TSGS#27(05)0031

Source: SA5 (Telecom Management)

Title: CR 32270 MMS charging

Document for: Approval

Agenda Item: 7.5.3

Doc-1st-Level	Spec	CR	R	Phase	Subject	Ca	VerCr	Doc-2nd-Level	Workitem
SP-050031	32.270	004	--	Rel-6	Align MM10 charging functionality with T2's TS 23.140	F	6.1.0	S5-054165	CH
SP-050031	32.270	005	--	Rel-6	Charge MMS VASP for getting Terminal Capabilities information - Align with T2's TS 23.140	F	6.1.0	S5-054166	CH
SP-050031	32.270	006	--	Rel-6	Correct condition for generating a MM Deletion CDR - Align with T2's TS 23.140	F	6.1.0	S5-054167	CH
SP-050031	32.270	007	--	Rel-6	Extension of the charging functionality for MM cancellation and replacement Align with T2's TS 23.140	F	6.1.0	S5-054168	CH

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-054165***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.270** **CR** **004** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*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:	⌘	Align MM10 charging functionality with T2's TS 23.140
Source:	⌘	**SA5** (alain.bibas@francetelecom.com)
Work item code:	⌘	CH
Date:	⌘	28/01/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	The new MM10 reference point between the MMS Relay/Server and the Messaging Service Control Function (MSCF) has been introduced in the Stage 2 MMS specifications. Interactions between the MMS R/S and the MSCF may occur when an MM is submitted on the MM1 or MM7 interface and prior to the notification to the MMS User Agent. This interface has charging impacts due to the ability of the MSCF to send charging information to the MMS R/S. These charging information need to be included in some of the existing CDRs when provided by the MSCF.
Summary of change:	⌘	A grouped parameter called 'MSCF information' is introduced in the MM1 submission CDR, MM1 notification and MM7 submission CDR
Consequences if not approved:	⌘	It is not possible to take into account charging information sent by the MSCF to the MMS R/S

Clauses affected:	⌘	3.2, 3.3, 4.1, 5.1, 6.1.1.1, 6.1.2.2 and 6.1.5.1

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	

Change in Clause 3.2

3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in 3GPP TR 21.905 [50], 3GPP TS 23.140 [201], 3GPP TS 32.240 [1] and the following apply:

...

MMSO	Multimedia Messaging Service Originator
MMSR	Multimedia Messaging Service Recipient
MMSR/S	Multimedia Messaging Relay/Server
MNC	Mobile Network Code (part of IMSI)
MO	Mobile Originated
MS	Mobile Station
MSCF	Messaging Service Control Function
MT	Mobile Terminated
NE	Network Element
OCS	Online Charging System
PLMN	Public Land Mobile Network
PS	Packet-Switched

…

End of Change in Clause 3.2

Change in Clause 3.3

3.3 Symbols

For the purposes of the present document, the following symbols apply:

…

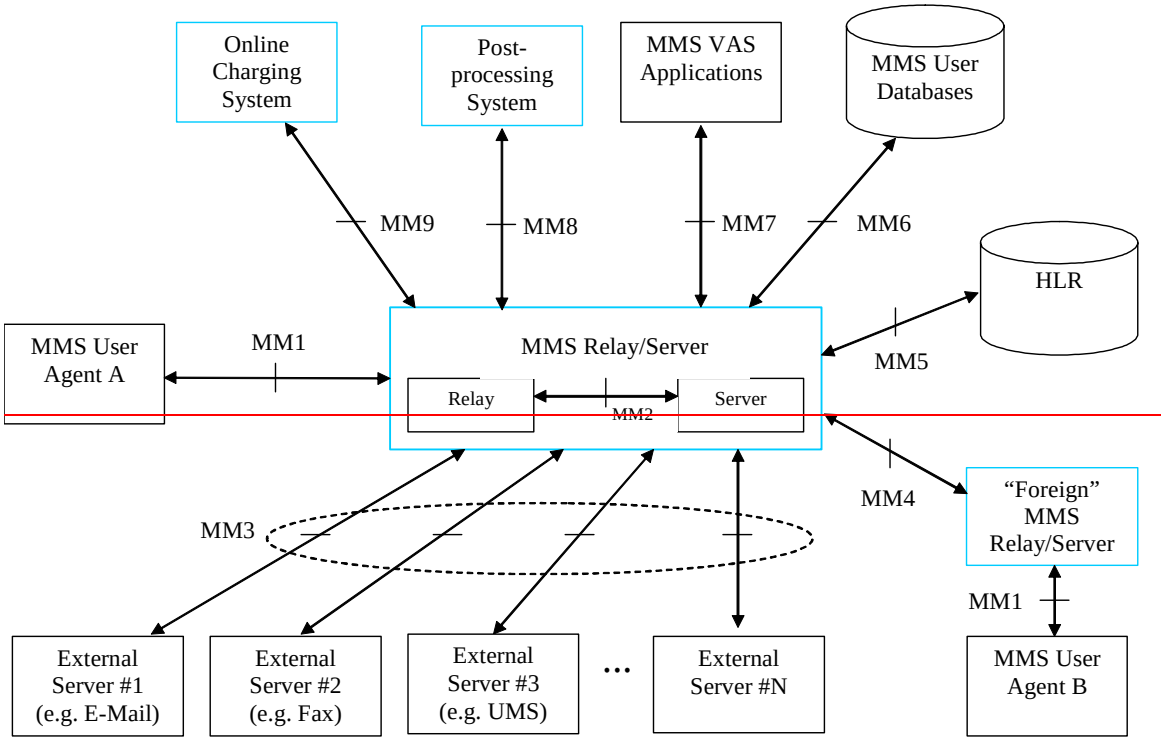
MM7	The reference point between the MMS Relay/Server and MMS VAS Applications.
MM8	The reference point between the MMS Relay/Server and the post-processing system.
MM9	The reference point between the MMS Relay/Server and the online charging system.
MM10	The reference point between the MMS Relay/Server and a Messaging Service Control Function (MSCF).
Oi	Charging Trigger in Originator MMS Relay/Server.
Ri	Charging Trigger in Recipient MMS Relay/Server.

End of Change in Clause 3.3

Change in Clause 4.1

4.1 High level MMS architecture

Figure 4.1 depicts the MMS reference architecture, as described in 3GPP TS 23.140 [201].



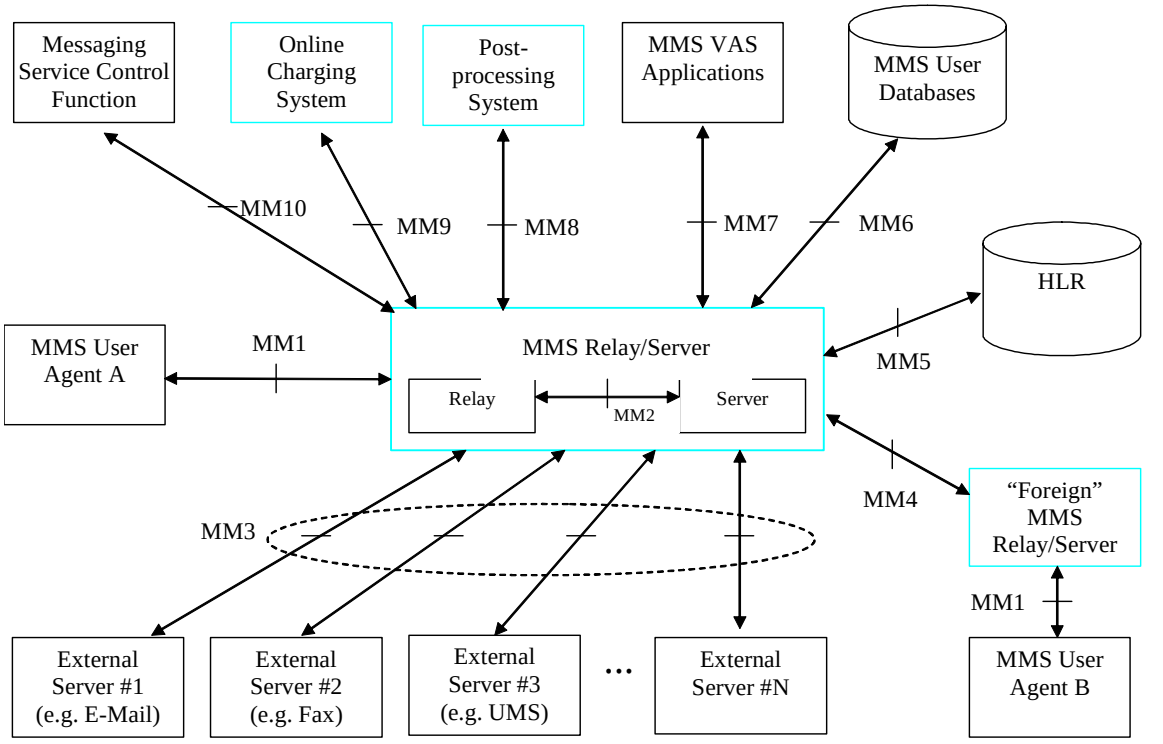


Figure 4.1: MMS reference architecture

As can be seen in figure 4.1, the following MMS elements are relevant for charging:

- MMS Relay/Server,

- "Foreign" MMS Relay/Server

End of Change in Clause 4.1

Change in Clause 5.1

5.1 MMS charging principles

The MMS Relay/Server collects charging information for each MM transaction that crosses the relevant reference points defined in 3GPP TS 22.140 [200]. The chargeable events that trigger the collection of charging information on the applicable reference points are identical for MMS offline and online charging and are specified below. The use of the events to generate CDRs (offline charging) or credit control requests (online charging) are described in clause 5.2 for offline charging and in clause 5.3 for online charging, respectively.

