

Release 4 CDR ASN.1 Format

PRINTOUT DESCRIPTION

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1 Introduction

This document presents the ASN.1 format for release 4 CDRs generated by the EPG.

For more information on CDRs, see [CDR Format for the GGSN and PGW](#) and [CDR Format for the SGW](#).





2 ASN.1 Format

```

GgsnR4Ber DEFINITIONS IMPLICIT TAGS ::= BEGIN

CallEventRecord ::= CHOICE
{
  ggsnPDPRecord [21] GGSNPDPRecord
}

GGSNPDPRecord ::= SET
{
  recordType                [0] CallEventRecordType,
  servedIMSI                [3] IMSI,
  ggsnAddress               [4] GSNAAddress,
  chargingID                [5] ChargingID,
  sgsnAddress               [6] SEQUENCE OF GSNAAddress OPTIONAL,
  accessPointNameNI        [7] AccessPointNameNI OPTIONAL,
  pdpType                   [8] PDPTType OPTIONAL,
  servedPDPAddress          [9] PDPAddress OPTIONAL,
  dynamicAddressFlag        [11] DynamicAddressFlag OPTIONAL,
  listOfTrafficVolumes      [12] SEQUENCE OF ChangeOfCharCondition OPTIONAL,
  recordOpeningTime         [13] TimeStamp,
  duration                  [14] CallDuration,
  causeForRecClosing        [15] CauseForRecClosing,
  recordSequenceNumber      [17] INTEGER OPTIONAL,
  nodeID                    [18] NodeID OPTIONAL,
  recordExtensions          [19] ManagementExtensions OPTIONAL,
  localSequenceNumber       [20] LocalSequenceNumber OPTIONAL,
  apnSelectionMode         [21] APNSelectionMode OPTIONAL,
  servedMSISDN              [22] MSISDN OPTIONAL,
  chargingCharacteristics    [23] ChargingCharacteristics,
  chChSelectionMode         [24] ChChSelectionMode OPTIONAL,
  sgsnPLMNIdentifier        [27] PLMN-Id OPTIONAL
}

AccessPointNameNI ::= IA5String (SIZE(1..63))
AddressString ::= OCTET STRING (SIZE (1..20))
APNSelectionMode ::= ENUMERATED
{
  mSorNetworkProvidedSubscriptionVerified (0),
  mSProvidedSubscriptionNotVerified (1),
  networkProvidedSubscriptionNotVerified (2)
}
CallDuration ::= INTEGER
CallEventRecordType ::= INTEGER
{
  ggsnPDPRecord (19)
}

