
Source: SA5 (Telecom Management)
Title: 3 Rel-5 CR 32.205 (Charging data description for the Circuit Switched (CS) domain)
Document for: Approval
Agenda Item: 7.5.3

Doc-1st-	Spec	CR	R	Ph	Subject	Cat	Ver	Doc-2nd-	Workite
SP-030269	32.205	016	-	Rel-5	Correction of record contents regarding Partial Record Type	F	5.3.0	S5-034250	OAM-CH
SP-030269	32.205	017	-	Rel-5	Correction on MMS records ASN.1 definition	F	5.3.0	S5-034258	OAM-CH
SP-030269	32.205	018	-	Rel-5	Correction on IMS record definitions	F	5.3.0	S5-034266	OAM-CH

CHANGE REQUEST

⌘ **32.205 CR 016** ⌘ 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

Title:	⌘ Correction of record contents regarding Partial Record Type		
Source:	⌘ Alcatel		
Work item code:	⌘ OAM-CH	Date:	⌘ 08/04/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The ASN.1 type of field Partial Record Type is defined in TS 32.205, it is however missing in the definition of the types of Call Event Records. Partial CDRs without field Partial Record Type do not reflect all reasons for partial record generation.
Summary of change:	⌘ Add field Partial Record Type into the Call Event Record definition of those Record Types where applicable.
Consequences if not approved:	⌘ The field Partial Record Type could not be used, because the ASN.1 compiler would not allow undefined data.

Clauses affected:	⌘ 4, 5, 6.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications					
Other comments:	⌘						

Change in Clause 4

4 Record types and contents

The following tables describe the contents of each of the call and event records generated in the CS domain, e.g. by the MSCs (see the example scenarios in TS 32.200 [22]). For each CDR type the field definition includes the field name, description and category.

Equipment vendors shall be able to provide all of the fields listed in the CDR content table in order to claim compliance with the present document. However, since CDR processing and transport consume network resources, operators may opt to eliminate some of the fields that are not essential for their operation. This operator provisionable reduction is specified by the field category.

A field category can have one of two primary values:

- M** This field is **Mandatory** and shall always be present in the CDR.
- C** This field shall be present in the CDR only when certain Conditions are met.. These Conditions are specified as part of the field definition.

All other fields are designated as Operator (**O**) provisionable which replaced the "Optional" category specified in an earlier release. Using TMN management functions or specific tools provided by an equipment vendor, operators may choose if they wish to include or omit the field from the CDR. Once omitted, this field is not generated in a CDR. To avoid any potential ambiguity, a CDR generating element **MUST** be able to provide all these fields. Only an operator can choose whether or not these fields should be generated in their system.

Those fields that the operator wishes to be present are further divided into a mandatory and conditional categories:

- O_M** This is a field that, if provisioned by the operator to be present, shall always be included in the CDRs. In other words, an O_M parameter that is provisioned to be present is a mandatory parameter.
- O_C** This is a field that, if provisioned by the operator to be present, shall be included in the CDRs when the required conditions are met. In other words, an O_C parameter that is configured to be present is a conditional parameter.

The content of the CDRs shall be specified on the interface from the core network to the billing system that are used for CDR transport. The rules governing the CDR specifications on these interfaces are summarised in the following clause.

During a long user session several *Partial CDRs* may be generated for the same session. In this case, some information can be eliminated rather than repeated in all the partial CDRs for that session. Only changes from one CDR to the next, in addition to mandatory information, can be reported. All the missing information can be reconstructed from fields in previous partial CDRs for the session. For instance, if the subscriber did not change location, the Reduced Partial CDR would not include any location information.

Two formats are considered for Partial CDRs:

- a *Full Qualified Partial CDR* that contains the Complete CDR Fields; and
- a *Reduced Partial CDR* that contains all the Mandatory fields (**M**) and **ONLY** the changes that occurred in any other field relative to the previous Partial CDR.

The first CDR generated when a session is opened shall be a Full Qualified Partial CDR. Subsequent partial CDRs may be *Reduced Partial CDRs*.

Thus, the convention is that when any non-mandatory field is missing from a Reduced Partial CDR, it should be interpreted that the same field as in the previous partial CDR could be used. Only Mandatory (**M**) fields **MUST** always be included.

The anchor MSC is the creator of the CDRs. The column "2G" indicates a qualifier for the presence of the parameter in a 2G anchor MSC. The column "3G" indicates a qualifier for the presence of the parameter in a 3G anchor MSC.

4.1 Mobile originated call attempt

If the generation of these records is enabled then an MOC record shall be created for each outgoing call attempt made by a mobile station. These MOC records shall be produced in the originating MSC.

Table 1: MOC record

Field	2G	3G	Description
Record Type	M	M	Mobile originated.
Served IMSI	M	M	IMSI of the calling party.
Served IMEI	C	C	IMEI of the calling ME, if available.
Served MSISDN	O _M	O _M	The primary MSISDN of the calling party.
Called Number	M	M	The address of the called party i.e. the number dialled by the calling subscriber.
Translated Number	O _C	O _C	The called number after digit translation within the MSC (if applicable)
Connected Number	O _C	O _C	The number of the connected party if different to the Called Number
Roaming Number	O _C	O _C	The Mobile Station Roaming Number employed to route this connection, if applicable.
Recording Entity	M	M	The E.164 number of the visited MSC producing the record.
Incoming TKGP	O _M	O _C	The MSC trunk group on which the call originated , usually from the BSS. If available in 3G, this parameter shall be supplied.
Outgoing TKGP	O _M	O _C	The trunk group on which the call left the MSC. If available in 3G, this parameter shall be supplied.
Location	M	M	The identity of the cell or the SAC at the time of CDR creation, including the location area code.
Change of Location	O _C	O _C	A list of changes in Location Area Code / Service Area Code / Cell Id. Each time-stamped.
Basic service	M	M	Bearer or teleservice employed.
Rate Indication	O _C	O _C	Present if "rate adaption" parameters for the basic service were signalled between the MS/UE and the network, see TS 24.008.
Transparency Indicator	C	C	Indicates whether the basic service was used in transparent or non-transparent mode. This parameter is provided only for those basic services which may be employed in both transparent and non-transparent mode.
Change Of Service	O _C	O _C	A list of changes of basic service during a connection each time-stamped.
Supp. Services	C	C	Supplementary services invoked as a result of this connection. This field shall be present when one or more supplementary services have been invoked.
AOC Parameters	O _C	O _C	The charge advice parameters sent to the MS on call set-up. This field shall be supplied only when AoC parameters have been sent.
Change of AOC Parameters	O _C	O _C	New AOC parameters sent to the MS e.g. as a result of a tariff switch over, including the time at which the new set was applied. This field shall be supplied only when AoC parameters have been sent.
MS Classmark	M	M	The mobile station classmark employed on call setup.
Change of Classmark	O _C	O _C	A list of changes to the classmark during the connection each time-stamped
Event time stamps:	C	C	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts)
	C	C	Answer: time of answer (for successful calls)
	O _M	O _M	Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection for successful calls, the holding time for call attempts.
Data volume	C	-	The number of data segments transmitted if available at the MSC
Radio Chan. Requested	O _M	-	The type of radio traffic channel (full / half etc.) requested by the MS.
Radio Chan. Used	M	-	The type of radio channel actually used (full or half rate).
Change of Rad. Chan.	O _C	-	A list of changes each time stamped
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions on the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Additional Chg. Info	O _C	O _C	Charge/no charge indicator and additional charging parameters, when available.
Record extensions	O _C	O _C	A set of network / manufacturer specific extensions to the record, when available.
GsmSCF address	C	C	Identifies the CAMEL server serving the subscriber. Shall be present only if CAMEL is applied.

Field	2G	3G	Description
Service key	C	C	The CAMEL service logic to be applied. Shall be present only if CAMEL is applied.
Network call reference	C	C	An identifier to correlate transactions on the same call taking place in different network nodes, shall be present if CAMEL is applied.
MSC Address	C	C	This field contains the E.164 number assigned to the MSC that generated the network call reference. Shall be present only if CAMEL is applied.
Default call handling	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling. This field shall be present only if default call handling has been applied.
Number of HSCSD Channels Requested	C	-	The maximum number of HSCSD channels requested as received from the MS at call set-up. Shall only be present for HSCSD connections.
Number of HSCSD Channels Allocated	C	-	The number of HSCSD channels allocated to the MS at call set-up. Shall only be present for HSCSD connections.
Change of HSCSD Parameters	C	-	A list of network or user initiated changes of number of HSCSD channels during a connection each timestamped. Shall only be present in case of an HSCSD call, if the basic HSCSD parameters are modified due the user or network initiated modification procedure.
Fixed Network User Rate	O _C	O _C	Indicates the user data rate applied for the connection in the fixed network. Shall only be present for 2G HSCSD connections and for UMTS data connections.
Air Interface User Rate Requested	C	-	The total Air Interface User Rate Requested by the MS at call setup. Shall only be present for non-transparent HSCSD connections.
Channel Coding Accepted	C	-	A list of the traffic channels codings accepted by the MS. Shall only be present for HSCSD connections.
Channel Coding Used	C	-	The traffic channels codings negotiated between the MS and the network at call setup. Shall only be present for HSCSD connections.
Speech Version Supported	O _M	-	Speech version supported by the MS with highest priority indicated by MS
Speech Version Used	O _M	-	Speech version used for that call
Number of DP encountered	O _C	O _C	Number that counts how often armed detection points (TDP and EDP) were encountered. Shall be present only if CAMEL is applied.
Level of CAMEL service	O _C	O _C	Indicator for the complexity of the CAMEL feature used. Shall be present only if CAMEL is applied.
Free format Data	C	C	This field contains data sent by the gsmSCF in the Furnish Charging Information (FCI) message(s). The data can be sent either in one FCI message or several FCI messages with append indicator. Shall be present only if CAMEL is applied.
CAMEL call leg information	C	C	Set of CAMEL information IEs. Each of these IEs contains information related to one outgoing CAMEL call leg. Shall be present only if CAMEL is applied.
Free format data append indicator	C	C	Indicator if free format data from this CDR is to be appended to free format data in previous partial CDR. Shall be present only if CAMEL is applied.
Default call handling 2	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling for 2 nd service such as dialled service. This field shall be present only if default call handling has been applied.
GsmSCF address 2	C	C	Identifies the CAMEL server serving the subscriber for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2 nd service such as dialled service. The data can be sent either in one FCI message or several FCI messages with append indicator. Shall be present only if CAMEL is applied for 2 nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2 nd service from this CDR is to be appended to free format data in previous partial CDR. Shall be present only if CAMEL is applied for 2 nd service.
System Type	-	M	This field indicates the use of GERAN, UTRAN (or a value of unknown). This field is present when either the UTRAN or GERAN air-interface is used on call setup. For an open CDR in a 2G NE (responsible for the CDR), the field is not present (even if the call is handed off to a 3G air interface). For a CDR in a 3G NE (responsible for the CDR), the value unknown shall be used after handover.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN

Field	2G	3G	Description
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.2 Mobile originated emergency call attempt

If the generation of MOC records is enabled then an MOC emergency record shall be created for each outgoing emergency call attempt made by a mobile station. These records shall be produced in the originating MSC.