In line with the requirements laid down in TS 22.140 [200] and TS 23.140 [201] the MMS R/S collects charging information such as:

- the destination and source addresses applied for an MM ~~used by the UA~~;
- identification of the MMS R/S(s) involved in the MM transaction;
- the amount and type of user data transmitted in MO and MT directions for the transfer of MM, i.e. the size of the MM and its components;
- storage duration, i.e. the time interval when a MM is saved on a non-volatile memory media;
- identification of the bearer resources used for the transport of the MM, i.e. the identity of the network and the network nodes;
- in scenarios involving a VASP, the charging information describes the identification of the VASP and the amount of user data sent and received between the MMS R/S and the VASP.
- in scenarios involving the MSCF, additional information supplied by the MSCF.

The information listed above is captured for use cases in relation to:

- MM submission;
- MM retrieval;
- MM forwarding;
- transactions involving the MMbox;
- transactions involving a VASP.

Refer to TS 23.140 [201] for further details on the above MM transactions.

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End of Change in Clause 5.1

Change in Clause 6.1.1.1

6.1.1.1 Originator MM1 Submission CDR (O1S-CDR)

If enabled, an Originator MM1 Submission Charging Data Record (O1S-CDR) shall be produced in the originator MMS Relay/Server for each MM submitted in an MM1_submit.REQ by an originator MMS User Agent to the originator MMS Relay/Server if and when the originator MMS Relay/Server responds with an MM1_submit.RES. The operator can configure whether this CDR, if enabled, shall only be created for MM1_submit.RES indicating acceptance of the submitted MM, or also for the unsuccessful submissions.

NOTE 1: This includes the case where the MM is a reply-MM to an original MM. In this case the MMS User Agent sending the reply-MM is called the originator MMS User Agent of this reply-MM and the MMS Relay/Server receiving the reply-MM in an MM1_submit.REQ is called the originator MMS Relay/Server for this reply-MM.

NOTE 2: The case of an MMS Relay/Server receiving an MM1_forward.REQ is treated in subclause 6.1.3.

Table 6.1: Originator MM1 Submission CDR (O1S-CDR)

Field	Category	Description
Record Type	M	Originator MM1 Submission record
Originator MMS Relay/Server Address	M	.IP address or domain name of originator MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Reply-Charging ID	C	This field is present in the CDR only if the MM is a reply-MM to an original MM. The Reply-Charging ID is the Message ID of the original MM
Originator address	M	The address of the originator MMS User Agent (i.e., of the MMS User Agent that has sent the MM1_submit.REQ)
Recipients address list	M	The address(es) of the recipient MMS User Agent(s) of the MM. Multiple addresses are possible if the MM is not a reply MM
Access Correlation	O_m	A unique identifier delivered by the used access network domain of the originator MMS User Agent
Content type	M	The content type of the MM content
Content Class	O_c	This field classifies the content of the MM to the smallest content class to which the MM belongs, if specified in the MM1_submit_REQ
DRM Content	O_c	This field indicates if the MM contains DRM-protected content, if specified in the MM1_submit_REQ
Adaptations	O_c	This field indicates if the originator allows adaptation of the content (default True), if specified in the MM1_submit_REQ
MM component list	O_m	The list of media components with volume size
Message size	M	The total size of the MM content
Message class	O_c	The class selection such as personal, advertisement, information service if specified in the MM1_submit_REQ
Charge Information	O_m	The charged party indication and charge type
Submission Time	O_c	The time at which the MM was submitted from the originator MMS User Agent if specified in the MM1_submit_REQ
Time of Expiry	O_c	The desired date of expiry or duration of time prior to expiry for the MM if specified by the originator MMS User Agent
Earliest Time Of Delivery	C	This field contains either the earliest time to deliver the MM or the number of seconds to wait before delivering the MM as specified by the originator MMS User Agent
Duration Of Transmission	O_m	The time used for transmission of the MM between the User Agent and the MMS Relay/Server
Request Status Code	O_m	The status code of the MM as received in the MM1_submit_REQ
Delivery Report Requested	O_m	This field indicates whether a delivery report has been requested by the originator MMS User Agent or not
Reply Charging	O_c	A request for reply-charging if specified by the originator MMS User Agent
Reply Deadline	O_c	In case of reply-charging the latest time of submission of replies granted to the recipient(s) as specified by the originator MMS User Agent
Reply Charging Size	O_c	In case of reply-charging the maximum size for reply-MM(s) granted to the recipient(s) as specified by the originator MMS User Agent
Priority	O_c	The priority (importance) of the message if specified by the originator MMS User Agent

Field	Category	Description
Sender visibility	O_m	A request to show or hide the sender's identity when the message is delivered to the recipient as specified by the originator MMS User Agent
Read reply requested	O_m	A request for read reply report as specified in the MM1_submit.REQ
Status Text	O_c	This field includes a more detailed technical status of the message at the point in time when the CDR is generated. This field is only present if the MM submission is rejected
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
MMBox Storage Information	C_o	A set of parameters related to the MMBox management. This parameter is only present if the MMBox feature is supported by the MMS Relay/Server and storage of the MM was requested by originator MMS User Agent (i.e., of the MMS User Agent that has sent the MM1_submit.REQ)
MSCF Information	C_o	A set of parameters provided by the MSCF when interacting with the MMS R/S via the MM10 interface prior to the MM1_submit.RES
Serving network identity	O_m	SGSN PLMN Identifier (MCC and MNC) used during this record
Record extensions	C_o	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

End of Change in Clause 6.1.1.1

Change in Clause 6.1.2.2

6.1.2.2 Recipient MM1 Notification Request CDR (R1NRq-CDR)

If enabled, a Recipient MM1 Notification Request Charging Data Record (R1NRq-CDR) shall be produced in the recipient MMS Relay/Server if and when the recipient MMS Relay/Server sends an MM1_notification.REQ to the recipient MMS User Agent.

Table 6.10: Recipient MM1 Notification Request record (R1NRq -CDR)

Field	Category	Description
Record Type	M	Recipient MM1 Notification Request record
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Reply Charging ID	C	This field is present in the CDR only if the MM is a reply-MM to an original MM. The Reply-Charging ID is the Message ID of the original MM
Sender address	M	The address of the MMS User Agent as used in the MM1_notification_REQ. This parameter is present in the CDR regardless of address hiding
Recipient address	M	The address of the MM recipient of the MM
Access Correlation	O_m	A unique identifier delivered by the used access network domain of the recipient MMS User Agent
Message class	M	The class selection such as personal, advertisement, information service; default = personal
MM component list	O_m	The list of media components with volume size
Message size	O_m	The total size of the MM content
Time of Expiry	O_m	The date of expiry or duration of time prior to expiry for the MM
Message Reference	M	A reference, e.g., URI, for the MM
Delivery Report Requested	O_m	This field indicates whether a delivery report is requested or not as specified in the MM1_notification.REQ
Reply Charging	O_c	Information that a reply to this particular original MM is free of charge as specified in the MM1_notification.REQ
Reply Deadline	O_c	In case of reply-charging the latest time of submission of a reply granted to the recipient as specified in the MM1_notification.REQ
Reply Charging-Size	O_c	In case of reply-charging the maximum size of a reply-MM granted to the recipient as specified in the MM1_notification.REQ
MM Status Code	O_m	The status code of the MM at the time when the CDR is generated
Status Text	O_m	This field includes a more detailed technical status of the message at the point in time when the CDR is generated.
MSCF Information	C_o	A set of parameters provided by the MSCF when interacting with the MMS R/S via the MM10 interface prior to the MM1_notification.REQ
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Serving network identity	O_m	SGSN PLMN Identifier (MCC and MNC) used during this record
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

End of Change in Clause 6.1.2.2

Change in Clause 6.1.5.1

6.1.5.1 MM7 Submission CDR (MM7S-CDR)

If enabled, an MM7 Submission Charging Data Record (MM7S-CDR) shall be produced in the MMS Relay/Server for each MM submitted in an MM7_submit.REQ by a VASP to the MMS Relay/Server if and when the MMS Relay/Server responds with an MM7_submit.RES. The operator can configure whether this CDR, if enabled, shall only be created for MM7_submit.RES indicating acceptance of the submitted MM, or also for the unsuccessful submissions.

