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Source: **SA5 (Telecom Management)**

Title: **Rel-5 CR 32.205 (CS Charging): "Charging for Mobile Number Portability (MNP)" - Alignment with 23.066**

Document for: **Approval**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	R	Phase	Subject	Cat	Version	Doc-2nd-	Workitem
SP-020737	32.205	010	-	Rel-5	Charging for Mobile Number Portability (MNP) - Alignment with 23.066	F	5.1.0	S5-024586	OAM-CH

3GPP TSG-SA5 (Telecom Management) **S5-024586**
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CR-Form-v7

CHANGE REQUEST

⌘ **32.205** **CR** **010** ⌘**rev** **-** ⌘ Current version: **5.1.0** ⌘

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

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

Title: ⌘	Charging for Mobile Number Portability (MNP) - Alignment with 23.066	
Source: ⌘	SA5	
Work item code: ⌘	OAM-CH	***Date:*** ⌘ 22/11/2002
Category: ⌘	**F**	***Release:*** ⌘ *Rel-5*

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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: ⌘	Charging for Mobile Number Portability (MNP) based on TS 23.066 is not supported.
Summary of change: ⌘	Add six NP specific fields to the following CDRs: MOC record, MOC call forwarding, MTC record, Roaming, Incoming gateway record, Outgoing gateway record, Transit record and Termination CAMEL record. The ASN.1 code is modified accordingly.
Consequences if not approved: ⌘	Charging for MNP could not be implemented in a multivender operator network.

Clauses affected: ⌘	Abbreviation, Clause 4 subclauses 4.1, 4.3, 4.4, 4.6, 4.7, 4.8, 4.18; Clauses 5.34 to 5.85 and Clause 6.

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

Other comments: ⌘	Affected by 23.066

Change in Abbreviations

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ISDN Integrated Services Digital Network
JIP Jurisdiction Information Parameter
LAC Location Area Code
LR Location Request
LRN Location Routing Number
MLC Mobile Location CenterMOC Mobile Originated Call (attempt)
MO-LR Mobile Originated Location Request
MS Mobile Station
MSC Mobile Switching Centre
MSRN Mobile Station Roaming Number
MTC Mobile Terminated Call (attempt)
MT-LR Mobile Terminated Location Request
NAR North America Region
NE Network Element
NI-LR Network Induced Location Request
NP Number Portability
NPDB Number Portability Data Base
O_CSI Originating CAMEL Subscription Information

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End of Change in Abbreviations

Change in Clause 4
Subclauses 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8 and 4.18

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.

Field	2G	3G	Description
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 O_M	C C O_M	Seizure time: time of incoming traffic channel seizure (for unsuccessful call attempts) Answer: 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 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.
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	O_M	-	Speech version supported by the MS with highest priority indicated by MS

Field	2G	3G	Description
Supported			
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 2nd 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 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2nd 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 2nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2nd 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 2nd 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)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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.
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.

Field	2G	3G	Description
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 2nd 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 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2nd 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 2nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2nd 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 2nd service.
Location Routing Number (LRN)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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.

Field	2G	3G	Description
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 O_M	C C O_M	Seizure time: time of 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 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.
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)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.

Field	2G	3G	Description
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

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
Event time stamps:	C C O_M	C C O_M	Seizure time: time of incoming trunk seizure for unsuccessful call attempts Answer time: time of answer (successful calls only) 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.

Field	2G	3G	Description
Record extensions	O_C	O_C	A set of network/ manufacturer specific extensions to the record, when available.
Location Routing Number (LRN)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

…

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.