Table 2: MOC emergency record

Field	2G	3G	Description
Record Type	M	M	Mobile originated.
Served IMSI	C	C	IMSI of the calling party in case of an emergency call with a SIM card.
Served IMEI	C	C	IMEI of the calling mobile equipment if available.
Served MSISDN	O _C	O _C	The primary MSISDN of the calling party, if supplied by the UE.
Translated Number	O _C	O _C	The called number after digit translation within the MSC (if applicable)
Recording Entity	M	M	The E.164 number of the visited MSC producing the record.
Incoming TKGP	O _M	O _C	The MSC trunk group on which the call originated, usually from the BSS. If available in 3G, this parameter shall be supplied.
Outgoing TKGP	O _M	O _C	The trunk group on which the call left the MSC. If available in 3G, this parameter shall be supplied.
Location	M	M	The identity of the cell or the SAC in which the call originated including the location area code.
Change of Location	O _C	O _C	A list of changes in Location Area Code / Service Area Code / Cell Id. Each time-stamped.
Basic service	M	M	Teleservice 'emergency call'.
AOC Parameters	O _C	O _C	The charge advice parameters sent to the MS on call set-up. This field shall be supplied only when AoC parameters have been sent.
Change of AOC Parameters	O _C	O _C	New AOC parameters sent to the MS e.g. as a result of a tariff switch over, including the time at which the new set was applied. This field shall be supplied only when AoC parameters have been sent.
MS Classmark	M	M	The mobile station classmark employed on call set-up.
Change of classmark	O _C	O _C	A list of changes to the classmark during the connection each time-stamped
Event time stamps:	C	C	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts)
	C	C	Answer time: time of answer (for successful calls)
	O _M	O _M	Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection for successful calls, the holding time for call attempts.
Radio Chan. Requested	O _M	-	The type of radio traffic channel (full / half etc.) requested by the MS.
Radio Chan. Used	M	-	The type of radio channel used (full or half rate).
Change of Rad. Chan.	O _C	-	A list of changes each time stamped
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions on the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
System Type	-	M	This field indicates the use of GERAN, UTRAN (or a value of unknown). This field is present when either the UTRAN or GERAN air-interface is used on call setup. For an open CDR in a 2G NE (responsible for the CDR), the field is not present (even if the call is handed off to a 3G air interface). For a CDR in a 3G NE (responsible for the CDR), the value unknown shall be used after handover.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.3 Mobile originated call forwarding attempt

If the generation of MOC records is enabled in the forwarding MSC then the forwarding MSC shall produce an MOC record for the forwarded-leg of the call.

Table 3: MOC, call forwarding record

Field	2G	3G	Description
Record Type	M	M	Mobile originated.
Served IMSI	M	M	IMSI of the calling party.
Served MSISDN	O _M	O _M	The MSISDN of the forwarding party.
Calling Number	O _M	O _M	The address of the calling party.
Called Number	M	M	The address of the "forwarded-to" party.
Translated Number	O _C	O _C	The called number after digit translation within the MSC (if applicable)
Connected Number	O _C	O _C	The number of the connected party if different to the Called Number
Roaming Number	O _C	O _C	The Mobile Station Roaming Number employed to route this connection, if applicable.
Recording Entity	M	M	The E.164 number of the forwarding MSC
Incoming TKGP	O _M	O _M	The MSC trunk group on which the call originated at the forwarding MSC.
Outgoing TKGP	O _M	O _M	The trunk group on which the call left the forwarding MSC
Basic service	C	C	Bearer or teleservice employed, not always available e.g. in case of call forwarding unconditional.
Rate Adaptation	O _C	O _C	Present if "rate adaption" parameters for the basic service were signalled between the MS/UE and the network, see TS 24.008. May not always be available in this CDR type.
Transparency Indicator	C	C	Indicates whether the basic service was used in transparent or non-transparent mode. This parameter is provided only for those basic services which may be employed in both transparent and non-transparent mode.
Fixed Network User Rate	O _C	O _C	Indicates the user data rate applied for the connection in the fixed network. Shall only be present for 2G HSCSD connections and for UMTS data connections.
ChangeOfService	O _C	O _C	A list of changes of basic service during a connection each time-stamped.
Supplementary Services	C	C	Supplementary services invoked as a result of this connection, if this information is available to the forwarding node. This field shall be present when one or more supplementary services have been invoked.
Event time stamps:	C C O _M	C C O _M	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts) Answer time: time of answer (for successful calls) Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection for successful calls, the holding time of call attempts.
Data volume	C	-	The number of data segments transmitted if available at the MSC
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions on the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Additional Chg. Info	O _C	O	Charge/no charge indicator and additional charging parameters, when available.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
GsmSCF address	C	C	Identifies the CAMEL server serving the subscriber. Shall be present only if CAMEL is applied.
Service key	C	C	The CAMEL service logic to be applied. Shall be present only if CAMEL is applied.
Network call reference	C	C	An identifier to correlate transactions on the same call taking place in different network nodes, shall be present if CAMEL is applied.
MSC Address	C	C	This field contains the E.164 number assigned to the MSC that generated the network call reference. Shall be present only if CAMEL is applied.
CAMEL initiated CF indicator	C	C	Indicates that the CAMEL server initiated call forwarding. Shall be present only if CAMEL is applied.
Default call handling	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling. This field shall be present only if default call handling has been applied.
Number of DP encountered	O _C	O _C	Number that counts how often armed detection points (TDP and EDP) were encountered. Shall be present only if CAMEL is applied.

Field	2G	3G	Description
Level of CAMEL service	O _C	O _C	Indicator of the complexity of the CAMEL feature used. Shall be present only if CAMEL is applied.
Free format Data	C	C	This field contains data sent by the gsmSCF in the Furnish Charging Information (FCI) messages. The data can be sent either in one FCI message or several FCI messages with append indicator. Shall be present only if CAMEL is applied.
CAMEL call leg information	C	C	Set of CAMEL information IEs. Each of these IEs contains information related to one outgoing CAMEL call leg. Shall be present only if CAMEL is applied.
Free format data append indicator	C	C	Indicator if free format data from this CDR is to be appended to free format data in previous partial CDR. Shall be present only if CAMEL is applied.
Default call handling 2	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling for 2 nd service such as dialled service. This field shall be present only if default call handling has been applied.
GsmSCF address 2	C	C	Identifies the CAMEL server serving the subscriber for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2 nd service such as dialled service. The data can be sent either in one FCI message or several FCI messages with append indicator. Shall be present only if CAMEL is applied for 2 nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2 nd service from this CDR is to be appended to free format data in previous partial CDR. Shall be present only if CAMEL is applied for 2 nd service.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O _C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.4 Mobile terminated call attempt

If the generation of these records is enabled, then an MTC record shall be created for each incoming call attempt made for a mobile station. The MTC records shall be produced in the terminating MSC.

Table 4: MTC record

Field	2G	3G	Description
Record Type	M	M	Mobile Terminated.
Served IMSI	M	M	IMSI of the called party.
Served IMEI	C	C	IMEI of the called ME, if available.
Served MSISDN	O _M	O _M	The MSISDN of the called party.
Calling Number	C	C	The number of the calling party if available.
Connected Number	O _C	O _C	Only relevant in case of call forwarding where the "forwarded-to" number is recorded.
Recording Entity	M	M	The E.164 number of the visited (terminating) MSC
Incoming TKGP	O _M	O _M	The MSC trunk group on which the call originated.
Outgoing TKGP	O _M	O _C	The trunk group on which the call left the MSC, usually to the BSS. If available in 3G, this parameter shall be supplied.
Location	C	C	The identity of the cell or the SAC occupied by the called party when the call was set up, including the location area code.
Change of Location	O _C	O _C	A list of changes in Location Area Code / Service Area Code / Cell Id. Each time-stamped.
Basic Service	M	M	Bearer or teleservice employed
Rate Adaptation	O _C	O _C	Present if "rate adaption" parameters for the basic service were signalled between the MS/UE and the network, see TS 24.008.
Transparency Indicator	C	C	Indicates whether the basic service was used in transparent or non-transparent mode. This parameter is provided only for those basic services which may be employed in both transparent and non-transparent mode.
Change of Service	O _C	O _C	A list of changes of basic service during a connection each time-stamped.
Supplementary services	C	C	Supplementary services invoked as a result of this connection. This field shall be present when one or more supplementary services have been invoked.
AOC Parameters	O _C	O _C	The charge advice parameters sent to the MS on call set-up. This field shall be supplied only when AoC parameters have been sent.
Change of AOC Parameters.	O _C	O _C	New AOC parameters sent to the MS e.g. as a result of a tariff switch-over, including the time at which the new set was applied. This field shall be supplied only when AoC parameters have been sent.
MS Classmark	M	M	The mobile station class mark.
Change of Classmark	O _C	O _C	A list of changes to the classmark during the connection each time-stamped
Event time stamps:	C	C	Seizure time: time of traffic channel seizure for unsuccessful call attempts
	C	C	Answer time: time of answer for successful calls
	O _M	O _M	Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection if successful, the holding time of the call if unsuccessful.
Data volume	C	-	The number of data segments transmitted, if available at the MSC
Radio Chan. Requested	O _M	-	The type of radio traffic channel (full / half etc.) requested by the MS.
Radio Chan. Used	M	-	The type of radio channel used (full or half rate).
Change of Rad. Chan	O _C	-	A list of changes each time stamped
Cause for termination	M	M	The reason for the release of the call.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions at the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Additional Chg. Info	O _C	O _C	Charge/no charge indicator and additional charging parameters, when available.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Network call reference	C	C	An identifier to correlate transactions on the same call taking place in different network nodes, shall be present if CAMEL is applied.
MSC Address	C	C	This field contains the E.164 number assigned to the MSC that generated the network call reference. Shall be present only if CAMEL is applied.
Number of HSCSD Channels Requested	O _C	-	The maximum number of HSCSD channels requested as received from the MS at call set-up. Shall only be present for HSCSD connections.
Number of HSCSD Channels Allocated	O _C	-	The number of HSCSD channels allocated to the MS at call set-up. Shall only be present for HSCSD connections.