Table 6.25: MM7 Submission CDR (MM7S-CDR)

Field	Category	Description
Record Type	M	MM7 Submission record.
Originator MMS Relay/Server Address	M	.IP address or domain name of originator MMS Relay/Server.
Linked ID	C	This field is present in the CDR only if the MM defines a correspondence to a previous message that was delivered by the MMS Relay/Server. The MM identification provided by the originator MMS Relay/Server.
VASP ID	M	Identifier of the VASP for this MMS Relay/Server
VAS ID	M	Identifier of the originating application.
Message ID	M	The MM identification provided by the originator MMS Relay/Server.
Originator Address	M	The address of the MM originator.
Recipients address list	M	The address(es) of the recipient MMS User Agent(s) of the MM. Multiple addresses are possible if the MM is not a reply MM.
Service code	O_c	Charging related information that is used directly for billing purposes
Content type	M	The content type of the MM content.
Content Class	O_c	This field classifies the content of the MM to the smallest content class to which the MM belongs, if specified in the MM7_submit_REQ
DRM Content	O_c	This field indicates if the MM contains DRM-protected content, if specified in the MM7_submit_REQ
Adaptations	O_c	This field indicates if the originator allows adaptation of the content (default True), if specified in the MM7_submit_REQ
MM component list	O_m	The list of media components with volume size.
Message size	M	The total size of the MM content.
Message class	O_c	The class selection such as personal, advertisement, information service if specified in the MM7_submit_REQ.
Charge Information	O_m	The charged party indication and charge type e.g. the sending, receiving, both parties, third party or neither.
Submission Time	O_c	The time at which the MM was submitted from the VASP if specified in the MM7_submit_REQ.
Time of Expiry	O_c	The desired date of expiry or duration of time prior to expiry for the MM if specified by the VASP
Earliest Time Of Delivery	C	This field contains either the earliest time to deliver the MM or the number of seconds to wait before delivering the MM if specified by the VASP
Delivery Report Requested	O_m	This field indicates whether a delivery report has been requested by the VASP or not.
Reply Charging	O_c	A request for reply-charging if specified by the VASP
Read reply requested	O_m	A request for read reply report as specified in the MM7_submit.REQ.
Reply Deadline	O_c	In case of reply-charging the latest time of submission of replies granted to the recipient(s) as specified by the VASP
Reply Charging Size	O_c	In case of reply-charging the maximum size for reply-MM(s) granted to the recipient(s) as specified by the VASP
Priority	O_c	The priority (importance) of the message if specified by the VASP
Charged Party ID	O_c	The address of the third party which is expected to pay for the MM.
Message Distribution Indicator	O_c	This field is present if specified in the MM7_submit.REQ 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.
Request Status Code	O_m	The status code of the associated MM7_submit_REQ

Field	Category	Description
Status Text	O_c	This field includes a more detailed technical status of the message at the point in time when the CDR is generated. This field is only present if the MM submission is rejected.
MSCF Information	C_o	A set of parameters provided by the MSCF when interacting with the MMS R/S via the MM10 interface prior to the MM7_submit.RES
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Record Time Stamp	O_m	Time of generation of the CDR.
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension.

End of Change in Clause 6.1.5.1
End of Document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2003	S_21	SP-030412	--	--	Submitted to TSG SA#21 for Information	1.0.0	
Sep 2004	S_25	SP-040555	--	--	Submitted to TSG SA#25 for Approval	2.0.0	6.0.0
Dec 2004	SA_26	SP-040780	001	--	Introduce Application Data in MMS Charging – Align with T2’s TS 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	002	--	Introduce Content Adaptation in MMS Charging – Align with T2’s 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	003	--	Correction on VASP MMS CDR triggers	6.0.0	6.1.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-054166***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.270** **CR** **005** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

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

Title:	⌘	Charge MMS VASP for getting Terminal Capabilities information - Align with T2's TS 23.140
Source:	⌘	**SA5** (alain.bibas@francetelecom.com)
Work item code:	⌘	CH
Date:	⌘	28/01/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	A new feature is specified in TS 23.140 that allows MMS Value Added Service Providers (VASP) to retrieve information about the MMS User Agent capabilities. This information enables the VASP to correctly adapt the MM format to the proper characteristics of the recipient handset(s) before submitting it. The handset capabilities information is provided by the operator that may be willing to charge the VASP accordingly. In order to fulfill this charging feature it is necessary to update MM7 CDRs with the parameter describing the terminal capabilities information.
Summary of change:	⌘	A new parameter is created in the MM7 Delivery Report Request CDR (MM7DRRq-CDR) and in the MM7 Deliver Request CDR (MM7DRq-CDR) that holds the Recipient MMS User Agent Capabilities.
Consequences if not approved:	⌘	No charging support for the delivery of the MMS User Agent Capabilities to the VASP. Misalignment between TS 23.140 and TS 32.270.

Clauses affected:	⌘	6.1.5.2 and 6.1.5.6

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	

Change in Clause 6.1.5.2

6.1.5.2 MM7 Deliver Request CDR (MM7DRq-CDR)

If enabled, a MM7 Deliver Request Charging Data Record (MM7DRq-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server sends an MM7_deliver.REQ to the recipient MMS VASP.

Table 6.26: MM7 Deliver Request record (MM7DRq -CDR)

Field	Category	Description
Record Type	M	MM7 Deliver Request record.
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server.
Linked ID	C	This field is present in the CDR only if the MM defines a correspondence to a previous message that was delivered by the MMS Relay/Server. The MM identification provided by the originator MMS Relay/Server.
Reply Charging ID	C	This field is present in the CDR only if the MM is a reply-MM to an original MM. The Reply-Charging ID is the Message ID of the original MM.
Originator address	M	The address of the MMS User Agent as used in the MM7_deliver_REQ.
Recipient address	M	The address of the MM recipient of the MM.
MM component list	O_m	The list of media components with volume size.
Message size	O_m	The total size of the MM content.
Content type	M	The content type of the MM content.
MMS User Agent Capabilities	O_c	Information about the capabilities of the MMS User Agent that originated the MM. Present only if provided in the MM7_deliver.REQ.
Priority	O_c	The priority (importance) of the message if specified by the VASP
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension.

End of Change in Clause 6.1.5.2

Change in Clause 6.1.5.6

6.1.5.6 MM7 Delivery Report Request CDR (MM7DRRq-CDR)

If enabled, a MM7 Delivery Report Request Charging Data Record (MM7DRRq-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server sends an MM7_delivery_report.REQ to the MMS VASP.

Table 6.30: MM7 Delivery Report Request record (MM7DRRq-CDR)

Field	Category	Description
Record Type	M	MM7 Delivery Report Requestrecord.
Recipient MMS Relay/Server Address	O_m	IP address or domain name of the recipient MMS Relay/Server.
Message ID	M	The MM identification provided by the originator MMS Relay/Server.
Originator address	O_m	The address of the VAS that submitted the original MM.
Recipient address	M	The address of the MM recipient of the MM.
MM Date and time	M	Date and time the MM was handled (retrieved, expired, rejected, etc.) as specified in the MM7_delivery_report.REQ.
MM Status Code	M	The status code of the delivered MM as received in the MM7_delivery_report.RES.
MM Status Text	O_c	This field includes the status text as received in the MM7_delivery_report.RES corresponding to the MM Status Code. Present only if provided in the MM7_delivery_report.RES.
MMS User Agent Capabilities	O_c	Information about the capabilities of the MMS User Agent that originated the MM. Present only if provided in the MM7_delivery_report.REQ.
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension.

End of Change in Clause 6.1.5.6
End of Document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2003	S_21	SP-030412	--	--	Submitted to TSG SA#21 for Information	1.0.0	
Sep 2004	S_25	SP-040555	--	--	Submitted to TSG SA#25 for Approval	2.0.0	6.0.0
Dec 2004	SA_26	SP-040780	001	--	Introduce Application Data in MMS Charging – Align with T2’s TS 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	002	--	Introduce Content Adaptation in MMS Charging – Align with T2’s 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	003	--	Correction on VASP MMS CDR triggers	6.0.0	6.1.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-054167***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.270** **CR** **006** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*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:	⌘	Correct condition for generating a MM Deletion CDR - Align with T2's TS 23.140
Source:	⌘	**SA5** (alain.bibas@francetelecom.com)
Work item code:	⌘	CH
Date:	⌘	28/01/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	TS 23.140 defines an MMS feature that allows the user to delete a deferred MM (i.e. MM for which retrieval has been deferred) prior its time of expiry. This functionality results in a new trigger condition for the generation of the existing Recipient MM Deletion CDR.
Summary of change:	⌘	A new criteria is defined in the list of triggers for the generation of MM Deletion CDR that allows the recipient MMS R/S to delete a deferred MM prior to its exipiry time upon reception of an explicit request from the MMS User Agent contained in the MM1_Delete.REQ transaction.
Consequences if not approved:	⌘	The trigger conditions for generating the MM Deletion CDR are not complete.

Clauses affected:	⌘	6.1.2.11

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

Change in Clause 6.1.2.11

6.1.2.11 Recipient MM Deletion CDR (RMD-CDR)

If enabled, a Recipient MM Deletion Charging Data Record (RMD-CDR) shall be produced in the recipient MMS Relay/Server if and when:

a) the recipient MMS Relay/Server decides to abandon processing of the MM at any point after receiving the corresponding MM4_forward.REQ; or

b) the recipient MMS Relay/Server decides to delete the MM because of expiry of storage time, which may either be indicated in the submit request or governed by operator procedure(e.g. after successful MM delivery).

c) The recipient MMS Relay/Server decides to delete the MM prior to the expiry of storage time because it received a request to delete a deferred MM (i.e. MM for that retrieval has been deferred) from the Recipient MMS User Agent in the corresponding MM1_delete.REQ.

Abandoning the processing of the MM implies that there remains no knowledge of the MM in the recipient MMS Relay/Server.

The status code indicates the precise reason for abandoning or deleting the MM with respect to the MMS transactions specified in 3GPP TS 23.140 [201].

A special case is where the recipient MMS Relay/Server is also the forwarding MMS Relay/Server. In this case only the Originator MM Deletion CDR specified in subclause 6.1.1.8 is required.

