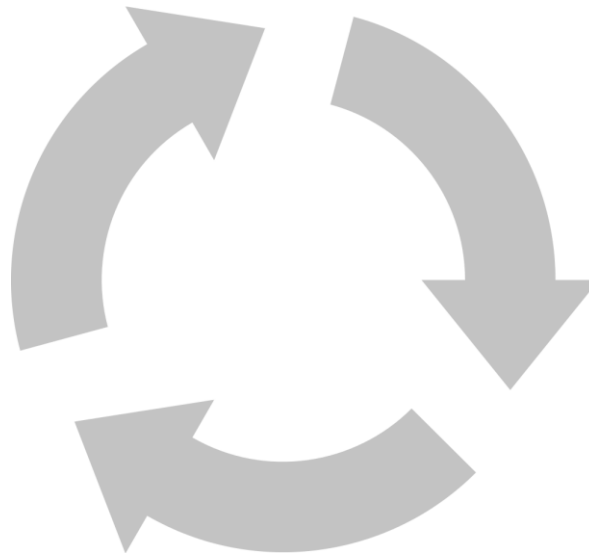


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UNITY MEDIATION

Traffic CDR mediation explained



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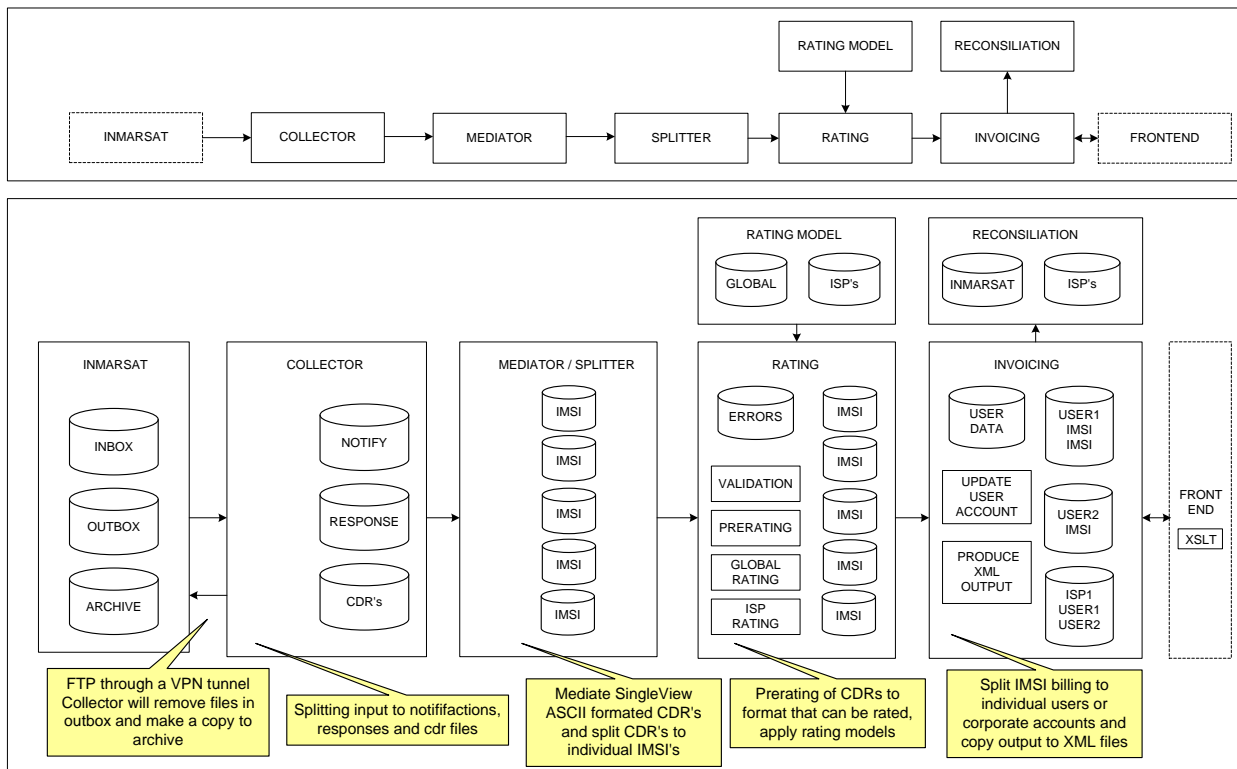
| | |
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1. Introduction

This document serves the purpose of describing the Billing Mediation Module functionality.

Let's first give a brief introduction to the overall system layout, in order to get a feeling about where the mediation is placed in the "big picture".



The billing files collected by the collector will be used as input files for the mediation module – the mediation module will open the files, select the CDR records that we have marked to be used for billing and filter specific fields in the CDR record to be used for billing and call list purposes. The individual CDR data will be sorted into individual IMSI numbers and will be inserted into the database model as unrated data.

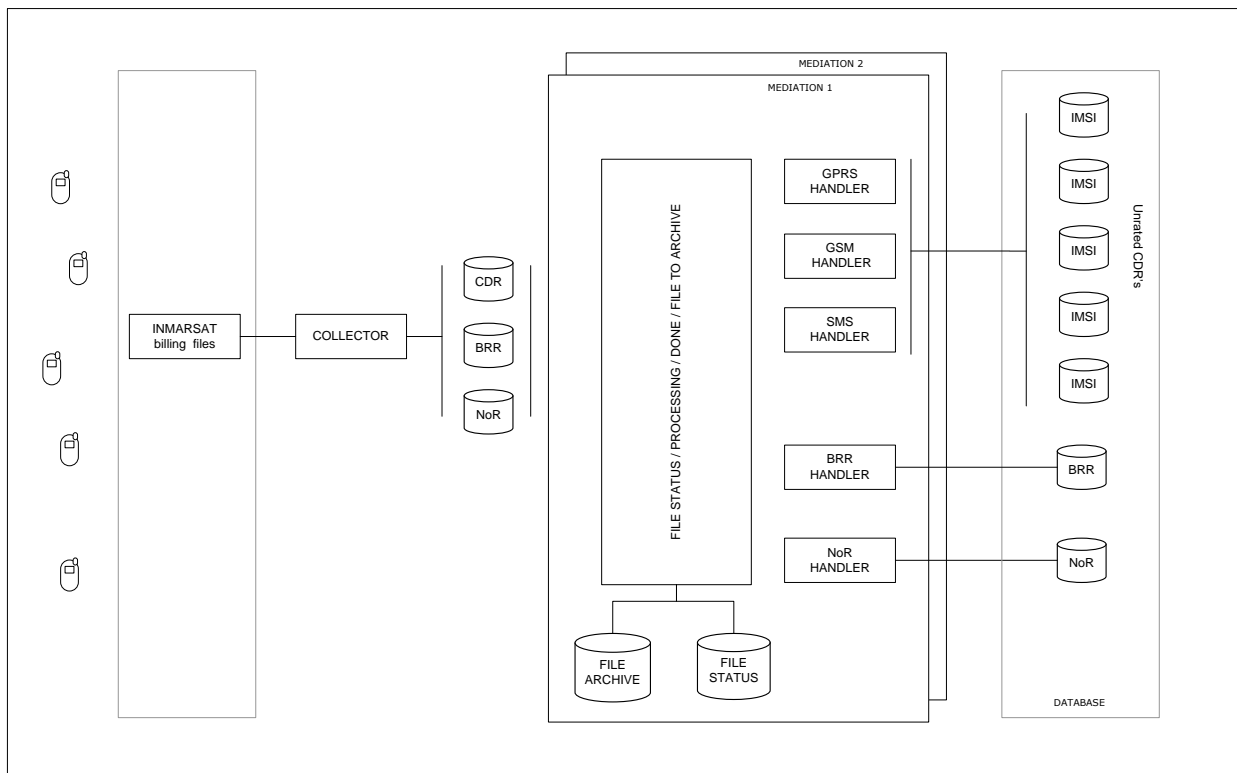
The mediation module will be running on multiple machines which will demand a kind of data access control to make sure that we don't have two mediation modules working on the same data. This will be managed in the same ways on the collector by using a common database area to specify the status for the file processing – this could very well be based on the same file status fields as used for the collector – simply changing the status field to an other value for the files.