Field	2G	3G	Description
Change of HSCSD Parameters	O _C	-	A list of network or user initiated changes of number of HSCSD channels during a connection each timestamped. Shall only be present in case of an HSCSD call, if the basic HSCSD parameters are modified due the user or network initiated modification procedure.
Fixed Network User Rate	O _C	-	Indicates the user data rate applied for the connection in the fixed network. Shall only be present for 2G HSCSD connections and for UMTS data connections.
Air Interface User Rate Requested	C	C	The total Air Interface User Rate Requested by the MS at call setup. Shall only be present for non-transparent HSCSD connections.
Channel Coding Accepted	C	-	A list of the traffic channels codings accepted by the MS. Shall only be present for HSCSD connections.
Channel Coding Used	C	-	The traffic channels codings negotiated between the MS and the network at call setup. Shall only be present for HSCSD connections.
Speech Version Used	O _M	-	Speech version used for that call
Speech Version Supported	O _M	-	Speech version supported by the MS with highest priority indicated by MS
System Type	-	M	This field indicates the use of GERAN, UTRAN (or a value of unknown). This field is present when either the UTRAN or GERAN air-interface is used on call setup. For an open CDR in a 2G NE (responsible for the CDR), the field is not present (even if the call is handed off to a 3G air interface). For a CDR in a 3G NE (responsible for the CDR), the value unknown shall be used after handover.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.5 Roaming call attempt

If the generation of these records is enabled then, a roaming record shall be created for each call redirected to a mobile subscriber roaming outside the HPLMN. These roaming records shall be produced in the GMSC of the roaming subscriber's HPLMN.

Table 5: Roaming record

Field	2G	3G	Description
Record Type	M	M	Roaming record.
Served IMSI	M	M	IMSI of the called (roaming) party.
Served MSISDN	O _M	O _M	The MSISDN of the called (roaming) party.
Calling Number	C	C	The address of the calling party, if available.
Roaming Number	M	M	The Mobile Station Roaming Number employed to route this connection.
Recording Entity	M	M	The E.164 number of the GMSC
Incoming TKGP	O _M	O _M	The GMSC trunk group on which the call originated.
Outgoing TKGP	O _M	O _M	The trunk group on which the call left the GMSC
Basic service	M	M	Bearer or teleservice employed.
Transparency Indicator	C	C	Indicates whether the basic service was used in transparent or non-transparent mode. This parameter is provided only for those basic services which may be employed in both transparent and non-transparent mode.
ChangeOfService	O _C	O _C	A list of changes of basic service during a connection each time-stamped.
Supplementary Services	C	C	Supplementary services invoked as a result of this connection. This field shall be present when one or more supplementary services have been invoked.
Event time stamps	C C O _M	C C O _M	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts) Answer time: time of answer (for successful calls) Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection for successful calls, the holding time of call attempts.
Data volume	C	C	The number of data segments transmitted if available at the GMSC
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions on the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Network call reference	C	C	An identifier to correlate transactions on the same call taking place in different network nodes, shall be present if CAMEL is applied.
MSC Address	C	C	This field contains the E.164 number assigned to the MSC that generated the network call reference. Shall be present only if CAMEL is applied.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.6 Incoming gateway call attempt

If generation of these records is enabled, an incoming gateway record shall be created for each incoming call attempt received by a gateway MSC from another network. These records, produced in the gateway MSC, may be used to settle accounts with other networks. The generation of gateway records shall not be influenced by the production of MTC records i.e. even if the GMSC and terminating MSC are co-located a gateway record shall still be produced.

Table 6: Incoming gateway record

Field	2G	3G	Description
Record Type	M	M	Incoming gateway record
Calling Number	C	C	The number of the calling party if available at this node.
Called Number	M	M	The address of the called party as seen by the GMSC. This is the number employed by the GMSC for routing.
Recording Entity	M	M	The E.164 number of the GMSC
Incoming TKGP	M	M	The incoming GMSC trunk group on which the call originated.
Outgoing TKGP	O _M	O _C	The trunk group on which the call left the GMSC. If available in 3G, this parameter shall be supplied.
Event time stamps:	M C O _M	M C O _M	Seizure time: time of incoming trunk seizure Answer time: time of answer (successful calls only) Release time: time of incoming trunk release
Call duration	M	M	The accountable duration (answer -> release of incoming trunk) of the connection if successful, the call holding time of the incoming trunk for call attempts.
Data Volume	C	-	If applicable and known at the GMSC
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call Reference	M	M	A local identifier distinguishing between transactions.
Sequence no.	C	C	Partial record sequence number, if applicable.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.7 Outgoing gateway call attempt

If generation of these records is enabled, an outgoing gateway record shall be created for each outgoing call attempt from a gateway MSC to another network. These records, produced in the gateway MSC, may be used to settle accounts with other networks. The generation of gateway records shall not be influenced by the production of MOC records i.e. even if the GMSC and originating MSC are co-located a gateway record shall still be produced.

Table 7: Outgoing gateway record

Field	2G	3G	Description
Record Type	M	M	Outgoing gateway record
Calling Number	C	C	The number of the calling party if available at this node.
Called Number	M	M	The address of the called party as seen by the GMSC. This is the number employed by the GMSC for routing.
Recording Entity	M	M	The E.164 number of the GMSC
Incoming TKGP	O _M	O _C	The incoming GMSC trunk group on which the call originated. If available in 3G, this parameter shall be supplied.
Outgoing TKGP	M	M	The trunk group on which the call left the GMSC.
Event time stamps:	M C O _M	M C O _M	Seizure time: time of outgoing trunk seizure Answer time: time of answer (successful calls only) Release time: time of outgoing trunk release
Call duration	M	M	The accountable duration (answer -> release of outgoing trunk) of the connection if successful, the call holding time of the outgoing trunk for call attempts.
Data Volume	C	-	If applicable and known at the GMSC
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call Reference	M	M	A local identifier distinguishing between transactions.
Sequence no.	C	C	Partial record sequence number, if applicable.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.8 Transit call attempt

If generation of these records is enabled then a transit record may be generated for each incoming call attempt received by a Transit MSC i.e. neither originating nor terminating. For the avoidance of doubt, a transit record shall only be produced if no MOC or MTC record is produced for this call attempt by this MSC. The transit records, produced in the TMSC, may be used to record traffic from particular origins or to particular destinations.

Table 8: Transit record

Field	2G	3G	Description
Record Type	M	M	Transit.
Recording Entity	M	M	The E.164 number of the transit MSC
Incoming TKGP	M	M	The TMSC trunk group on which the call originated.
Outgoing TKGP	M	M	The trunk group on which the call left the TMSC.
Calling Number	C	C	The number of the calling party if available at this node.
Called Number	M	M	The address of the called party as seen by the TMSC.
ISDN Basic Service	O _M	O _M	The ISDN basic service employed

Field	2G	3G	Description
Event time stamps:	C	C	Seizure time: time of incoming trunk seizure for unsuccessful call attempts
	C	C	Answer time: time of answer (successful calls only)
	O _M	O _M	Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection if successful, the call holding time for call attempts.
Data Volume	C	-	If applicable and known at the transit MSC
Cause for term.	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call Reference	M	M	A local identifier distinguishing between transactions.
Sequence no.	C	C	Partial record sequence number, if applicable.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Location Routing Number (LRN)	-	O _C	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _C	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _C	Status of Number Portability query.
JIP Parameter	-	O _C	Jurisdiction Information Parameter
JIP Source Indicator	-	O _C	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _C	Status of Number Portability query.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.17 Common equipment usage record

If enabled, a common equipment usage record shall be created in the VMSC to record the usage (duration) of common equipment, e.g. conference circuits, employed by a mobile subscriber.

Table 17: Common equipment usage record

Field	2G	3G	Description
Record Type	M	M	Common equipment usage record.
Equipment type	M	M	e.g. Conference circuit.
Equipment Id.	C	C	The local id. Of the equipment employed.
Served IMSI	M	M	The IMSI of the party responsible for the seizure of the equipment..
Served MSISDN	O _M	O _M	The primary MSISDN of the served party..
Recording Entity	M	M	The E.164 number of the MSC in which the equipment is located.
Basic service	C	C	Bearer or teleservice employed, if appropriate.
Rate Adaptation	O _C	O _C	Present if "rate adaption" parameters for the basic service were signalled between the MS/UE and the network, see TS 24.008.
Fixed Network User Rate	O _C	O _C	Indicates the user data rate applied for the connection in the fixed network. Shall only be present for 2G HSCSD connections and for UMTS data connections.
ChangeOfService	O _C	O _C	A list of changes of basic service during a connection each time-stamped.
Supp. Services	C	C	Supplementary services invoked in connection with this equipment.
Event Time Stamp	M	M	Seizure time: the time at which the equipment was seized.
	O _M	O _M	Release time: the time at which the equipment was released.
Call Duration	M	M	The total duration of the usage of the equipment.
Call Reference	M	M	A local identifier distinguishing between transactions.
Sequence no.	C	C	Partial record sequence number if applicable.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
System Type	-	M	This field indicates the use of GERAN, UTRAN (or a value of unknown). This field is present when either the UTRAN or GERAN air-interface is used on call setup. For an open CDR in a 2G NE (responsible for the CDR), the field is not present (even if the call is handed off to a 3G air interface). For a CDR in a 3G NE (responsible for the CDR), the value unknown shall be used after handover.
Partial Record Type	-	O_C	Indicates the event (time limit etc.) that caused the generation of a partial record.

4.18 Terminating CAMEL call attempt

If the generation of these records is enabled, a terminating CAMEL call attempt record shall be generated for each call toward a subscriber with a T-CSI or VT-CSI and if the terminating trigger criteria are met. The record is generated in the GMSC/gsmSSF carrying out the terminating CAMEL call handling and in the MSC server/gsmSSF carrying out the visited terminating CAMEL call attempt.

Table 18: Terminating CAMEL record

Field	2G	3G	Description
Record Type	M	M	Terminating CAMEL interrogation.
Served IMSI	M	M	IMSI of the called party
Served MSISDN	O _M	O _M	The MSISDN of the called party.
Recording Entity	M	M	The E.164 number of the GMSC.
Interrogation time stamp	M	M	Time at which the interrogation was invoked.
CAMEL Destination Number	M	M	The number available for routing after the CAMEL server enquiry.
GsmSCF Address	M	M	The CAMEL server serving the subscriber.
Service key	M	M	The CAMEL service logic to be applied.
Network call reference	M	M	An identifier to correlate transactions on the same call taking place in different network nodes.
MSC Address	M	M	This field contains the E.164 number assigned to the MSC that generated the network call reference.
Default call handling	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling. This field shall be present only if default call handling has been applied.
Record extensions	O _C	O _C	A set of network/ manufacturer specific extensions to the record, when available.
Called Number	M	M	The address of the called party as received by the GMSC/gsmSSF.
Calling Number	C	C	The address of the calling party, if available.
Incoming TKGP	O _M	O _C	The GMSC trunk group on which the call originated. If available in 3G, this parameter shall be supplied.
Outgoing TKGP	O _M	O _C	The trunk group on which the call left the GMSC. If available in 3G, this parameter shall be supplied.
Event time stamps:	C C O _M	C C O _M	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts) Answer time: time of answer (for successful calls) Release time: time of traffic channel release
Call duration	M	M	The chargeable duration of the connection for successful calls, the holding time of call attempts.
Data volume	C	-	The number of data segments transmitted if available at the GMSC
Cause for termination	M	M	The reason for the release of the connection.
Diagnostics	O _M	O _M	A more detailed reason for the release of the connection.
Call reference	M	M	A local identifier distinguishing between transactions on the same MS
Sequence no.	C	C	Partial record sequence number, only present in case of partial records.
Number of DP encountered	O _C	O _C	Number that counts how often armed detection points (TDP and EDP) were encountered.
Level of CAMEL service	O _C	O _C	Indicator of the complexity of the CAMEL feature used.
Free format Data	C	C	This field contains data sent by the gsmSCF in the Furnish Charging Information (FCI) message(s). The data can be sent either in one FCI message or several FCI messages with append indicator.
CAMEL call leg information	C	C	Set of CAMEL information IEs. Each of these IEs contains information related to one outgoing CAMEL call leg.
Free format data append indicator	C	C	Indicator if free format data from this CDR is to be appended to free format data in previous partial CDR.
MSC server indication	C	C	Indication if the CAMEL call handling is active in the MSC server.
Default call handling 2	O _C	O _C	Indicates whether or not a CAMEL call encountered default call handling for 2 nd service such as dialled service. This field shall be present only if default call handling has been applied.
GsmSCF address 2	C	C	Identifies the CAMEL server serving the subscriber for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2 nd service such as dialled service. Shall be present only if CAMEL is applied for 2 nd service.

