**3GPP TSG-SA5 Meeting #131e *S5-203127rev3***

**e-meeting 25th May-3rd June 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.298** | **CR** | **0814** | **rev** | **1** | **Current version:** | **16.4.1** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Add 5WWC charging information | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5WWC | | | | |  | ***Date:*** | | | 2020-05-27 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This contribution is to add information elements of SUPI and PEI related to wireline access to TS 32.298. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add information elements of SUPI and PEI related to wireline access to TS 32.298. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | CHF CDR does not cover subscriber identifier and PEI for wireline access. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.1.3, 5.1.5.0, 5.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **First change to TS 32.298** |

#### 5.1.1.3 Subscription Identifier

This field identifies the charged party. The contents are coded in a similar fashion as for the Subscription-Id AVP in TS 32.299 [50] if applicable.

This field may hold the 5G Subscription Permanent Identifier (SUPI) of the served party (e.g., IMSI, NAI, GLI, GCI) as specified in TS 29.571 [249], if applicable.

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| --- |
| **Second change to TS 32.298** |

#### 5.1.5.0 CHF record (CHF-CDR)

If enabled, CHF records shall be produced for chargeable events, with or without quota management. The generic fields in the record are specified in table 5.1.5.0.1. The NF specific parts will be concatenated to this e.g. the PDU Session Information, PDU Container Information and Roaming QBC Information are concatenated for the SMF.

Table 5.1.5.0.1: CHF record (CHF-CDR)

|  |  |  |
| --- | --- | --- |
| Field | Category | Description |
| Record Type | M | CHF record. |
| Recording Network Function ID | OM | This field holds the name of the recording entity, i.e. the CHF id. |
| Charging Session Identifier | OC | This field holds the Session Identifier described in TS 32.290 [57]. |
| Subscriber Identifier | M | This field holds the 5G Subscription Permanent Identifier (SUPI) of the served party as specified in TS 29.571 [249], if available. |
| NF Consumer Information | M | This field holds the information of the NF consumer of the charging service. |
| NF Functionality | M | This field holds the type of functionality the NF provides. |
| NF Name | OC | This field holds the name of the NF used. |
| NF Address | OC | This field holds the IP Address of the NF used. |
| NF PLMN ID | OC | This field holds the PLMN identifier (MCC MNC) of the NF. |
| Triggers | OC | This field holds the triggers that are common to all Multiple Unit Usage. Can be the same as in Used Unit Container. |
| SMF Triggers | OC | This field holds the 5G data connectivity specific triggers described in TS 32.255 [15]. |
| List of Multiple Unit Usage | OC | This field holds the parameters for the unit reporting. It may have multiple occurrences. |
| Rating Group | M | This filed holds the rating group. The parameter corresponds to the Charging Key as specified in TS 23.203 [203] |
| Used Unit Container | OC | This field holds the used units and information connected to the reported units. |
| Service Identifier | OC | This field holds the Service Identifier. |
| Quota management Indicator | Oc | This field holds an indicator on whether the reported used units are with or without quota management control. If the field is not present, it indicates the used unit is without quota management applied. |
| Local Sequence Number | OM | This field holds the container sequence number. |
| Time | OC | This field holds the amount of used time. |
| Uplink Volume | OC | This field holds the amount of used volume in uplink direction. |
| Downlink Volume | OC | This field holds the amount of used volume in downlink direction. |
| Total Volume | OC | This field holds the amount of used volume in both uplink and downlink directions. |
| Service Specific Units | Oc | This field holds the amount of used service specific units. |
| Event Time Stamp | OC | This field holds the timestamps of the event reported in the Service Specific Units, if the reported units are event based. |
| Rating Indicator | OC | This field indicates if the units have been rated or not. |
| Triggers | OC | This field holds the triggers that caused the Used Unit Container to be reported, independently on if they are PDU Session or RG level triggers. |
| SMF Triggers | OC | This field holds the 5G data connectivity specific triggers described in TS 32.255 [15]. |
| Trigger Time Stamp | Oc | This field holds the timestamp of the trigger. |
| PDU Container Information | OC | This field holds the 5G data connectivity specific information described in TS 32.255 [15]. |
| UPF ID | OC | This field holds the UPF identifier used to identify the UPF when reporting the usage for the UPF. |
| Record Opening Time | OC | Time stamp when the PDU session is activated in the SMF or record opening time on subsequent partial records. |
| Duration | M | This field holds the duration of this record. |
| Record Sequence Number | C | Partial record sequence number, only present in case of partial records. |
| Cause for Record Closing | M | The reason for the release of the record. |
| Local Record Sequence Number | OM | Consecutive record number created by the CDF. The number is allocated sequentially including all CDR types. |
| Record Extensions | OC | A set of network operator/manufacturer specific extensions to the record. Conditioned upon the existence of an extension.  This field can be used to capture the specific information for charging. |
| Service Specification Information | OC | Identifies service specific document that applies to the request, e.g. the service specific document ('middle tier' TS) and 3GPP release the service specific document is based upon. |
| PDU Session Charging Information | OM | This field holds the 5G data connectivity specific information described in TS 32.255 [15] |
| Roaming QBC Information | OM | This field holds the roaming 5G data connectivity specific information described in TS 32.255 [15] |
| SMS Charging Information | OC | This field holds the SMS specific information described in TS 32.274 [34]. |
| Registration Charging Information | OM | This field holds the 5G registration specific information described in TS 32.256 [16]. |
| N2 connection charging Information | OM | This field holds the N2 connection specific information described in TS 32.256 [16]. |
| Location reporting charging Information | OM | This field holds the Location reporting specific information described in TS 32.256 [16]. |