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2. Mediation Module

The mediator can be a standalone module that the input files delivered from the collector or in can be integrated together with the collector module.

The different input files will based on the file naming identify the type of data as well as the format of the data – The mediation module will contain different handlers that can be used to parse different type of files to the database.



Following types of files is expected to be parsed:

- Business Request Responses - DP-BRR_
- Notification Responses – NoR_
- GSM voice billing - BGAN_DP50069_GPRS
- GPRS Data billing - BGAN_DP50069_GSM
- SMS billing - BGAN_DP50069_SMS
- Other Files – not to be parsed

A handler will be developed for each file type – the handler will be configured to mask the ASCII content if it is CDR files – relevant fields will be copied and created in the MySQL database. Notification and Business Request Responses will be delivered in a XML layout that will be parsed to filter the relevant fields, copy the fields and placing the values in MySQL.

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2.1 Billing File Parsing Sample

Billing files will be grouped into GPRS files, SMS files and GSM files, in each file can their be multiple records belonging to the GPRS type, the SMS type or the GSM type. Each record is separated with a "CS" like shown in the below sample:

```
BH,BGAN_DP01_GSM,EVIDENT_4.5.1_1.0
CS,050822CS000000000000000002E4421FD,20050822102000,+0000
BDMTR,050822CS000000000000000002E4421FD20050822102000+0000,050
BDMRCF,050822CS000000000000000002E4421FD20050822102000+0000,050
BDMMT,050822CS000000000000000002E4421FD20050822102000+0000,050
CS,050822CS000000000000000002E4121FD,20050822101132,+0000
BDMMO,050822CS000000000000000002E4121FD20050822101132+0000,050
CS,050822CS000000000000000002E4321FD,20050822101415,+0000
BDMTR,050822CS000000000000000002E4321FD20050822101415+0000,050
BCMRCF,050822CS000000000000000002E4321FD20050822101415+0000,050
BDMMT,050822CS000000000000000002E4321FD20050822101415+0000,050
CS,050822CS000000000000000002E4221FD,20050822101308,+0000
BDMMO,050822CS000000000000000002E4221FD20050822101308+0000,050
CS,050822CS000000000000000002E4021FD,20050822100534,+0000
BDMMO,050822CS000000000000000002E4021FD20050822100534+0000,050
CS,050822CS000000000000000002E3621FD,20050822095328,+0000
BDMMO,050822CS000000000000000002E3621FD20050822095328+0000,050
BT,10,20050905133126
```

Each CDR event can contain several records named BDMTR, BDMMO, BDMRCF etc. – The mediation module will only be parsing a few of these records that is needed for billing or for call lists.

A handler for GSM CDR's will open a GSM file, identify the CS record and will be searching for the BDMMO, BDMMT and the BDMCF types, in each of the record types will 10 to 12 fields be copied into the database sorted based on IMSI numbers – A IMSI will unique identify usage linked to a certain subscription.

Same procedure will apply for GPRS and SMS CDR's.

Business Request Responses and Notification Responses will be XML files that need to be parsed to the Database.

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2.1.1 Billing file naming

Naming convention for the billing files will be like the following:

BGAN_DP50069_GPRS
 BGAN_DP50069_GSM
 BGAN_DP50069_SMS
 BGAN_DP50069_MPS – (not to be used – if present should it be removed)
 BGAN_DP50069_TAP3 – (not to be used – if present should it be removed)

Circuit Switched Records (Normal voice and ISDN)

These files will have GSM in the file name

Sample files:

| | | | |
|--|------|--------------------|------------------|
| S.BER_GSM_20050822_090203_4_2212_2149078943.gsm.0000000280 | 3 KB | BGAN_DP01_GSM File | 05-10-2005 15:36 |
| S.BER_GSM_20050822_102703_10_2218_943242474.gsm.0000000286 | 6 KB | BGAN_DP01_GSM File | 10-02-2006 16:20 |
| S.BER_GSM_20051201_090203_4_2212_2149078943.gsm.0000000285 | 1 KB | BGAN_DP01_GSM File | 19-01-2006 15:11 |
| S.BER_GSM_20051201_090203_4_2212_2149078943.gsm.0000000288 | 1 KB | BGAN_DP01_GSM File | 19-01-2006 15:12 |
| S.BER_GSM_20051201_C01.20040814095308..GSM.000000000281 | 1 KB | BGAN_DP01_GSM File | 19-01-2006 15:12 |

It is so far not exactly clear if the files will start with S.BER_GSM or if they will start with BGAN_DP50069_GSM – this will be verified soon.

Packet switched Records (GPRS and Streaming data)

These files will have GPRS in the file name

Sample files:

| | | |
|---|------|--------------------|
| S.BER_GPRS_20040319_115047_9_9991_2132809906.gprs.0000000470 | 1 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_20050822_111903_8_9978_3023296704.gprs.0000000457 | 5 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_20050822_112046_8_9979_1835546590.gprs.0000000458 | 5 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_20050822_112203_7_9980_3816623201.gprs.0000000459 | 4 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_20050822_115047_9_9991_2132809906.gprs.0000000470.BGAN_DP01_GPRS | 5 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_20051206_115317_4_9992_278073593.gprs.0000000471 | 2 KB | BGAN_DP01_GPRS ... |
| S.BER_GPRS_2005120609_113811_5_9988_660004665.gprs.0000000467 | 1 KB | BGAN_DP01_GPRS ... |

SMS Records

These files will have SMS in the file name

Sample files:

| | | | |
|---|-------|------------------|------------------|
| S.BER_SMS_20051108_143512_12_0277_1625185824.sms.0000000230 | 10 KB | BGAN_CB_SMS File | 06-12-2005 14:51 |
| S.BER_SMS_20051108_153512_23_0279_3012383917.sms.0000000302 | 18 KB | BGAN_CB_SMS File | 06-12-2005 14:53 |

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2.1.2 GSM Record Format

GSM records cover traditional voice calls their will be standard, ISDN and fax calls – the different types of calls will be identified through a “service code”

See Billing CDR format on page xx in attached document under Appendix CDR Format Document

BGAN CB GSM mSOriginating Output Record - BDMMO

Record Type Tag, Consolidated Reference, Atomic Reference, **Time Zone**, Geographical Zone, DP Identity, National Number, Spot Beam ID, Source File Name, PrePay Indicator, **Service Code**, Call Reference, Record Sequence Number, A-end Subscriber Type, **A-end MSISDN, A-end Subscriber Identity, A-end Equipment Identity, B-end MSISDN**, Disconnecting Party, **Call Start Time, Call End Time, Call Duration**, Interruption Time, Seizure Time, Charging Indicator, Origin For Charging, Charging Case, Recording Entity, MSC Identity, Outgoing Circuit Group, Incoming Circuit Group, A-end Location Area Code , Time For TC Seizure Calling, A-end Cell-ID, B-end Cell- ID, Service Type, QoS Transparency Indicator, Call Position, EoS Info, **Termination Cause**, System Recovery, B-end PLMN Identity, **Indicator of full or partial record, Partial Record Order**, CUG Interlock Code, CUG Index, CUG Outgoing Access Used, CUG Outgoing Access Indicator, Regional Service Used, Region Charging Origin, Supplementary Service, Fault Code, Subscription Type, Forlopp Indicator, Forlopp Release, Translated Number, BCSMTDPData1 serviceKey ,BCSMTDPData1 gsmSCFAddress ,BCSMTDPData2 serviceKey ,BCSMTDPData2 gsmSCFAddress ,BCSMTDPData3 serviceKey,BCSMTDPData3 gsmSCFAddress ,BCSMTDPData4 serviceKey ,BCSMTDPData4 gsmSCFAddress ,BCSMTDPData5 serviceKey ,BCSMTDPData5 gsmSCFAddress ,BCSMTDPData6 serviceKey ,BCSMTDPData6 gsmSCFAddress ,BCSMTDPData7 serviceKey ,BCSMTDPData7 gsmSCFAddress ,BCSMTDPData8 serviceKey ,BCSMTDPData8 gsmSCFAddress ,BCSMTDPData9 serviceKey ,BCSMTDPData9 gsmSCFAddress ,BCSMTDPData10 serviceKey ,BCSMTDPData10 gsmSCFAddress ,EMLPP Priority Level, Position Accuracy, User Terminal Position, Incoming Assigned Route, Channel Coding Used, RANAP Cause Code, AIUR Requested, Max BitRate Downlink, Max BitRate Uplink, Residual Bit Error Ratio 1, Residual Bit Error Ratio 2, Residual Bit Error Ratio 3, SDU Error Ratio 1, SDU Error Ratio 2, SDU Error Ratio 3, Carrier Information, Originating Line Info, Selected Code, Service Area Name, Originating Location number, **ISO3 Code**

The service code will be explained in the Billing document – it will inform about the type of call being executed – ISDN or Standard Voice calls.