Field	2G	3G	Description
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2 nd service such as dialled service. The data can be sent either in one FCI message or several FCI messages with append indicator. Shall be present only if CAMEL is applied for 2 nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2 nd service from this CDR is to be appended to free format data in previous partial CDR. Shall be present only if CAMEL is applied for 2 nd service.
Location Routing Number (LRN)	-	O _c	Location Routing Number for Number Portability feature
LRN Source Indicator	-	O _c	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	O _c	Status of Number Portability query.
JIP Parameter	-	O _c	Jurisdiction Information Parameter
JIP Source Indicator	-	O _c	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	O _c	Status of Number Portability query.
Partial Record Type	-	O _c	Indicates the event (time limit etc.) that caused the generation of a partial record.

End of Change in Clause 4

Change in Clause 5

5 Description of Record Fields

This clause contains a brief description of each field of the CDRs described in the previous clause.

5.60 Old /new location

These fields contain the location of a mobile subscriber before and after a location update. In case of VLR location update the location information consists of a VMSC number and location area code. In case of HLR location update the field contains the VMSC number and the VLR number.

[5.61 Partial Record Type](#)

[This field indicates the event that caused the generation of a partial record.](#)

~~5.61~~ [5.62](#) Positioning Data

This information element is providing positioning data associated with a successful or unsuccessful location attempt for a target MS according TS 49.031 [31].

[etc.](#)

End of Change in Clause 5

Change in Clause 6.1

```

MOCallRecord ::= SET
{
    recordType          [0] CallEventRecordType,
    servedIMSI         [1] IMSI OPTIONAL,
    servedIMEI         [2] IMEI OPTIONAL,
    servedMSISDN       [3] MSISDN OPTIONAL,

```


callingNumber	[4] CallingNumber OPTIONAL,
calledNumber	[5] CalledNumber OPTIONAL,
translatedNumber	[6] TranslatedNumber OPTIONAL,
connectedNumber	[7] ConnectedNumber OPTIONAL,
roamingNumber	[8] RoamingNumber OPTIONAL,
recordingEntity	[9] RecordingEntity,
mscIncomingTKGP	[10] TrunkGroup OPTIONAL,
mscOutgoingTKGP	[11] TrunkGroup OPTIONAL,
location	[12] LocationAreaAndCell OPTIONAL,
changeOfLocation	[13] SEQUENCE OF LocationChange OPTIONAL,
basicService	[14] BasicServiceCode OPTIONAL,
transparencyIndicator	[15] TransparencyInd OPTIONAL,
changeOfService	[16] SEQUENCE OF ChangeOfService OPTIONAL,
supplServicesUsed	[17] SEQUENCE OF SuppServiceUsed OPTIONAL,
aocParameters	[18] AOCParameters OPTIONAL,
changeOfAOCParms	[19] SEQUENCE OF AOCParmChange OPTIONAL,
msClassmark	[20] Classmark OPTIONAL,
changeOfClassmark	[21] ChangeOfClassmark OPTIONAL,
seizureTime	[22] TimeStamp OPTIONAL,
answerTime	[23] TimeStamp OPTIONAL,
releaseTime	[24] TimeStamp OPTIONAL,
callDuration	[25] CallDuration,
dataVolume	[26] DataVolume OPTIONAL,
radioChanRequested	[27] RadioChanRequested OPTIONAL,
radioChanUsed	[28] TrafficChannel OPTIONAL,
changeOfRadioChan	[29] ChangeOfRadioChannel OPTIONAL,
causeForTerm	[30] CauseForTerm,
diagnostics	[31] Diagnostics OPTIONAL,
callReference	[32] CallReference,
sequenceNumber	[33] INTEGER OPTIONAL,
additionalChgInfo	[34] AdditionalChgInfo OPTIONAL,
recordExtensions	[35] ManagementExtensions OPTIONAL,
gsm-SCFAddress	[36] Gsm-SCFAddress OPTIONAL,
serviceKey	[37] ServiceKey OPTIONAL,
networkCallReference	[38] NetworkCallReference OPTIONAL,
mSCAddress	[39] MSCAddress OPTIONAL,
CAMELInitCFIndicator	[40] CAMELInitCFIndicator OPTIONAL,
defaultCallHandling	[41] DefaultCallHandling OPTIONAL,
hSCSDChanRequested	[42] NumOfHSCSDChanRequested OPTIONAL,
hSCSDChanAllocated	[43] NumOfHSCSDChanAllocated OPTIONAL,
changeOfHSCSDParms	[44] SEQUENCE OF HSCSDParmsChange OPTIONAL,
fnur	[45] Fnur OPTIONAL,
aiurRequested	[46] AiurRequested OPTIONAL,
chanCodingsAcceptable	[47] SEQUENCE OF ChannelCoding OPTIONAL,
chanCodingUsed	[48] ChannelCoding OPTIONAL,
speechVersionSupported	[49] SpeechVersionIdentifier OPTIONAL,
speechVersionUsed	[50] SpeechVersionIdentifier OPTIONAL,
numberOfDPENcountered	[51] INTEGER OPTIONAL,
levelOfCAMELService	[52] LevelOfCAMELService OPTIONAL,
freeFormatData	[53] FreeFormatData OPTIONAL,
CAMELCallLegInformation	[54] SEQUENCE OF CAMELInformation OPTIONAL,
freeFormatDataAppend	[55] BOOLEAN OPTIONAL,
defaultCallHandling-2	[56] DefaultCallHandling OPTIONAL,
gsm-SCFAddress-2	[57] Gsm-SCFAddress OPTIONAL,
serviceKey-2	[58] ServiceKey OPTIONAL,
freeFormatData-2	[59] FreeFormatData OPTIONAL,
freeFormatDataAppend-2	[60] BOOLEAN OPTIONAL,
systemType	[61] SystemType OPTIONAL,
rateIndication	[62] RateIndication OPTIONAL,
locationRoutNum	[63] LocationRoutingNumber OPTIONAL,
lrnSoInd	[64] LocationRoutingNumberSourceIndicator OPTIONAL,
lrnQueryStatus	[65] LocationRoutingNumberQueryStatus OPTIONAL,
JIPPara	[66] JurisdictionInformationParameter OPTIONAL,
JIPSoInd	[67] JurisdictionInformationParameterSourceIndicator OPTIONAL,
JIPQueryStatus	[68] JurisdictionInformationParameterQueryStatus OPTIONAL,
<u>partialRecordType</u>	<u>[69] PartialRecordType OPTIONAL</u>

```

MTCallRecord ::= SET
{
  recordType          [0] CallEventRecordType ,
  servedIMSI         [1] IMSI ,
  servedIMEI         [2] IMEI OPTIONAL ,
  servedMSISDN       [3] CalledNumber OPTIONAL ,
  callingNumber       [4] CallingNumber OPTIONAL ,
  connectedNumber     [5] ConnectedNumber OPTIONAL ,
  recordingEntity     [6] RecordingEntity ,

```

```

mscIncomingTKGP      [7] TrunkGroup OPTIONAL,
mscOutgoingTKGP     [8] TrunkGroup OPTIONAL,
location             [9] LocationAreaAndCell OPTIONAL,
changeOfLocation     [10] SEQUENCE OF LocationChange OPTIONAL,
basicService         [11] BasicServiceCode OPTIONAL,
transparencyIndicator [12] TransparencyInd OPTIONAL,
changeOfService      [13] SEQUENCE OF ChangeOfService OPTIONAL,
supplServicesUsed   [14] SEQUENCE OF SuppServiceUsed OPTIONAL,
aocParameters       [15] AOCParameters OPTIONAL,
changeOfAOCParams   [16] SEQUENCE OF AOCParmChange OPTIONAL,
msClassmark         [17] Classmark OPTIONAL,
changeOfClassmark    [18] ChangeOfClassmark OPTIONAL,
seizureTime         [19] TimeStamp OPTIONAL,
answerTime          [20] TimeStamp OPTIONAL,
releaseTime         [21] TimeStamp OPTIONAL,
callDuration        [22] CallDuration,
dataVolume          [23] DataVolume OPTIONAL,
radioChanRequested  [24] RadioChanRequested OPTIONAL,
radioChanUsed       [25] TrafficChannel OPTIONAL,
changeOfRadioChan   [26] ChangeOfRadioChannel OPTIONAL,
causeForTerm        [27] CauseForTerm,
diagnostics         [28] Diagnostics OPTIONAL,
callReference        [29] CallReference,
sequenceNumber      [30] INTEGER OPTIONAL,
additionalChgInfo   [31] AdditionalChgInfo OPTIONAL,
recordExtensions    [32] ManagementExtensions OPTIONAL,
networkCallReference [33] NetworkCallReference OPTIONAL,
mSCAddress          [34] MSCAddress OPTIONAL,
hSCSDChanRequested [35] NumOfHSCSDChanRequested OPTIONAL,
hSCSDChanAllocated [36] NumOfHSCSDChanAllocated OPTIONAL,
changeOfHSCSDParams [37] SEQUENCE OF HSCSDParamsChange OPTIONAL,
fnur                [38] Fnur OPTIONAL,
aiurRequested       [39] AiurRequested OPTIONAL,
chanCodingsAcceptable [40] SEQUENCE OF ChannelCoding OPTIONAL,
chanCodingUsed      [41] ChannelCoding OPTIONAL,
speechVersionSupported [42] SpeechVersionIdentifier OPTIONAL,
speechVersionUsed   [43] SpeechVersionIdentifier OPTIONAL,
gsm-SCFAddress      [44] Gsm-SCFAddress OPTIONAL,
serviceKey          [45] ServiceKey OPTIONAL,
systemType          [46] SystemType OPTIONAL,
rateIndication      [47] RateIndication OPTIONAL,
locationRoutNum     [48] LocationRoutingNumber OPTIONAL,
lrnSoInd            [49] LocationRoutingNumberSourceIndicator OPTIONAL,
lrnQueryStatus      [50] LocationRoutingNumberQueryStatus OPTIONAL,
JIPPara             [51] JurisdictionInformationParameter OPTIONAL,
JIPSoInd            [52] JurisdictionInformationParameterSourceIndicator OPTIONAL,
JIPQueryStatus      [53] JurisdictionInformationParameterQueryStatus OPTIONAL,
partialRecordType [54] PartialRecordType OPTIONAL
}