|  |
| --- |
| **Third change to TS 32.298** |

### 5.2.1 Generic ASN.1 definitions

This subclause contains generic CDR syntax definitions, where the term "generic" implies that these constructs are applicable for more than one domain/service/subsystem. Examples of this are syntax definitions that are imported from non-charging 3GPP TSs, e.g. TS 29.002 [214].

.$GenericChargingDataTypes {itu-t (0) identified-organization (4) etsi(0) mobileDomain (0) charging (5) genericChargingDataTypes (0) asn1Module (0) version2 (1)}

DEFINITIONS IMPLICIT TAGS ::=

BEGIN

-- EXPORTS everything

IMPORTS

AddressString,

ISDN-AddressString,

LCSClientExternalID,

LCSClientInternalID

FROM MAP-CommonDataTypes { itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3) map-CommonDataTypes (18) version18 (18) }

-- from TS 29.002 [214]

PositionMethodFailure-Diagnostic,

UnauthorizedLCSClient-Diagnostic

FROM MAP-ER-DataTypes { itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3) map-ER-DataTypes (17) version18 (18)}

-- from TS 29.002 [214]

ObjectInstance

FROM CMIP-1 {joint-iso-itu-t ms (9) cmip (1) modules (0) protocol (3)}

-- from Rec. X.711 [304]

ManagementExtension

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

-- from Rec. X.721 [305]

AE-title

FROM ACSE-1 {joint-iso-itu-t association-control (2) modules (0) apdus (0) version1 (1) };

-- Note that the syntax of AE-title to be used is from

-- ITU-T Rec. X.227[306) / ISO 8650 corrigendum and not "ANY"

--

-- Generic Data Types

--

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 [208].

-- 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 is counted in seconds.

-- For successful calls /sessions / PDP contexts, this is the chargeable duration.

-- For call attempts this is the call holding time.

--

CalledNumber ::= BCDDirectoryNumber

CallingNumber ::= BCDDirectoryNumber

CellId ::= OCTET STRING (SIZE(2))

--

-- Coded according to TS 24.008 [208]

--

ChargeIndicator ::= INTEGER

{

noCharge (0),

charge (1)

}

CauseForRecClosing ::= INTEGER

--

-- Cause codes 0 to 15 are defined 'CauseForTerm' (cause for termination)

-- There is no direct correlation between these two types.