```



```
}
CauseForRecClosing ::= INTEGER
{
    normalRelease          (0),
    abnormalRelease        (4),
    volumeLimit            (16),
    timeLimit              (17),
    sGSNChange            (18),
    maxChangeCond          (19),
    managementInitRelease  (100),
    pLMNChange            (101),
    creditControlChange    (102),
    creditControlInitRelease (104),
    policyControlInitRelease (105)
}
ChangeCondition ::= ENUMERATED
{
    qosChange              (0),
    tariffTime            (1),
    recordClosure          (2)
}
ChangeOfCharCondition ::= SEQUENCE
{
    qosNegotiated          [2] QoSInformation OPTIONAL,
    dataVolumeGPRSuplink   [3] DataVolumeGPRS,
    dataVolumeGPRSDownlink [4] DataVolumeGPRS,
    changeCondition        [5] ChangeCondition,
    changeTime             [6] TimeStamp
}
ChargingCharacteristics ::= OCTET STRING (SIZE (2))
ChargingID ::= INTEGER (0..4294967295)
ChChSelectionMode ::= ENUMERATED
{
    sGSNSupplied          (0),
    homeDefault           (3),
    roamingDefault        (4),
    visitingDefault       (5),
    radiusSupplied        (100)
}
DataVolumeGPRS ::= INTEGER
DynamicAddressFlag ::= BOOLEAN
ETSIAddress ::= AddressString
GSNAddress ::= IPAddress
IMSI ::= TBCD-STRING (SIZE (3..8))
IPAddress ::= CHOICE
{
    ipBinaryAddress       IPBinaryAddress,
    ipTextRepresentedAddress IPTextRepresentedAddress
}
IPBinaryAddress ::= CHOICE
{
```



```

        iPBinV4Address [0] OCTET STRING (SIZE(4)),
        iPBinV6Address [1] OCTET STRING (SIZE(16))
    }
    IPTextRepresentedAddress ::= CHOICE
    {
        iPTextV4Address [2] IA5String (SIZE(7..15)),
        iPTextV6Address [3] IA5String (SIZE(15..45))
    }
    ISDN-AddressString ::= AddressString (SIZE(1..9))
    LocalSequenceNumber ::= INTEGER (0..4294967295)
    ManagementExtensions ::= SET OF ManagementExtension
    ManagementExtension ::= SEQUENCE
    {
        identifier          OBJECT IDENTIFIER,
        significance [1] BOOLEAN DEFAULT TRUE,
        information [2] GprsCdrExtensions
    }
    MSISDN ::= ISDN-AddressString
    NodeID ::= IA5String (SIZE(1..20))
    PDPAddress ::= CHOICE
    {
        iPAddress [0] IPAddress,
        eTsiAddress [1] ETSIAddress
    }
    PDPTType ::= OCTET STRING (SIZE(2))
    PLMN-Id ::= OCTET STRING (SIZE(3))
    QoSInformation ::= OCTET STRING (SIZE (4..12))
    TBCD-STRING ::= OCTET STRING
    TimeStamp ::= OCTET STRING (SIZE(9))

    GprsCdrExtensions ::= SET
    {
        chargingContainers [1] SEQUENCE OF ChargingContainer OPTIONAL,
        creditControlInfo [2] CreditControlInfo OPTIONAL,
        policyControlInfo [3] PolicyControlInfo OPTIONAL,
        userCategory [5] INTEGER OPTIONAL
    }

    BlockItem ::= SEQUENCE
    {
        blocks [0] INTEGER,
        blockRate [1] RealUnit OPTIONAL,
        blockSize [2] INTEGER,
        blockSizeType [3] BlockSizeType,
        startTime [4] TimeStamp OPTIONAL,
        stopTime [5] TimeStamp OPTIONAL
    }
    BlockSizeType ::= ENUMERATED
    {
        seconds (0),
        bytes (1)
    }