Field	2G	3G	Description
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 2nd 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 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Service key 2	C	C	The CAMEL service logic to be applied for 2nd service such as dialled service. Shall be present only if CAMEL is applied for 2nd service.
Free format Data 2	C	C	This field contains data sent by the gsmSCF in the FCI message(s) for 2nd 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 2nd service.
Free format data append indicator 2	C	C	Indicator if free format data for 2nd 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 2nd service.
Location Routing Number (LRN)	-	Oc	Location Routing Number for Number Portability feature
LRN Source Indicator	-	Oc	LRN Source Indicator tells the source of the LRN
LRN Query Status Indicator	-	Oc	Status of Number Portability query.
JIP Parameter	-	Oc	Jurisdiction Information Parameter
JIP Source Indicator	-	Oc	JIP Source Indicator tells the source of the JIP
JIP Query Status Indicator	-	Oc	Status of Number Portability query.

End of Change in Clause 4

Change in Clause 5
From subclause 5.34 till the end of Cluase 5

5.33 IMEI Status

This field contains the result of the IMEI checking procedure:

- Greylisted;
- Blacklisted;
- Non-whitelisted.

5.34 JIP Parameter

This Jurisdiction Information Parameter (JIP) is populated if received via one of the methods listed as JIP Source. The field shall identify the actual originating exchange and may be equal to 6, or 10 digits for North America Region (NAR). Note that this field may not apply for international areas, as it is not currently used. Additionally, it is also possible to use the LRN as the JIP if it properly identifies the originating switch.

5.35 JIP Query Status Indicator

This field indicates the status of Location Routing Number (LRN) query as follows:

1. Number Portability Data Base (NPDB) returns LRN or NULL response (free of any error).
2. No response was received to the query; the query timed out.
4. Protocol error in received response message.
5. Error detected in response data.
6. Query rejected
9. No query performed
99. Query unsuccessful, reason unknown

If the JIP is equal to the LRN, then the JIP query status shall be the same as the LRN query status. If not, this field shall be set to one of the values listed above.

5.36 JIP Source Indicator

This indicator shall be populated if the Jurisdiction Information Parameter is derived. Identifies the method in which the value was derived. Shall be set to the values listed in the LRN Source Indicator.

5.~~34~~37 LCS Cause

The LCS Cause parameter provides the reason for an unsuccessful location request according TS 49.031 [31].

5.~~35~~38 LCS Client Identity

This field contains further information on the LCS Client identity:

- Client External ID
- Client Dialled by MS ID
- Client Internal ID

5.~~36~~39 LCS Client Type

This field contains the type of the LCS Client as defined in TS 29.002 [5]

5.~~37~~40 LCS Priority

This parameter gives the priority of the location request as defined in TS 49.031 [31]

5.~~38~~41 LCS QoS

This information element defines the Quality of Service for a location request as defined in TS 49.031 [31]

5.~~39~~42 Level of CAMEL service

This field describes briefly the complexity of CAMEL invocation.

- 'Basic' means that CAMEL feature is invoked during the setup phase (e.g.: to modify the destination) of the call only.
- 'Online charging' means that CAMEL supported AoC parameter were sent to the mobile station (the Send Charging Information message, SCI, is received from the gsmSCF).
- The flag 'call duration supervision' is set whenever the call duration supervision is applied in the gsmSSF of the VPLMN (apply charging message is received from the gsmSCF).

5.~~40~~43 Location / change of location

The location field contains a combination of the location area code (LAC) and cell identity (CI) of the cell in which the served party is currently located. Any change of location may be recorded in the change of location field including the time at which the change took place.

The change of location field is optional and not required if partial records are generated when the location changes.

The LAC and CI are both 2 octet quantities and coded according to TS 24.008 [4].

5.~~41~~44 Location Estimate

The Location Estimate field is providing an estimate of a geographic location of a target MS according to 3GPP TS 29.002 [5].

5.45 Location Routing Number (LRN)

This field contains Ten-digit Location Routing Number (LRN) for the Number Portability feature. It is populated if received via one of the methods listed as "LRN Source". It identifies the new location of a ported subscriber. For North America Region (NAR) this may be a 10-digit E.164 number. For Europe, other formats may apply.

If more than 10 digits are received, the first ten digits received are recorded. If fewer than 10 digits are received, the information is left justified in the field and padded with 0xF.