```

```

RoamingRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  servedIMSI         [1] IMSI,
  servedMSISDN       [2] MSISDN OPTIONAL,
  callingNumber       [3] CallingNumber OPTIONAL,
  roamingNumber       [4] RoamingNumber OPTIONAL,
  recordingEntity     [5] RecordingEntity,
  mscIncomingTKGP    [6] TrunkGroup OPTIONAL,
  mscOutgoingTKGP    [7] TrunkGroup OPTIONAL,
  basicService        [8] BasicServiceCode OPTIONAL,
  transparencyIndicator [9] TransparencyInd OPTIONAL,
  changeOfService     [10] SEQUENCE OF ChangeOfService OPTIONAL,
  supplServicesUsed   [11] SEQUENCE OF SuppServiceUsed OPTIONAL,
  seizureTime        [12] TimeStamp OPTIONAL,
  answerTime         [13] TimeStamp OPTIONAL,
  releaseTime        [14] TimeStamp OPTIONAL,
  callDuration       [15] CallDuration,
  dataVolume         [16] DataVolume OPTIONAL,
  causeForTerm       [17] CauseForTerm,
  diagnostics        [18] Diagnostics OPTIONAL,
  callReference       [19] CallReference,
  sequenceNumber     [20] INTEGER OPTIONAL,
  recordExtensions   [21] ManagementExtensions OPTIONAL,
  networkCallReference [22] NetworkCallReference OPTIONAL,
  mSCAddress         [23] MSCAddress OPTIONAL,
  locationRoutNum    [24] LocationRoutingNumber OPTIONAL,
  lrnSoInd           [25] LocationRoutingNumberSourceIndicator OPTIONAL,

```

```

    lrnQueryStatus      [26] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara             [27] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd            [28] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQueryStatus      [29] JurisdictionInformationParameterQueryStatus OPTIONAL,
    partialRecordType   [30] PartialRecordType OPTIONAL
}

TermCAMELRecord ::= SET
{
    recordtype          [0] CallEventRecordType,
    servedIMSI         [1] IMSI,
    servedMSISDN       [2] MSISDN OPTIONAL,
    recordingEntity     [3] RecordingEntity,
    interrogationTime   [4] TimeStamp,
    destinationRoutingAddress [5] DestinationRoutingAddress,
    gsm-SCFAddress     [6] Gsm-SCFAddress,
    serviceKey         [7] ServiceKey,
    networkCallReference [8] NetworkCallReference OPTIONAL,
    mSCAddress         [9] MSCAddress OPTIONAL,
    defaultCallHandling [10] DefaultCallHandling OPTIONAL,
    recordExtensions   [11] ManagementExtensions OPTIONAL,
    calledNumber       [12] CalledNumber,
    callingNumber      [13] CallingNumber OPTIONAL,
    mscIncomingTKGP   [14] TrunkGroup OPTIONAL,
    mscOutgoingTKGP   [15] TrunkGroup OPTIONAL,
    seizureTime       [16] TimeStamp OPTIONAL,
    answerTime        [17] TimeStamp OPTIONAL,
    releaseTime       [18] TimeStamp OPTIONAL,
    callDuration      [19] CallDuration,
    dataVolume        [20] DataVolume OPTIONAL,
    causeForTerm      [21] CauseForTerm,
    diagnostics       [22] Diagnostics OPTIONAL,
    callReference     [23] CallReference,
    sequenceNumber    [24] INTEGER OPTIONAL,
    numberOfDPENcountered [25] INTEGER OPTIONAL,
    levelOfCAMELService [26] LevelOfCAMELService OPTIONAL,
    freeFormatData    [27] FreeFormatData OPTIONAL,
    cAMELCallLegInformation [28] SEQUENCE OF CAMELInformation OPTIONAL,
    freeFormatDataAppend [29] BOOLEAN OPTIONAL,
    mscServerIndication [30] BOOLEAN OPTIONAL,
    defaultCallHandling-2 [31] DefaultCallHandling OPTIONAL,
    gsm-SCFAddress-2  [32] Gsm-SCFAddress OPTIONAL,
    serviceKey-2      [33] ServiceKey OPTIONAL,
    freeFormatData-2  [34] FreeFormatData OPTIONAL,
    freeFormatDataAppend-2 [35] BOOLEAN OPTIONAL,
    locationRoutNum   [36] LocationRoutingNumber OPTIONAL,
    lrnSoInd         [37] LocationRoutingNumberSourceIndicator OPTIONAL,
    lrnQueryStatus   [38] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara         [39] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd       [40] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQueryStatus [41] JurisdictionInformationParameterQueryStatus OPTIONAL,
    partialRecordType [42] PartialRecordType OPTIONAL
}

IncGatewayRecord ::= SET
{
    recordType          [0] CallEventRecordType,
    callingNumber      [1] CallingNumber OPTIONAL,
    calledNumber       [2] CalledNumber,
    recordingEntity     [3] RecordingEntity,
    mscIncomingTKGP   [4] TrunkGroup OPTIONAL,
    mscOutgoingTKGP   [5] TrunkGroup OPTIONAL,
    seizureTime       [6] TimeStamp OPTIONAL,
    answerTime        [7] TimeStamp OPTIONAL,
    releaseTime       [8] TimeStamp OPTIONAL,
    callDuration      [9] CallDuration,
    dataVolume        [10] DataVolume OPTIONAL,
    causeForTerm      [11] CauseForTerm,
    diagnostics       [12] Diagnostics OPTIONAL,
    callReference     [13] CallReference,
    sequenceNumber    [14] INTEGER OPTIONAL,
    recordExtensions   [15] ManagementExtensions OPTIONAL,
    locationRoutNum   [16] LocationRoutingNumber OPTIONAL,
    lrnSoInd         [17] LocationRoutingNumberSourceIndicator OPTIONAL,
    lrnQueryStatus   [18] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara         [19] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd       [20] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQueryStatus [21] JurisdictionInformationParameterQueryStatus OPTIONAL,

```

```

| partialRecordType [22] PartialRecordType OPTIONAL
}

OutGatewayRecord ::= SET
{
    recordType [0] CallEventRecordType,
    callingNumber [1] CallingNumber OPTIONAL,
    calledNumber [2] CalledNumber,
    recordingEntity [3] RecordingEntity,
    mscIncomingTKGP [4] TrunkGroup OPTIONAL,
    mscOutgoingTKGP [5] TrunkGroup OPTIONAL,
    seizureTime [6] TimeStamp OPTIONAL,
    answerTime [7] TimeStamp OPTIONAL,
    releaseTime [8] TimeStamp OPTIONAL,
    callDuration [9] CallDuration,
    dataVolume [10] DataVolume OPTIONAL,
    causeForTerm [11] CauseForTerm,
    diagnostics [12] Diagnostics OPTIONAL,
    callReference [13] CallReference,
    sequenceNumber [14] INTEGER OPTIONAL,
    recordExtensions [15] ManagementExtensions OPTIONAL,
    locationRoutNum [16] LocationRoutingNumber OPTIONAL,
    lrnSoInd [17] LocationRoutingNumberSourceIndicator OPTIONAL,
    lrnQueryStatus [18] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara [19] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd [20] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQueryStatus [21] JurisdictionInformationParameterQueryStatus OPTIONAL,
| partialRecordType [22] PartialRecordType OPTIONAL
}

TransitCallRecord ::= SET
{
    recordType [0] CallEventRecordType,
    recordingEntity [1] RecordingEntity,
    mscIncomingTKGP [2] TrunkGroup OPTIONAL,
    mscOutgoingTKGP [3] TrunkGroup OPTIONAL,
    callingNumber [4] CallingNumber OPTIONAL,
    calledNumber [5] CalledNumber,
    isdnBasicService [6] BasicService OPTIONAL,
    seizureTimestamp [7] TimeStamp OPTIONAL,
    answerTimestamp [8] TimeStamp OPTIONAL,
    releaseTimestamp [9] TimeStamp OPTIONAL,
    callDuration [10] CallDuration,
    dataVolume [11] DataVolume OPTIONAL,
    causeForTerm [12] CauseForTerm,
    diagnostics [13] Diagnostics OPTIONAL,
    callReference [14] CallReference,
    sequenceNumber [15] INTEGER OPTIONAL,
    recordExtensions [16] ManagementExtensions OPTIONAL,
    locationRoutNum [17] LocationRoutingNumber OPTIONAL,
    lrnSoInd [18] LocationRoutingNumberSourceIndicator OPTIONAL,
    lrnQueryStatus [19] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara [20] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd [21] JurisdictionInformationParameterSourceIndicator OPTIONAL,
| partialRecordType [23] PartialRecordType OPTIONAL
}

MOSMSRecord ::= SET
{
    recordType [0] CallEventRecordType,
    servedIMSI [1] IMSI,
    servedIMEI [2] IMEI OPTIONAL,
    servedMSISDN [3] MSISDN OPTIONAL,
    msClassmark [4] Classmark,
    serviceCentre [5] AddressString,
    recordingEntity [6] RecordingEntity,
    location [7] LocationAreaAndCell OPTIONAL,
    messageReference [8] MessageReference,
    originationTime [9] TimeStamp,
    smsResult [10] SMSResult OPTIONAL,
    recordExtensions [11] ManagementExtensions OPTIONAL,
    destinationNumber [12] SmsTpDestinationNumber OPTIONAL,
    cAMELSMSInformation [13] CAMELSMSInformation OPTIONAL,
    systemType [14] SystemType OPTIONAL
}

MTSMSRecord ::= SET

