

Agenda Item: 6.2.3
Source: T2
Title: CRs on MMS
Document for: Approval

This document contains the following change requests that are approved by 3GPP TSG T3 and forwarded to 3GPP TSG T#27 for approval:

Doc-2nd- Level	Spec	CR	Rev	Rel	Subject	Cat	Ver- old	Ver- new	WI
T2-050031	23.140	196		Rel-6	CR TS 23.140 Rel-6: Definition of the notification procedure for MM addressed to the USIM	B	6.8.0	6.9.0	MMS6
T2-050037	23.140	197		Rel-6	CR TS 23.140 Rel-6: Correcting Extended Canceling and Replacing	F	6.8.0	6.9.0	MMS6

CHANGE REQUEST

⌘ **23.140** CR **196** ⌘ rev **-** ⌘ Current version: **6.8.0** ⌘

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:	⌘ Definition of the notification procedure for MM addressed to the USIM		
Source:	⌘ Infineon Technologies, Axalto		
Work item code:	⌘ MMS6	Date:	⌘ 08/02/2005
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> Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ 3GPP-T3 has defined a mechanism to retrieve MMs on the USIM using Application Identification mechanism. MMS User Agent behaviour should be updated accordingly. Also according to TS 23.140, it is optional to include the Application Id field in the notification. In the case the Application Id is not present in the notification but only present in the MM itself (e.g. in order to reduce the size of the MMS Notification and make it fit into a single SMS), then upon reception of the MM, the MMS UA shall notify the USIM accordingly.
Summary of change:	⌘ Update of the procedure description whether the application Id is available in the MMS notification or only in the MM itself.
Consequences if not approved:	⌘ 3GPP-T3 TS 31.111 has no mean of transferring an MM notification to the USIM

Clauses affected:	⌘ 2, 7.1.14, 7.1.18.2.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></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> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ TS 31.111	
Y	N										
X											
	X										
	X										
Other comments:	⌘										

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] void
- [4] void
- [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] void.
- [8] void
- [9] void
- [10] void
- [11] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".
- [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>.
- [23] WAP Forum (November 1999): "WAP Wireless Session Protocol", WAP-WSP-19991105-, URL: <http://www.wapforum.org/>.

- [24] void
- [25] void
- [26] void
- [27] void
- [28] void
- [29] void
- [30] void
- [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] void
- [43] void
- [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] void
- [46] void
- [47] void
- [48] IETF; RFC 2616: "Hypertext Transfer Protocol, HTTP/1.1", URL: <http://www.ietf.org/rfc/rfc2616.txt>.
- [49] void
- [50] void
- [51] void
- [52] void
- [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_2, Multimedia Messaging Service, Encapsulation Protocol, Version 1.2, URL: <http://www.openmobilealliance.org>
- NOTE: Reference [56] is the REL-5 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] void
- [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".
- [64] 3GPP TS 23.066: "Support of Mobile Number Portability (MNP); Technical realization. Stage 2".
- [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>
- [69] W3C Note 11 December 2000 "SOAP Messages with Attachments", URL: <http://www.w3.org/TR/SOAP-attachments>
- [70] IETF; RFC 2376: "XML Media Type", URL: <http://www.ietf.org/rfc/rfc2376.txt>.
- [71] IETF; RFC 2387: "The MIME Multipart/Related Content Type", URL: <http://www.ietf.org/rfc/rfc2387.txt>.
- [72] IETF; RFC 2111: "Content-ID and Message-ID Uniform Resource Locators", URL: <http://www.ietf.org/rfc/rfc2111.txt>.
- [73] void
- [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 AllianceTM, OMA-Download-DRM-v1_0, <http://www.openmobilealliance.org/>
- [77] "DRM Rights Expression Language", Open Mobile AllianceTM, OMA-Download-DRMREL-v1_0, <http://www.openmobilealliance.org/>
- [78] "DRM Content Format", Open Mobile AllianceTM, 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".
- [80] 3GPP TS 32.240: "Charging Management; Charging Architecture and Principles".
- [81] 3GPP TS 32.270: "Charging Management; Multimedia Messaging Service (MMS) charging".
- [82] Open Mobile Alliance; OMA-ERELED-MMS-v1_2-20030923-C, Enabler Release Definition for MMS Version 1.2, URL: <http://www.openmobilealliance.org/>