```



```
}
ChargingContainer ::= SEQUENCE
{
    changeTime          [0] TimeStamp,
    listOfServices      [1] SEQUENCE OF ServiceItem OPTIONAL,
    listOfServiceClasses [2] SEQUENCE OF ServiceClassItem OPTIONAL,
    initialCharge       [3] RealUnit OPTIONAL,
    sessionPolicy       [4] SessionPolicy OPTIONAL,
    blockItem           [5] BlockItem OPTIONAL
}
CreditControlDiagnostics ::= ENUMERATED
{
    creditDenied          (0),
    creditControlFailure (1),
    creditControlSuspended (2),
    creditControlResumed  (3)
}
CreditControlFailureAction ::= ENUMERATED
{
    release              (0),
    continue              (1),
    continueFreeServices (2)
}
CreditControlFailureReport ::= SEQUENCE
{
    requestType          [0] CreditRequestType,
    requestStatus        [1] CreditRequestStatus,
    resultCode           [2] CreditResultCode OPTIONAL,
    recordNumber         [4] CreditRecordNumber OPTIONAL,
    startTime            [5] TimeStamp OPTIONAL,
    stopTime             [6] TimeStamp OPTIONAL,
    lastCreditGranted    [7] RealUnit OPTIONAL,
    creditUsed           [8] RealUnit OPTIONAL
}
CreditControlInfo ::= SEQUENCE
{
    creditControlEnabled [0] BOOLEAN,
    ccsAddress           [1] IPAddress OPTIONAL,
    creditUnit           [2] CreditUnit OPTIONAL,
    creditControlDiagnostics [3] CreditControlDiagnostics OPTIONAL,
    creditDeniedAction   [4] CreditDeniedAction OPTIONAL,
    creditControlFailureAction [5] CreditControlFailureAction OPTIONAL,
    creditControlFailureReport [6] CreditControlFailureReport OPTIONAL,
    creditControlSessionId [7] OCTET STRING (SIZE(1..255)) OPTIONAL
}
CreditDeniedAction ::= ENUMERATED
{
    release              (0),
    continue              (1),
    continueFreeServiceClasses (2),
    continueLimitServiceClasses (3)
}
```



```

}
CreditRecordNumber ::= INTEGER(0..4294967295)
CreditRequestType ::= ENUMERATED
{
  start (0),
  interim (1),
  stop (2)
}
CreditRequestStatus ::= ENUMERATED
{
  unsent (0),
  noAnswer (1),
  failure (2)
}
CreditResultCode ::= INTEGER
CreditUnit ::= SEQUENCE
{
  unitType [0] CreditUnitType,
  currencyCode [1] CurrencyCode OPTIONAL
}
CreditUnitType ::= ENUMERATED
{
  time (0),
  volume (1),
  event (2),
  money (3)
}
CurrencyCode ::= INTEGER
PolicyControlDiagnostics ::= ENUMERATED
{
  policyControlFailure (1),
  policyControlSuspended (2),
  policyControlResumed (3)
}
PolicyControlFailureAction ::= ENUMERATED
{
  release (0),
  continueDefaultPolicy (1)
}
PolicyControlFailureReport ::= SEQUENCE
{
  requestType [0] PolicyRequestType,
  requestStatus [1] PolicyRequestStatus,
  resultCode [2] PolicyResultCode OPTIONAL,
  sessionId [3] OCTET STRING (SIZE(1..255)) OPTIONAL,
  startTime [4] TimeStamp OPTIONAL,
  stopTime [5] TimeStamp OPTIONAL
}
PolicyControlInfo ::= SEQUENCE
{
  policyControlEnabled [0] BOOLEAN,

```



```
    pcsAddress                [1] IPAddress OPTIONAL,
    policyControlDiagnostics  [2] PolicyControlDiagnostics OPTIONAL,
    policyControlFailureAction [3] PolicyControlFailureAction OPTIONAL,
    policyControlFailureReport [4] PolicyControlFailureReport OPTIONAL,
    currencyCode              [5] CurrencyCode
}
PolicyRequestType ::= ENUMERATED
{
    start    (0),
    interim  (1),
    stop     (2)
}
PolicyRequestStatus ::= ENUMERATED
{
    unsent      (0),
    noAnswer    (1),
    failure     (2),
    pCRFRestart (3)
}
PolicyResultCode ::= INTEGER
RealUnit ::= SEQUENCE
{
    valueDigits [0] INTEGER,
    exponent    [1] INTEGER OPTIONAL
}
ServiceClass ::= INTEGER(0..4294967295)
ServiceClassItem ::= SEQUENCE
{
    serviceClass      [0] ServiceClass,
    volumeUplink      [1] INTEGER OPTIONAL,
    volumeDownlink    [2] INTEGER OPTIONAL,
    volumeRateUplink  [3] RealUnit OPTIONAL,
    volumeRateDownlink [4] RealUnit OPTIONAL,
    sessionPolicy     [5] SessionPolicy OPTIONAL,
    blockItem         [6] BlockItem OPTIONAL
}
ServiceIdentifier ::= INTEGER(0..4294967295)
ServiceItem ::= SEQUENCE
{
    serviceIdentifier [0] ServiceIdentifier,
    volumeUplink      [1] INTEGER,
    volumeDownlink    [2] INTEGER
}
SessionPolicy ::= SEQUENCE
{
    volumeLimitAction [0] UsageLimitAction OPTIONAL,
    blockLimitAction  [1] UsageLimitAction OPTIONAL
}
UsageLimitAction ::= ENUMERATED
{
    reset (1),
```



```
    add (2)
  }
END
```