Table 6.19: Recipient MM Deletion record (RMD-CDR)

Field	Category	Description
Record Type	M	Recipient MM Deletion record
Originator MMS Relay/Server Address	M	IP address or domain name of the originator MMS Relay/Server
Recipient MMS Relay/Server Address	O_m	IP address or domain name of the recipient MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Message size	O_m	The total size of the MM content
MM Status Code	O_m	The status code of the MM at the time when the CDR is generated
Status Text	O_m	This field includes a more detailed technical status of delivering the message
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

End of Change in Clause 6.1.2.11
End of document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2004	SA_26	SP-040780	002	--	Introduce Content Adaptation in MMS Charging – Align with T2's 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	003	--	Correction on VASP MMS CDR triggers	6.0.0	6.1.0

CR-Form-v7.1

CHANGE REQUEST

⌘ 32.270 CR 007 ⌘rev - ⌘ Current version: 6.1.0 ⌘

*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:	⌘	Extension of the charging functionality for MM cancellation and replacement Align with T2's TS 23.140
Source:	⌘	**SA5** (alain.bibas@francetelecom.com)
Work item code:	⌘	CH
Date:	⌘	28/01/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	The existing cancellation and replacement charging mechanisms specified on the MM7 interface do not cover the extended and new defined procedures standardized in TS 23.140 on both the MM7 and MM1 interfaces. The new MM1 transactions allow an MMS User Agent to replace a previously retrieved MM with a newly retrieved MM and to cancel a previously retrieved MM. The extended MM7 transactions allow a VASP to cancel and/or to replace a submitted MM down to the MMS User Agent. Thus, new charging data records need to be produced according to these transactions.
Summary of change:	⌘	The following new CDRs are created: - MM1 Cancel CDR - MM7 Extended Cancellation CDR - MM7 Extended Replacement CDR Also a new parameter is included in the MM1 that identifies the MM to be replaced.
Consequences if not approved:	⌘	No functionality support to charge the MMS VASP for performing the cancellation and the replacement of an old/expired MM down to the recipient User Agent. Misalignment between TS 23.140 and TS 32.270.

Clauses affected:	⌘	5.1.1, 5.1.2, 5.1.4, 5.2.3, 6.1.2 and 6.1.5

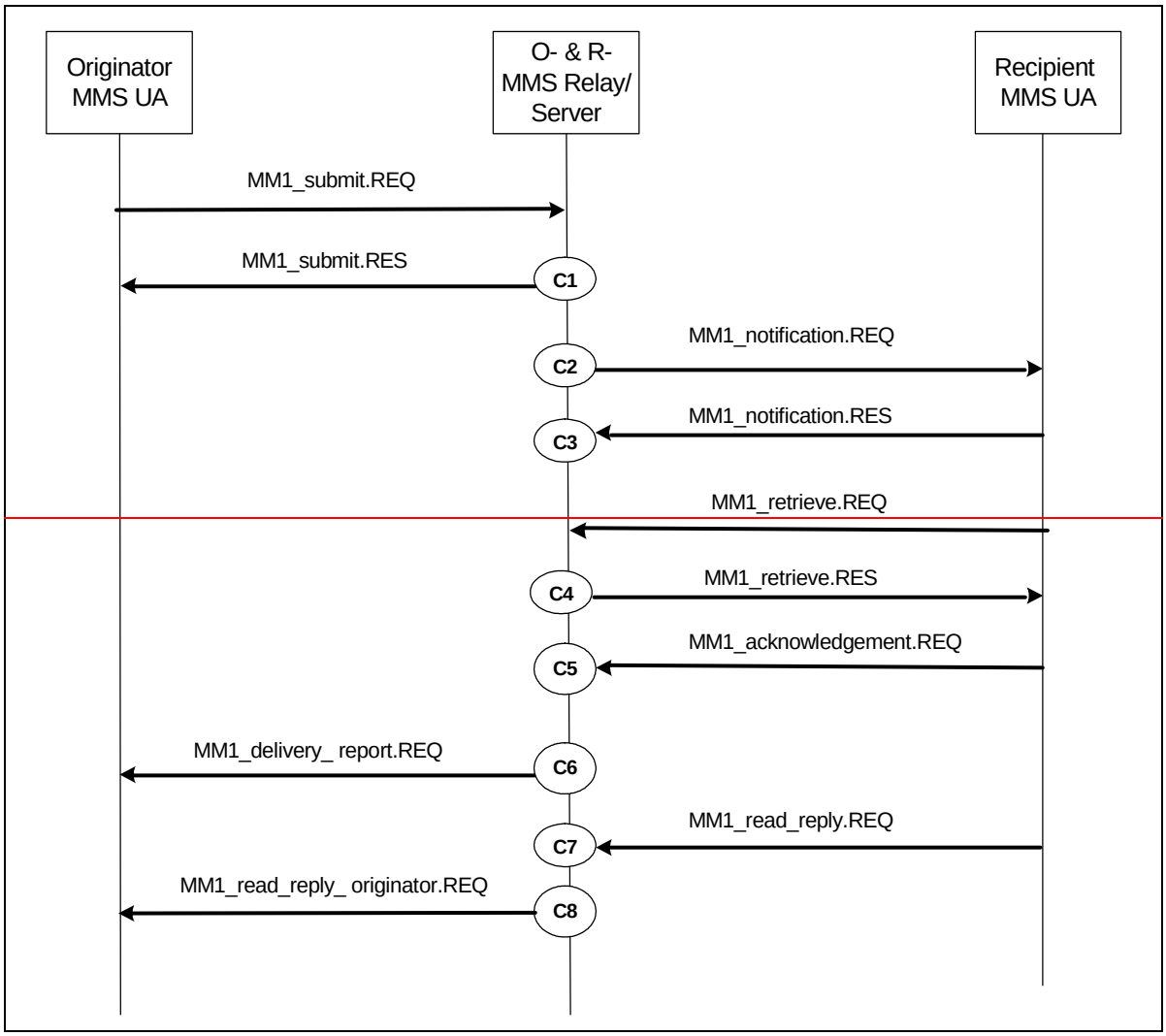
		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

Change in Clause 5.1.1

5.1.1 Combined originator and recipient MMS relay server

This scenario covers the case where the Originator MMS R/S and the Recipient MMS R/S are identical, which implies that that particular MMS R/S handles both MM submission and MM retrieval.