NOTE: Reference [82] is the REL-5 MM1 stage 3 specification. OMA is committed to develop a REL-6 version. Consequently, reference [82] is to be replaced by the appropriate document identifier once the REL-6 MM1 stage 3 specification is approved within OMA.

- [83] 3GPP TS 23.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL) Phase 4 - Stage 2"
- [84] IETF RFC 3588 "Diameter Base Protocol", URL: <http://www.ietf.org/rfc/rfc3588.txt>.
- [85] Open Mobile Alliance; OMA-MMS-CONF-v1_2-20040219-C, MMS Conformance Document 1.2, URL: <http://www.openmobilealliance.org/>

NOTE: Reference [85] is the REL-5 MM1 stage 3 specification. OMA is committed to develop a REL-6 version. Consequently, reference [85] is to be replaced by the appropriate document identifier once the REL-6 MM1 stage 3 specification is approved within OMA.

- [86] 3GPP TS 29.140: "MM10 interface based on Diameter protocol (Stage 3)".

[\[xx\] 3GPP TS 31.111: "USIM Application Toolkit \(USAT\)".](#)

7.1.14 Handling of MMS-related information on the (U)SIM

NOTE : This section does not apply when the MMS-UA is implemented within equipment which does not support a (U)SIM.

An MMS User Agent shall use the MMS related information stored in the (U)SIM [67] or SIM [75], if present, according to the definitions in this subclause 7.1.14 - unless otherwise specified by the user. This information comprises:

- MMS connectivity information, as defined in Annex F. This information is used to connect to the network for the purpose of accessing the MMS Relay/Server,
- MMS user preferences, as defined in Annex F, and
- MMS notifications.

MMS connectivity information, on the (U)SIM includes a number of sets of MMS connectivity parameters. Some of these sets of MMS connectivity parameters are preset by the issuer of the (U)SIM with the first set being the default. Such default preset MMS connectivity parameter set shall be selected unless otherwise specified by the user.

The MMS connectivity information on the (U)SIM includes preferences for the selection of Interface to Core Network and Bearer parameters (cf. Annex F) as defined in [67] or [75]. If these are stored on the (U)SIM the MMS-capable UE shall automatically select the Interface to Core Network and Bearer parameters based on their order of precedence defined on the (U)SIM unless otherwise specified by the user.

MMS user preferences information, which is stored on the (U)SIM, shall be used by an MMS User Agent for user assistance in preparation of terminal-originated MMs (e.g. default values for parameters that are often used).

MMS notifications, should be stored on the (U)SIM together with an associated status by a recipient MMS User Agent:

- When an MMS User Agent has deleted a notification which was stored on the (U)SIM, the associated status shall be set to “Free space”
- When an MMS User Agent stores a notification on the (U)SIM, the associated status shall be set to “Used space”
- When a recipient MMS User Agent has not handled the notification which is stored on the (U)SIM (e.g. the details of the notification were not shown to the user), the associated status shall be set to “notification not read”,
- When a recipient MMS User Agent has handled the notification which is stored on the (U)SIM (e.g. the details of the notification have been shown to the user), the associated status shall be set to “notification read”,
- When a recipient MMS User Agent has not retrieved an MM based on the notification which is stored on the (U)SIM, the associated status shall be set to “MM not retrieved” – unless the recipient MMS User Agent has rejected or forwarded the MM,
- When a recipient MMS User Agent has retrieved an MM based on the notification which is stored on the (U)SIM, the notification shall be either deleted or the associated status shall be set to “MM retrieved”,
- When a recipient MMS User Agent has rejected an MM based on the notification which is stored on the (U)SIM, the notification shall either be deleted or the associated status shall be set to “MM rejected”,
- When a recipient MMS User Agent has forwarded an MM based on the notification which is stored on the (U)SIM, the notification shall either be deleted or the associated status shall be set to “MM forwarded”,

Upon an attempt to store a notification on a (U)SIM, an MMS User Agent should ensure that the notification is not lost unless the (U)SIM acknowledges the storage attempt to be successful.