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213 is the Geographical Zone derived from the CTZ file

22210 is the DP Identity

13579 is the National number.

To understand the fields in the internal format, the order in the tables in the ICD Int MD document describes the order in the comma separated file. In the tables it is described, which ASN.1 fields will be used to set these fields in the internal format or described how it will derived/mapped.

The Record Type Tag in the internal format (first parameter in a line) identifies which record is set in the internal format.

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Mobile Terminating records will not be used for billing but will be used in the call list, meaning the fields is more informative than relevant for billing – the highlighted fields will be selected like for the Mobile Originating record.

BGAN CB GSM mSTerminating Output Record - BDMMT

Record Type Tag, Consolidated Reference, Atomic Reference, **Time Zone**, Geographical Zone, DP Identity, National Number, Spot Beam ID, Source File Name, PrePay Indicator, **Service Code**, Call Reference, Record Sequence Number, A-end Subscriber Type, **A-end MSISDN**, **B-end MSISDN**, **B-end Subscriber Identity**, **B-end Equipment Identity**, Mobile Station Roaming Number, Disconnecting Party, **Call Start Time**, **Call End Time**, **Call Duration**, Interruption Time, Seizure Time, Charging Indicator, Origin For Charging, Recording Entity, MSC Identity, Outgoing Circuit Group, Incoming Circuit Group, B-end Location Area Code, Time For TC Seizure Called, A-end Cell-ID, B-end Cell-ID, Service Type, QoS Transparency Indicator, Call Position, EoS Info, **Termination Cause**, Actual Dialed Digits, Redirecting Number, Redirecting Counter, Selected Codec, System Recovery, **Indicator of full or partial record**, **Partial Record Order**, Acceptance Of Call Waiting, CUG Interlock Code, CUG Index, CUG Incoming Access Used, Regional Service Used, Region Charging Origin, Supplementary Service, Screening Indicator, Fault Code, Subscription Type, Forlopp Indicator, Forlopp Release, EMLPP Priority Level, Position Accuracy, User Terminal Position, Outgoing Assigned Route, Channel Coding Used, AIUR Requested, RANAP Cause Code, Max BitRate Downlink, Max BitRate Uplink, Residual Bit Error Ratio 1, Residual Bit Error Ratio 2, Residual Bit Error Ratio 3, SDU Error Ratio 1, SDU Error Ratio 2, SDU Error Ratio 3, Service Area Name, Terminating Location Number, **ISO3 Code**

Database Fields:

| Fields | Explained |
|-------------------------------------|-----------|
| Record Type Tag | |
| Consolidated Reference | |
| Time Zone | |
| Service Code | |
| A-end MSISDN | |
| B-end MSISDN | |
| B-end Subscriber Identity | |
| B-end Equipment Identity | |
| Call Start Time | |
| Call End Time | |
| Call Duration | |
| Termination Cause | |
| Indicator of full or partial record | |
| Partial Record Order | |
| ISO3 Code | |
| | |

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BGAN CB GSM callForwarding Output Record – BDMCF

Record Type Tag, Consolidated Reference, Atomic Reference, DP Identity, National Number, Source File Name, PrePay Indicator, **Service Code**, Call Reference, Record Sequence Number, A-end Subscriber Type, **A-end MSISDN, B-end MSISDN**, Actual Dialed Digits, Redirecting Number, Redirecting Counter, **Forwarding Subscriber Identity**, Mobile Station Roaming Number, Disconnecting Party, Call Start Time, Call End Time, Call Duration, Interruption Time, Seizure Time, Charging Indicator, Origin For Charging, Recording Entity, MSC Identity, Outgoing Circuit Group, Incoming Circuit Group, A-end Location Area Code, Call Position, EoS Info, Termination Cause, System Recovery, Indicator of full or partial record, Partial Record Order, CUG Interlock Code, CUG Index, CUG Outgoing Access Used, CUG Outgoing Access Indicator, Regional Service Used, Region Charging Origin, Screening Indicator, Fault Code, Subscription Type, Forlopp Indicator, Forlopp Release, Translated Number, CAMEL Initiated CallForwarding, BCSMTDPData1 serviceKey, BCSMTDPData1 gsmSCFAddress, BCSMTDPData2 serviceKey, BCSMTDPData2 gsmSCFAddress, BCSMTDPData3 serviceKey, BCSMTDPData3 gsmSCFAddress, BCSMTDPData4 serviceKey, BCSMTDPData4 gsmSCFAddress, BCSMTDPData5 serviceKey, BCSMTDPData5 gsmSCFAddress, BCSMTDPData6 serviceKey, BCSMTDPData6 gsmSCFAddress, BCSMTDPData7 serviceKey, BCSMTDPData7 gsmSCFAddress, BCSMTDPData8 serviceKey, BCSMTDPData8 gsmSCFAddress, BCSMTDPData9 serviceKey, BCSMTDPData9 gsmSCFAddress, BCSMTDPData10 serviceKey, BCSMTDPData10 gsmSCFAddress, B-end PLMN Identity, Carrier Information, Originating Line Info

Database Fields

| Fields | Explained |
|-------------------------------------|--|
| Record Type Tag | BCMRCF - (BGAN CB GSM roamingCallForwarding) |
| Consolidated Reference | |
| Time Zone | |
| Service Code | |
| A-end MSISDN | |
| A-end Subscriber Identity | |
| A-end Equipment Identity | |
| B-end MSISDN | |
| Call Start Time | |
| Call End Time | |
| Call Duration | |
| Termination Cause | |
| Indicator of full or partial record | |
| Partial Record Order | |
| ISO3 Code | |
| | |

All fields are string except for time that is datetime

| | | | |
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2.1.3 GPRS Record Format

GPRS records cover traditional data connectivity background IP based on shared resources, and their will be streaming data services – the different types of calls will be identified through a “requested uplink and requested downlink speed”. This will be specified in the sub record. Background IP traffic will be based on the used data traffic, where Streaming services all will be based on duration time as a QoS channel is reserved for the connection.

GPRS connectivity produce two a GGSN record as well as a SGSN record – as their is no roaming will only the SGSN records be used in the billing files – they will be marked as BDRS and BDRSTV – BDRS will be the main record and the BDRSTV will be the sub record.

See Billing CDR format on page xx in attached document under Appendix CDR Format Document.