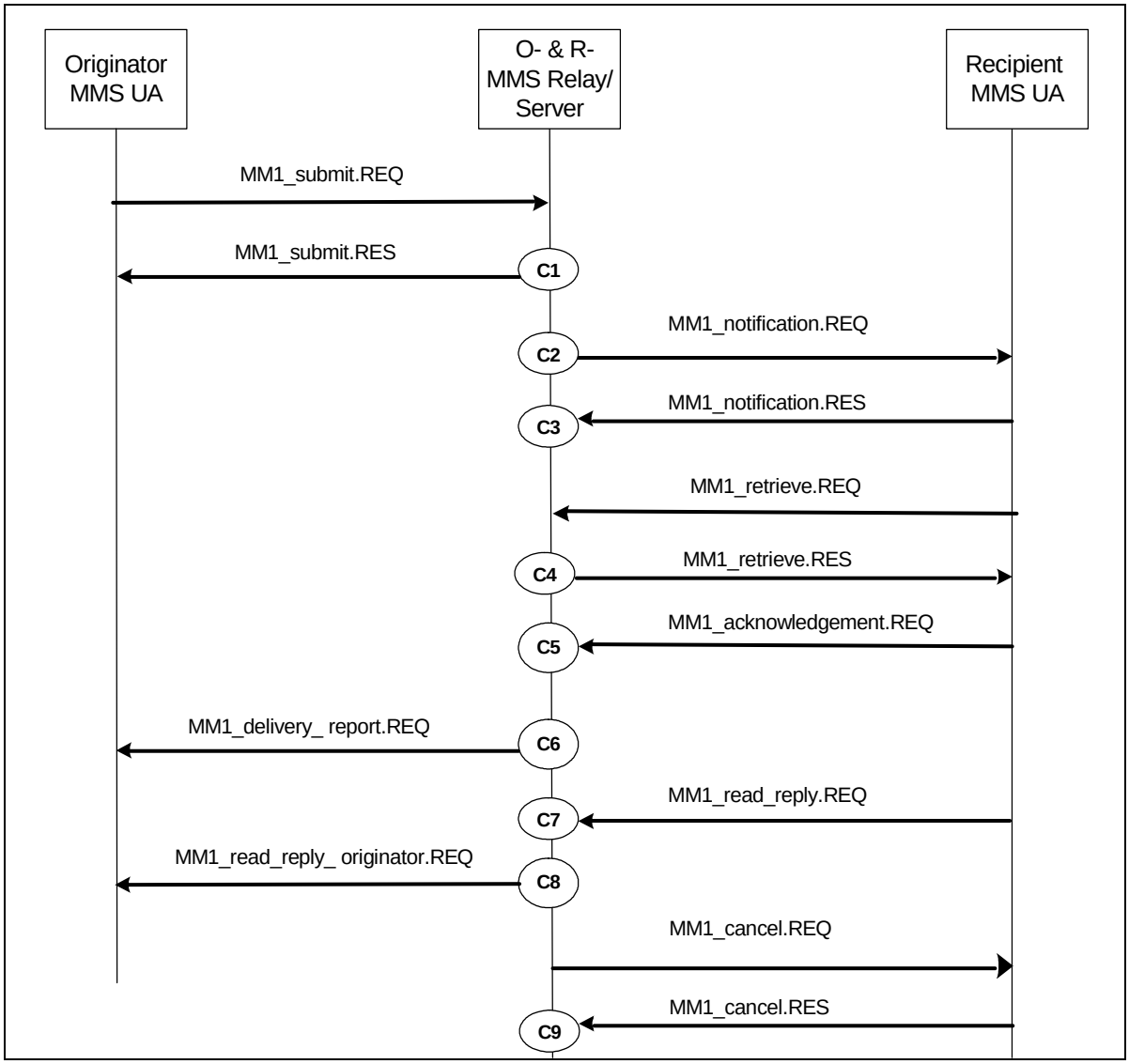


Figure 5.1: Chargeable event overview for combined case

Table 5.1: Trigger point overview for combined MMS Relay/Server

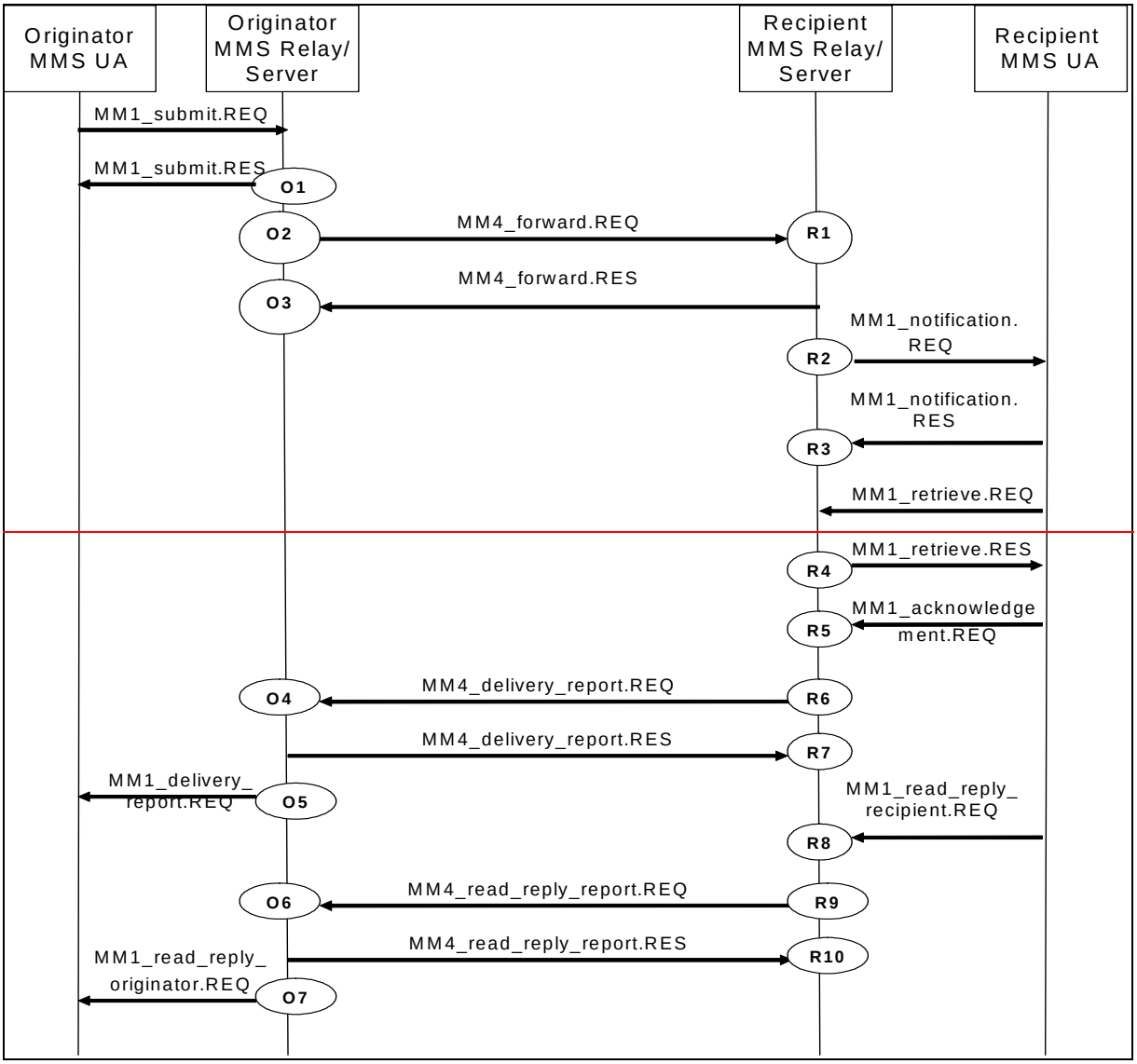
Trigger point	Trigger name
C1	Originator MM1 Submission
C2	Recipient MM1 Notification Request
C3	Recipient MM1 Notification Response
C4	Recipient MM1 Retrieval
C5	Recipient MM1 Acknowledgement
C6	Originator MM1 Delivery report
C7	Recipient MM1 Read reply Recipient
C8	Originator MM4 Read reply originator
C9	Recipient MM1 Cancellation
Any time between C1 to C8	Originator MM Deletion
NOTE: Chargeable events for MM submission, ~~and~~ retrieval and cancellation are triggered by the MMS R/S responding to MM1_submit.REQ and MM1_retrieve.REQ, rather than upon receiving those requests and receiving a response to MM1_Cancel.RES rather than upon submitting this request ~~.~~	

End of Change in Clause 5.1.1

Change in Clause 5.1.2

5.1.2 Distributed originator and recipient MMS relay server

This scenario covers the case of the Originator MMS R/S and the Recipient MMS R/S being two different entities, where the Originator MMS R/S handles MM submission and the Recipient MMS R/S handles MM retrieval.



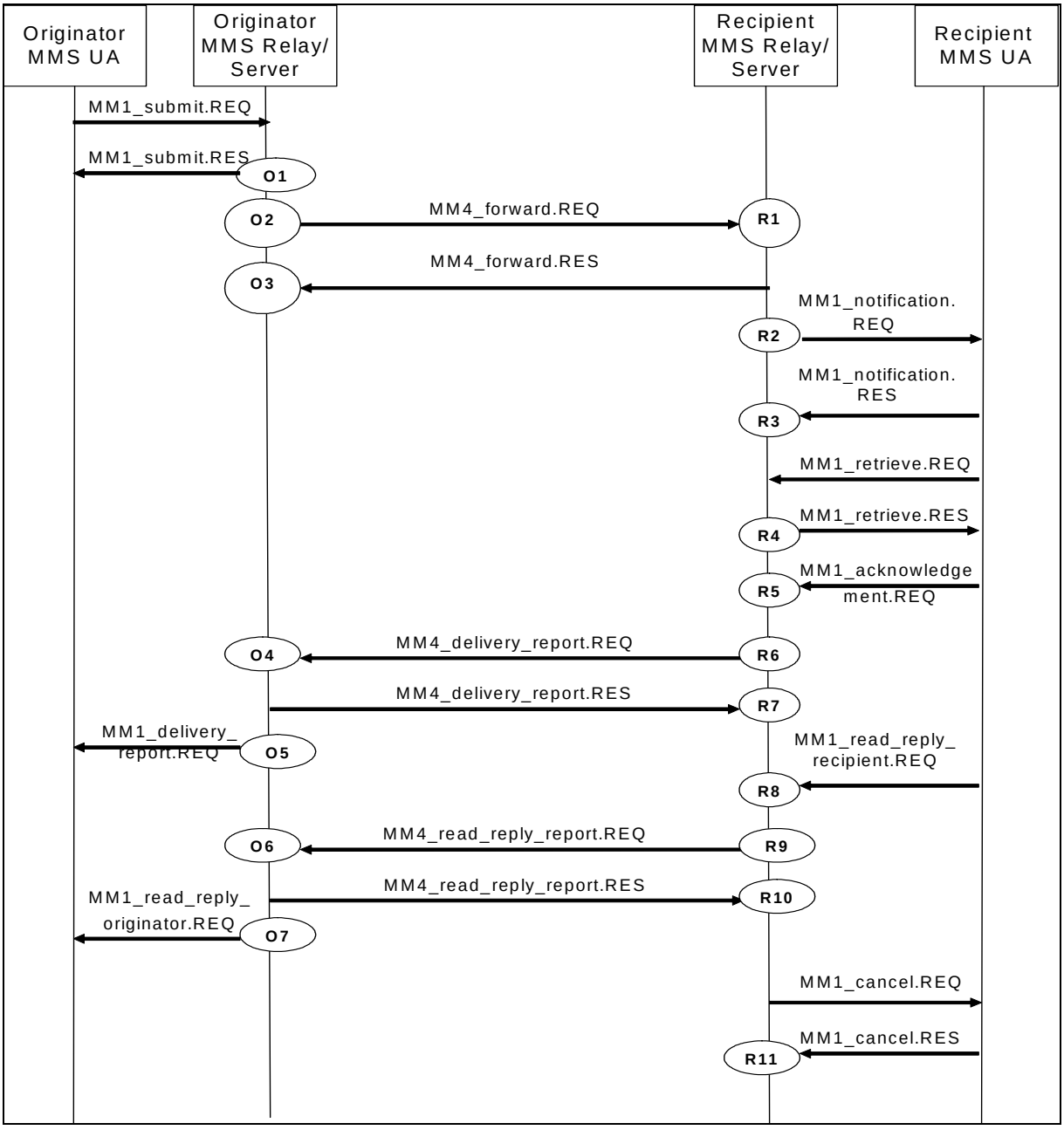


Figure 5.2: Chargeable event overview for distributed case

Table 5.2a: Trigger type overview for the Originator MMS Relay/Server

Trigger point	Trigger name
O1	Originator MM1 Submission
O2	Originator MM4 Forward Request
O3	Originator MM4 Forward Response
O4	Originator MM4 Delivery report
O5	Originator MM1 Delivery report
O6	Originator MM4 Read reply report
O7	Originator MM1 Read reply originator
Any time between O1... O7	Originator MM Deletion
NOTE: Chargeable events for MM submission are triggered by the MMS R/S responding to MM1_submit.REQ, rather than upon receiving those requests.	