5.~~42~~46 Location Type

This field contains the type of the location as defined in TS 29.002 [5]

5.47 LRN Query Status Indicator

This field indicates the status of Location Routing Number (LRN) query as follows:

1. Number Portability Data Base (NPDB) returns LRN or NULL response (free of any error).
2. No response was received to the query; the query timed out.
4. Protocol error in received response message.
5. Error detected in response data.
6. Query rejected
9. No query performed
99. Query unsuccessful, reason unknown

It is populated if an NP query was performed.

5.48 LRN Source Indicator

This field indicates whether the Location Routing Number is obtained from LRN NP database or it came in incoming signaling or switching system data.

It is populated if routing information for a ported subscriber is received from one of the methods listed below. It shall be equal to one of the following enumerated values:

1. LRN NP Database
2. SwitchingSystemData
3. Incomingsignaling
9. Unknown

5.~~43~~ 49 Measure Duration

This field contains the duration for the section of the location measurement corresponding to the location request and the location report messages.

5.~~44~~50 Message reference

This field contains a unique message reference number allocated by the mobile station when transmitting a short message to the service centre. This field corresponds to the TP-Message-Reference element of the SMS_SUBMIT PDU defined in TS 23.040 [15].

5.~~45~~51 MLC Number

This parameter refers to the ISDN (E.164) number of an MLC.

5.~~46~~52 Mobile station classmark / change of classmark

This MS classmark field contains the mobile station classmark employed by the served MS on call set-up as defined in TS 24.008 [4] (see mobile station classmark 2). Any alteration in the classmark during the connection may be recorded in the change of classmark field and will include the time at which the change took place.

It should be noted that the change of classmark field is optional and not required if partial records are created when the classmark is altered.

5.~~47~~53 MOLR Type

The MOLR-Type identifier refers to the type of MO-LR that was invoked as defined in 24.080 [32]

5.~~48~~54 MSC Address

This field contains the ITU-T Recommendation E.164 [12] number assigned to the MSC that produced the record. For further details concerning the structure of MSC numbers see 3GPP TS 23.003 [2].

5.~~49~~55 MSC Server Indication

This field contains an indicator whether the CAMEL subscription information is active. The parameter is present for the VT-CSI in the VMSC and not present for the T-CSI in the GMSC.

This indication should be used for differentiation between the validity of the record content for T-CSI in the GMSC and VT-CSI in the VMSC.

5.~~50~~56 Network Call Reference

Whenever CAMEL is applied, this field is used for correlation of call records outputted from the originating MSC (when applicable), the GMSC and the terminating MSC, and a network optional call record from the gsmSCF.

5.~~51~~57 Notification to MS user

This field contains the privacy notification to MS user that was applicable when the LR was invoked as defined in TS 29.002 [5]

5.5~~2~~8 Number of DP encountered

This field indicates how often CAMEL armed detection points (TDP and EDP) were encountered and is a measure of signalling between serving network and CAMEL service and complements 'Level of CAMEL service' field. Detection points from all applied CAMEL services for a single call leg and processed in the same gsmSSF shall be counted together.

5.~~53~~59 Number of forwarding

This field, if provided via ISUP signalling, contains the number of times a call has been forwarded prior to the interrogation of the HLR and is defined in TS 29.002 [5].

5.~~54~~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.~~55~~61 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].

5.~~56~~62 Privacy Override

This parameter indicates if MS privacy is overridden by the LCS client when the GMLC and VMSC/SGSN for an MT-LR are in the same country as defined in TS 29.002 [5]

5.~~57~~63 Radio channel requested / radio channel used / change of radio channel

The radio channel requested field contains the type of channel requested by the user. The following values are permitted:

- full rate;
- half rate;
- dual mode half rate preferred;
- dual mode full rate preferred.

The radio channel used field indicates the type of traffic channel actually employed for the connection i.e. either full rate (Bm) or half rate (Lm) as described in GSM 05.01. Any change in the type of channel used may be recorded in the change of radio channel used field including the time at which the change occurred and the speech version used after the change of radio channel.