```

```

{
  recordType          [0] CallEventRecordType,
  serviceCentre       [1] AddressString,
  servedIMSI          [2] IMSI,
  servedIMEI          [3] IMEI OPTIONAL,
  servedMSISDN        [4] MSISDN OPTIONAL,
  msClassmark         [5] Classmark,
  recordingEntity     [6] RecordingEntity,
  location            [7] LocationAreaAndCell OPTIONAL,
  deliveryTime        [8] TimeStamp,
  smsResult           [9] SMSResult OPTIONAL,
  recordExtensions    [10] ManagementExtensions OPTIONAL,
  systemType          [11] SystemType OPTIONAL,
  CAMELSMSInformation [12] CAMELSMSInformation OPTIONAL
}

MOSMSIWRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  serviceCentre       [1] AddressString,
  servedIMSI          [2] IMSI,
  recordingEntity     [3] RecordingEntity,
  eventTime           [4] TimeStamp,
  smsResult           [5] SMSResult OPTIONAL,
  recordExtensions    [6] ManagementExtensions OPTIONAL
}

MTSMGWRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  serviceCentre       [1] AddressString,
  servedIMSI          [2] IMSI,
  servedMSISDN        [3] MSISDN OPTIONAL,
  recordingEntity     [4] RecordingEntity,
  eventTime           [5] TimeStamp,
  smsResult           [6] SMSResult OPTIONAL,
  recordExtensions    [7] ManagementExtensions OPTIONAL
}

SSActionRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  servedIMSI          [1] IMSI,
  servedIMEI          [2] IMEI OPTIONAL,
  servedMSISDN        [3] MSISDN OPTIONAL,
  msClassmark         [4] Classmark,
  recordingEntity     [5] RecordingEntity,
  location            [6] LocationAreaAndCell OPTIONAL,
  basicServices        [7] BasicServices OPTIONAL,
  supplService        [8] SS-Code OPTIONAL,
  ssAction             [9] SSActionType OPTIONAL,
  ssActionTime         [10] TimeStamp,
  ssParameters         [11] SSParameters OPTIONAL,
  ssActionResult       [12] SSActionResult OPTIONAL,
  callReference        [13] CallReference,
  recordExtensions    [14] ManagementExtensions OPTIONAL,
  systemType          [15] SystemType OPTIONAL
}

HLRIntRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  servedIMSI          [1] IMSI,
  servedMSISDN        [2] MSISDN,
  recordingEntity     [3] RecordingEntity,
  basicService        [4] BasicServiceCode OPTIONAL,
  routingNumber        [5] RoutingNumber,
  interrogationTime    [6] TimeStamp,
  numberOfForwarding  [7] NumberOfForwarding OPTIONAL,
  interrogationResult  [8] HLRIntResult OPTIONAL,
  recordExtensions    [9] ManagementExtensions OPTIONAL
}

LocUpdateHLRRecord ::= SET
{
  recordType          [0] CallEventRecordType,
  servedIMSI          [1] IMSI,
  recordingEntity     [2] RecordingEntity,

```

```

    oldLocation          [3] Visited-Location-info OPTIONAL,
    newLocation          [4] Visited-Location-info,
    updateTime           [5] TimeStamp,
    updateResult        [6] LocUpdResult OPTIONAL,
    recordExtensions    [7] ManagementExtensions OPTIONAL
}

LocUpdateVLRRecord ::= SET
{
    recordType          [0] CallEventRecordType,
    servedIMSI         [1] IMSI,
    servedMSISDN       [2] MSISDN OPTIONAL,
    recordingEntity     [3] RecordingEntity,
    oldLocation        [4] Location-info OPTIONAL,
    newLocation        [5] Location-info,
    msClassmark        [6] Classmark,
    updateTime         [7] TimeStamp,
    updateResult       [8] LocUpdResult OPTIONAL,
    recordExtensions   [9] ManagementExtensions OPTIONAL
}

CommonEquipRecord ::= SET
{
    recordType          [0] CallEventRecordType,
    equipmentType       [1] EquipmentType,
    equipmentId         [2] EquipmentId,
    servedIMSI         [3] IMSI,
    servedMSISDN       [4] MSISDN OPTIONAL,
    recordingEntity     [5] RecordingEntity,
    basicService       [6] BasicServiceCode OPTIONAL,
    changeOfService    [7] SEQUENCE OF ChangeOfService OPTIONAL,
    supplServicesUsed  [8] SEQUENCE OF SuppServiceUsed OPTIONAL,
    seizureTime        [9] TimeStamp,
    releaseTime        [10] TimeStamp OPTIONAL,
    callDuration       [11] CallDuration,
    callReference       [12] CallReference,
    sequenceNumber     [13] INTEGER OPTIONAL,
    recordExtensions   [14] ManagementExtensions OPTIONAL,
    systemType         [15] SystemType OPTIONAL,
    rateIndication     [16] RateIndication OPTIONAL,
    fnur               [17] Fnur OPTIONAL,
    partialRecordType  [18] PartialRecordType OPTIONAL
}

```

Unchanged part of Clause 6.1

```

PartialRecordType ::= ENUMERATED
{
    timeLimit          (0),
    serviceChange      (1),
    locationChange     (2),
    classmarkChange    (3),
    aocParmChange      (4),
    radioChannelChange (5),
    hSCSDParmChange   (6),
    changeOfCAMELDestination (7)
}

```

~~PartialRecordTypes ::= SET OF PartialRecordType~~

End of Change in Clause 6.1

End of Document

CHANGE REQUEST

⌘ **32.205 CR 018** ⌘ 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

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

Reason for change:	⌘	The ASN.1 definition for IMS CDRs is missing.
Summary of change:	⌘	The ASN.1 definition for IMS CDRs added in parameter 'CallEventRecordType' and in the CDR types.
Consequences if not approved:	⌘	Offline Charging for IMS is not possible.

Clauses affected:	⌘	6								
Other specs affected:	⌘	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications O&M Specifications	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
Other comments:	⌘									

How to create CRs using this form:

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

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

Change in Clause 6

6 Charging Data Record Structure

6.1 ASN.1 definitions for CDR information

Within the current 3GPP TS 32-series of specifications the ASN.1 definitions are based on ITU-T Recommendation X.208 [8] which has been superseded by ITU-T Recommendation X.680. This newer version not only includes new features but also removes some that were present in ITU-T Recommendation X.208. It was agreed that where possible, the GPRS work would be based on those ASN.1 features that were common to both. However, where necessary, the new features in ITU-T Recommendation X.680 [7] be used in some places. ITU-T Recommendation X.208 [8] feature that are no longer in ITU-T Recommendation X.680 [7] will not be used.

```
TS32205-DataTypes {itu-t (0) identified-organization (4) etsi(0) mobileDomain (0) umts-Operation-
Maintenance (3) ts-32-205 (205) informationModel (0) asnlModule (2) version1 (1)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
```

```
BEGIN
```

```
-- EXPORTS everything
```

```
IMPORTS
```

```
NumberOfForwarding, CallReferenceNumber
```

```
FROM MAP-CH-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-CH-DataTypes (13) version6 (6) }
```

```
AddressString, ISDN-AddressString, BasicServiceCode, IMSI, IMEI, LCSCClientExternalID,
LCSCClientInternalID
```

```
FROM MAP-CommonDataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network
(1) modules (3) map-CommonDataTypes (18) version6 (6) }
```

```
DestinationRoutingAddress
```

```
FROM CAP-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) cap-datatypes (52) version1 (0) }
```

```
ServiceKey, DefaultCallHandling, DefaultSMS-Handling, NotificationToMSUser
```

```
FROM MAP-MS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) map-MS-DataTypes (11) version6 (6) }
```

```
MOLR-Type
```

```
FROM SS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Access (2)
modules (3) ss-DataTypes (2) version7 (7)}
```

```
BearerServiceCode
```

```
FROM MAP-BS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-BS-Code (20) version6 (6) }
```

```
TeleserviceCode
```

```
FROM MAP-TS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-TS-Code (19) version2 (2) }
```

```
SS-Code
```

```
FROM MAP-SS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-SS-Code (15) version6 (6) }
```

```
Ext-GeographicalInformation, LCSCClientType, LCS-Priority, LocationType
```

```
FROM MAP-LCS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-LCS-DataTypes (25) version7 (7)}
```

```
PositionMethodFailure-Diagnostic
```



```
FROM MAP-ER-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-ER-DataTypes (17) version7 (7)}
```

BasicService

```
FROM Basic-Service-Elements { ccitt identified-organization (4) etsi (0)
196 basic-service-elements (8) }
--
-- See "Digital Subscriber Signalling System No. one (DSS1) protocol"
-- ETS 300 196
--
```

ObjectInstance

```
FROM CMIP-1 {joint-iso-ccitt ms (9) cmip (1) version1 (1) protocol (3)}
```

ManagementExtension

```
FROM Attribute-ASN1Module {joint-iso-ccitt ms (9) smi (3) part2 (2) asn1Module (2) 1}
```

SystemType

```
FROM TS32215-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-215 (215) informationModel (0) asn1Module (2) version1 (1)}
```

```
SGSNPDPreCORD, GGSNPDPreCORD, SGSNMMPreCORD, SGSNSMOReCORD, SGSNSMTReCORD, SGSNMTLCSReCORD,
SGSNMOLCSReCORD, SGSNNILCSReCORD
```

```
FROM TS32215-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-215 (215) informationModel (0) asn1Module (2) version1 (1)}
```

```
S-CSCFRReCORD, P-CSCFRReCORD, I-CSCFRReCORD, MRFCReCORD, MGCFReCORD, BGCFReCORD, ASReCORD
```

```
FROM TS32225-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-225 (225) informationModel (0) asn1Module (2) version1 (1)}
```

```
MMO1SReCORD, MMO4FRqReCORD, MMO4FRsReCORD, MMO4DReCORD, MMO1DReCORD, MMO4RReCORD, MMO1RReCORD,
MMOMDReCORD, MMR4FReCORD, MMR1NRqReCORD, MMR1NRsReCORD, MMR1RtReCORD, MMR1AReCORD, MMR4DRqReCORD,
MMR4DRsReCORD, MMR1RRReCORD, MMR4RRqReCORD, MMR4RRsReCORD, MMRMDReCORD, MMFReCORD, MMBx1SReCORD,
MMBx1VReCORD, MMBx1UReCORD, MMBx1DReCORD
```

```
FROM TS32235-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-235 (235) informationModel (0) asn1Module (2) version1 (1)}
```

AE-title

```
FROM ACSE-1 {joint-iso-ccitt association-control (2) abstract-syntax (1) apdus (0) version (1) };
--
-- Note that the syntax of AE-title to be used is from
-- CCITT Rec. X.227 / ISO 8650 corrigendum and not "ANY"
```

```
-----
-- CALL AND EVENT RECORDS
--
-----
```

```
CallEventRecord ::= CHOICE
```

```
--
-- Record values 0..19 are 3G circuit switch specific
-- Record values 20..27 are 3G packet switch specific
-- Record values 30..54 are application specific
-- Record values 70..76 are IMS specific
--
```

```
{
  moCallRecord          [0] MOCallRecord,
  mtCallRecord          [1] MTCallRecord,
  roamingRecord         [2] RoamingRecord,
  incGatewayRecord      [3] IncGatewayRecord,
  outGatewayRecord      [4] OutGatewayRecord,
  transitRecord         [5] TransitCallRecord,
  moSMSRecord           [6] MOSMSRecord,
  mtSMSRecord           [7] MTSMSRecord,
  moSMSIWRecord         [8] MOSMSIWRecord,
  mtSMSGWRecord         [9] MTSMSGWRecord,
  ssActionRecord        [10] SSActionRecord,
  hlrIntRecord          [11] HLRIntRecord,
  locUpdateHLRRecord    [12] LocUpdateHLRRecord,
  locUpdateVLRRecord    [13] LocUpdateVLRRecord,
  commonEquipRecord     [14] CommonEquipRecord,
  recTypeExtensions     [15] ManagementExtensions,
  termCAMELRecord       [16] TermCAMELRecord,
  mtLCSRecord           [17] MTLCSRecord,
  moLCSRecord           [18] MOLCSRecord,
  niLCSRecord           [19] NILCSRecord,

  sgsnPDPRecord         [20] SGSNPDPreCORD,
```

```

ggsnPDPRecord      [21] GGSNPDPRecord,
sgsnMMRecord       [22] SGSNMMRecord,
sgsnSMORecord      [23] SGSNSMORecord,
sgsnSMTRecord      [24] SGSNSMTRecord,
sgsnLCTRecord      [25] SGSNLCTRecord,

sgsnLCORecord      [26] SGSNLCORecord,
sgsnLCNRecord      [27] SGSNLCNRecord,