Main Record - BGAN CB GPRS S-CDR Output Record - BDRS

Record Type Tag,Consolidated Reference,Atomic Reference,Time Zone,Geographical Zone,DP Identity,National Number,Spot Beam ID,Source File Name,PrePay Indicator,Record Type,A-end Subscriber Identity,A-end Equipment Identity,SGSN Address,Network Capability,Routing Area,A-end Location,A-end Cell Identity,Call Reference,GGSN Address,APN Network Identifier,PDP Type,A-end Network Address,Call Start Time,Call Start Time Offset,Call Duration,SGSN Change,Termination Cause,Diagnostics,Partial Record Order,Indicator of Full or Partial Record,Node ID,Record Sequence Number,APN Network Identifier Selection Mode,APN Operator Identifier,A-end Subscriber Number,Charging Indicator,Dynamic Address Flag,PLMN Identity,Service Area Name,ISO3 Code

Sub record - BGAN CB GPRS S-CDR Output Record - BDRSTV

Sub Record Type Tag,Requested Allocation Retention Prio,Requested Reliability,Requested Delay,Requested Precedence,Requested PeakThroughput,Requested MeanThroughput,Requested Traffic Class,Requested Delivery Order,Requested Delivery Erroneous SDU,Requested Requested Maximum SDU Size,Requested Maximum Bit Rate Uplink,Requested Maximum Bit Rate Downlink,Requested Residual BER,Requested SDU error Ratio,Requested Transfer Delay,Requested Traffic Handling Prio,Requested Guaranteed Bit Rate Uplink,Requested Guaranteed BitRate Downlink,Negotiated Allocation Retention Prio,Negotiated Reliability,Negotiated Delay,Negotiated Precedence,Negotiated PeakThroughput,Negotiated MeanThroughput, **Negotiated Traffic Class**, Negotiated Delivery Order, Negotiated Delivery Erroneous SDU, Negotiated Maximum SDU Size, Negotiated Maximum Bit Rate Uplink, Negotiated Maximum Bit Rate Downlink, Negotiated Residual BER, Negotiated SDU error Ratio, Negotiated Transfer Delay, Negotiated Traffic Handling Prio, Negotiated Guaranteed Bit Rate Uplink, Negotiated Guaranteed BitRate Downlink,Upstream (A-B) Data Volume,Downstream (B-A) Data Volume,Container Closure Change Condition,Container Closure Change Time,Change Time Offset

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Database Fields:

| Fields | Explained |
|--|---|
| Record Type Tag | |
| Consolidated Reference | |
| Time Zone | |
| A-end Subscriber Identity | |
| A-end Equipment Identity | |
| Call Start Time | |
| Call Duration | |
| Termination Cause | |
| Partial Record Order | |
| Indicator of Full or Partial Record | |
| A-end Subscriber Number | |
| ISO3 Code | |
| Negotiated Traffic Class | Code 2 = streaming - Code 4 = background |
| Negotiated Guaranteed Bit Rate Uplink | |
| Negotiated Guaranteed BitRate Downlink | |
| Upstream (A-B) Data Volume | |
| Downstream (B-A) Data Volume | |

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2.2 Business Request Response Parsing

Business Request will be send from our provisioning interface, when the command file is received will a Notification be send

2.2.1 Business Request Response Naming

DP-BRR_<businessRequest-ID>_<BT-seqnumber>.xml

Sample files:

| | | |
|---|------|--------------|
|  DP-BRR_55DeactEC66B3_1 | 2 KB | XML Document |
|  DP-BRR_66-CreateEndCust-via-DPI-no-err-A1_1 | 2 KB | XML Document |
|  DP-BRR_69GetContactEC651-1_1 | 3 KB | XML Document |
|  DP-BRR_651CreateEC651-04_1 | 2 KB | XML Document |
|  DP-BRR_TC01-DPx-CreateSP-1_1 | 2 KB | XML Document |
|  DP-BRR_TC02-DPx-CreateEC-2_1 | 2 KB | XML Document |
|  DP-BRR_TC06-DP400001-SuspendPA-1_1 | 3 KB | XML Document |
|  DP-BRR_TC08-DP400001-ResumePA-1_1 | 3 KB | XML Document |
|  DP-BRR_TC09-DPx-ChangeMSISDN-1_1 | 3 KB | XML Document |
|  DP-BRR_TC10-DPx-DisconnectPA-1_1 | 3 KB | XML Document |
|  DP-BRR_TCDP05-DP1-ActivatePA-3_1 | 4 KB | XML Document |
|  DP-BRR_TCDP09-DPx-ChangeIMSI-1_1 | 3 KB | XML Document |

2.2.2 Business Request Response Format

Business responses will be XML encoded based on the response formatting explained in the document named : Interface_BBSS_ICDext_DP_FINAL_80.pdf that explain the provisioning In and Out of Inmarsat DPI interface.

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Sample 1:

```
<?xml version='1.0' encoding="UTF-8"?>
<!DOCTYPE BusinessRequestResult SYSTEM 'BGAN_BusinessRequestResult.dtd'>

<BusinessRequestResult>
  <BusinessRequestResultHeader SenderId='Inmarsat BGAN BSS' SenderIdSupplement='DPI'
DistributionPartnerId='400001' DistributionPartnerIdSupplement=''
BusinessRequestResultId='TCDP05-DP1-ActivatePA-3' CreationDate='20041029'
CreationTime='09403656' NumberOfBusinessTransactionResults='1' BR-ErrorCode='' BR-ErrorText=''/>
  <BusinessTransactionResult>
    <BusinessTransactionResultHeader BT-SequenceNumber='1'
NumberOfElementaryBusinessTransactionResults='1' BT-ErrorCode='' BT-ErrorText=''/>
    <ElementaryBusinessTransactionResult>
      <ElementaryBusinessTransactionResultHeader EBT-TypeId='ActivatePackage' EBT-
SubTypeId='' EBT-SequenceNumber='1' ReturnCode='0' EBT-ErrorText=''/>
      <ResultData>
        <Parameter ParameterId='DP-CustomerId' ParameterValue='40000109'/>
        <Parameter ParameterId='BSS-CustomerId'
ParameterValue='778168556788928483908845175983'/>
        <Package>
          <Parameter ParameterId='Status' ParameterValue='ACTIVATED'/>
          <Parameter ParameterId='BSS-PackageDefinitionId' ParameterValue='P-SOM-
DPI' />
          <Parameter ParameterId='DP-PackageInstanceId' ParameterValue='DB0901' />
          <PackageServiceFeature>
            <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
            <Parameter ParameterId='Commentary' ParameterValue=' ' />
            <Parameter ParameterId='PackageServiceFeatureId'
ParameterValue='P_ATTRIBUTE' />
          </PackageServiceFeature>
          <PackageServiceFeature>
            <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
            <Parameter ParameterId='Commentary' ParameterValue=' ' />
            <Parameter ParameterId='PackageServiceFeatureId'
ParameterValue='SIM_CARD' />
          </PackageServiceFeature>
          <PackageServiceFeature>
            <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
            <Parameter ParameterId='Commentary' ParameterValue=' ' />
            <Parameter ParameterId='PackageServiceFeatureId' ParameterValue='UT' />
          </PackageServiceFeature>
          <Service>
            <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
            <Parameter ParameterId='Commentary' ParameterValue=' ' />
            <Parameter ParameterId='ServiceId' ParameterValue='GPRS' />
            <ServiceFeature>
              <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
              <Parameter ParameterId='Commentary' ParameterValue=' ' />
              <Parameter ParameterId='ServiceFeatureId' ParameterValue='PDP1' />
            </ServiceFeature>
          </Service>
          <Service>
            <Parameter ParameterId='Status' ParameterValue='ACTIVATED' />
            <Parameter ParameterId='Commentary' ParameterValue=' ' />
            <Parameter ParameterId='ServiceId' ParameterValue='TELEPHONY' />
          </Service>
        </Package>
      </ResultData>
    </ElementaryBusinessTransactionResult>
  </BusinessTransactionResult>
</BusinessRequestResult>
```