7.1.14.X Handling of MMS-related transfer to the USIM

When an MMS notification is addressed to the USIM, then:

- the application identifier functionality as defined in 7.1.18.2.2 applies.
- the application identifier syntax as defined in 3GPP TS 31.111 [xx] shall be used.

- [the ENVELOPE mechanisms for transferring the MMS notification to the USIM defined in 3GPP TS 31.111 \[xx\] shall be used.](#)

7.1.18.2.2 Receiving abstract messages

If an MMS Relay/Server finds from the recipient MMS User Agent's capability indication (see clause 7.1.3.1) that the recipient MMS User Agent does not support the transport of application data, the MMS Relay/Server

- should delete the content of the MM before notifying the MMS User Agent or before retrieval. In such a case the recipient MMS Relay/Server shall apply the normal reporting behaviour towards receiving as well as sending entities;
- may decide about the deletion of content based on user setting in the user's profile and/or configuration by network operator and/or MMS service provider.

If the MMS Relay/Server finds from the recipient MMS User Agent's capability indication (see clause 7.1.3.1) that the recipient MMS User Agent supports transport of application data, the MMS Relay/Server

- shall not perform any type of content adaptation to a multimedia message (MM) that may be contained in the payload of an abstract message that contains a destination application identifier;
- shall pass on the destination application identifier, the "reply-path" identifier (if present) and the additional application/implementation specific control information (if present) unaltered.

Upon reception of an abstract message containing a destination application identifier (it can either be the MM1_notification.REQ, MM1_retrieve.RES or MM7_deliver.REQ transactions), the receiving MMS User Agent or MMS VAS Application shall first check if the destination application resides on it.

[When an MM is addressed to an application, the associated MMS notification, intended for this application, should contain the application identifier.](#)

NOTE: [Should the application identifier not be present in the MMS notification this may result in the presentation of the MMS notification to the user.](#)

If the destination application resides on a receiving MMS VAS Application, the MMS VAS Application shall immediately route the received MMS information on to the destination application that is referred to by the destination application identifier (based on the negotiated details upon application registration process).

If the destination application resides on a receiving MMS User Agent, the MMS User Agent shall immediately route the received MMS information on to the destination application that is referred to from the destination application identifier (based on the negotiated details upon application registration process) without presentation to the user.

NOTE: The further handling and processing of the information by the destination application is outside the scope of this specification.

If the destination application does not reside on the receiving MMS User Agent [or on the USIM](#) or MMS VAS Application, the MMS User Agent or MMS VAS Application shall discard the corresponding abstract message. In such a case the recipient MMS Relay/Server and recipient MMS User Agent or VAS application shall apply the normal reporting behaviour towards sending entities.

CHANGE REQUEST

⌘ **23.140 CR 197** ⌘ rev - ⌘ Current version: **6.8.0** ⌘

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


Title:	⌘ Correcting Extended Canceling and Replacing		
Source:	⌘ Nokia		
Work item code:	⌘ MMS6	Date:	⌘ 23/02/2005
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: Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ There are few inconsistencies in the TS 23.140 about the extended cancel and replace feature. Moreover, there are few editorial mistakes.		
Summary of change:	⌘ Makes the Request Status information element optional in the MM1_cancel.RES abstract message in section 7.1.19 and 8.1.13, as MMS Server/Relay is not required to convey the status to the VASP, Corrects the figure in section 8.7.5A to allow the MM7_extended_cancel.RES before the associated MM1 transactions. Adds a statement in section 8.7.5A.1 and also corrects couple other statements.		
Consequences if not approved:	⌘ The extended cancel and replace feature remains inconsistent and erroneous.		