```

```

mmO1SRecord        [30] MM01SRecord,
mmO4FRqRecord      [31] MM04FRqRecord,
mmO4FRsRecord      [32] MM04FRsRecord,
mmO4DRecord        [33] MM04DRecord,
mmO1DRecord        [34] MM01DRecord,
mmO4RRecord        [35] MM04RRecord,
mmO1RRecord        [36] MM01RRecord,
mmOMDRecord        [37] MMOMDRecord,
mmR4FRecord        [38] MMR4FRecord,
mmR1NRqRecord      [39] MMR1NRqRecord,
mmR1NRsRecord      [40] MMR1NRsRecord,
mmR1RtRecord       [41] MMR1RtRecord,

```

```

mmR1AFRecord       [43] MMR1ARecord,
mmR4DRqRecord      [44] MMR4DRqRecord,
mmR4DRsRecord      [45] MMR4DRsRecord,
mmR1RRRRecord      [46] MMR1RRRRecord,
mmR4RRqRecord      [47] MMR4RRqRecord,
mmR4RRsRecord      [48] MMR4RRsRecord,
mmRMDRecord        [49] MMRMDRecord,
mmFRecord          [50] MMFRecord,
mmBx1SRecord       [51] MMBx1SRecord,
mmBx1VRecord       [52] MMBx1VRecord,
mmBx1URecord       [53] MMBx1URecord,
mmBx1DRecord       [54] MMBx1DRecord,

```

```

s-SCSFRecord       [70] S-SCSFRecord,
p-SCSFRecord       [71] P-SCSFRecord,
i-SCSFRecord       [72] I-SCSFRecord,
mRFCRecord         [73] MRFRecord,
mGCFRecord         [74] MGCFRecord,
bGCFRecord         [75] BGCFRecord,
aSRecord           [76] ASRecord
}

```

...

<unmodified text>

...

```

-----
--
-- COMMON DATA TYPES
--
-----

```

```

AdditionalChgInfo ::= SEQUENCE
{
    chargeIndicator [0] ChargeIndicator OPTIONAL,
    chargeParameters [1] OCTET STRING OPTIONAL
}

```

```

AiurRequested ::= ENUMERATED
{
    --
    -- See Bearer Capability TS 24.008
    -- (note that value "4" is intentionally missing
    -- because it is not used in TS 24.008)
    --
    aiur09600BitsPerSecond (1),
    aiur14400BitsPerSecond (2),
    aiur19200BitsPerSecond (3),
    aiur28800BitsPerSecond (5),
    aiur38400BitsPerSecond (6),
}

```

```

    aiur43200BitsPerSecond      (7),
    aiur57600BitsPerSecond      (8),
    aiur38400BitsPerSecond1     (9),
    aiur38400BitsPerSecond2     (10),
    aiur38400BitsPerSecond3     (11),
    aiur38400BitsPerSecond4     (12)
}

AOCParameters ::= SEQUENCE
{
    --
    -- See TS 22.024.
    --
    e1      [1] EParameter OPTIONAL,
    e2      [2] EParameter OPTIONAL,
    e3      [3] EParameter OPTIONAL,
    e4      [4] EParameter OPTIONAL,
    e5      [5] EParameter OPTIONAL,
    e6      [6] EParameter OPTIONAL,
    e7      [7] EParameter OPTIONAL
}

AOCParamChange ::= SEQUENCE
{
    changeTime      [0] TimeStamp,
    newParameters   [1] AOCParameters
}

BasicServices ::= SET OF BasicServiceCode

BCDDirectoryNumber ::= OCTET STRING
-- This type contains the binary coded decimal representation of
-- a directory number e.g. calling/called/connected/translated number.
-- The encoding of the octet string is in accordance with the
-- the elements "Calling party BCD number", "Called party BCD number"
-- and "Connected number" defined in TS 24.008.
-- This encoding includes type of number and number plan information
-- together with a BCD encoded digit string.
-- It may also contain both a presentation and screening indicator
-- (octet 3a).
-- For the avoidance of doubt, this field does not include
-- octets 1 and 2, the element name and length, as this would be
-- redundant.

CallDuration ::= INTEGER
--
-- The call duration in seconds.
-- For successful calls this is the chargeable duration.
-- For call attempts this is the call holding time.
--

CallEventRecordType ::= INTEGER
{
    moCallRecord      (0),
    mtCallRecord      (1),
    roamingRecord     (2),
    incGatewayRecord  (3),
    outGatewayRecord  (4),
    transitCallRecord (5),
    moSMSRecord       (6),
    mtSMSRecord       (7),
    moSMSIWRecord     (8),
    mtSMSGWRecord     (9),
    ssActionRecord    (10),
    hlrIntRecord      (11),
    locUpdateHLRRecord (12),
    locUpdateVLRRecord (13),
    commonEquipRecord (14),
    moTraceRecord     (15),
    mtTraceRecord     (16),
    termCAMELRecord   (17),
    --
    -- Record values 18..22 are GPRS specific.
    -- The contents are defined in TS 32.015
    --
    sgsnPDPRecord     (18),
    ggsnPDPRecord     (19),
    sgsnMMRecord      (20),

```

```

sgsnSMORecord      (21),
sgsnSMTRecord      (22),
--
-- Record values 23..25 are CS-LCS specific.
-- The contents are defined in the present document
--
mtLCSRecord        (23),
moLCSRecord        (24),
niLCSRecord        (25),
--
-- Record values 26..28 are PS-LCS specific.
-- The contents are defined in TS 32.215
--
sgsnMtLCSRecord    (26),
sgsnMoLCSRecord    (27),
sgsnNiLCSRecord    (28),
--
-- Record values 29..53 are MMS specific.
-- The contents are defined in TS 32.235
--
mmO1SRecord        (29),
mmO4FRqRecord      (30),
mmO4FRsRecord      (31),
mmO4DRecord        (32),
mmO1DRecord        (33),
mmO4RRecord        (34),
mmO1RRRecord       (35),
mmOMDRecord        (36),
mmR4FRecord        (37),
mmR1NRqRecord      (38),
mmR1NRsRecord      (39),
mmR1RtRecord       (40),
mmR1AFRecord       (42),
mmR4DRqRecord      (43),
mmR4DRsRecord      (44),
mmR1RRRRecord      (45),
mmR4RRqRecord      (46),
mmR4RRsRecord      (47),
mmRMDRecord        (48),
mmFRecord          (49),
mmBx1SRecord       (50),
mmBx1VRecord       (51),
mmBx1URecord       (52),
mmBx1DRecord       (53),
--
-- Record values 63..69 are IMS specific.
-- The contents are defined in TS 32.225
--
S-CSCFRecord       (63),
P-CSCFRecord       (64),
I-CSCFRecord       (65),
MRFCRecord         (66),
MGCFRecord         (67),
BGCFRecord         (68),
ASRecord           (69)
}

```

...

<unmodified text>

...

<p>End of Change in Clause 6 End of Document</p>

CHANGE REQUEST

⌘ **32.205 CR 017** ⌘ 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

Title:	⌘ Corrections on MMS records ASN.1 definition		
Source:	⌘ S5		
Work item code:	⌘ OAM-CH	Date:	⌘ 08/04/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Mismatch between the definition of the MMS CDRs and their encoding.
Summary of change:	⌘ Corrections on the ASN.1 definition of the "CallEventRecordType" and addition of the MMS VASP CDR types.
Consequences if not approved:	⌘ Without these corrections, proper encoding of the MMS CDR would not be possible

Clauses affected:	⌘ 6				
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;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications ⌘	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications ⌘	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications ⌘	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
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.

Change in Clause 6

6 Charging Data Record Structure

6.1 ASN.1 definitions for CDR information

Within the current 3GPP TS 32-series of specifications the ASN.1 definitions are based on ITU-T Recommendation X.208 [8] which has been superseded by ITU-T Recommendation X.680. This newer version not only includes new features but also removes some that were present in ITU-T Recommendation X.208. It was agreed that where possible, the GPRS work would be based on those ASN.1 features that were common to both. However, where necessary, the new features in ITU-T Recommendation X.680 [7] be used in some places. ITU-T Recommendation X.208 [8] feature that are no longer in ITU-T Recommendation X.680 [7] will not be used.

```
TS32205-DataTypes {itu-t (0) identified-organization (4) etsi(0) mobileDomain (0) umts-Operation-
Maintenance (3) ts-32-205 (205) informationModel (0) asnlModule (2) version1 (1)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
```

```
BEGIN
```

```
-- EXPORTS everything
```

```
IMPORTS
```

```
NumberOfForwarding, CallReferenceNumber
```

```
FROM MAP-CH-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-CH-DataTypes (13) version6 (6) }
```

```
AddressString, ISDN-AddressString, BasicServiceCode, IMSI, IMEI, LCSCClientExternalID,
LCSCClientInternalID
```

```
FROM MAP-CommonDataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network
(1) modules (3) map-CommonDataTypes (18) version6 (6) }
```

```
DestinationRoutingAddress
```

```
FROM CAP-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) cap-datatypes (52) version1 (0) }
```

```
ServiceKey, DefaultCallHandling, DefaultSMS-Handling, NotificationToMSUser
```

```
FROM MAP-MS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) map-MS-DataTypes (11) version6 (6) }
```

```
MOLR-Type
```

```
FROM SS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Access (2)
modules (3) ss-DataTypes (2) version7 (7)}
```

```
BearerServiceCode
```

```
FROM MAP-BS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-BS-Code (20) version6 (6) }
```

```
TeleserviceCode
```

```
FROM MAP-TS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-TS-Code (19) version2 (2) }
```

```
SS-Code
```

```
FROM MAP-SS-Code { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-SS-Code (15) version6 (6) }
```

```
Ext-GeographicalInformation, LCSCClientType, LCS-Priority, LocationType
```

```
FROM MAP-LCS-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-LCS-DataTypes (25) version7 (7)}
```

```
PositionMethodFailure-Diagnostic
```

```
FROM MAP-ER-DataTypes { ccitt identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1)
modules (3) map-ER-DataTypes (17) version7 (7)}
```

BasicService

```
FROM Basic-Service-Elements { ccitt identified-organization (4) etsi (0)
196 basic-service-elements (8) }
--
-- See "Digital Subscriber Signalling System No. one (DSS1) protocol"
-- ETS 300 196
--
```

ObjectInstance

```
FROM CMIP-1 {joint-iso-ccitt ms (9) cmip (1) version1 (1) protocol (3)}
```

