

---

**Source:** SA5 (Telecom Management)  
**Title:** 2 Rel-5 CR 32.200 (Charging principles)  
**Document for:** Approval  
**Agenda Item:** 7.5.3

---

Doc-1st-	Spec	CR	R	Ph	Subject	Cat	Ver	Doc-2nd-	Workite
SP-030268	32.200	022	-	Rel-5	<b>Alignment with 32.235 on MMS charging scenarios with VASP MMS CDR types</b>	F	5.3.0	S5-034259	OAM-CH
SP-030268	32.200	023	-	Rel-5	<b>Correction of IMS charging architecture</b>	F	5.3.0	S5-034263	OAM-CH

## CHANGE REQUEST

⌘ **32.200 CR 022** ⌘ rev **-** ⌘ Current version: **5.3.0** ⌘

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

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

<b>Title:</b>	⌘	Alignment with 32.235 on MMS charging scenarios with VASP MMS CDR types	
<b>Source:</b>	⌘	S5	
<b>Work item code:</b>	⌘	OAM-CH	<b>Date:</b> ⌘ 11/04/2003
<b>Category:</b>	⌘	<b>F</b>	<b>Release:</b> ⌘ Rel-5
		Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
		<b>F</b> (correction)	2 (GSM Phase 2)
		<b>A</b> (corresponds to a correction in an earlier release)	R96 (Release 1996)
		<b>B</b> (addition of feature),	R97 (Release 1997)
		<b>C</b> (functional modification of feature)	R98 (Release 1998)
		<b>D</b> (editorial modification)	R99 (Release 1999)
		Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u> .	Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘	VASP CDRs have been added to Rel-5 TS 32.235 but are missing from TS 32.200.
<b>Summary of change:</b>	⌘	Addition of VASP record generation scenarios.
<b>Consequences if not approved:</b>	⌘	Inconsistency between stage 2 and stage 3 MMS charging with respect to the VASP charging functionality.

<b>Clauses affected:</b>	⌘	3.2 and 8.1.2								
<b>Other specs affected:</b>	⌘	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications      ⌘ Test specifications O&M Specifications	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
<b>Other comments:</b>	⌘									

### 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.

<b>Change in Clause 3.2</b>
-----------------------------

## 3.2 Abbreviations

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

3G	3 <sup>rd</sup> Generation
3GPP	3G Partnership Project
AoC	Advice of Charge
APN	Access Point Name
BMD	Billing Mediation Device
BS	Billing System
CAI	Charge Advice Information
CAMEL	Customised Applications for Mobile network Enhanced Logic
CDR	Charging Data Record
CG	Charging Gateway
CGF	Charging Gateway Function
CI	Cell Identity
CS	Circuit Switched
CUG	Closed User Group
DP	Detection Point
DRP	Data Record Packet
EDP	Event Detection Point
EIR	Equipment Identity Register
EM	Element Management
ETSI	European Telecommunications Standards Institute
FCI	Furnish Charging Information
FTAM	File Transfer, Access and Management
FTP	File Transfer Protocol
G-CDR	GGSN generated- CDR
GGSN	Gateway GPRS Service Node
GMSC	Gateway MSC
GPRS	General Packet Radio Service
gsmSCF	GSM Service Control Function
gsmSSF	GSM Service Switching Function
GSN	GPRS Support Node (either SGSN or GGSN)
GTP	GPRS Tunnelling Protocol
HLR	Home Location Register
HPLMN	Home PLMN
HSCSD	High Speed Circuit Switched Data
ICS	Implementation Conformance Statements
IE	Information Element
IHOSS:OSP	Internet Hosted Octet Stream Service: Octet Stream Protocol
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISP	Internal Standardized Profiles
Itf	Interface
ITU-T	International Telecommunication Union - Telecommunications Standardisation Sector
LAC	Location Area Code
LCS	Location Services
M-CDR	Mobility Management generated-Charging Data Record
ME	Mobile Equipment
MGW	Media Gateway
MMS	Multimedia Messaging Service
MMSE	Multimedia Messaging Service Environment

