="userAgentDateTimeType">
    <xs:simpleContent>
      <xs:extension base="tns:relativeOrAbsoluteDateType">
        <xs:attribute name="sequence" type="xs:positiveInteger" use="optional" />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
  <xs:simpleType name="serviceProviderIDType">

```

```

    <xs:annotation>
      <xs:documentation>Service Provider Identification</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <xs:simpleType name="chargedPartyIDType">
    <xs:annotation>
      <xs:documentation>The address of the third party which is expected to pay for the
MM</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <xs:simpleType name="MMStatusExtensionType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="RejectionByMMSRecipient"/>
      <xs:enumeration value="RejectionByOtherRS"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="serviceCodeType">
    <xs:annotation>
      <xs:documentation>Used to identify the specific service given for billing
purposes</xs:documentation>
    </xs:annotation>
    <xs:simpleContent>
      <xs:extension base="xs:string">
        <xs:anyAttribute namespace="##other" processContents="lax"/>
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
  <xs:simpleType name="entityIDType">
    <xs:annotation>
      <xs:documentation>String used to identify the VAS, VASP and MMSC</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <xs:complexType name="recipientsType">
    <xs:annotation>
      <xs:documentation>At least one of To,CC,Bcc</xs:documentation>
    </xs:annotation>
    <xs:sequence maxOccurs="unbounded">
      <xs:choice>
        <xs:element name="To" type="tns:multiAddressType"/>
        <xs:element name="Cc" type="tns:multiAddressType"/>
        <xs:element name="Bcc" type="tns:multiAddressType"/>
      </xs:choice>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="messageClassType">
    <xs:annotation>
      <xs:documentation>Message class</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Personal"/>
      <xs:enumeration value="Informational"/>
      <xs:enumeration value="Advertisement"/>
      <xs:enumeration value="Auto"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="priorityType">
    <xs:annotation>
      <xs:documentation>Priority of MM</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Normal"/>
      <xs:enumeration value="High"/>
      <xs:enumeration value="Low"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="relativeOrAbsoluteDateType">
    <xs:annotation>
      <xs:documentation>Date which can be relative or absolute</xs:documentation>
    </xs:annotation>
    <xs:union memberTypes="xs:dateTime xs:duration"/>
  </xs:simpleType>
  <xs:simpleType name="chargedPartyType">
    <xs:annotation>
      <xs:documentation>Allows specification of which party - Sender or Reciever pays for
transmission</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Sender"/>
      <xs:enumeration value="Recipient"/>
    </xs:restriction>
  </xs:simpleType>

```