Clauses affected:	⌘ 7.1.19, 8.1.13 and 8.7.5A										
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;">Y</td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	Y						⌘ OMA MMS Specificaiton	
Y	N										
Y											
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.

7.1.19 Cancelling of a Multimedia Message

This part of the MMS service describes the mechanism by which an MMS Relay/Server may request an MMS User Agent, that an MM which the MMS User Agent has already retrieved is to be cancelled. The MMS Relay/Server request shall be invoked by a similar request from a VASP.

The support for cancelling an MM from the recipient MMS User Agent is optional for both MMS User Agent and MMS Relay/Server.

When requesting an MM to be cancelled the MMS Relay/Server shall provide the identification of the MM to be cancelled.

~~Upon reception of a request from the MMS Relay/Server to cancel an MM, the MMS User Agent shall provide status information on the MM cancel request in the response.~~

MMS User Agent may provide means (e.g. terminal setting) to a user to forbid such cancellation, requested by the MMS Relay/Server.

The MM cancellation may not be successful as the recipient MMS User Agent may have restricted such a cancellation or the MM is not available any longer. However, upon reception of a request from the MMS Relay/Server to cancel an MM, the MMS User Agent may provide the status (if the request was successfully received) in the response to the MMS Relay/Server.

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8.1.13 Cancelling a Multimedia Message

This part of the MMS service describes the mechanism by which an MMS Relay/Server may request an MMS User Agent, that an MM which the MMS User Agent has already retrieved be cancelled.

For cancelling purposes an MM cancel request shall always be requested by an MMS Relay/Server to an MMS User Agent. Request from a VASP to cancel an MM (in terms of MM7_extended_cancel.REQ) invokes the cancel request in the MMS Relay/Server. Involved abstract messages are outlined in the table below from type and direction points of view.

Table 1: Abstract messages for cancelling an MM

Abstract messages	Type	Direction
MM1_cancel.REQ	Request	MMS Relay/Server -> MMS UA
MM1_cancel.RES	Response	MMS UA -> MMS Relay/Server

8.1.13.1 Normal operation

The MMS Relay/Server shall issue an MM1_cancel.REQ to the MMS User Agent, which contains the identification of the message to be cancelled. The MMS User Agent shall respond with an MM1_cancel.RES, ~~which provides the status of the request.~~

The MM1_cancel.RES shall unambiguously refer to the corresponding MM1_cancel.REQ.

Support for MM1_cancel.REQ and MM1_cancel.RES is optional for both MMS User Agent and MMS Relay/Server.

8.1.13.2 Abnormal Operation

In this case the MMS User Agent shall respond with an MM1_cancel.RES encapsulating a status which indicates the reason the request for cancelling was not accepted, e.g. the MM is not available, denied by a user.

If the MMS User Agent does not provide the MM1_cancel.RES, the MMS Relay/Server should be able to recover. In this case, the MMS Relay/Server may retransmit the MM1_cancel.REQ to the MMS User Agent.

8.1.13.3 Features

Transaction Identification: The 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_cancel.REQ and MM1_cancel.RES as such.

Cancel ID: The MMS Relay/Server shall provide the identification of the original MM to be cancelled in the cancel request.

Request Status: The MMS User Agent shall may provide the status **efif** the request **was successfully received** to the MMS Relay/Server in the MM1_cancel.RES.

8.1.13.4 Information Elements

Table 2: Information elements in the MM1_cancel.REQ.

Information element	Presence	Description
Message Type	Mandatory	Identifies this message as MM1_cancel.REQ.
Transaction ID	Mandatory	The identification of the MM1_cancel.REQ/MM1_cancel.RES pair.
MMS Version	Mandatory	Identifies the version of the interface supported by the forwarding MMS Relay/Server.
Cancel ID	Mandatory	Identifies the MM to be cancelled.