MOC	Mobile Originated Call (attempt)
MS	Mobile Station
MSC	Mobile Services Switching Centre
MSISDN	Mobile Station ISDN number
MSRN	Mobile Station Roaming Number
MTC	Mobile Terminated Call (attempt)
NE	Network Element
NM	Network Management
NMC	Network Management Centre
NSS	Network and Switching Subsystem
OA&M	Operation, Administration and Maintenance
OACSU	Off air call set-up
O-CSI	Originating CAMEL Subscription Information
OMC	Operations and Maintenance Centre
PBX	Private Branch eXchange
PDN	Packet Data Network
PDP	Packet Data Protocol, e.g. IP
PDU	Packet Data Unit
PLMN	Public Land Mobile Network
PPP	Point-to-Point Protocol
PPS	Post-processing system
PS	Packet-Switched
PSPDN	Packet-Switched Public Data Network
PT	Protocol Type (Field in GTP' header)
QoS	Quality of Service
RAB	Radio Access Bearer
RAC	Routing Area Code
RNC	Radio Network Controller
SAC	Service Area Code
S-CDR	SGSN (PDP context) generated – CDR
SCF	Service Control Function
SCI	Subscriber Controlled (MMI) Input
SCS	System Conformance Statement
SGSN	Serving GPRS Service Node
SMF	System Management Function
SMS	Short Message Service
SS7	Signalling System No. 7
S-SMO-CDR	SGSN delivered Short message Mobile Originated – CDR
S-SMT-CDR	SGSN delivered Short message Mobile Terminated – CDR
TAP	Transferred Account Procedure
T-CSI	Terminating CAMEL Subscription Information
TDP	Trigger Detection Point
TID	Tunnel Identifier
TLV	Type, Length, Value (GTP header format)
TMN	Telecommunications Management Network
TS	Technical Specification
TV	Type, Value
UMTS	Universal Mobile Telecommunications System
URA	UTRAN Registration Area
USIM	User Service Identity Module
USSD	Unstructured Supplementary Service Data
UTRAN	UMTS Terrestrial Radio Access Network
VAS	Value Added Service
VASP	Value Added Service Provider
VLR	Visitor Location Register
VMSC	Visited MSC
VPLMN	Visited PLMN

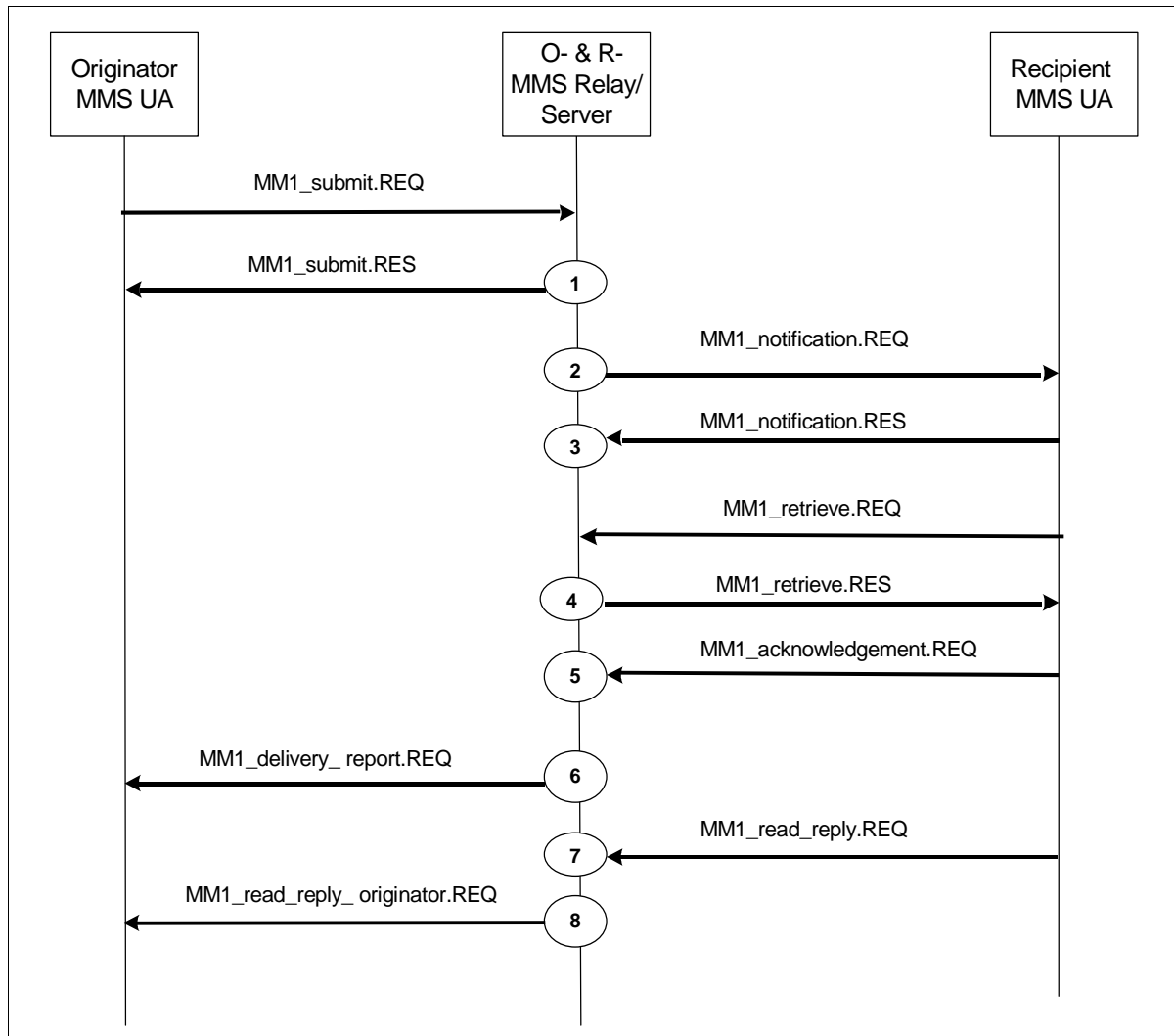
<b>End of Change in Clause 3.2</b>
------------------------------------