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Sample 2:

```
<?xml version='1.0' encoding="UTF-8"?>
<!DOCTYPE BusinessRequestResult SYSTEM 'BGAN_BusinessRequestResult.dtd'>
<BusinessRequestResult>
  <BusinessRequestResultHeader SenderId='Inmarsat BGAN BSS' SenderIdSupplement='DPI'
DistributionPartnerId='220000' DistributionPartnerIdSupplement=''
BusinessRequestResultId='651CreateEC651-04' CreationDate='20041013' CreationTime='02561661'
NumberOfBusinessTransactionResults='1' BR-ErrorCode='' BR-ErrorText=''/>
  <BusinessTransactionResult>
    <BusinessTransactionResultHeader BT-SequenceNumber='1'
NumberOfElementaryBusinessTransactionResults='2' BT-ErrorCode='' BT-ErrorText=''/>
    <ElementaryBusinessTransactionResult>
      <ElementaryBusinessTransactionResultHeader EBT-TypeId='CreateCustomerAccount' EBT-
SubTypeId='' EBT-SequenceNumber='1' ReturnCode='0' EBT-ErrorText=''/>
      <ResultData>
        <Parameter ParameterId='CustomerStatus' ParameterValue='PROSPECTIVE'/>
        <Parameter ParameterId='DP-CustomerId' ParameterValue='EC651-04'/>
        <Parameter ParameterId='BSS-CustomerId'
ParameterValue='19415954775104798491711282089'/>
      </ResultData>
    </ElementaryBusinessTransactionResult>
    <ElementaryBusinessTransactionResult>
      <ElementaryBusinessTransactionResultHeader EBT-TypeId='ActivateCustomerAccount' EBT-
SubTypeId='' EBT-SequenceNumber='2' ReturnCode='0' EBT-ErrorText=''/>
      <ResultData>
        <Parameter ParameterId='CustomerStatus' ParameterValue='ACTIVE'/>
        <Parameter ParameterId='DP-CustomerId' ParameterValue='EC651-04'/>
        <Parameter ParameterId='BSS-CustomerId'
ParameterValue='19415954775104798491711282089'/>
      </ResultData>
    </ElementaryBusinessTransactionResult>
  </BusinessTransactionResult>
</BusinessRequestResult>
```

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2.3 Notification Response Parsing

Every time a command is transmitted to the Inmarsat DPI will a Notification response be issues, this can take 100 – 200 seconds before the response will be delivered.

2.3.1 Notification Response Naming

NoR_<businessRequest-id>.xml

Sample files:

| | | |
|--|------|--------------|
|  NoR_55DeactEC66B3 | 1 KB | XML Document |
|  NoR_66-CreateEndCust-via-DPI-no-err-A1 | 1 KB | XML Document |
|  NoR_69GetContactEC651-1 | 1 KB | XML Document |
|  NoR_651CreateEC651-04 | 1 KB | XML Document |
|  NoR_TC01-DPx-CreateSP-1 | 1 KB | XML Document |
|  NoR_TC02-DPx-CreateEC-2 | 1 KB | XML Document |
|  NoR_TC06-DP400001-SuspendPA-1 | 1 KB | XML Document |
|  NoR_TC08-DP400001-ResumePA-1 | 1 KB | XML Document |
|  NoR_TC09-DPx-ChangemMSISDN-1 | 1 KB | XML Document |
|  NoR_TC10-DPx-DisconnectPA-1 | 1 KB | XML Document |
|  NoR_TCDP05-DP1-ActivatePA-3 | 1 KB | XML Document |
|  NoR_TCDP09-DPx-ChangeIMSI-1 | 1 KB | XML Document |

2.3.2 Notification Response Format

```
<?xml version="1.0" ?>
<NoticeOfReceipt SenderId="Inmarsat BGAN BSS"
  SenderIdSupplement="DPI"
  DistributionPartnerId="dp5006"
  DistributionPartnerIdSupplement=""
  BusinessRequestId="TC01-DPx-CreateSP-1"
  CreationDate="20041029"
  CreationTime="10583525"/>
```

Only the red fields will change between the different responses

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Database Fields

| Fields | Explained |
|-------------------|-----------|
| BusinessRequestId | |
| CreationDate | |
| CreationTime | |
| | |

Samples:

```
<?xml version="1.0" ?>
<NoticeOfReceipt SenderId="Inmarsat BGAN BSS"
  SenderIdSupplement="DPI"
  DistributionPartnerId="dp5006"
  DistributionPartnerIdSupplement=""
  BusinessRequestId="TC01-DPx-CreateSP-1"
  CreationDate="20041029"
  CreationTime="10583525"/>
```

```
<?xml version="1.0" ?>
<NoticeOfReceipt SenderId="Inmarsat BGAN BSS"
  SenderIdSupplement="DPI"
  DistributionPartnerId=" dp5006"
  DistributionPartnerIdSupplement=""
  BusinessRequestId="TCDP05-DP1-ActivatePA-3"
  CreationDate="20041029"
  CreationTime="09380900"/>
```

```
<?xml version="1.0" ?>
<NoticeOfReceipt SenderId="Inmarsat BGAN BSS"
  SenderIdSupplement="DPI"
  DistributionPartnerId=" dp5006"
  DistributionPartnerIdSupplement=""
  BusinessRequestId="55DeactEC66B3"
  CreationDate="20041112"
  CreationTime="09380900"/>
```

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3. Detailed CDR format tables

All below tables have been copied from the attached PDF document.