5.~~58~~64 Rate Indication

This parameter specifies the rate adaptation that was used for the connection. The field is constructed from the information in the parameters "rate adaption" and "other rate adaption" signalled between the MS/UE and the network, see TS 24.008.

The format of this field is a single octet with the following format:

- Bits 0-1: the Rate Adaption field as defined in TS 24.008;
- Bits 2-3: the Other Rate Adaption field as defined in TS 24.008;
- Bits 4-7: not used.

5.~~59~~65 Record extensions

The field enables network operators and/ or manufacturers to add their own extensions to the standard record definitions.

5.~~60~~66 Record type

The field identifies the type of the record e.g. mobile originated, mobile terminated etc.

5.~~61~~67 Recording Entity

This field contains the ITU-T E.164 [12] number assigned to the entity (MSC, VLR, HLR etc.) that produced the record. For further details concerning the structure of MSC and location register numbers see 3GPP TS 23.003 [2].

5.~~62~~68 Roaming number

The roaming number field of the MOC record contains the mobile station roaming number as defined in TS 23.003 [16] and coded according to TS 29.002 [5].

5.~~63~~69 Routing number

The routing number field of the HLR interrogation record contains either a mobile station roaming number or, in case of call forwarding, a forwarded-to number.

5.~~64~~70 Sequence number

This field contains a running sequence number employed to link the partial records generated for a particular connection .

5.~~65~~71 Served IMEI

This fields contains the international mobile equipment identity (IMEI) of the equipment served. The term "served" equipment is used to describe the ME involved in the transaction recorded e.g. the called ME in case of an MTC record.

The structure of the IMEI is defined in TS 23.003 [16].

5.~~66~~72 Served IMSI

This fields contains the international mobile subscriber identity (IMSI) of the served party. The term "served" party is used to describe the mobile subscriber involved in the transaction recorded e.g. the calling subscriber in case of an MOC record.

The structure of the IMSI is defined in TS 23.003 [16].

5.~~67~~73 Served MSISDN

This fields contains the mobile station ISDN number (MSISDN) of the served party. The term "served" party is used to describe the mobile subscriber involved in the transaction recorded e.g. the called subscriber in case of an MTC record. In case of multi-numbering the MSISDN stored in a MOC record will be the primary MSISDN of the calling party.

The structure of the MSISDN is defined in TS 23.003 [16].

5.~~68~~74 Service centre address

This field contains a ITU-T Recommendation E.164 [12] number identifying a particular service centre e.g. short message service centre (see TS 23.040 [15]).

5.~~69~~75 Service key

This field identifies the CAMEL service logic applied. Service key is defined in HLR as part of CAMEL subscription information.

5.~~70~~76 Short message service result

This field contains the result of an attempt to deliver a short message either to a service centre or to a mobile subscriber (see TS 29.002 [5]). Note that this field is only provided if the attempted delivery was unsuccessful.

5.~~71~~77 Speech version supported / Speech version used

The speech version supported field contains the speech version supported by the MS with the highest priority. The speech version used field contains the speech codec version assigned for that call. The coding is according GSM 08.08 speech version identifier with the extension bit 8 set to 0.

It should be noted that the change of radio channel field is optional and not required if partial records are generated.

5.~~72~~78 System type

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.

5.~~73~~79 Supplementary service(s)

The supplementary service field in the Supplementary Service record type contains the code of the supplementary service on which the action was performed.

The supplementary services field in the MOC / MTC records contains the codes of the supplementary services invoked as a result of, or during, a connection.

The coding of supplementary service is described in detail in TS 29.002 [5].

5.~~74~~80 Supplementary service action

This field contains the type of supplementary service action requested by the subscriber or performed by the network. Possible values include:

- registration;
- erasure;
- activation;
- deactivation;
- interrogation;
- invocation.

For further details see TS 22.004 [19].

5.~~75~~81 Supplementary service action result

This field contains the result of an attempted supplementary service action (see TS 29.002 [5]). Note that this field is only provided if the SS-action was at least partially unsuccessful.