**Change in Clause 8.1.2**

**8.1.2 Charging scenarios**

This subclause contains an example scenario illustrating the purpose and practical usage of the various types of records defined in the interface description [19]. The events triggering the generation of CDRs are events at the MM1 reference point and/or events at the MM4 reference point.

**8.1.2.1 Originator and Recipient MMS Relay Server are the same**

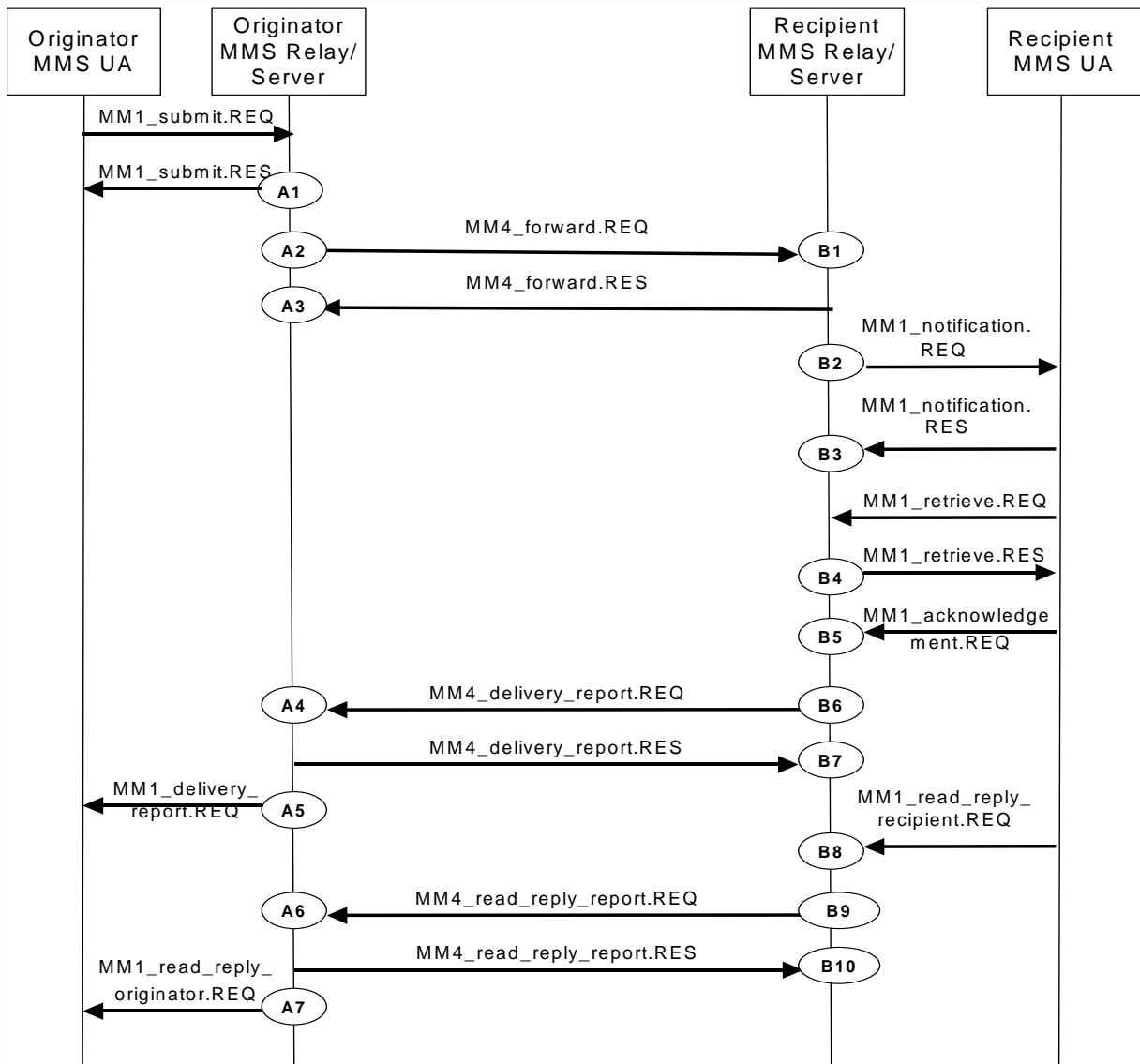


**Figure 8.1: Record trigger overview for combined case**

**Table 8.1: Record type overview for combined MMS Relay/Server**

Trigger point	Trigger name
1	Originator MM1 Submission
2	Recipient MM1 Notification Request
3	Recipient MM1 Notification Response
4	Recipient MM1 Retrieval
5	Recipient MM1 Acknowledgement
6	Originator MM1 Delivery report
7	Recipient MM1 Read reply Recipient
8	Originator MM4 Read reply originator
Any time between 1 ... 8 (see note)	Originator MM Deletion
NOTE: No CDR will be generated by receiving of MM1 User Agent initiated transactions (i.e. submit.REQ and MM1_retrieve.REQ)	

8.1.2.2 Originator and Recipient MMS Relay Server are not the same



**Figure 8.2: Record trigger overview for distributed case**

**Table 8.2: Trigger type overview for the Originator MMS Relay/Server**

Trigger point	Trigger name
A1	Originator MM1 Submission
A2	Originator MM4 Forward Request
A3	Originator MM4 Forward Response
A4	Originator MM4 Delivery report
A5	Originator MM1 Delivery report
A6	Originator MM4 Read reply report
A7	Originator MM1 Read reply originator
Any time between A1... A7	Originator MM Deletion

**Table 8.3: Trigger type overview for the Recipient MMS Relay/Server**

Trigger point	Trigger name
B1	Recipient MM4 Forward
B2	Recipient MM1 Notification Request
B3	Recipient MM1 Notification Response
B4	Recipient MM1 Retrieval
B5	Recipient MM1 Acknowledgement
B6	Recipient MM4 Delivery report Request
B7	Recipient MM4 Delivery report Response
B8	Recipient MM1 Read reply Recipient
B9	Recipient MM4 Read reply report Request
B10	Recipient MM4 Read reply report Response
Anytime after B1	Recipient MM Deletion