```

        <xs:enumeration value="Both" />
        <xs:enumeration value="Neither" />
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="versionType">
    <xs:annotation>
        <xs:documentation>Version number in the format of x.y.z </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="6.x.0" />
        <xs:enumeration value="6.3.0" />
        <xs:enumeration value="5.8.0" />
        <xs:enumeration value="5.6.0" />
        <xs:enumeration value="5.5.0" />
        <xs:enumeration value="5.3.0" />
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="statusCodeType">
    <xs:annotation>
        <xs:documentation>request status resonse codes in RES </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:positiveInteger" />
</xs:simpleType>
<xs:complexType name="contentReferenceType">
    <xs:annotation>
        <xs:documentation>content element including only href</xs:documentation>
    </xs:annotation>
    <xs:attribute name="href" type="xs:anyURI" use="required" />
    <xs:attribute name="allowAdaptations" type="xs:boolean" use="optional" />
</xs:complexType>
<xs:complexType name="anyDataType">
    <xs:annotation>
        <xs:documentation>Any element and attribute </xs:documentation>
    </xs:annotation>
    <xs:complexContent>
        <xs:restriction base="xs:anyType">
            <xs:sequence>
                <xs:any processContents="lax" minOccurs="0" maxOccurs="unbounded" />
            </xs:sequence>
        </xs:restriction>
    </xs:complexContent>
</xs:complexType>
<xs:simpleType name="statusTextType">
    <xs:annotation>
        <xs:documentation>list of standard human-readable status descriptions</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string" />
</xs:simpleType>
</xs:schema>

```

CHANGE REQUEST

⌘ **23.140 CR 147** ⌘ rev - ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ MM7, Allow Adaptations default value		
Source:	⌘ T2		
Work item code:	⌘ MMS6	Date:	⌘ 18/11/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The MM7_submit.REQ feature table states that allow adaptations has a default value of "true" – however this default is missing from MM7 Stage 3 Schema.
Summary of change:	⌘ A default of "true" is defined for the allow adaptations element.
Consequences if not approved:	⌘ The element may default to false in contradiction to its default value defined in the feature table. (optional elements with no default value default to false)

Clauses affected:	⌘ Annex L										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can

be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex L (normative): MM7 XML Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema targetNamespace="http://www.3gpp.org/ftp/Specs/archive/23_series/23.140/schema/REL-6-MM7-1-1" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:tns="http://www.3gpp.org/ftp/Specs/archive/23_series/23.140/schema/REL-6-MM7-1-1"
elementFormDefault="qualified" attributeFormDefault="unqualified">

<xs:import namespace="http://schemas.xmlsoap.org/soap/envelope/"
schemaLocation="http://schemas.xmlsoap.org/soap/envelope/">

  <xs:element name="TransactionID">
    <xs:annotation>
      <xs:documentation>The transaction ID that shall be included in the SOAP
Header</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:simpleContent>
        <xs:extension base="xs:string">
          <xs:attribute ref="soap:mustUnderstand"/>
          <xs:attribute ref="soap:encodingStyle"/>
          <xs:attribute ref="soap:actor"/>
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
  </xs:element>
  <xs:element name="SubmitReq" type="tns:submitReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS : Sending MM from the VASP to one or more
recipients</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="SubmitRsp" type="tns:submitRspType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM submission
request</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliverReq" type="tns:deliverReqType">
    <xs:annotation>
      <xs:documentation>MMS to VASP : Delivery of MM from the MMS Relay/Server to the VASP
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliverRsp" type="tns:deliverRspType">
    <xs:annotation>
      <xs:documentation>VASP to MMS : Response to a message delivered to the VASP from the MMS
Relay/Server</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="CancelReq" type="tns:cancelReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Request to cancel a message submission
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="CancelRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM cancellation request
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReplaceReq" type="tns:replaceReqType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Request to replace a message which was submitted
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReplaceRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Response to a VASP after MM replace request
</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliveryReportReq" type="tns:deliveryReportReqType">

```

```

    <xs:annotation>
      <xs:documentation>MMS to VASP : Delivery Report from one of the MM
recipients</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="DeliveryReportRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Response to a delivery report delivered to the
VASP</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReadReplyReq" type="tns:readReplyReqType">
    <xs:annotation>
      <xs:documentation>MMS to VASP : Delivery Report from one of the MM
recipients</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="ReadReplyRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Response to a read reply delivered to the
VASP</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="RSErrorRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>MMS to VASP: Error response to a any bad request sent to the MMS
Relay/Server</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="VASPErrorRsp" type="tns:genericResponseType">
    <xs:annotation>
      <xs:documentation>VASP to MMS: Error response to a any bad request sent to the
VASP</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:complexType name="senderIDType">
    <xs:sequence>
      <xs:element name="VASPID" type="tns:entityIDType" minOccurs="0"/>
      <xs:element name="VASID" type="tns:entityIDType" minOccurs="0"/>
      <xs:element name="SenderAddress" type="tns:addressType" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="submitReqType">
    <xs:complexContent>
      <xs:extension base="tns:genericVASPRequestType">
        <xs:sequence>
          <xs:element name="Recipients" type="tns:recipientsType"/>
          <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
          <xs:element name="LinkedID" type="tns:messageIDType" minOccurs="0"/>
          <xs:element name="MessageClass" type="tns:messageClassType"
default="Informational" minOccurs="0"/>
          <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
          <xs:element name="ReplyCharging" minOccurs="0">
            <xs:complexType>
              <xs:attribute name="replyChargingSize" type="xs:positiveInteger"
use="optional"/>
              <xs:attribute name="replyDeadline" type="tns:relativeOrAbsoluteDateType"
use="optional"/>
            </xs:complexType>
          </xs:element>
          <xs:element name="EarliestDeliveryTime" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
          <xs:element name="ExpiryDate" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
          <xs:element name="DeliveryReport" type="xs:boolean" minOccurs="0"/>
          <xs:element name="ReadReply" type="xs:boolean" minOccurs="0"/>
          <xs:element name="Priority" type="tns:priorityType" minOccurs="0"/>
          <xs:element name="Subject" type="xs:string" minOccurs="0"/>
          <xs:element name="ChargedParty" type="tns:chargedPartyType" minOccurs="0"/>
          <xs:element name="ChargedPartyID" type="tns:chargedPartyIDType" minOccurs="0"/>
          <xs:element name="DistributionIndicator" type="xs:boolean" minOccurs="0"/>
          <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="submitRspType">
    <xs:complexContent>
      <xs:extension base="tns:genericResponseType">
        <xs:sequence>
          <xs:element name="MessageID" type="tns:messageIDType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>