--

-- LCS related causes belong to the MAP error causes acc. TS 29.002 [214]

--

-- In PGW-CDR and SGW-CDR the value servingNodeChange is used for partial record

-- generation due to Serving Node Address list Overflow

-- In SGSN servingNodeChange indicates the SGSN change

--

-- sWGChange value is used in both the S-GW, TWAG and ePDG for inter serving node change

--

{

normalRelease (0),

abnormalRelease (4),

cAMELInitCallRelease (5),

volumeLimit (16),

timeLimit (17),

servingNodeChange (18),

maxChangeCond (19),

managementIntervention (20),

intraSGSNIntersystemChange (21),

rATChange (22),

mSTimeZoneChange (23),

sGSNPLMNIDChange (24),

sGWChange (25),

aPNAMBRChange (26),

mOExceptionDataCounterReceipt (27),

unauthorizedRequestingNetwork (52),

unauthorizedLCSClient (53),

positionMethodFailure (54),

unknownOrUnreachableLCSClient (58),

listofDownstreamNodeChange (59)

}

CauseForTerm ::= INTEGER

--

-- Cause codes from 16 up to 31 are defined as 'CauseForRecClosing'

-- (cause for record closing).

-- There is no direct correlation between these two types.

--

-- LCS related causes belong to the MAP error causes acc. TS 29.002 [214].

--

{

normalRelease (0),

partialRecord (1),

partialRecordCallReestablishment (2),

unsuccessfulCallAttempt (3),

abnormalRelease (4),

cAMELInitCallRelease (5),

unauthorizedRequestingNetwork (52),

unauthorizedLCSClient (53),

positionMethodFailure (54),

unknownOrUnreachableLCSClient (58)

}

ChargingID ::= INTEGER (0..4294967295)

--

-- Generated in P-GW, part of IP-CAN bearer

-- 0..4294967295 is equivalent to 0..2\*\*32-1

--

CivicAddressInformation ::= OCTET STRING

--

-- as defined in subclause 3.1 of IETF RFC 4776 [409] excluding the first 3 octets.

--

CNIPMulticastDistribution ::= ENUMERATED

{

nO-IP-MULTICAST (0),

iP-MULTICAST (1)

}

DataVolumeOctets ::= INTEGER

--

-- The volume of data transferred in octets.

--

DynamicAddressFlag ::= BOOLEAN

Diagnostics ::= CHOICE

{

gsm0408Cause [0] INTEGER,

-- See TS 24.008 [208]

gsm0902MapErrorValue [1] INTEGER,

--

-- Note: The value to be stored here corresponds to the local values defined in the MAP-Errors

-- and MAP-DialogueInformation modules, for full details see TS 29.002 [214].

--

itu-tQ767Cause [2] INTEGER,

-- See Q.767 [309]

networkSpecificCause [3] ManagementExtension,

-- To be defined by network operator

manufacturerSpecificCause [4] ManagementExtension,

-- To be defined by manufacturer

positionMethodFailureCause [5] PositionMethodFailure-Diagnostic,

-- see TS 29.002 [214]

unauthorizedLCSClientCause [6] UnauthorizedLCSClient-Diagnostic,

-- see TS 29.002 [214]

diameterResultCodeAndExperimentalResult [7] INTEGER

-- See TS 29.338 [230], TS 29.337 [231], TS 29.128 [244]

}

DiameterIdentity ::= OCTET STRING

EnhancedDiagnostics ::= SEQUENCE

{

rANNASCause [0] SEQUENCE OF RANNASCause

}

GSNAddress ::= IPAddress

InvolvedParty ::= CHOICE

{

sIP-URI [0] GraphicString, -- refer to rfc3261 [401]

tEL-URI [1] GraphicString, -- refer to rfc3966 [402]

uRN [2] GraphicString, -- refer to rfc5031 [407]

iSDN-E164 [3] GraphicString -- refer to ITU-T Recommendation E.164[308]