8.1.2.32 MMBox management

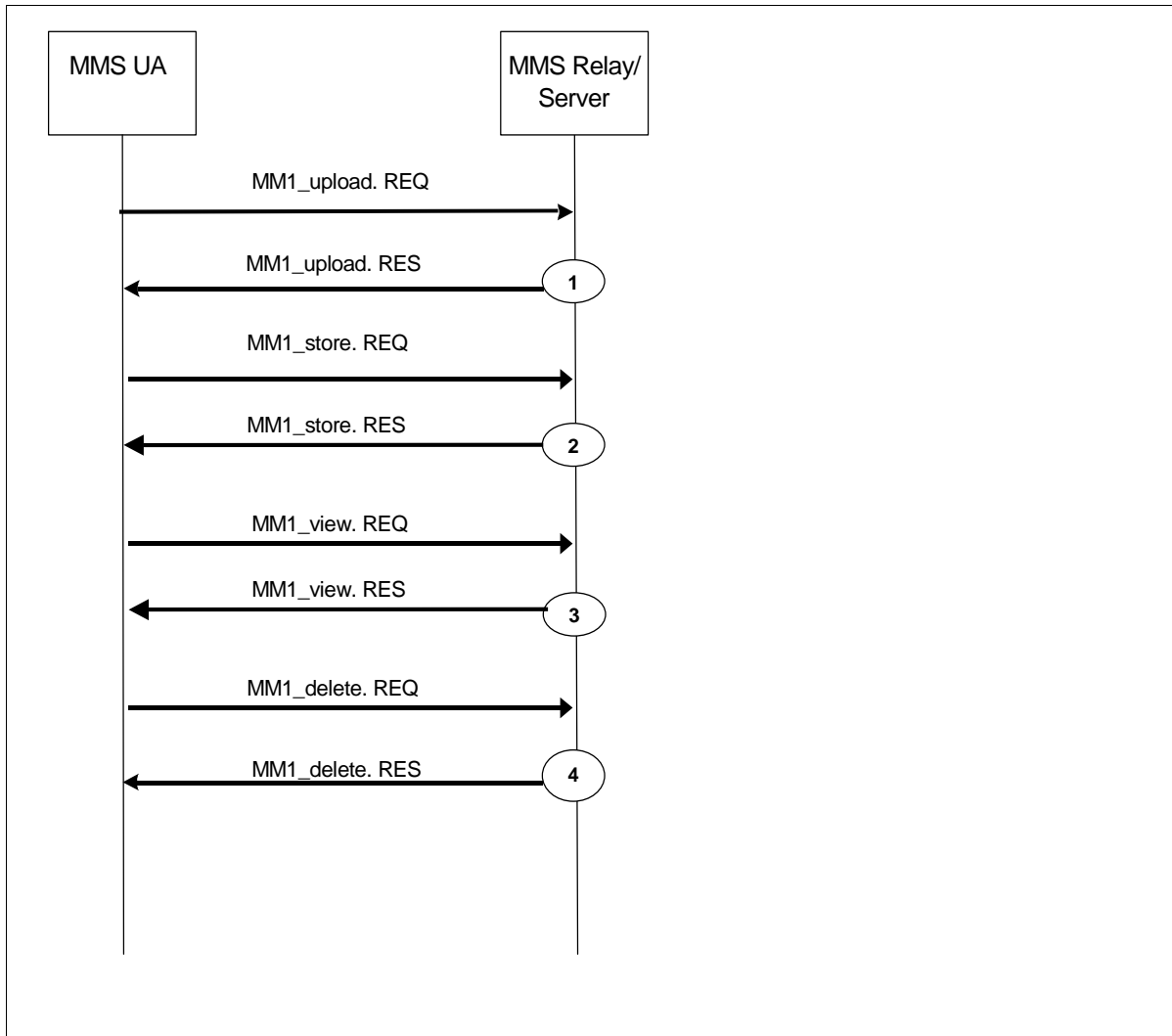


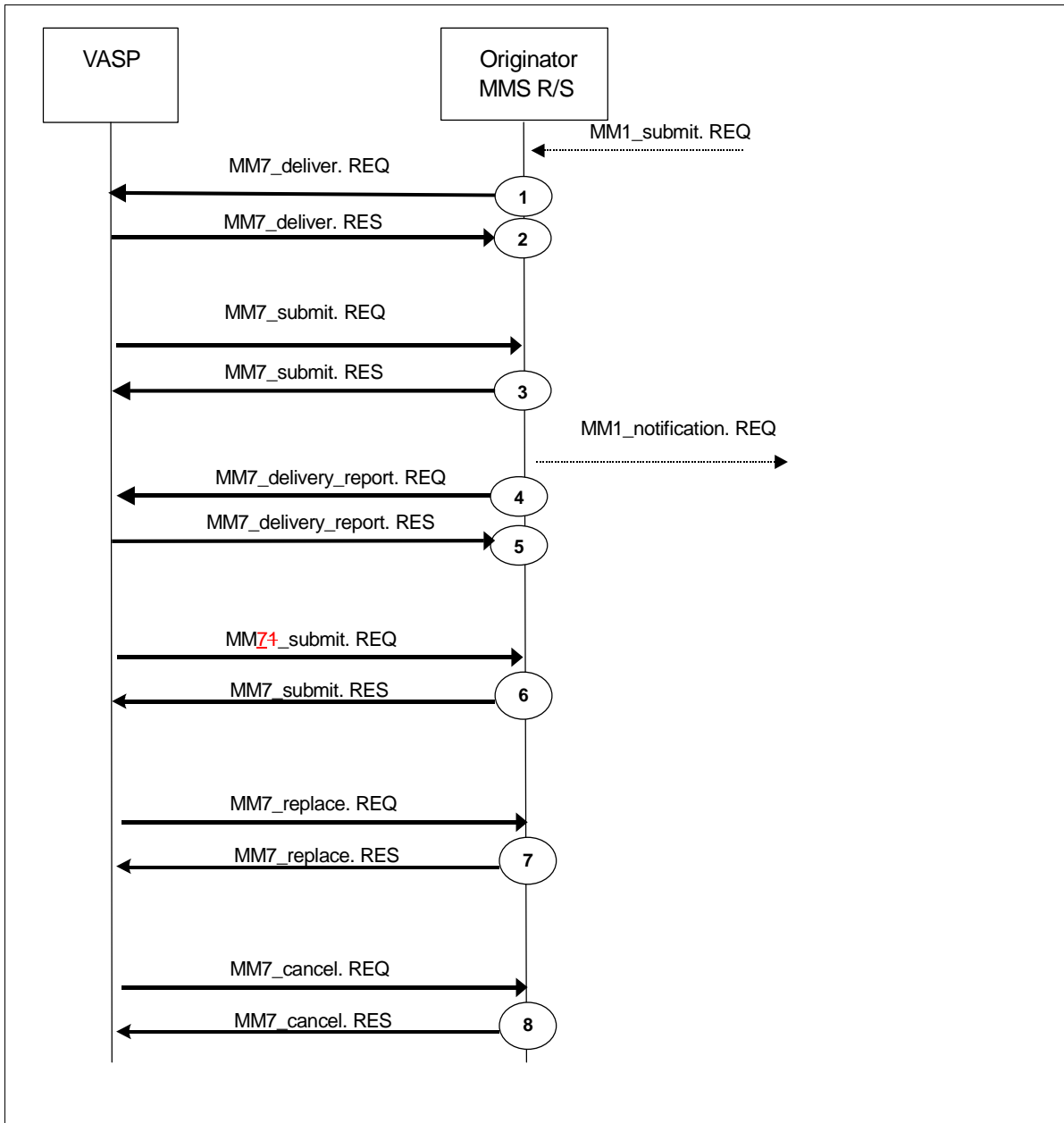
Figure 8.3: Record trigger overview for MMBox management

Table 8.4: Record type overview for MMBox management

Trigger point	Trigger name
1	MMBox MM1 Upload
2	MMBox MM1 Store
3	MMBox MM1 View
4	MMBox MM1 Delete



8.1.2.4 MMS VAS Applications



**Figure 8.4: Record trigger overview for MMS VASP**

**Table 8.5: Record type overview for MMS VASP**

<u>Trigger point</u>	<u>Trigger name</u>
<u>1</u>	<u>MM7 Deliver Request</u>
<u>2</u>	<u>MM7 Deliver Response</u>
<u>3</u>	<u>MM7 Submission</u>
<u>4</u>	<u>MM7 Delivery Report Request</u>
<u>5</u>	<u>MM7 Delivery Report Response</u>
<u>6</u>	<u>MM7 Submission</u>
<u>7</u>	<u>MM7 Replace</u>
<u>8</u>	<u>MM7 Cancel</u>

**End of Change in Clause 8.1.2**  
**End of Document**

## CHANGE REQUEST

⌘ **32.200 CR 023** ⌘ rev **-** ⌘ Current version: **5.3.0** ⌘

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

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

<b>Title:</b>	⌘ Correction of IMS charging architecture		
<b>Source:</b>	⌘ SA5/SWGB		
<b>Work item code:</b>	⌘ OAM-CH	<b>Date:</b>	⌘ 11/04/2003
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ MGCF is missing from IMS charging architecture drawing.
<b>Summary of change:</b>	⌘ <ol style="list-style-type: none"> <li>1. MGCF is added to IMS charging architecture figures.</li> <li>2. P-CSCF is removed from the home network in the figure describing a roaming scenario.</li> </ol>
<b>Consequences if not approved:</b>	⌘ There is no defined charging interface to the MGCF. Confusing architecture for roaming scenarios.