```



```

        </xs:extension>        </xs:complexContent>
</xs:complexType>
<xs:complexType name="deliverReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericRSReqType">
      <xs:sequence>
        <xs:element name="LinkedID" type="tns:messageIDType" minOccurs="0"/>
        <xs:element name="Sender" type="tns:addressType"/>
        <xs:element name="Recipients" type="tns:recipientsType" minOccurs="0"/>
        <xs:element name="Previouslysentby" type="tns:previouslySentByType"
minOccurs="0"/>
        <xs:element name="Previouslysentdateandtime" type="tns:previouslySentByDateTime"
minOccurs="0"/>
        <xs:element name="SenderSPI" type="tns:serviceProviderIDType" minOccurs="0"/>
        <xs:element name="RecipientSPI" type="tns:serviceProviderIDType" minOccurs="0"/>
        <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="ReplyChargingID" type="tns:messageIDType" minOccurs="0"/>
        <xs:element name="Priority" type="tns:priorityType" minOccurs="0"/>
        <xs:element name="Subject" type="xs:string" minOccurs="0"/>
        <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="deliverRspType">
  <xs:complexContent>
    <xs:extension base="tns:genericResponseType">
      <xs:sequence>
        <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="cancelReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericVASPRequestType">
      <xs:sequence>
        <xs:element name="MessageID" type="tns:messageIDType"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="replaceReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericVASPRequestType">
      <xs:sequence>
        <xs:element name="MessageID" type="tns:messageIDType"/>
        <xs:element name="ServiceCode" type="tns:serviceCodeType" minOccurs="0"/>
        <xs:element name="TimeStamp" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="ReadReply" type="xs:boolean" minOccurs="0"/>
        <xs:element name="EarliestDeliveryTime" type="tns:relativeOrAbsoluteDateType"
minOccurs="0"/>
        <xs:element name="DistributionIndicator" type="xs:boolean" minOccurs="0"/>
        <xs:element name="Content" type="tns:contentReferenceType" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="deliveryReportReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericRSReqType">
      <xs:sequence>
        <xs:element name="MessageID" type="tns:messageIDType"/>
        <xs:element name="Recipient" type="tns:addressType"/>
        <xs:element name="Sender" type="tns:addressType"/>
        <xs:element name="TimeStamp" type="xs:dateTime"/>
        <xs:element name="MMStatus" type="tns:mmDeliveryStatusType"/>
        <xs:element name="MMStatusExtension" type="tns:MMStatusExtensionType"
minOccurs="0"/>
        <xs:element name="StatusText" type="xs:string" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="readReplyReqType">
  <xs:complexContent>
    <xs:extension base="tns:genericRSReqType">
      <xs:sequence>
        <xs:element name="MessageID" type="tns:messageIDType"/>
        <xs:element name="Recipient" type="tns:addressType"/>
        <xs:element name="Sender" type="tns:addressType"/>
        <xs:element name="TimeStamp" type="xs:dateTime"/>