Table 5.2b: Trigger type overview for the Recipient MMS Relay/Server

Trigger point	Trigger name
R1	Recipient MM4 Forward
R2	Recipient MM1 Notification Request
R3	Recipient MM1 Notification Response
R4	Recipient MM1 Retrieval
R5	Recipient MM1 Acknowledgement
R6	Recipient MM4 Delivery report Request
R7	Recipient MM4 Delivery report Response
R8	Recipient MM1 Read reply Recipient
R9	Recipient MM4 Read reply report Request
R10	Recipient MM4 Read reply report Response
R11	Recipient MM1 Cancellation
Anytime after R1	Recipient MM Deletion
NOTE: Chargeable events for MM retrieval and cancellation are triggered by the MMS R/S responding to MM1_retrieve.REQ, rather than upon receiving those requests and receiving a response to MM1_Cancel.RES rather than upon submitting this request.	

End of Change in Clause 5.1.2

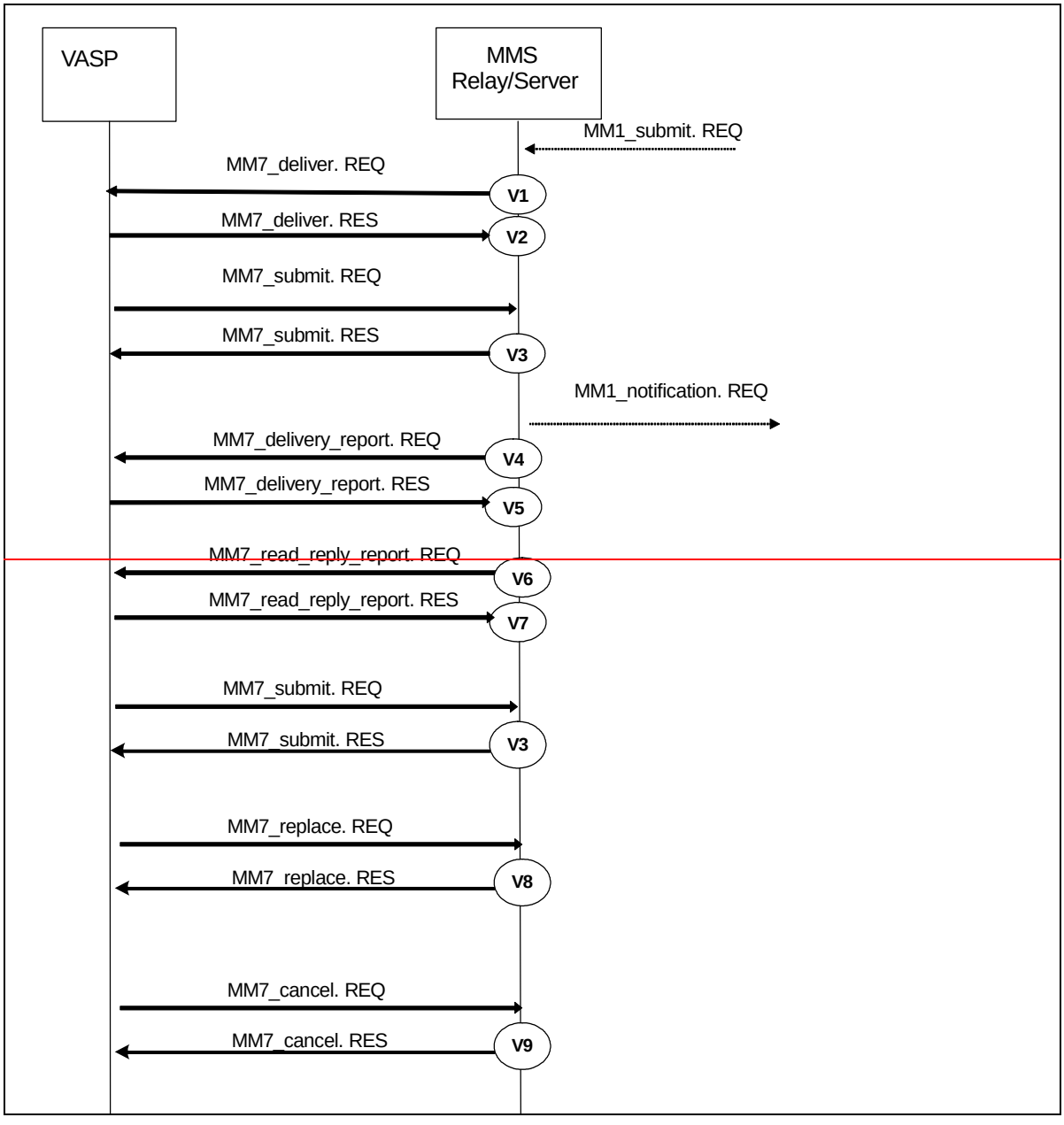
Change in Clause 5.1.4

5.1.4 VASP transactions

MMS VAS Application offers value added services to the MMS Users. The MMS VASP are able to interact with the MMS R/S via the MM7 reference point using transactions similar to those of the MM1 interface i.e. submission, reception, delivery-report, read-reply report, etc.

The VASP may provide service codes that contain billing information which may be transferred to the MMS Relay/Server and passed directly to the billing system without intervention. In addition, the VASP may provide an indication to the MMS Relay/Server which party is expected to be charged for an MM submitted by the VASP, e.g. the sending, receiving, both parties or neither.

This scenario, as depicted in figure 5.4, covers the VASP related MM transactions and the associated chargeable events in the affected MMS R/S.



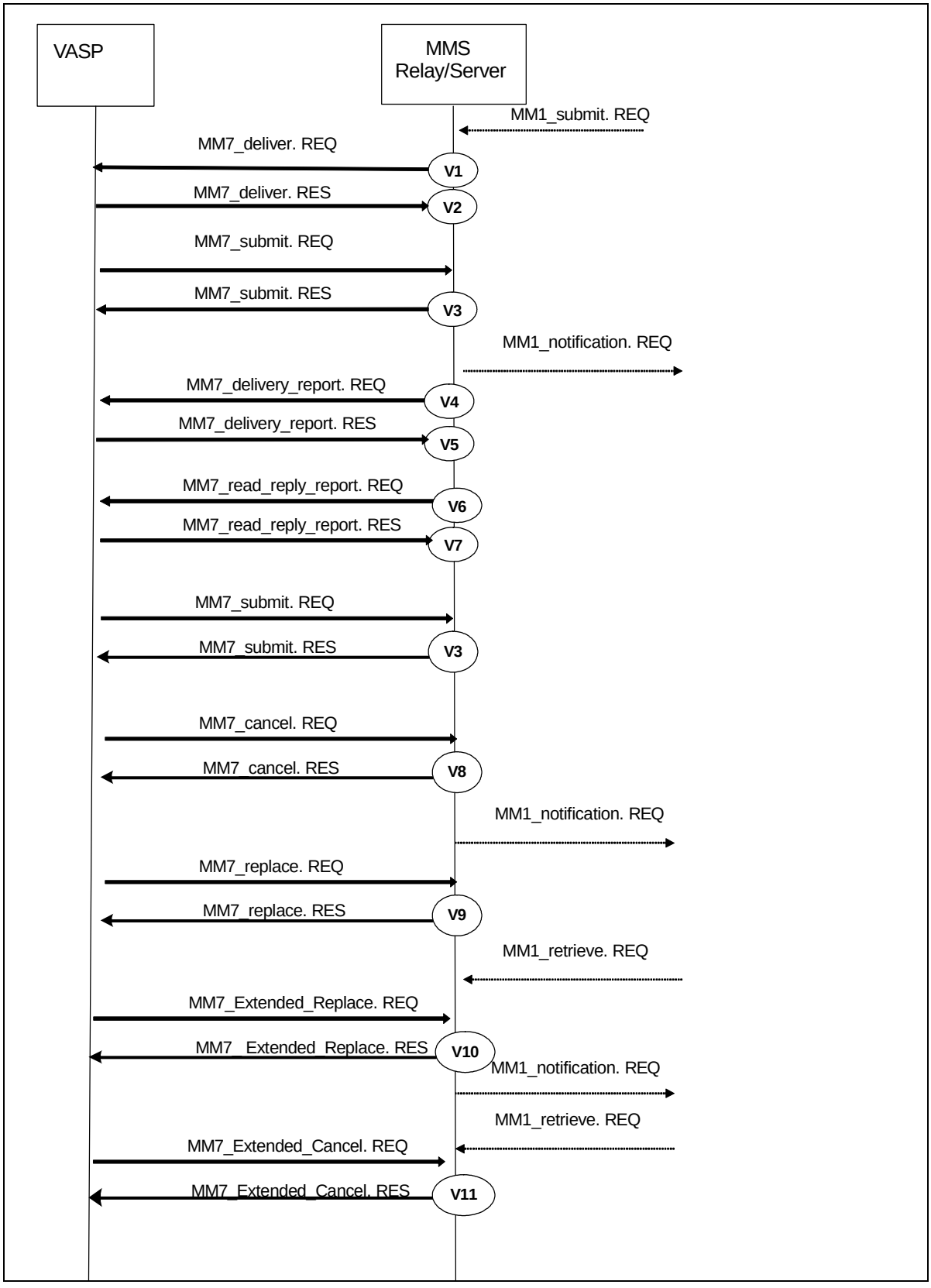


Figure 5.4: Chargeable event overview for VASP transactions

Table 5.4: Trigger type overview for VASP transactions

Trigger point	Trigger name
V1	MM7 Deliver report Request
V2	MM7 Deliver report Response
V3	MM7 Submission
V4	MM7 Delivery report Request
V5	MM7 Delivery report Response
V6	MM7 Read reply report Request
V7	MM7 Read reply report Response
V8	MM7 Replacement
V9	MM7 Cancellation
V10	MM7 Extended Replacement
V11	MM7 Extended Cancellation
NOTE: Chargeable events for MM7 submission, replacement and cancelleation are triggered by the MMS R/S responding to these requests, rather than upon receiving them.	