ManagementExtension

```
FROM Attribute-ASN1Module {joint-iso-ccitt ms (9) smi (3) part2 (2) asn1Module (2) 1}
```

SystemType

```
FROM TS32215-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-215 (215) informationModel (0) asn1Module (2) version1 (1)}
```

```
SGSNPDPreCORD, GGSNPDPreCORD, SGSNMMPreCORD, SGSNSMOPreCORD, SGSNSMTPreCORD, SGSNMTLCSPreCORD,
SGSNMOLCSPreCORD, SGSNNILCSPreCORD
```

```
FROM TS32215-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-215 (215) informationModel (0) asn1Module (2) version1 (1)}
```

```
MMO1SRecord, MMO4FRqRecord, MMO4FRsRecord, MMO4DRecord, MMO1DRecord, MMO4RRecord, MMO1RRecord,
MMOMDRecord, MMR4FRecord, MMR1NRqRecord, MMR1NRsRecord, MMR1RtRecord, MMR1ARecord, MMR4DRqRecord,
MMR4DRsRecord, MMR1RRRecord, MMR4RRqRecord, MMR4RRsRecord, MMRMDRecord, MMFRecord, MMBx1SRecord,
MMBx1VRecord, MMBx1URRecord, MMBx1DRecord, MM7SRecord, MM7DRqRecord, MM7DRsRecord, MM7CRecord,
MM7RRRecord, MM7DRRqRecord, MM7DRRsRecord, MM7RRqRecord, MM7RRsRecord
```

```
FROM TS32235-DataTypes {itu-t (0) identified-organization (4) etsi (0) mobileDomain (0) umts-
Operation-Maintenance (3) ts-32-235 (235) informationModel (0) asn1Module (2) version1 (1)}
```

AE-title

```
FROM ACSE-1 {joint-iso-ccitt association-control (2) abstract-syntax (1) apdus (0) version (1) };
--
-- Note that the syntax of AE-title to be used is from
-- CCITT Rec. X.227 / ISO 8650 corrigendum and not "ANY"
```

```
-----
-- CALL AND EVENT RECORDS
-----
```

```
CallEventRecord ::= CHOICE
```

```
--
-- Record values 0..19 are 3G circuit switch specific
-- 20..27 are 3G packet switch specific
-- 30..6354 are application specific
--
```

```
{
    moCallRecord          [0] MOCallRecord,
    mtCallRecord          [1] MTCallRecord,
    roamingRecord         [2] RoamingRecord,
    incGatewayRecord      [3] IncGatewayRecord,
    outGatewayRecord      [4] OutGatewayRecord,
    transitRecord         [5] TransitCallRecord,
    moSMSRecord           [6] MOSMSRecord,
    mtSMSRecord           [7] MTSMSRecord,
    moSMSIWRecord         [8] MOSMSIWRecord,
    mtSMSGWRecord         [9] MTSMSGWRecord,
    ssActionRecord        [10] SSActionRecord,
    hlrIntRecord          [11] HLRIntRecord,
    locUpdateHLRRecord    [12] LocUpdateHLRRecord,
    locUpdateVLRRecord    [13] LocUpdateVLRRecord,
    commonEquipRecord     [14] CommonEquipRecord,
    recTypeExtensions     [15] ManagementExtensions,
    termCAMELRecord       [16] TermCAMELRecord,
    mtLCSRecord           [17] MTLCSRecord,
    moLCSRecord           [18] MOLCSRecord,
    niLCSRecord           [19] NILCSRecord,

    sgsnPDPRecord         [20] SGSNPDPRecord,
    ggsnPDPRecord         [21] GGSNPDPRecord,
    sgsnMMRecord          [22] SGSNMMRecord,
    sgsnSMORecord         [23] SGSNSMORRecord,
```

sgsnSMTRecord	[24]	SGSNSMTRecord,
sgsnLCTRecord	[25]	SGSNLCTRecord,
sgsnLCORecord	[26]	SGSNLCORecord,
sgsnLCNRecord	[27]	SGSNLCNRecord,
mmO1SRecord	[30]	MMO1SRecord,
mmO4FRqRecord	[31]	MMO4FRqRecord,
mmO4FRsRecord	[32]	MMO4FRsRecord,
mmO4DRRecord	[33]	MMO4DRRecord,
mmO1DRecord	[34]	MMO1DRecord,
mmO4RRRecord	[35]	MMO4RRRecord,
mmO1RRecord	[36]	MMO1RRecord,
mmOMDRecord	[37]	MMOMDRecord,
mmR4FRecord	[38]	MMR4FRecord,
mmR1NRqRecord	[39]	MMR1NRqRecord,
mmR1NRsRecord	[40]	MMR1NRsRecord,
mmR1RtRecord	[41]	MMR1RtRecord,
mmR1AFRecord	[43]	MMR1ARecord,
mmR4DRqRecord	[44]	MMR4DRqRecord,
mmR4DRsRecord	[45]	MMR4DRsRecord,
mmR1RRRecord	[46]	MMR1RRRecord,
mmR4RRqRecord	[47]	MMR4RRqRecord,
mmR4RRsRecord	[48]	MMR4RRsRecord,
mmRMDRecord	[49]	MMRMDRecord,
mmFRecord	[50]	MMFRecord,
mmBx1SRecord	[51]	MMBx1SRecord,
mmBx1VRecord	[52]	MMBx1VRecord,
mmBx1URecord	[53]	MMBx1URecord,
mmBx1DRecord	[54]	MMBx1DRecord,
mm7SRecord	[55]	MM7SRecord,
mm7DRqRecord	[56]	MM7DRqRecord,
mm7DRsRecord	[57]	MM7DRsRecord,
mm7CRecord	[58]	MM7CRecord,
mm7RRecord	[59]	MM7RRecord,
mm7DRRqRecord	[60]	MM7DRRqRecord,
mm7DRRsRecord	[61]	MM7DRRsRecord,
mm7RRqRecord	[62]	MM7RRqRecord,
mm7RRsRecord	[63]	MM7RRsRecord

}

...

<unmodified text>

...

 --
 -- COMMON DATA TYPES
 --

```
AdditionalChgInfo ::= SEQUENCE
{
  chargeIndicator [0] ChargeIndicator OPTIONAL,
  chargeParameters [1] OCTET STRING OPTIONAL
}
```

```
AiurRequested ::= ENUMERATED
{
  --
  -- See Bearer Capability TS 24.008
  -- (note that value "4" is intentionally missing
  -- because it is not used in TS 24.008)
  --
  aiur09600BitsPerSecond (1),
  aiur14400BitsPerSecond (2),
  aiur19200BitsPerSecond (3),
  aiur28800BitsPerSecond (5),
  aiur38400BitsPerSecond (6),
  aiur43200BitsPerSecond (7),
```



```

aiur57600BitsPerSecond      (8),
aiur38400BitsPerSecond1     (9),
aiur38400BitsPerSecond2     (10),
aiur38400BitsPerSecond3     (11),
aiur38400BitsPerSecond4     (12)
}

AOCParameters                ::= SEQUENCE
{
  --
  -- See TS 22.024.
  --
  e1                          [1] EParameter OPTIONAL,
  e2                          [2] EParameter OPTIONAL,
  e3                          [3] EParameter OPTIONAL,
  e4                          [4] EParameter OPTIONAL,
  e5                          [5] EParameter OPTIONAL,
  e6                          [6] EParameter OPTIONAL,
  e7                          [7] EParameter OPTIONAL
}

AOCParamChange               ::= SEQUENCE
{
  changeTime                  [0] TimeStamp,
  newParameters                [1] AOCParameters
}

BasicServices                 ::= SET OF BasicServiceCode

BCDDirectoryNumber           ::= OCTET STRING
-- This type contains the binary coded decimal representation of
-- a directory number e.g. calling/called/connected/translated number.
-- The encoding of the octet string is in accordance with the
-- the elements "Calling party BCD number", "Called party BCD number"
-- and "Connected number" defined in TS 24.008.
-- This encoding includes type of number and number plan information
-- together with a BCD encoded digit string.
-- It may also contain both a presentation and screening indicator
-- (octet 3a).
-- For the avoidance of doubt, this field does not include
-- octets 1 and 2, the element name and length, as this would be
-- redundant.

CallDuration                  ::= INTEGER
--
-- The call duration in seconds.
-- For successful calls this is the chargeable duration.
-- For call attempts this is the call holding time.
--

CallEventRecordType           ::= INTEGER
{
  moCallRecord                (0),
  mtCallRecord                (1),
  roamingRecord               (2),
  incGatewayRecord            (3),
  outGatewayRecord            (4),
  transitCallRecord           (5),
  moSMSRecord                 (6),
  mtSMSRecord                 (7),
  moSMSIWRecord               (8),
  mtSMSGWRecord               (9),
  ssActionRecord              (10),
  hlrIntRecord                (11),
  locUpdateHLRRecord          (12),
  locUpdateVLRRecord          (13),
  commonEquipRecord           (14),
  moTraceRecord               (15),
  mtTraceRecord               (16),
  termCAMELRecord             (17),
  --
  -- Record values 18..22 are GPRS specific.
  -- The contents are defined in TS 32.015
  --
  sgsnPDPRecord               (18),
  ggsnPDPRecord               (19),
  sgsnMMRecord                (20),
  sgsnSMORecord               (21),

```

```

sgsnSMTRecord      (22),
--
-- Record values 23..25 are CS-LCS specific.
-- The contents are defined in the present document
--
mtLCSRecord        (23),
moLCSRecord        (24),
niLCSRecord        (25),
--
-- Record values 26..28 are PS-LCS specific.
-- The contents are defined in TS 32.215
--
sgsnMtLCSRecord    (26),
sgsnMoLCSRecord    (27),
sgsnNiLCSRecord    (28),
--
-- Record values 29..36 are MMS specific.
-- The contents are defined in TS 32.235
--
mmO1SRecord        (29),
mmO4FRqRecord      (30),
mmO4FRsRecord      (31),
mmO4DRRecord       (32),
mmO1DRRecord       (33),
mmO4RRRecord       (34),
mmO1RRRecord       (35),
mmOMDRRecord       (36),
mmR4FRRecord       (37),
mmR1NRqRecord      (38),
mmR1NRsRecord      (39),
mmR1RtRecord       (40),
mmR1AFRecord       (42),
mmR4DRqRecord      (43),
mmR4DRsRecord      (44),
mmR1RRRecord       (45),
mmR4RRqRecord      (46),
mmR4RRsRecord      (47),
mmRMDRecord        (48),
mmFRecord          (49),
mmBx1SRecord       (50),
mmBx1VRecord       (51),
mmBx1URecord       (52),
mmBx1DRecord       (53),
MM7SRecord         (54),
MM7DRqRecord       (55),
MM7DRsRecord       (56),
MM7CRecord         (57),
MM7RRecord         (58),
MM7DRRqRecord      (59),
MM7DRRsRecord      (60),
MM7RRqRecord       (61),
MM7RRsRecord       (62)
}

```

...

<unmodified text>

...

<p>End of Change in Clause 6 End of Document</p>