5.~~76~~82 Supplementary service parameters

This field contains the parameters associated with a supplementary service action requested by the subscriber. For further details of the parameters involved see the GSM 02.8n series of documents.

5.~~77~~83 Supplementary service(s)

The supplementary service field in the Supplementary Service record type contains the code of the supplementary service on which the action was performed.

The supplementary services field in the MOC / MTC records contains the codes of the supplementary services invoked as a result of, or during, a connection.

The coding of supplementary service is described in detail in 3GPP TS 29.002 [5].

5. ~~7~~84 Transparency indicator

This field indicates whether the basic service was employed in transparent or non-transparent mode. It should also be noted that this field is only relevant for those services which may be operated in both transparent and non-transparent modes.

5.~~79~~85 Update result

This field contains the result of the location update request as defined in the MAP (TS 29.002 [5]). Note that this field is only provided if the attempted update was unsuccessful.

End of Change in Clause 5

Change in Clause 6
(Only Changes to CALL AND EVENT RECORDS and Addition of NP FIELDS)

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

CallEventRecord ::= CHOICE
--
-- Record values 0..19 are 3G curcuit switch specific
--               20..25 are 3G packet switch specific
--               30..31 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] SGSNSMORecord,
    sgsnSMTRecord           [24] SGSNSMTRecord,
    sgsnLCTRecord           [25] SGSNLCTRecord,

    mmsORecord              [30] MMSORecord,
    mmsTRecord              [31] MMSTRecord
}

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

}


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,
    changeOfAOCParms        [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,
    changeOfHSCSDParms      [37] SEQUENCE OF HSCSDParmsChange 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

}

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

}
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,
    lrnQuryStatus               [38] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara                     [39] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd                    [40] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQuryStatus               [41] JurisdictionInformationParameterQueryStatus 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,
    lrnQuryStatus       [18] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara             [19] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd            [20] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQuryStatus       [21] JurisdictionInformationParameterQueryStatus 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,
    lrnQuryStatus       [18] LocationRoutingNumberQueryStatus OPTIONAL,
    JIPPara             [19] JurisdictionInformationParameter OPTIONAL,
    JIPSoInd            [20] JurisdictionInformationParameterSourceIndicator OPTIONAL,
    JIPQuryStatus       [21] JurisdictionInformationParameterQueryStatus 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,
    JIPQueryStatus          [22] JurisdictionInformationParameterQueryStatus 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] CalledNumber 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
}

MTSMSGWRecord           ::= 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
}

--------------------------------------------------------------------------------
--
--  NP Fields
--

LocationRoutNum         ::= OCTET STRING (1..5)
--
--  The format is selected to meet the existing standards for the wireline in Telcordia
--  Ref. ???
--

LrnSoInd                ::= ENUMERATED
{
    LRN NP Database             (1),
    SwitchingSystemData         (2),
    Incomingsignaling           (3),
    Unknown                     (9)
}


LrnQuryStatus           ::= ENUMERATED
{
    successfulQuery             (1),
    noQueryResponseMsg          (2),
    queryProtocolErr            (4),
    queryResponseDataErr        (5),
    queryRejected               (6),
    queryNotPerformed           (9),
    queryUnsuccessful           (99)

}



JurisdictionInfoPara    ::= OCTET STRING (size 5)   /* JIP Parameter */
--
-- Identical to LRN source indication
--

JIPSoInd                ::= ENUMERATED
{
    LRN NP Database             (1),
    SwitchingSystemData         (2),
    Incomingsignaling           (3),
    Unknown                     (9)
}

JIPQuryStatus           ::= ENUMERATED
{
    successfulQuery             (1),
    noQueryResponseMsg          (2),
    queryProtocolErr            (4),
    queryResponseDataErr        (5),
    queryRejected               (6),
    queryNotPerformed           (9),
    queryUnsuccessful           (99)
}
```

End of Change in Clause 6
End of Changes in the Document