```

```

        <xs:element name="MMStatus" type="tns:mmReadStatusType"/>
        <xs:element name="StatusText" type="xs:string" minOccurs="0"/>
    </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:complexType name="genericRSReqType">
    <xs:annotation>
        <xs:documentation>base for all request messages from R/S to VASP</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="MMSRelayServerID" type="tns:entityIDType" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="genericVASPRequestType">
    <xs:annotation>
        <xs:documentation>Base type for all requests from VASP to R/S</xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="SenderIdentification" type="tns:senderIDType"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="genericResponseType">
    <xs:annotation>
        <xs:documentation>Any simple response sent </xs:documentation>
    </xs:annotation>
    <xs:sequence>
        <xs:element name="MM7Version" type="tns:versionType"/>
        <xs:element name="Status" type="tns:responseStatusType"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="responseStatusType">
    <xs:annotation>
        <xs:documentation>Status information conveyed in responses</xs:documentation>
    </xs:annotation>
    <xs:all>
        <xs:element name="StatusCode">
            <xs:simpleType>
                <xs:restriction base="tns:statusCodeType"/>
            </xs:simpleType>
        </xs:element>
        <xs:element name="StatusText" type="tns:statusTextType"/>
        <xs:element name="Details" type="tns:anyDataType" minOccurs="0"/>
    </xs:all>
</xs:complexType>
<xs:simpleType name="mmDeliveryStatusType">
    <xs:annotation>
        <xs:documentation>Statuses for MM7_delivery_report</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="Expired"/>
        <xs:enumeration value="Retrieved"/>
        <xs:enumeration value="Rejected"/>
        <xs:enumeration value="Indeterminate"/>
        <xs:enumeration value="Forwarded"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="mmReadStatusType">
    <xs:annotation>
        <xs:documentation>Statuses for MM7_read_reply</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="Indeterminate"/>
        <xs:enumeration value="Read"/>
        <xs:enumeration value="Deleted"/>
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="messageIDType">
    <xs:annotation>
        <xs:documentation>Message ID</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string"/>
</xs:simpleType>
<xs:group name="AddressGroup">
    <xs:choice>
        <xs:element name="RFC2822Address">
            <xs:complexType>
                <xs:simpleContent>
                    <xs:extension base="xs:string">

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                <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false"/>
                <xs:attributeGroup ref="tns:addressSecurity"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
</xs:element>
<xs:element name="Number">
    <xs:complexType>
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
</xs:element>
<xs:element name="ShortCode">
    <xs:complexType>
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="displayOnly" type="xs:boolean" use="optional"
default="false"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
</xs:element>
</xs:choice>
</xs:group>
<xs:complexType name="multiAddressType">
    <xs:sequence maxOccurs="unbounded">
        <xs:group ref="tns:AddressGroup"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="addressType">
    <xs:group ref="tns:AddressGroup"/>
</xs:complexType>
<xs:attributeGroup name="addressSecurity">
    <xs:attribute name="addressCoding" type="tns:addressCodingType" use="optional"/>
    <xs:attribute name="id" type="xs:ID" use="optional"/>
</xs:attributeGroup>
<xs:simpleType name="addressCodingType">
    <xs:annotation>
        <xs:documentation>obfuscated or encrypted address type</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
        <xs:enumeration value="encrypted"/>
        <xs:enumeration value="obfuscated"/>
    </xs:restriction>
</xs:simpleType>
<xs:complexType name="previouslySentByType">
    <xs:sequence>
        <xs:element name="UserAgent" type="tns:userAgentInfoType" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="previouslySentByDateTime">
    <xs:sequence>
        <xs:element name="DateTime" type="tns:userAgentDateTimeType" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="userAgentInfoType">
    <xs:complexContent>
        <xs:extension base="tns:addressType">
            <xs:attribute name="sequence" type="xs:positiveInteger" use="optional"/>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:complexType name="userAgentDateTimeType">
    <xs:simpleContent>
        <xs:extension base="tns:relativeOrAbsoluteDateType">
            <xs:attribute name="sequence" type="xs:positiveInteger" use="optional"/>
        </xs:extension>
    </xs:simpleContent>
</xs:complexType>
<xs:simpleType name="serviceProviderIDType">
    <xs:annotation>
        <xs:documentation>Service Provider Identification</xs:documentation>
    </xs:annotation>

```

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    <xs:restriction base="xs:string" />
  </xs:simpleType>
  <xs:simpleType name="chargedPartyIDType">
    <xs:annotation>
      <xs:documentation>The address of the third party which is expected to pay for the
MM</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string" />
  </xs:simpleType>
  <xs:simpleType name="MMStatusExtensionType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="RejectionByMMSRecipient" />
      <xs:enumeration value="RejectionByOtherRS" />
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="serviceCodeType">
    <xs:annotation>
      <xs:documentation>Used to identify the specific service given for billing
purposes</xs:documentation>
    </xs:annotation>
    <xs:simpleContent>
      <xs:extension base="xs:string">
        <xs:anyAttribute namespace="##other" processContents="lax" />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
  <xs:simpleType name="entityIDType">
    <xs:annotation>
      <xs:documentation>String used to identify the VAS, VASP and MMSC</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string" />
  </xs:simpleType>
  <xs:complexType name="recipientsType">
    <xs:annotation>
      <xs:documentation>At least one of To,CC,Bcc</xs:documentation>
    </xs:annotation>
    <xs:sequence maxOccurs="unbounded">
      <xs:choice>
        <xs:element name="To" type="tns:multiAddressType" />
        <xs:element name="Cc" type="tns:multiAddressType" />
        <xs:element name="Bcc" type="tns:multiAddressType" />
      </xs:choice>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="messageClassType">
    <xs:annotation>
      <xs:documentation>Message class</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Personal" />
      <xs:enumeration value="Informational" />
      <xs:enumeration value="Advertisement" />
      <xs:enumeration value="Auto" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="priorityType">
    <xs:annotation>
      <xs:documentation>Priority of MM</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Normal" />
      <xs:enumeration value="High" />
      <xs:enumeration value="Low" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="relativeOrAbsoluteDateType">
    <xs:annotation>
      <xs:documentation>Date which can be relative or absolute</xs:documentation>
    </xs:annotation>
    <xs:union memberTypes="xs:dateTime xs:duration" />
  </xs:simpleType>
  <xs:simpleType name="chargedPartyType">
    <xs:annotation>
      <xs:documentation>Allows specification of which party - Sender or Reciever pays for
transmission</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
      <xs:enumeration value="Sender" />
      <xs:enumeration value="Recipient" />
      <xs:enumeration value="Both" />
      <xs:enumeration value="Neither" />
    </xs:restriction>
  </xs:simpleType>

```