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3.1 GSM – BDMMO

BGAN CB GSM mSOriginating Record

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|-------------|---|
| Record Type Tag | (BGAN CB GSM mSOriginating) | string | BCMMO |
| Consolidated Reference | A copy of the CS record. Drop the "CS" bit. | string | <any> |
| Atomic Reference | A copy of the duplicate check fields. Drop the "Consolidated Id" bit. | string | <any> |
| Time Zone | Use uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation as lookup. TZ_ID is the value. | offset time | +0400 |
| Geographical Zone | Use uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation as lookup. COUNTRY_ID is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | integer | 1 |
| DP Identity | Use uMTSGSMPLMNCallDataRecord.mSOriginating.callingSubscriberIMSI as lookup. SPID is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'DP Prov Reference Table'. | string | <any> 0, if not available - e.g. in case of inbound roamers. |
| National Number | Use uMTSGSMPLMNCallDataRecord.mSOriginating.callingPartyNumber as lookup. NAT_NUMB is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table'. | string | <usually digits> |
| Spot Beam ID | Use uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation. Bit 2 in octet 4 is the most significant bit, and bit 1 in octet 5 is the least significant bit (10 bit in total). | integer | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------------------|--|----------|---|
| Source File Name | Evident will populate with input file name. | string | <any> |
| PrePay Indicator | Evident will set it to "post". | string | post |
| Service Code | uMTSGSMPLMNCallDataRecord.mSOriginating.tAC | string | <any> |
| Call Reference (Combine with "_") | uMTSGSMPLMNCallDataRecord.mSOriginating.callIdentificationNumber uMTSGSMPLMNCallDataRecord.mSOriginating.networkCallReference uMTSGSMPLMNCallDataRecord.mSOriginating.switchIdentity | string | <usually digits> |
| Record Sequence Number | uMTSGSMPLMNCallDataRecord.mSOriginating.recordSequenceNumber | integer | <any> |
| A-end Subscriber Type | uMTSGSMPLMNCallDataRecord.mSOriginating.typeOfCallingSubscriber | string | <any> |
| A-end MSISDN | uMTSGSMPLMNCallDataRecord.mSOriginating.callingPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| A-end Subscriber Identity | uMTSGSMPLMNCallDataRecord.mSOriginating.callingSubscriberIMSI | string | 262092464569171 |
| A-end Equipment Identity | uMTSGSMPLMNCallDataRecord.mSOriginating.callingSubscriberIMEI | string | 49010041059856 |
| B-end MSISDN | uMTSGSMPLMNCallDataRecord.mSOriginating.calledPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Disconnecting Party | uMTSGSMPLMNCallDataRecord.mSOriginating.disconnectingParty | string | callingPartyRelease |
| Call Start Time | uMTSGSMPLMNCallDataRecord.mSOriginating.dateForStartOfCharge uMTSGSMPLMNCallDataRecord.mSOriginating | datetime | 20011106203145 |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-----------------------------|---|----------|-----------------------------|
| | ginating.timeForStartOfCharge | | |
| Call End Time | uMTSGSMPLMNCallDataRecord.mSOriginating.dateForStartOfCharge uMTSGSMPLMNCallDataRecord.mSOriginating.timeForStopOfCharge | datetime | 20011106203146 |
| Call Duration | uMTSGSMPLMNCallDataRecord.mSOriginating.chargeableDuration | integer | <any> |
| Interruption Time | uMTSGSMPLMNCallDataRecord.mSOriginating.interruptionTime | integer | <any> |
| Seizure Time | uMTSGSMPLMNCallDataRecord.mSOriginating.timeFromRegisterSeizureToStartOfCharging | integer | <any> |
| Charging Indicator | uMTSGSMPLMNCallDataRecord.mSOriginating.chargedParty | string | chargingOfCallingSubscriber |
| Origin For Charging | uMTSGSMPLMNCallDataRecord.mSOriginating.originForCharging | string | <any> |
| Charging Case | uMTSGSMPLMNCallDataRecord.mSOriginating.chargingCase | string | <any> |
| Recording Entity | uMTSGSMPLMNCallDataRecord.mSOriginating.exchangeIdentity | string | <any> |
| MSC Identity | uMTSGSMPLMNCallDataRecord.mSOriginating.mSCIdentification | string | <any> |
| Outgoing Circuit Group | uMTSGSMPLMNCallDataRecord.mSOriginating.outgoingRoute | string | <usually digits> |
| Incoming Circuit Group | uMTSGSMPLMNCallDataRecord.mSOriginating.incomingRoute | string | <usually digits> |
| A-end Location Area Code | Location Area Code derived from uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation | integer | <any> |
| Time For TC Seizure Calling | uMTSGSMPLMNCallDataRecord.mSOriginating.timeForTCSeizureCalling | time | 203145 |
| A-end Cell-ID | uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation | string | <usually digits> |
| B-end Cell-ID | uMTSGSMPLMNCallDataRecord.mSOriginating.lastCallingLocationInformation | string | <usually digits> |
| Service Type | uMTSGSMPLMNCallDataRecord.mSOriginating | string | Telephony |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--|--|---------|--|
| | ginating.teleServiceCode uMTSGSMPLMNCallDataRecord.mSOriginating.bearerServiceCode | string | Data CDA - 300bps |
| QoS Transparency Indicator | uMTSGSMPLMNCallDataRecord.mSOriginating.transparencyIndicator | integer | 0 (transparent) |
| Call Position | uMTSGSMPLMNCallDataRecord.mSOriginating.callPosition | integer | 0 (valueUsed ForAllCallsToDetermineIfOutputToTakePlace) |
| EoS Info | uMTSGSMPLMNCallDataRecord.mSOriginating.eoSInfo | string | <any> |
| Termination Cause | uMTSGSMPLMNCallDataRecord.mSOriginating.internalCauseAndLoc | integer | <any> |
| System Recovery (combined with "_") | uMTSGSMPLMNCallDataRecord.mSOriginating.restartDuringCall uMTSGSMPLMNCallDataRecord.mSOriginating.restartDuringOutputIndicator uMTSGSMPLMNCallDataRecord.mSOriginating.incompleteCallDataIndicator uMTSGSMPLMNCallDataRecord.mSOriginating.disconnectionDueToSystemRecovery | string | 0_0_1_0 |
| B-end PLMN Identity | uMTSGSMPLMNCallDataRecord.mSOriginating.calledPartyMNPIInfo | string | <usually digits> |
| Indicator of full or partial record | uMTSGSMPLMNCallDataRecord.mSOriginating.lastPartialOutput uMTSGSMPLMNCallDataRecord.mSOriginating.partialOutputRecNum | string | F (Full i.e. not partial) PF (PartialFirst) PI (PartialIntermediate) PL (PartialLast) C (Consolidated) |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------------|--|---------|----------------------------|
| Partial Record Order | uMTSGSMPLMNCallDataRecord.mSOriginating.partialOutputRecNum | integer | <any> |
| CUG Interlock Code | uMTSGSMPLMNCallDataRecord.mSOriginating.cUGInterlockCode | string | <any> |
| CUG Index | uMTSGSMPLMNCallDataRecord.mSOriginating.cUGIndex | string | <any> |
| CUG Outgoing Access Used | uMTSGSMPLMNCallDataRecord.mSOriginating.cUGOutgoingAccessUsed | bool | 1 or 0 |
| CUG Outgoing Access Indicator | uMTSGSMPLMNCallDataRecord.mSOriginating.cUGOutgoingAccessIndicator | bool | 1 or 0 |
| Regional Service Used | uMTSGSMPLMNCallDataRecord.mSOriginating.regionalServiceUsed | integer | 0 (localSubscription) |
| Region Charging Origin | uMTSGSMPLMNCallDataRecord.mSOriginating.regionDependentChargingOrigin | string | <any> |
| Supplementary Service | uMTSGSMPLMNCallDataRecord.mSOriginating.sSCode Prefix "SS" will be added. | string | SS11 |
| iFault Code | uMTSGSMPLMNCallDataRecord.mSOriginating.faultCode | string | <any> |
| Subscription Type | uMTSGSMPLMNCallDataRecord.mSOriginating.subscriptionType | string | <any> |
| Forlopp Indicator | uMTSGSMPLMNCallDataRecord.mSOriginating.forloppDuringOutputIndicator | bool | 1 or 0 |
| Forlopp Release | uMTSGSMPLMNCallDataRecord.mSOriginating.forloppReleaseDuringCall | bool | 1 or 0 |
| Translated Number | uMTSGSMPLMNCallDataRecord.mSOriginating.translatedNumber | string | <usually digits> |
| BCSMTDPData1 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData1.serviceKey | string | <any> |
| BCSMTDPData1 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData1.gsmSCFAddress | string | <any> |
| BCSMTDPData2 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData2.serviceKey | string | <any> |
| BCSMTDPData2 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData2.gsmSCFAddress | string | <any> |
| BCSMTDPData3 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData3.serviceKey | string | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-----------------------------|---|--------|----------------------------|
| | ginating.bCSMTDPData3.serviceKey | | |
| BCSMTDPData3 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData3.gsmSCFAddress | string | <any> |
| BCSMTDPData4 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData4.serviceKey | string | <any> |
| BCSMTDPData4 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData4.gsmSCFAddress | string | <any> |
| BCSMTDPData5 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData5.serviceKey | string | <any> |
| BCSMTDPData5 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData5.gsmSCFAddress | string | <any> |
| BCSMTDPData6 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData6.serviceKey | string | <any> |
| BCSMTDPData6 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData6.gsmSCFAddress | string | <any> |
| BCSMTDPData7 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData7.serviceKey | string | <any> |
| BCSMTDPData7 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData7.gsmSCFAddress | string | <any> |
| BCSMTDPData8 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData8.serviceKey | string | <any> |
| BCSMTDPData8 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData8.gsmSCFAddress | string | <any> |
| BCSMTDPData9 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData9.serviceKey | string | <any> |
| BCSMTDPData9 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData9.gsmSCFAddress | string | <any> |
| BCSMTDPData10 serviceKey | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData10.serviceKey | string | <any> |
| BCSMTDPData10 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.mSOriginating.bCSMTDPData10.gsmSCFAddress | string | <any> |
| EMLPP Priority Level | uMTSGSMPLMNCallDataRecord.mSOriginating.eMLPPPriorityLevel | string | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|----------------------------|--|---------|----------------------------|
| Position Accuracy | uMTSGSMPLMNCallDataRecord.mSOriginating.positionAccuracy | string | <any> |
| User Terminal Position | uMTSGSMPLMNCallDataRecord.mSOriginating.userTerminalPosition | string | <any> |
| Incoming Assigned Route | uMTSGSMPLMNCallDataRecord.mSOriginating.incomingAssignedRoute | string | <usually digits> |
| Channel Coding Used | uMTSGSMPLMNCallDataRecord.mSOriginating.channelCodingUsed | string | <any> |
| RANAP Cause Code | uMTSGSMPLMNCallDataRecord.mSOriginating.rANAPCauseCode | string | <any> |
| AIUR Requested | uMTSGSMPLMNCallDataRecord.mSOriginating.aiURRequested | integer | 1 (aIUR9600bps) |
| Max BitRate Downlink | uMTSGSMPLMNCallDataRecord.mSOriginating.maxBitRateDownlink | integer | <any> |
| Max BitRate Uplink | uMTSGSMPLMNCallDataRecord.mSOriginating.maxBitRateUplink | integer | <any> |
| Residual Bit Error Ratio 1 | uMTSGSMPLMNCallDataRecord.mSOriginating.residualBitErrorRatio1 | string | <any> |
| Residual Bit Error Ratio 2 | uMTSGSMPLMNCallDataRecord.mSOriginating.residualBitErrorRatio2 | string | <any> |
| Residual Bit Error Ratio 3 | uMTSGSMPLMNCallDataRecord.mSOriginating.residualBitErrorRatio3 | string | <any> |
| SDU Error Ratio 1 | uMTSGSMPLMNCallDataRecord.mSOriginating.sDUErrorRatio1 | string | <any> |
| SDU Error Ratio 2 | uMTSGSMPLMNCallDataRecord.mSOriginating.sDUErrorRatio2 | string | <any> |
| SDU Error Ratio 3 | uMTSGSMPLMNCallDataRecord.mSOriginating.sDUErrorRatio3 | string | <any> |
| Carrier Information | uMTSGSMPLMNCallDataRecord.mSOriginating.carrierInformation | string | <any> |
| Originating Line Info | uMTSGSMPLMNCallDataRecord.mSOriginating.originatingLineInformation | string | <any> |
| Selected Codec | uMTSGSMPLMNCallDataRecord.mSOriginating.selectedCodec | integer | 0 (gSMFullRate) |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-----------------------------|---|--------|----------------------------|
| Service Area Name | Use uMTSGSMPLMNCallDataRecord.mSOriginating.firstCallingLocationInformation as lookup. NAME is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | string | "Arctic Ocean" |
| Originating Location number | uMTSGSMPLMNCallDataRecord.mSOriginating.originatingLocationNumber | string | <usually digits> |