Table 3: Information elements in the MM1_cancel.RES.

Information element	Presence	Description
Message Type	Mandatory	Identifies this message as MM1_cancel.RES.
Transaction ID	Mandatory	The identification of the MM1_cancel.REQ/MM1_cancel.RES pair.
MMS Version	Mandatory	Identifies the version of the interface supported by the MMS User Agent.
Request Status	MandatoryOptional	The status efif the MM cancel request was received .

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8.7.5A Extended Cancel and Extended Replace of MM

This section details the requests that should be supported in MM7 to allow a VASP to control or change the distribution of a MM, down to the MMS User Agent. These operations will allow the VASP to cancel a submitted MM or replace a submitted MM with a new MM.

The involved abstract messages are outlined in Table ***75** from type and direction points of view.

Table 4: Abstract messages for controlling Distribution MM

Abstract messages	Type	Direction
MM7_extended_cancel.REQ	Request	VASP -> MMS Relay/Server
MM7_extended_cancel.RES	Response	MMS Relay/Server -> VASP
MM7_extended_replace.REQ	Request	VASP -> MMS Relay/Server
MM7_extended_replace.RES	Response	MMS Relay/Server -> VASP

The following figure illustrates the interaction between the different MMS entities in cancelling a VASP message.

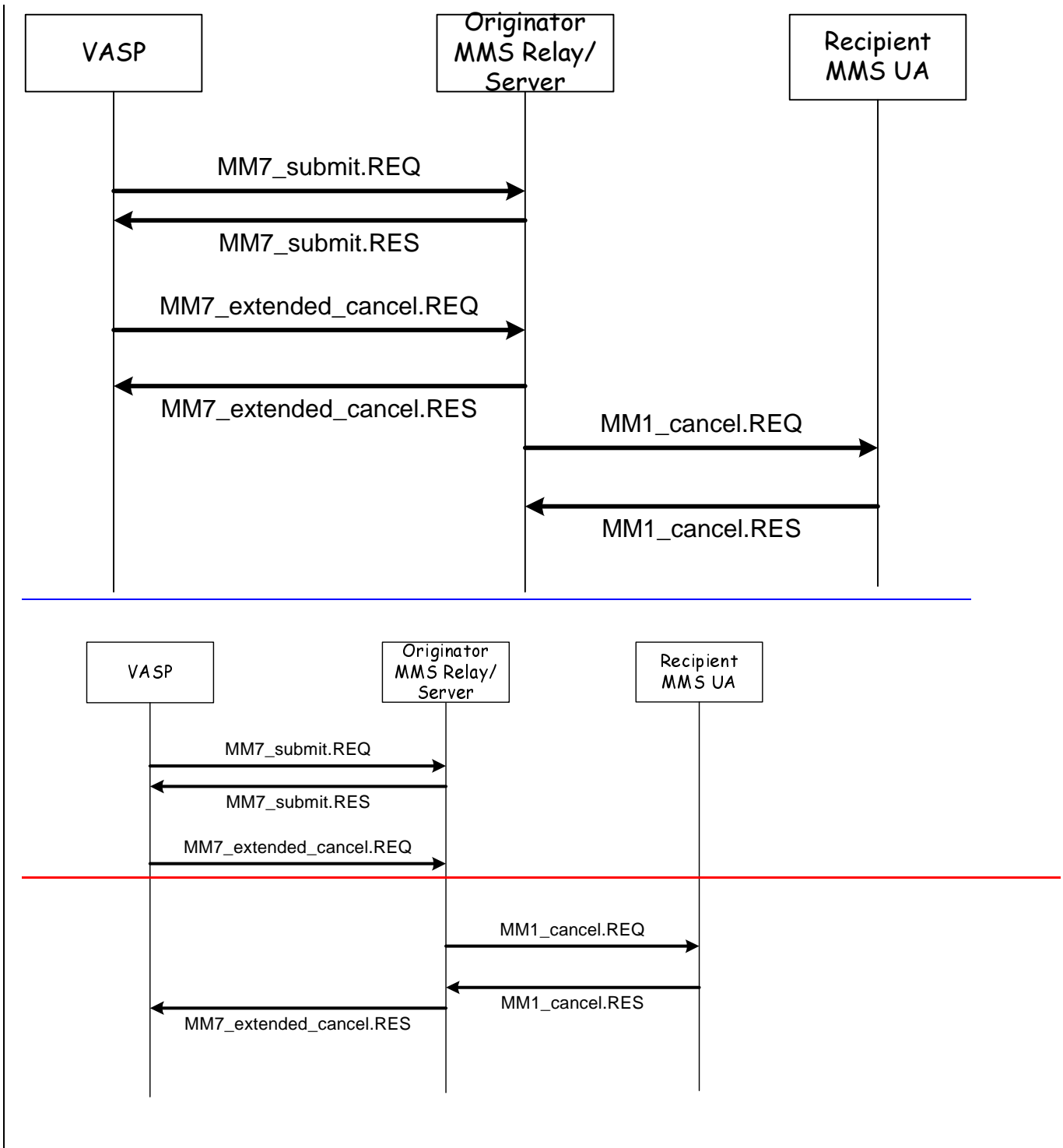


Figure 11: Data flow of VASP cancelling a submitted message down to the MMS User Agent

8.7.5A.1 Normal Operation

If the VASP has decided to cancel the delivery of a MM that it has already submitted, and wants to extend the cancellation to be effective also on an MM already downloaded by the terminal, then the VASP should indicate this by sending the MM7_extended_cancel.REQ message to the MMS Relay/Server. The MMS Relay/Server should check the status of the message indicated by the Cancel ID and:

- 1) locally cancel delivery, at the MMS Relay/Server level, to all destinations for which the MMS Relay/Server has not sent out a notification;