}

IPAddress ::= CHOICE

{

iPBinaryAddress IPBinaryAddress,

iPTextRepresentedAddress IPTextRepresentedAddress

}

IPBinaryAddress ::= CHOICE

{

iPBinV4Address [0] IPBinV4Address,

iPBinV6Address IPBinV6AddressWithOrWithoutPrefixLength

}

IPBinV4Address ::= OCTET STRING (SIZE(4))

IPBinV6Address ::= OCTET STRING (SIZE(16))

IPBinV6AddressWithOrWithoutPrefixLength ::= CHOICE

{

iPBinV6Address [1] IPBinV6Address,

iPBinV6AddressWithPrefix [4] IPBinV6AddressWithPrefixLength

}

IPBinV6AddressWithPrefixLength ::= SEQUENCE

{

iPBinV6Address IPBinV6Address,

pDPAddressPrefixLength PDPAddressPrefixLength DEFAULT 64

}

IPTextRepresentedAddress ::= CHOICE

{ --

-- IP address in the familiar "dot" notation

--

iPTextV4Address [2] IA5String (SIZE(7..15)),

iPTextV6Address [3] IA5String (SIZE(15..45))

}

LCSCause ::= OCTET STRING (SIZE(1))

--

-- See LCS Cause Value, TS 49.031 [227]

--

LCSClientIdentity ::= SEQUENCE

{

lcsClientExternalID [0] LCSClientExternalID OPTIONAL,

lcsClientDialedByMS [1] AddressString OPTIONAL,

lcsClientInternalID [2] LCSClientInternalID OPTIONAL

}

LCSQoSInfo ::= OCTET STRING (SIZE(4))

--

-- See LCS QoS IE, TS 49.031 [227]

--

LevelOfCAMELService ::= BIT STRING

{

basic (0),

callDurationSupervision (1),

onlineCharging (2)

}

LocalSequenceNumber ::= INTEGER (0..4294967295)

--

-- Sequence number of the record in this node

-- 0.. 4294967295 is equivalent to 0..2\*\*32-1, unsigned integer in four octets

--

LocationAreaAndCell ::= SEQUENCE

{

locationAreaCode [0] LocationAreaCode,

cellId [1] CellId,

mCC-MNC [2] MCC-MNC OPTIONAL

}

LocationAreaCode ::= OCTET STRING (SIZE(2))

--

-- See TS 24.008 [208]

--

ManagementExtensions ::= SET OF ManagementExtension

MBMS2G3GIndicator ::= ENUMERATED

{

twoG (0), -- For GERAN access only

threeG (1), -- For UTRAN access only

twoG-AND-threeG (2) -- For both UTRAN and GERAN access

}

MBMSInformation ::= SET

{

tMGI [1] TMGI OPTIONAL,

mBMSSessionIdentity [2] MBMSSessionIdentity OPTIONAL,

mBMSServiceType [3] MBMSServiceType OPTIONAL,

mBMSUserServiceType [4] MBMSUserServiceType OPTIONAL, -- only supported in the BM-SC

mBMS2G3GIndicator [5] MBMS2G3GIndicator OPTIONAL,

fileRepairSupported [6] BOOLEAN OPTIONAL, -- only supported in the BM-SC

rAI [7] RoutingAreaCode OPTIONAL, -- only supported in the BM-SC

mBMSServiceArea [8] MBMSServiceArea OPTIONAL,

requiredMBMSBearerCaps [9] RequiredMBMSBearerCapabilities OPTIONAL,

mBMSGWAddress [10] GSNAddress OPTIONAL,

cNIPMulticastDistribution [11] CNIPMulticastDistribution OPTIONAL,

mBMSDataTransferStart [12] MBMSTime OPTIONAL,

mBMSDataTransferStop [13] MBMSTime OPTIONAL

}

MBMSServiceArea ::= OCTET STRING

MBMSServiceType ::= ENUMERATED

{

mULTICAST (0),

bROADCAST (1)