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3.2 GSM – BDMMT

Table 43: BGAN CB GSM mSTerminating Record

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|---|--------|----------------------------|
| Record Type Tag | A unique record type tag. (BGAN CB GSM mSTerminating) | string | BCMMT |
| Consolidated Reference | A copy of the CS record. Drop the "CS" bit. See [6.1.2 Solution]. See [SADD_EVIDENT], section 'BGW xDR Consolidation of GSM BGAN'. | string | <any> |
| Atomic Reference | A copy of the duplicate check fields. See [SADD_EVIDENT], section 'Duplicate xDR Handling of GSM BGAN'. CSREF,REF,BasicId,RSEQ,ICG,OCG CSREF=bGANConsolidatedId.startTimeStamp, bGANConsolidatedId.utcTimeOffset BasicId=<record type> (mSTerminating) RSEQ= mSTerminating.recordSequenceNumber ICG= mSTerminating.incomingRoute OCG= mSTerminating.outgoingRoute | string | <any> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------------------|---|-------------|---|
| Time Zone | Use uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation as lookup. TZ_ID is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | offset time | +0400 |
| Geographical Zone | Use uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation as lookup. COUNTRY_ID is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | integer | 1 |
| DP Identity | Use uMTSGSMPLMNCallDataRecord.mSTerminating.callingPartyNumber as a lookup on the Nat Num Reference Table to retrieve the IMSI. Then use this IMSI as a lookup on the DP Format Reference Table. SPID is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table' and 'DP Prov Reference Table'. | string | <any> 0, if not available - e.g. in case of inbound roamers. |
| National Number | Use uMTSGSMPLMNCallDataRecord.mSTerminating.callingPartyNumber as lookup. NAT_NUMB is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table'. | string | <usually digits> |
| Spot Beam ID | Use uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation. Bit 2 in octet 4 is the most significant bit, and bit 1 in octet 5 is the least significant bit (10 bit in total). | integer | <any> |
| Source File Name | Evident will populate with input file name. | string | <any> |
| PrePay Indicator | Evident will set it to "post". | string | post |
| Service Code | uMTSGSMPLMNCallDataRecord.mSTerminating.tAC | string | <any> |
| Call Reference (Combine with "_") | uMTSGSMPLMNCallDataRecord.mSTerminating.callIdentificationNumber uMTSGSMPLMNCallDataRecord.mSTerminating.networkCallReference uMTSGSMPLMNCallDataRecord.mSTerminating.relatedCallNumber | string | <usually digits> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------------|--|----------|---|
| | uMTSGSMPLMNCallDataRecord.mSTerminating.switchIdentity | | |
| Record Sequence Number | uMTSGSMPLMNCallDataRecord.mSTerminating.recordSequenceNumber | integer | <any> |
| A-end Subscriber Type | uMTSGSMPLMNCallDataRecord.mSTerminating.typeOfCallingSubscriber | string | <any> |
| A-end MSISDN | uMTSGSMPLMNCallDataRecord.mSTerminating.callingPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| B-end MSISDN | uMTSGSMPLMNCallDataRecord.mSTerminating.calledPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| B-end Subscriber Identity | uMTSGSMPLMNCallDataRecord.mSTerminating.calledSubscriberIMSI | string | 262092464569171 |
| B-end Equipment Identity | uMTSGSMPLMNCallDataRecord.mSTerminating.calledSubscriberIMEI | string | 49010041059856 |
| Mobile Station Roaming Number | uMTSGSMPLMNCallDataRecord.mSTerminating.mobileStationRoamingNumber | string | <usually digits> |
| Disconnecting Party | uMTSGSMPLMNCallDataRecord.mSTerminating.disconnectingParty See [BGAN GSM Types], 8. | string | callingPartyRelease |
| Call Start Time | uMTSGSMPLMNCallDataRecord.mSTerminating.dateForStartOfCharge uMTSGSMPLMNCallDataRecord.mSTerminating.timeForStartOfCharge | datetime | 20011106203145 |
| Call End Time | uMTSGSMPLMNCallDataRecord.mSTerminating.dateForStartOfCharge uMTSGSMPLMNCallDataRecord.mSTerminating.timeForStopOfCharge | datetime | 20011106203146 |
| Call Duration | uMTSGSMPLMNCallDataRecord.mSTerminating.chargeableDuration | integer | HHMMSS converted to seconds |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|----------------------------|--|---------|--------------------------------|
| Interruption Time | uMTSGSMPLMNCallDataRecord.mSTerminating.interruptionTime | integer | HHMMSS converted to seconds |
| Seizure Time | uMTSGSMPLMNCallDataRecord.mSTerminating.timeFromRegisterSeizureToStartOfCharging | integer | HHMMSS converted to seconds |
| Charging Indicator | uMTSGSMPLMNCallDataRecord.mSTerminating.chargedParty See [BGAN GSM Types], 4. | string | chargingOfCallingSubscriber |
| Origin For Charging | uMTSGSMPLMNCallDataRecord.mSTerminating.originForCharging | string | <any> |
| Recording Entity | uMTSGSMPLMNCallDataRecord.mSTerminating.exchangeIdentity | string | <any> |
| MSC Identity | uMTSGSMPLMNCallDataRecord.mSTerminating.mSCIdentification | string | <any> |
| Outgoing Circuit Group | uMTSGSMPLMNCallDataRecord.mSTerminating.outgoingRoute | string | <usually digits> |
| Incoming Circuit Group | uMTSGSMPLMNCallDataRecord.mSTerminating.incomingRoute | string | <usually digits> |
| B-end Location Area Code | Location Area Code derived from uMTSGSMPLMNCallDataRecord.mSTerminating.lastCalledLocationInformation | integer | <any> |
| Time For TC Seizure Called | uMTSGSMPLMNCallDataRecord.mSTerminating.timeForTCSeizureCalled | integer | HHMMSS converted to seconds |
| A-end Cell-ID | uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation | string | <usually digits> |
| B-end Cell-ID | uMTSGSMPLMNCallDataRecord.mSTerminating.lastCalledLocationInformation | string | <usually digits> |
| Service Type | uMTSGSMPLMNCallDataRecord.mSTerminating.teleServiceCode See [BGAN GSM Types], 34. uMTSGSMPLMNCallDataRecord.mSTerminating.bearerServiceCode See [BGAN GSM Types], 35. | string | Telephony Data CDA - 300bps |
| QoS Transparency Indicator | uMTSGSMPLMNCallDataRecord.mSTerminating.transparencyIndicator | string | transparent |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------------------|--|---------|--|
| | See [BGAN GSM Types], 25. | | |
| Call Position | uMTSGSMPLMNCallDataRecord.mSTerminating.callPosition | string | callHasReachedCongestionOrBusyState |
| EoS Info | uMTSGSMPLMNCallDataRecord.mSTerminating.eoSInfo | string | <any> |