- 2) locally cancel the MM at the MMS Relay/Server level and indicate appropriate error code in MM1_retrieve.RES as “Request Status” and “Request Status”, to all destinations for which the MMS Relay/Server has sent out a notification but the MM has not yet been retrieved, and
- 3) extend that cancellation down to the MMS User Agent using MM1_cancel.REQ, to all destinations for which the MM has already been retrieved. The MMS Relay/Server should use the destination list from the original MM7_submit.REQ in MM1_cancel.REQ.

The MMS Relay/Server should respond to the request with a MM7_extended_cancel.RES indicating that the request was processed.

If the VASP has new content that it wishes to submit in place of the content that was originally submitted, and wants to extend the replacement to be effective also on an MM already downloaded by the MMS User Agent, it should submit the new replacement content using the MM7_extended_replace.REQ message. The MMS Relay/Server should:

- 1) check the status of the message indicated by the Replace ID and replace the message content for all destinations that have not retrieved or forwarded the message as yet; and
- 2) extend that replacement down to the MMS User Agent, to all destinations that have ~~not~~ retrieved ~~but not of~~ forwarded the message; via sending an additional notification to the MMS User Agent. The MMS Relay/Server should redistribute the new content to the destination list from the original MM7_submit.REQ. Optional information elements that appear in the MM7_extended_replace.REQ message shall replace the corresponding information elements of the original submission (the VASP should not replace any information elements that were already provided in the previously sent notification), information elements that do not appear in the MM7_extended_replace.REQ message shall retain the original submission values.

The MMS Relay/Server should respond to the request with a MM7_extended_replace.RES indicating if the request was processed.

Support for MM7_extended_cancel.REQ, MM7_extended_cancel.RES, MM7_extended_replace.REQ, and MM7_extended_replace.RES is optional for all MMS Relay/Server that support MM7.

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