<b>Clauses affected:</b>	⌘ 4.2.2.1										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications      ⌘	Y	N	⌘	X	⌘	X	⌘	X		
Y	N										
⌘	X										
⌘	X										
⌘	X										
<b>Other comments:</b>	⌘										

### 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.

**Change in Clause 4.2.2.1**

4.2.2.1 Architecture reference model for off-line charging

Figure 4.4 presents the off-line IMS charging architecture for non-roaming scenario.

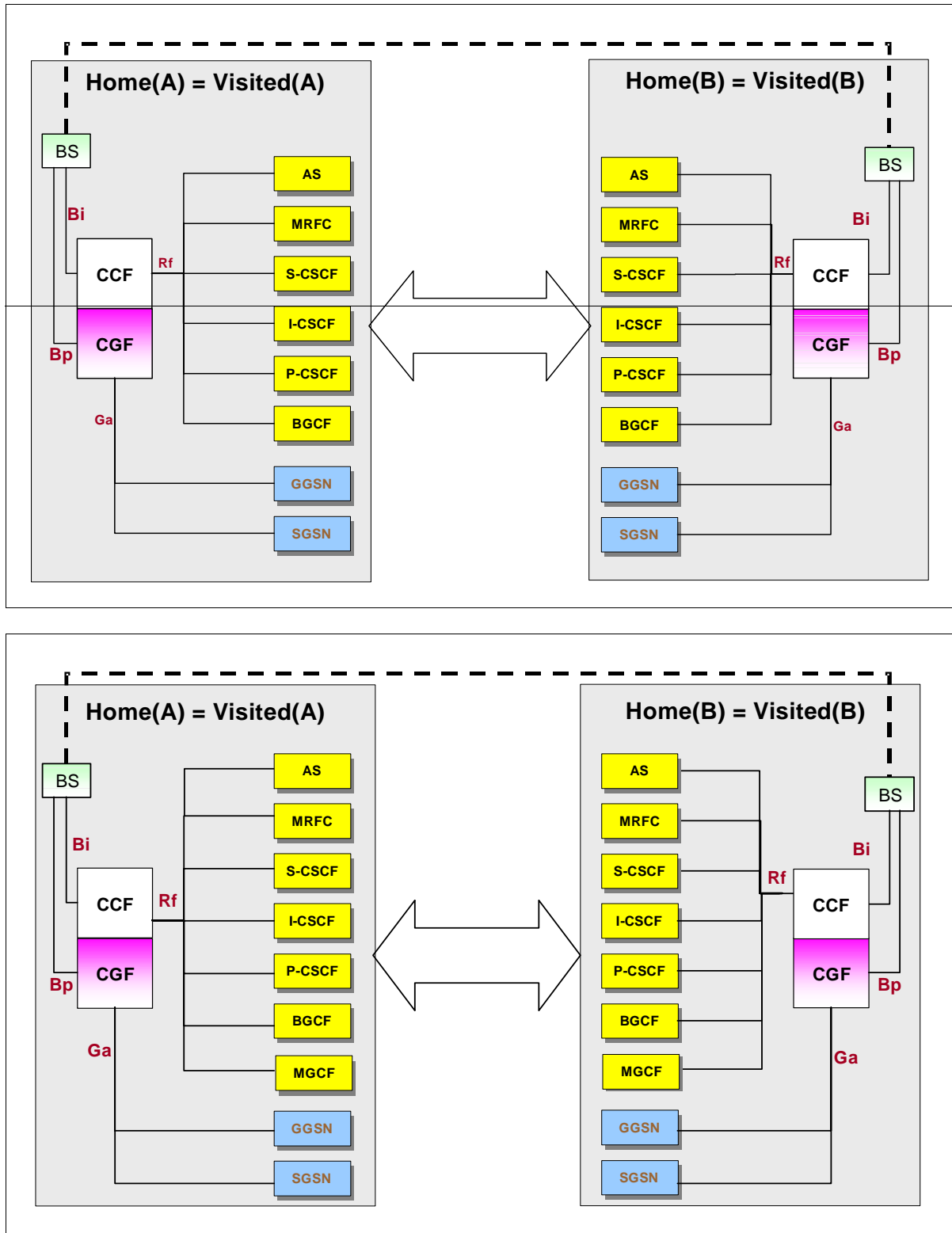


Figure 4.4: Off-line IMS Charging architecture for non-roaming scenario

NOTE: The topological merging of some of the lines representing the Ga or Rf reference points for connecting with the CCF are performed for figure layout purposes only, and do not imply any other logical or physical association.