```

</xs:simpleType>
<xs:simpleType name="versionType">
  <xs:annotation>
    <xs:documentation>Version number in the format of x.y.z </xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="6.x.0"/>
    <xs:enumeration value="6.3.0"/>
    <xs:enumeration value="5.8.0"/>
    <xs:enumeration value="5.6.0"/>
    <xs:enumeration value="5.5.0"/>
    <xs:enumeration value="5.3.0"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="statusCodeType">
  <xs:annotation>
    <xs:documentation>request status response codes in RES </xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:positiveInteger"/>
</xs:simpleType>
<xs:complexType name="contentReferenceType">
  <xs:annotation>
    <xs:documentation>content element including only href</xs:documentation>
  </xs:annotation>
  <xs:attribute name="href" type="xs:anyURI" use="required"/>
  <xs:attribute name="allowAdaptations" type="xs:boolean" default="true" use="optional"/>
</xs:complexType>
<xs:complexType name="anyDataType">
  <xs:annotation>
    <xs:documentation>Any element and attribute </xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:restriction base="xs:anyType">
      <xs:sequence>
        <xs:any processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:restriction>
  </xs:complexContent>
</xs:complexType>
<xs:simpleType name="statusTextType">
  <xs:annotation>
    <xs:documentation>list of standard human-readable status descriptions</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string"/>
</xs:simpleType>
</xs:schema>

```

CHANGE REQUEST

⌘ **23.140 CR 148** ⌘ rev - ⌘ Current version: **5.8.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correcting references to ENUM & HLR		
Source:	⌘ T2		
Work item code:	⌘ MESS5-MMS	Date:	⌘ 2003/11/18
Category:	⌘ F	Release:	⌘ Rel-5
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Section 7.2.2 refers to the wrong ENUM & MSISDN annexes.
Summary of change:	⌘ The ENUM solution is described in Annex G. The MSISDN to IMSI is described in Annex H.
Consequences if not approved:	⌘ Inconsistend specification.

Clauses affected:	⌘ 7.2.2						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<input checked="" type="checkbox"/>	Test specifications	⌘					
<input checked="" type="checkbox"/>	O&M Specifications	⌘					
Other comments:	⌘						

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.2.2 Address Formats on MM4

Resolving the recipient's MMSE IP address:

For those recipients that appear in an MM and belong to an external MMSE, the originator MMS Relay/Server has to send the message to each of the recipients' MMS Relay/Servers using the protocol described in clause 6.6. The MMS Relay/Server has to resolve the recipient's MMS Relay/Server domain name to an IP address, e.g. using DNS, based on the recipient's address. The mapping for the recipient's address, in case of MSISDN (E.164) addressing, to the recipient's MMS Relay/Server if the MM recipient belongs to another MMSE should use the DNS-ENUM protocol [61]. The ENUM solution is described in Annex [FG](#). In the absence of an ENUM based solution, it is expected that MMS service providers or network operators may use solutions for their particular needs, which may include static tables or other look-up methods. One such look up method, which is based on MSISDN to IMSI look up, is described in Annex [GH](#).

Re-formatting the sender's and recipient's address to FQDN format

When delivering a message from an MMSE to another MMSE, both the sender and the recipient addresses shall be extended to include the FQDN to enable transport over SMTP. This FQDN format shall be used in the MM4 reference point. It is required that FQDN format address is used in "MAIL FROM: " and "RCPT TO: " commands in SMTP, it is not necessary that the originator's and recipient's addresses in [5] "From: " or "To"-fields are re-formatted to FQDN format.

The encoding of FQDN addressing is defined in Clause 8.4.5.1.