}

MBMSSessionIdentity ::= OCTET STRING (SIZE (1))

--

-- This octet string is a 1:1 copy of the contents of the MBMS-Session-Identity

-- AVP specified in TS 29.061 [82]

--

MBMSTime ::= OCTET STRING (SIZE (8))

--

-- This value indicates the time in seconds relative to 00:00:00 on 1 January 1900 (calculated as

-- continuous time without leap seconds and traceable to a common time reference) where binary

-- encoding of the integer part is in the first 32 bits and binary encoding of the fraction part in

-- the last 32 bits. The fraction part is expressed with a granularity of 1 /2\*\*32 second as

-- specified in TS 29.061 [82].

--

MBMSUserServiceType ::= ENUMERATED

{

dOWNLOAD (0),

sTREAMING (1)

}

MCC-MNC ::= OCTET STRING (SIZE(3))

--

-- See TS 24.008 [208]

--

MessageClass ::= ENUMERATED

{

personal (0),

advertisement (1),

information-service (2),

auto (3)

}

MessageReference ::= OCTET STRING

MSCAddress ::= AddressString

MscNo ::= ISDN-AddressString

--

-- See TS 23.003 [200]

--

MSISDN ::= ISDN-AddressString

--

-- See TS 23.003 [200]

--

MSTimeZone ::= OCTET STRING (SIZE (2))

--

-- 1.Octet: Time Zone and 2. Octet: Daylight saving time, see TS 29.060 [215]

--

NodeID ::= IA5String (SIZE(1..20))

NodeAddress ::= CHOICE

{

iPAddress [0] IPAddress,

domainName [1] GraphicString

}

PDPAddressPrefixLength ::=INTEGER (1..64)

--

-- This is an interger indicating the leght of the PDP/PDN IPv6 address prefix

-- and the default value is 64 bits.

--

PDPAddress ::= CHOICE

{

iPAddress [0] IPAddress

-- eTSIAddress [1] ETSIAddress

-- has only been used in earlier releases for X.121 format

}

PLMN-Id ::= OCTET STRING (SIZE (3))

--

-- This is in the same format as octets 2,3,and 4 of the Routing Area Identity (RAI) IE specified

-- in TS 29.060 [215]

--

PositioningData ::= OCTET STRING (SIZE(1..33))

--

-- See Positioning Data IE (octet 3..n), TS 49.031 [227]

--

PriorityType ::= ENUMERATED

{

low (0),

normal (1),

high (2)

}

RANNASCause ::= OCTET STRING

-- This octet string is a 1:1 copy of the contents (i.e. starting with octet 5)

-- of the "RAN/NAS Cause" information element specified in TS 29.274 [223].

RATType ::= INTEGER (0..255)

--

--This integer is 1:1 copy of the RAT type value as defined in TS 29.061 [215].

--

RecordingEntity ::= AddressString

RecordType ::= INTEGER

--

-- Record values 0..17 and 87,89 are CS specific. The contents are defined in TS 32.250 [10]

--

{

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), -- used in earlier releases

mtTraceRecord (16), -- used in earlier releases

termCAMELRecord (17),

--

-- Record values 18..22 are GPRS specific. The contents are defined in TS 32.251 [11]

--

sgsnPDPRecord (18),

sgsnMMRecord (20),

sgsnSMORecord (21), -- also MME UE originated SMS record

sgsnSMTRecord (22), -- also MME UE terminated SMS record

--

-- Record values 23..25 are CS-LCS specific. The contents are defined in TS 32.250 [10]

--

mtLCSRecord (23),

moLCSRecord (24),

niLCSRecord (25),

--

-- Record values 26..28 are GPRS-LCS specific. The contents are defined in TS 32.251 [11]