Figure 4.5 presents the off-line IMS charging architecture for roaming scenario.

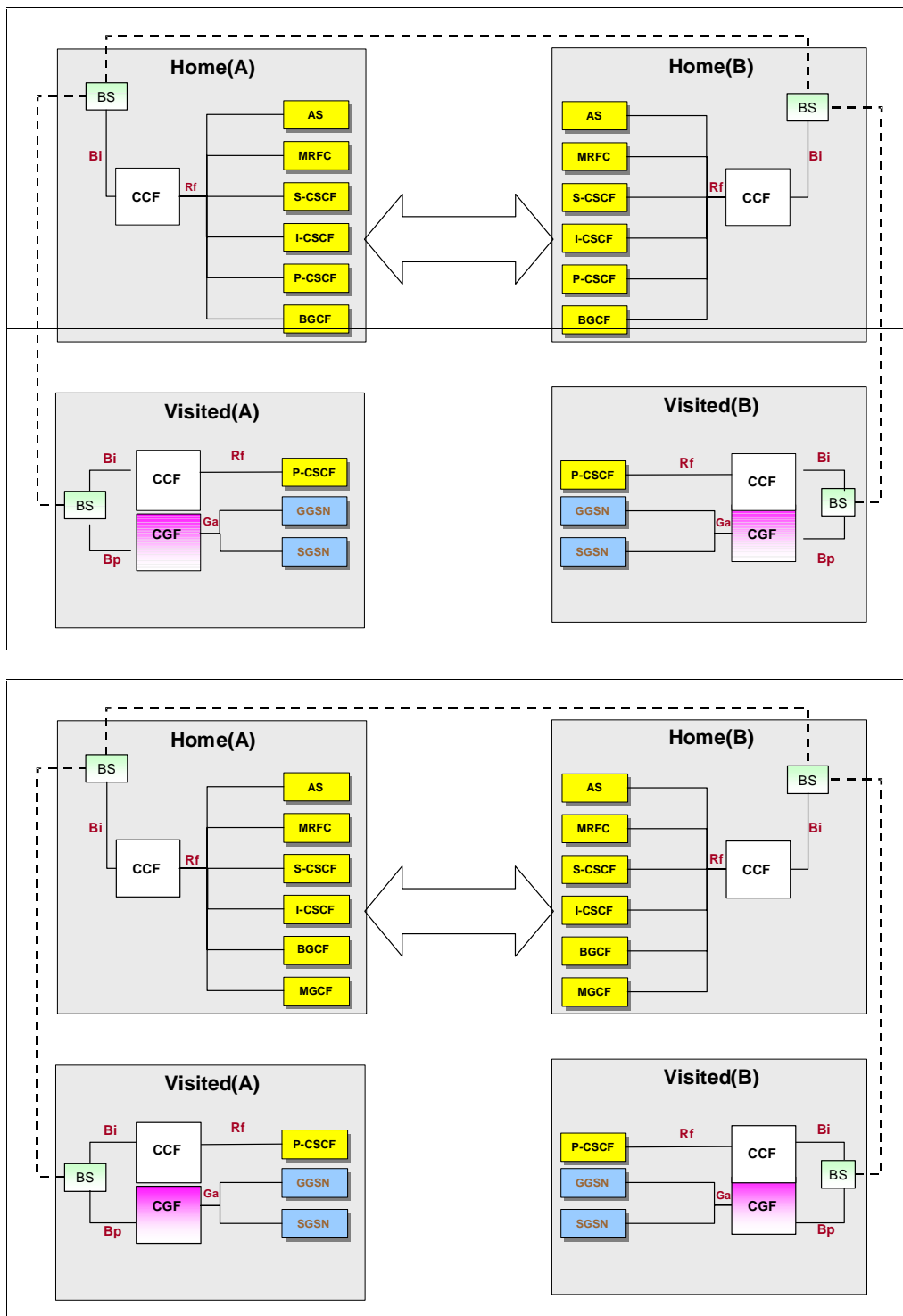


Figure 4.5: Off-line IMS Charging architecture for roaming scenario

End of Change in Clause 4.2.2.1  
End of CR