End of Change in Clause 5.1.4

Change in Clause 5.2.3

5.2.3 CDR generation

For MMS, the Ga interface is not applicable, as the separation of the CDF and CGF is not in the scope of the MMS charging standards. I.e the following CDR types are visible only in the CDR files transferred from the MMS R/S embedded CGF to the BD via the Bm interface.

Note: If vendors choose to implement the Ga interface for MMS, then it is recommended that the approach chosen conforms with the CDRs specified in this section and the Ga protocol conventions laid down in TS 32.295 [54].

5.2.3.1 Combined originator and recipient MMS relay server case

The chargeable events for the case of a combined originator and recipient MMS R/S are depicted in figure 5.1 and further listed in table 5.1. Due to the fact that only event based charging applies to MMS (cf. clause 5.2.1), these chargeable events translate 1:1 into the CDR types listed in table 5.5 below.

The first row in table 5.5 refers to the trigger labels in figure/table 5.1. The second row identifies the associated CDR type. The content of these CDR types is specified in clause 6.

Table 5.5: Record type overview for combined MMS Relay/Server

Record trigger	C1	C2	C3	C4	C5	C6	C7	C8	C9	Any time between C1 .. C8
Record type	O1S	R1NRq	R1NRs	R1Rt	R1A	O1D	R1RR	O1R	R1C	OMD

5.2.3.2 Distributed originator and recipient MMS relay server case

The chargeable events for the case of distributed originator and recipient MMS R/Ss are depicted in figures 5.2a/b and further listed in table 5.2. Due to the fact that only event based charging applies to MMS (cf. clause 5.2.1), these chargeable events translate 1:1 into the CDR types listed in tables 5.6a/b below.

The first row in the tables refers to the trigger labels in figure/table 5.2. The second row identifies the associated CDR type. The content of these CDR types is specified in clause 6.

Table 5.6a: Record type overview for the Originator MMS Relay/Server

Record Trigger	O1	O2	O3	O4	O5	O6	O7	Any time between O1.. O7
Record Type	O1S	O4FRq	O4FRs	O4D	O1D	O4R	O1R	OMD

Table 5.6b: Record type overview for the Recipient MMS Relay/Server

Record trigger	R1	R2	R3	R4	R5
Record type	R4F	R1NRq	R1NRs	R1Rt	R1A

Table 5.4b (cont'd): Record type overview for the Recipient MMS Relay/Server

Record trigger	R6	R7	R8	R9	R10	R11	Anytime after R1
Record type	R4DRq	R4DRs	R1RR	R4RRq	R4RRs	R1C	RMD

5.2.3.3 MMBox related CDRs

The chargeable events for the MMBox management are depicted in figure 5.3 and further listed in table 5.3. Due to the fact that only event based charging applies to MMS (cf. clause 5.2.1), these chargeable events translate 1:1 into the CDR types listed in table 5.7 below.

The first row in table 5.7 refers to the trigger labels in figure/table 5.3. The second row identifies the associated CDR type. The content of these CDR types is specified in clause 6.

Table 5.7: Trigger type overview for MMBox management

Record trigger	M1	M2	M3	M4
Record type	Bx1U	Bx1S	Bx1V	Bx1D

5.2.3.4 CDRs related to VASP transactions

The chargeable events for the VASP transactions are depicted in figure 5.4 and further listed in table 5.4. Due to the fact that only event based charging applies to MMS (cf. clause 5.2.1), these chargeable events translate 1:1 into the CDR types listed in table 5.8 below.

The first row in table 5.8 refers to the trigger labels in figure/table 5.4. The second row identifies the associated CDR type. The content of these CDR types is specified in clause 6.

Table 5.8a: Record type overview for VASP transactions

Record trigger	V1	V2	V3	V4	V5
Record type	MM7S	MM7DRq	MM7DRs	MM7C	MM7R

Table 5.8b: Record type overview for VASP transactions (cont')

Record trigger	V6	V7	V8	V9	V10	V11
Record type	MM7DRRq	MM7DRRs	MM7RRq	MM7RRs	MM7ER	MM7EC

End of Change in Clause 5.2.3

Change in Clause 6.1.2

6.1.2 MMS records for recipient MMS Relay/server

…

6.1.2.2 Recipient MM1 Notification Request CDR (R1NRq-CDR)

If enabled, a Recipient MM1 Notification Request Charging Data Record (R1NRq-CDR) shall be produced in the recipient MMS Relay/Server if and when the recipient MMS Relay/Server sends an MM1_notification.REQ to the recipient MMS User Agent.

Table 6.10: Recipient MM1 Notification Request record (R1NRq -CDR)

Field	Category	Description
Record Type	M	Recipient MM1 Notification Request record
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Reply Charging ID	C	This field is present in the CDR only if the MM is a reply-MM to an original MM. The Reply-Charging ID is the Message ID of the original MM
Sender address	M	The address of the MMS User Agent as used in the MM1_notification_REQ. This parameter is present in the CDR regardless of address hiding
Recipient address	M	The address of the MM recipient of the MM
Access Correlation	O_m	A unique identifier delivered by the used access network domain of the recipient MMS User Agent
Message class	M	The class selection such as personal, advertisement, information service; default = personal
MM component list	O_m	The list of media components with volume size
Message size	O_m	The total size of the MM content
Time of Expiry	O_m	The date of expiry or duration of time prior to expiry for the MM
Message Reference	M	A reference, e.g., URI, for the MM
Delivery Report Requested	O_m	This field indicates whether a delivery report is requested or not as specified in the MM1_notification.REQ
Reply Charging	O_c	Information that a reply to this particular original MM is free of charge as specified in the MM1_notification.REQ
Reply Deadline	O_c	In case of reply-charging the latest time of submission of a reply granted to the recipient as specified in the MM1_notification.REQ
Reply Charging-Size	O_c	In case of reply-charging the maximum size of a reply-MM granted to the recipient as specified in the MM1_notification.REQ
MM Status Code	O_m	The status code of the MM at the time when the CDR is generated
Status Text	O_m	This field includes a more detailed technical status of the message at the point in time when the CDR is generated.
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Replace-ID	O_c	If present, this parameter holds the Identifier of the previous MM that is replaced by the current MM, if requested by a VASP
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Serving network identity	O_m	SGSN PLMN Identifier (MCC and MNC) used during this record
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

…

6.1.2.4 Recipient MM1 Retrieve CDR (R1Rt-CDR)

If enabled, a Recipient MM1 Retrieve Charging Data Record (R1Rt-CDR) shall be produced in the recipient MMS Relay/Server if and when the recipient MMS Relay/Server has sent an MM1_retrieve.RES to the recipient MMS User Agent. That is, the CDR is created upon completion of transmission of the MM1_retrieve.RES.

Table 6.12: Recipient MM1 Retrieve record (R1Rt-CDR)

Field	Category	Description
Record Type	M	Recipient MM1 Retrieve record
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Reply Charging ID	C	This field is present in the CDR only if the MM is a reply-MM to an original MM. The Reply-Charging ID is the Message ID of the original MM
Sender address	C	The address of the MMS User Agent as used in the MM1_retrieve.RES. This parameter is present in the CDR regardless of address hiding
Recipient address	M	The address of the recipient MM User Agent of the MM
Access Correlation	O_m	A unique identifier delivered by the used access network domain of the originator MMS User Agent.
Message Reference	M	Location of the content of the MM to be retrieved as specified in the MM1_retrieve.REQ
Original MM Content	M	This parameter contains a set of information elements related to the original MM.
Content type	M	The content type of the MM content.
Message size	O_m	The total size of the original MM content.
MM component list	O_m	The list of media components with volume size.
Adapted MM Content	C	If the MM content is adapted prior to its retrieval, this parameter is present and contains the resulting set of information elements related to the adapted MM.
Content type	C	The content type of the adapted MM content.
Message size	O_c	The total size of the adapted MM content.
MM component list	O_c	The list of media components with volume size of the adapted MM.
Message class	O_c	The class of the message (e.g., personal, advertisement, information service) if specified in the MM1_retrieve.RES
Submission Time	M	The time at which the MM was submitted or forwarded as specified in the MM1_retrieve.RES
Delivery report Requested	O_m	A request for delivery report as specified in the Delivery Report information element in the MM1_retrieve.RES
Priority	O_c	The priority (importance) of the message if specified in the MM1_retrieve.RES
Read reply Requested	O_c	A request for read-reply report if specified in the Read Reply information element in the MM1_retrieve.RES
MM Status Code	O_m	The status code of the MM at the time when the CDR is generated
Status Text	O_m	This field includes a more detailed technical status of the message at the point in time when the CDR is generated
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Replace-ID	O_c	If present, this parameter holds the Identifier of the previous MM that is replaced by the current MM, if requested by a VASP
Reply Deadline	O_c	In case of reply-charging the latest time of submission of a reply granted to the recipient as specified in the MM1_retrieve.RES
Reply Charging-Size	O_c	In case of reply-charging the maximum size of a reply-MM granted to the recipient as specified in the MM1_retrieve.RES
Duration Of Transmission	O_m	The time used for transmission of the MM between the User Agent and the MMS Relay/Server
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Serving network identity	O_m	SGSN PLMN Identifier (MCC and MNC) used during this record

Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

…

6.1.2.10 Recipient MM4 Read reply report Response CDR (R4RRs-CDR)

If enabled, a Recipient MM4 Read reply report Response Charging Data Record (R4RRs-CDR) shall be produced in the recipient MMS Relay/Server if and when the recipient MMS Relay/Server receives an MM4_read_reply_report.RES from the originator MMS Relay/Server.