--

sgsnMTLCSRecord (26),

sgsnMOLCSRecord (27),

sgsnNILCSRecord (28),

--

-- Record values 30..62 are MMS specific. The contents are defined in TS 32.270 [30]

--

mMO1SRecord (30),

mMO4FRqRecord (31),

mMO4FRsRecord (32),

mMO4DRecord (33),

mMO1DRecord (34),

mMO4RRecord (35),

mMO1RRecord (36),

mMOMDRecord (37),

mMR4FRecord (38),

mMR1NRqRecord (39),

mMR1NRsRecord (40),

mMR1RtRecord (41),

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),

--

-- Record values 63..70, 82, 89..91 are IMS specific.

-- The contents are defined in TS 32.260 [20]

--

sCSCFRecord (63),

pCSCFRecord (64),

iCSCFRecord (65),

mRFCRecord (66),

mGCFRecord (67),

bGCFRecord (68),

aSRecord (69),

eCSCFRecord (70),

iBCFRecord (82),

tRFRecord (89),

tFRecord (90),

aTCFRecord (91),

--

-- Record values 71..75 are LCS specific. The contents are defined in TS 32.271 [31]

--

lCSGMORecord (71),

lCSRGMTRecord (72),

lCSHGMTRecord (73),

lCSVGMTRecord (74),

lCSGNIRecord (75),

--

-- Record values 76..79,86 are MBMS specific.

-- The contents are defined in TS 32.251 [11] and TS 32.273 [33]

--

-- Record values 76,77 and 86 are MBMS bearer context specific

--

sgsnMBMSRecord (76),

ggsnMBMSRecord (77),

gwMBMSRecord (86),

--

-- Record values 78 and 79 are MBMS service specific and defined in TS 32.273 [33]

--

sUBBMSCRecord (78),

cONTENTBMSCRecord (79),

--

-- Record Values 80..81 are PoC specific. The contents are defined in TS 32.272 [32]

--

pPFRecord (80),

cPFRecord (81),

--

-- Record values 84,85 and 92,95,96, 97 are EPC specific.

-- The contents are defined in TS 32.251 [11]

--

sGWRecord (84),

pGWRecord (85),

tDFRecord (92),

iPERecord (95),

ePDGRecord (96),

tWAGRecord (97),

--

-- Record Value 83 is MMTel specific. The contents are defined in TS 32.275 [35]

--

mMTelRecord (83),

--

-- Record value 87,88 and 89 are CS specific. The contents are defined in TS 32.250 [10]

--

mSCsRVCCRecord (87),

mMTRFRecord (88),

iCSRegisterRecord (99),

--

-- Record values 93 and 94 are SMS specific. The contents are defined in TS 32.274 [34]

--

sCSMORecord (93),

sCSMTRecord (94),

--

-- Record values 100, 101 and 102 are ProSe specific. The contents are defined in TS 32.277 [36]

--

pFDDRecord (100),

pFEDRecord (101),

pFDCRecord (102),

--

-- Record values103 and 104 are Monitoring Event specific. The contents are defined in TS

-- 32.278 [38]

--

mECORecord (103),

mERERecord (104),

--

-- Record values 105 to 106 are CP data transfer specific. The contents are defined in TS

-- 32.253 [13]

--

cPDTSCERecord (105),

cPDTSNNRecord (106), --

-- Record values 110 to 113 are SMS specific. The contents are defined in TS

-- 32.274 [34]

--

sCDVTT4Record (110),

sCSMOT4Record (111),

iSMSMORecord (112),

iSMSMTRecord (113),

--

-- Record values 120 are Exposure Function API specific. The contents are defined in TS

-- 32.254 [14]

--

eASCERecord (120),

--

-- Record values from 200 are specific to Charging Function domain

--

chargingFunctionRecord (200)

--

}

RequiredMBMSBearerCapabilities ::= OCTET STRING (SIZE (3..14))

--

-- This octet string is a 1:1 copy of the contents (i.e. starting with octet 5) of the

-- "Quality of service Profile" information element specified in TS 29.060 [75].

--

RoutingAreaCode ::= OCTET STRING (SIZE(1))

--

-- See TS 24.008 [208]

--

SCSASAddress ::= SET

--

--

--

{

sCSAddress [1] IPAddress,

sCSRealm [2] DiameterIdentity

}

Session-Id ::= GraphicString

--

-- rfc3261 [401]: example for SIP CALL-ID: f81d4fae-7dec-11d0-a765-00a0c91e6bf6@foo.bar.com

--

ServiceContextID ::= UTF8String

ServiceSpecificInfo ::= SEQUENCE

{

serviceSpecificData [0] GraphicString OPTIONAL,   
 serviceSpecificType [1] INTEGER OPTIONAL

}

SMSResult ::= Diagnostics

SmsTpDestinationNumber ::= OCTET STRING

--

-- This type contains the binary coded decimal representation of

-- the SMS address field the encoding of the octet string is in

-- accordance with the definition of address fields in TS 23.040 [201].

-- This encoding includes type of number and numbering plan indication

-- together with the address value range.

--

SubscriberEquipmentNumber ::= SET

--

-- If SubscriberEquipmentType is set to IMEISV and IMEI is received, the number of digits is 15.

--

{

subscriberEquipmentNumberType [0] SubscriberEquipmentType,

subscriberEquipmentNumberData [1] OCTET STRING

}

SubscriberEquipmentType ::= ENUMERATED

--

-- It should be noted that depending on the services, not all equipment types are applicable.

-- For IMS equipment types 0 and 3 are applicable.

--

{

iMEISV (0),

mAC (1),

eUI64 (2),

modifiedEUI64 (3)

}

SubscriptionID ::= SET

--

-- used for ExternalIdentifier with SubscriptionIdType = END-User-NAI. See TS 23.003 [200]

--

{

subscriptionIDType [0] SubscriptionIDType,

subscriptionIDData [1] UTF8String

}

SubscriptionIDType ::= ENUMERATED

{

eND-USER-E164 (0),

eND-USER-IMSI (1),

eND-USER-SIP-URI (2),

eND-USER-NAI (3),

eND-USER-PRIVATE (4)

--

-- eND-USER-IMSI can be used for 5G BRG or 5G CRG.

-- eND-USER-NAI can be used to contain GLI or GCI for wireless access network scenarios

-- NAI format containing a GCI or GLI is specified in 28.15.5 and 28.15.6 of TS 23.003 [200].

--

}

SystemType ::= ENUMERATED

--

-- "unknown" is not to be used in PS domain.

--

{

unknown (0),

iuUTRAN (1),

gERAN (2)

}

ThreeGPPPSDataOffStatus ::= ENUMERATED

{

active (0),

inactive (1)

}

TimeStamp ::= OCTET STRING (SIZE(9))

--

-- The contents of this field are a compact form of the UTCTime format

-- containing local time plus an offset to universal time. Binary coded

-- decimal encoding is employed for the digits to reduce the storage and

-- transmission overhead

-- e.g. YYMMDDhhmmssShhmm

-- where

-- YY = Year 00 to 99 BCD encoded

-- MM = Month 01 to 12 BCD encoded

-- DD = Day 01 to 31 BCD encoded

-- hh = hour 00 to 23 BCD encoded

-- mm = minute 00 to 59 BCD encoded

-- ss = second 00 to 59 BCD encoded

-- S = Sign 0 = "+", "-" ASCII encoded

-- hh = hour 00 to 23 BCD encoded

-- mm = minute 00 to 59 BCD encoded

--

TMGI ::= OCTET STRING

--

-- This octet string is a 1:1 copy of the contents (i.e. starting with octet 4)

-- of the "TMGI" information element specified in TS 29.060 [75].

--

.#END

|  |
| --- |
| **End of Change** |