Table 6.18: Recipient MM4 DeliveryRead reply report Response record (R4DRRs-CDR)

Field	Category	Description
Record Type	M	Recipient MM4 Read reply report Response record
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server
Originator MMS Relay/Server Address	M	IP address or domain name of the originator MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
3GPP MMS Version	O_m	The MMS version of the originator MMS Relay/Server
Request Status Code	O_m	The status code of the MM as received in the MM4_read_reply_report.RES
Status Text	O_c	This field includes a more detailed technical status if received in the MM4_read_reply_report.RES corresponding to the Request Status Code
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

6.1.2.11 Recipient MM1 Cancellation CDR (R1C-CDR)

If enabled, a Recipient MM1 Cancellation Charging Data Record (R1C-CDR) shall be produced in the recipient MMS Relay/Server if and when the recipient MMS Relay/Server receives an MM1_Cancel.RES from the recipient MMS Relay/Server.

Table 6.19: Recipient MM1 Cancellation record (R1C-CDR)

Field	Category	Description
Record Type	M	Recipient MM1 Cancellation record
Recipient MMS Relay/Server Address	M	IP address or domain name of the recipient MMS Relay/Server
Originator MMS Relay/Server Address	M	IP address or domain name of the originator MMS Relay/Server
Cancel ID	M	The identification of the cancelled MM
3GPP MMS Version	O_m	The MMS version of the originator MMS Relay/Server
Request Status Code	O_m	The status code of the cancellation as received in the MM1_Cancel.RES
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

6.1.2.121 Recipient MM Deletion CDR (RMD-CDR)

If enabled, a Recipient MM Deletion Charging Data Record (RMD-CDR) shall be produced in the recipient MMS Relay/Server if and when:

a) the recipient MMS Relay/Server decides to abandon processing of the MM at any point after receiving the corresponding MM4_forward.REQ; or

b) the recipient MMS Relay/Server decides to delete the MM because of expiry of storage time, which may either be indicated in the submit request or governed by operator procedure(e.g. after successful MM delivery).

Abandoning the processing of the MM implies that there remains no knowledge of the MM in the recipient MMS Relay/Server.

The status code indicates the precise reason for abandoning or deleting the MM with respect to the MMS transactions specified in 3GPP TS 23.140 [201].

A special case is where the recipient MMS Relay/Server is also the forwarding MMS Relay/Server. In this case only the Originator MM Deletion CDR specified in subclause 6.1.1.8 is required.

Table 6.1209: Recipient MM Deletion record (RMD-CDR)

Field	Category	Description
Record Type	M	Recipient MM Deletion record
Originator MMS Relay/Server Address	M	IP address or domain name of the originator MMS Relay/Server
Recipient MMS Relay/Server Address	O_m	IP address or domain name of the recipient MMS Relay/Server
Message ID	M	The MM identification provided by the originator MMS Relay/Server
Message size	O_m	The total size of the MM content
MM Status Code	O_m	The status code of the MM at the time when the CDR is generated
Status Text	O_m	This field includes a more detailed technical status of delivering the message
Record Time Stamp	O_m	Time of generation of the CDR
Local Record Sequence Number	O_m	Consecutive record number created by this node. The number is allocated sequentially including all CDR types
Record extensions	O_c	A set of network/manufacturer specific extensions to the record. Conditioned upon the existence of an extension

End of Change in Clause 6.1.2

Change in Clause 6.1.5

6.1.5 MMS records for MMS VAS applications

The following subclauses specify CDRs created in the originator MMS Relay/Server based on messages flowing over the MM7 reference point. Unless otherwise specified, the CDR parameters are copied from the corresponding MM7 message parameters as applicable.

…

6.1.5.4 MM7 Cancel CDR (MM7C-CDR)

If enabled, an MM7 Cancel Charging Data Record (MM7C-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server has sent an MM7_cancel.RES to the MMS VASP.

Table 6.28: MM7 Cancel record (MM7C-CDR)

Field	Category	Description
Record Type	M	MM7 Cancel record
~~Originator~~ Recipient MMS Relay/Server Address	M	IP address or domain name of ~~originator~~ recipient MMS Relay/Server.
VASP ID	M	Identifier of the VASP for this MMS Relay/Server
VAS ID	M	Identifier of the originating application.
Message ID	M	The MM identification provided by the originator MMS Relay/Server.
Originator Address	M	The address of the MM originator.
Content Class	O_c	This field classifies the content of the MM to the smallest content class to which the MM belongs, if specified in the MM7_cancel_REQ
DRM Content	O_c	This field indicates if the MM contains DRM-protected content, if specified in the MM7_ cancel_REQ
Adaptations	O_c	This field indicates if the originator allows adaptation of the content (default True), if specified in the MM7_ cancel_REQ
Request Status Code	O_m	The status code of the associated MM7_cancel.REQ.
Status Text	O_c	This field includes the status text as received in the MM7_cancel.RES corresponding to the Request Status Code. Present only if provided in the MM7_cancel.RES.
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Sequence Number	O_m	Record number.
Time Stamp	O_m	Time of generation of the CDR.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record.

6.1.5.5 MM7 Replace CDR (MM7R-CDR)

If enabled, an MM7 Replace Charging Data Record (MM7R-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server has sent an MM7_replace.RES to the MMS VASP.

Table 6.29: MM7 Replace record (MM7R-CDR)

Field	Category	Description
Record Type	M	MM7 Replace record
~~Originator~~ Recipient MMS Relay/Server Address	M	IP address or domain name of ~~originator~~ recipient MMS Relay/Server.
VASP ID	M	Identifier of the VASP for this MMS Relay/Server
VAS ID	M	Identifier of the originating application.
Message ID	M	The MM identification provided by the originator MMS Relay/Server.
Originator Address	M	The address of the MM originator.
Service code	O_c	Charging related information that is used directly for billing purposes
Content type	M	The content type of the MM content.
Submission time	O_c	The time at which the MM was submitted from the VASP if specified in the MM7_replace_REQ.
Time of Expiry	O_c	The desired date of expiry or duration of time prior to expiry for the MM if specified by the VASP
Earliest Time Of Delivery	O_c	This field contains either the earliest time to deliver the MM or the number of seconds to wait before delivering the MM if specified by the VASP
Request Status Code	O_m	The status code of associated MM7_replace.REQ.
Status Text	O_c	This field includes the status text as received in the MM7_replace.RES corresponding to the Request Status Code. Present only if provided in the MM7_replace.RES.
Applic-ID	O_c	If present, this field holds the identification of the destination application that the underlying MMS abstract message was addressed to.
Reply-Applic-ID	O_c	If present, this parameter indicates a “reply path”, i.e. the identifier of the application to which delivery reports, read-reply reports and reply-MMs are addressed.
Aux-Applic-Info	O_c	If present, this parameter indicates additional application/implementation specific control information.
Sequence Number	O_m	Record number
Time Stamp	O_m	Time of generation of the CDR.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record.

…

6.1.5.10 MM7 Extended Cancel CDR (MM7EC-CDR)

If enabled, an MM7 Extended Cancel Charging Data Record (MM7EC-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server has sent an MM7_extended_cancel.RES to the MMS VASP.

Table : MM7 Extended Cancel record (MM7EC-CDR)

Field	Category	Description
Record Type	M	MM7 Extended Cancel record
Recipient MMS Relay/Server Address	M	IP address or domain name of recipient MMS Relay/Server.
VASP ID	M	Identifier of the VASP for this MMS Relay/Server
VAS ID	M	Identifier of the originating application.
Cancel ID	M	The identification of the cancelled MM
Request Status Code	O_m	The status code of the associated MM7_cancel.REQ.
Sequence Number	O_m	Record number.
Time Stamp	O_m	Time of generation of the CDR.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record.

6.1.5.11 MM7 Extended Replace CDR (MM7ER-CDR)

If enabled, an MM7 Extended Replace Charging Data Record (MM7ER-CDR) shall be produced in the MMS Relay/Server if and when the MMS Relay/Server has sent an MM7_extended_replace.RES to the MMS VASP.

Table : MM7 Replace record (MM7R-CDR)

Field	Category	Description
Record Type	M	MM7 Extended Replace record
Recipient MMS Relay/Server Address	M	IP address or domain name of recipient MMS Relay/Server.
VASP ID	M	Identifier of the VASP for this MMS Relay/Server
VAS ID	M	Identifier of the originating application.
Message ID	M	The MM identification provided by the originator MMS Relay/Server.
Service code	O_c	Charging related information that is used directly for billing purposes
Content type	M	The content type of the MM content.
Submission time	O_c	The time at which the MM was submitted from the VASP if specified in the MM7_replace_REQ.
Earliest Time Of Delivery	O_c	This field contains either the earliest time to deliver the MM or the number of seconds to wait before delivering the MM if specified by the VASP
Request Status Code	O_m	The status code of associated MM7_extended_replace.REQ.
Sequence Number	O_m	Record number
Time Stamp	O_m	Time of generation of the CDR.
Record extensions	O_c	A set of network/manufacturer specific extensions to the record.

End of Change in Clause 6.1.5
End of Document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2004	SA_26	SP-040780	002	--	Introduce Content Adaptation in MMS Charging – Align with T2's 23.140 (MMS6)	6.0.0	6.1.0
Dec 2004	SA_26	SP-040780	003	--	Correction on VASP MMS CDR triggers	6.0.0	6.1.0