| Termination Cause | uMTSGSMPLMNCallDataRecord.mSTerminating.internalCauseAndLoc | integer | <any> |
| Actual Dialed Digits | uMTSGSMPLMNCallDataRecord.mSTerminating.originalCalledNumber | string | <usually digits> |
| Redirecting Number | uMTSGSMPLMNCallDataRecord.mSTerminating.redirectingNumber | string | 239228473217 |
| Redirecting Counter | uMTSGSMPLMNCallDataRecord.mSTerminating.redirectionCounter | integer | <any> |
| Selected Codec | uMTSGSMPLMNCallDataRecord.mSTerminating.selectedCodec See [BGAN GSM Types], 20. | string | inmarsatCoding |
| System Recovery (combined with "_") | uMTSGSMPLMNCallDataRecord.mSTerminating.restartDuringCall uMTSGSMPLMNCallDataRecord.mSTerminating.restartDuringOutputIndicator uMTSGSMPLMNCallDataRecord.mSTerminating.incompleteCallDataIndicator uMTSGSMPLMNCallDataRecord.mSTerminating.disconnectionDueToSystemRecovery | string | 0_0_1_0 |
| Indicator of full or partial record | uMTSGSMPLMNCallDataRecord.mSTerminating.lastPartialOutput uMTSGSMPLMNCallDataRecord.mSTerminating.partialOutputRecNum | string | F (Full i.e. not partial) PF (PartialFirst) PI (PartialIntermediate) PL (PartialLast) C (Consolidated) |
| Partial Record Order | uMTSGSMPLMNCallDataRecord.mSTerminating.partialOutputRecNum | integer | <any> |
| Acceptance Of Call Waiting | uMTSGSMPLMNCallDataRecord.mSTerminating.acceptanceOfCallWaiting | bool | 1 or 0 |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------|--|---------|----------------------------|
| CUG Interlock Code | uMTSGSMPLMNCallDataRecord.mSTerminating.cUGInterlockCode | string | <any> |
| CUG Index | uMTSGSMPLMNCallDataRecord.mSTerminating.cUGIndex | string | <any> |
| CUG Incoming Access Used | uMTSGSMPLMNCallDataRecord.mSTerminating.cUGIncomingAccessUsed | bool | 1 or 0 |
| Regional Service Used | uMTSGSMPLMNCallDataRecord.mSTerminating.regionalServiceUsed See [BGAN GSM Types], 18. | string | localSubscription |
| Region Charging Origin | uMTSGSMPLMNCallDataRecord.mSTerminating.regionDependentChargingOrigin | string | <any> |
| Supplementary Service | uMTSGSMPLMNCallDataRecord.mSTerminating.sSCode See [BGAN GSM Types], 36. | string | Call transfer |
| Screening Indicator | uMTSGSMPLMNCallDataRecord.mSTerminating.presentationAndScreeningIndicator | string | <any> |
| Fault Code | uMTSGSMPLMNCallDataRecord.mSTerminating.faultCode | string | <any> |
| Subscription Type | uMTSGSMPLMNCallDataRecord.mSTerminating.subscriptionType | string | <any> |
| Forlopp Indicator | uMTSGSMPLMNCallDataRecord.mSTerminating.forloppDuringOutputIndicator | bool | 1 or 0 |
| Forlopp Release | uMTSGSMPLMNCallDataRecord.mSTerminating.forloppReleaseDuringCall | bool | 1 or 0 |
| EMLPP Priority Level | uMTSGSMPLMNCallDataRecord.mSTerminating.eMLPPriorityLevel | string | <any> |
| Position Accuracy | uMTSGSMPLMNCallDataRecord.mSTerminating.positionAccuracy | string | <any> |
| User Terminal Position | uMTSGSMPLMNCallDataRecord.mSTerminating.userTerminalPosition | string | <any> |
| Outgoing Assigned Route | uMTSGSMPLMNCallDataRecord.mSTerminating.outgoingAssignedRoute | string | <usually digits> |
| Channel Coding Used | uMTSGSMPLMNCallDataRecord.mSTerminating.channelCodingUsed | string | <any> |
| AIUR Requested | uMTSGSMPLMNCallDataRecord.mSTerminating.aIURRequested | string | aIUR9600bps |
| RANAP Cause Code | uMTSGSMPLMNCallDataRecord.mSTerminating.rANAPCauseCode | string | <any> |
| Max BitRate Downlink | uMTSGSMPLMNCallDataRecord.mSTerminating.maxBitRateDownlink | integer | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-----------------------------|---|---------|----------------------------|
| Max BitRate Uplink | uMTSGSMPLMNCallDataRecord.mSTerminating.maxBitRateUplink | integer | <any> |
| Residual Bit Error Ratio 1 | uMTSGSMPLMNCallDataRecord.mSTerminating.residualBitErrorRatio1 | string | <any> |
| Residual Bit Error Ratio 2 | uMTSGSMPLMNCallDataRecord.mSTerminating.residualBitErrorRatio2 | string | <any> |
| Residual Bit Error Ratio 3 | uMTSGSMPLMNCallDataRecord.mSTerminating.residualBitErrorRatio3 | string | <any> |
| SDU Error Ratio 1 | uMTSGSMPLMNCallDataRecord.mSTerminating.sDUErrorRatio1 | string | <any> |
| SDU Error Ratio 2 | uMTSGSMPLMNCallDataRecord.mSTerminating.sDUErrorRatio2 | string | <any> |
| SDU Error Ratio 3 | uMTSGSMPLMNCallDataRecord.mSTerminating.sDUErrorRatio3 | string | <any> |
| Service Area Name | Use uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation as lookup. NAME is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | string | "Arctic Ocean" |
| Terminating Location Number | uMTSGSMPLMNCallDataRecord.mSTerminating.terminatingLocationNumber | string | <usually digits> |
| ISO3 Code | Use uMTSGSMPLMNCallDataRecord.mSTerminating.firstCalledLocationInformation as lookup. ISO3_CODE is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | string | "XXR" |

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3.3 GSM – BDMFC

Table 42: BGAN CB GSM callForwarding Record

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|---|--------|---|
| Record Type Tag | A unique record type tag. (BGAN CB GSM callForwarding) | string | BCMCF |
| Consolidated Reference | A copy of the CS record. Drop the "CS" bit. See [6.1.2 Solution]. See [SADD_EVIDENT], section 'BGW xDR Consolidation of GSM BGAN'. | string | <any> |
| Atomic Reference | A copy of the duplicate check fields. See [SADD_EVIDENT], section 'Duplicate xDR Handling of GSM BGAN'. CSREF,REF,BasicId,RSEQ,ICG,OCG CSREF=bGANConsolidatedId.startTimeStamp, bGANConsolidatedId.utcTimeOffset BasicId=<record type> (callForwarding) RSEQ= callForwarding.recordSequenceNumber ICG= callForwarding.incomingRoute OCG= callForwarding.outgoingRoute | string | <any> |
| DP Identity | Use uMTSGSMPLMNCallDataRecord.callForwarding.callingPartyNumber as a lookup on the Nat Num Reference Table to retrieve the IMSI. Then use this IMSI as a lookup on the DP Format Reference Table. SPID is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table' and 'DP Prov Reference Table'. | string | <any> 0, if not available - e.g. in case of inbound roamers. |
| National Number | Use uMTSGSMPLMNCallDataRecord.callForwarding.callingPartyNumber as lookup. NAT_NUMB is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table'. | string | <usually digits> |
| Source File Name | Evident will populate with input file name. | string | <any> |
| PrePay Indicator | Evident will set it to "post". | string | post |
| Service Code | uMTSGSMPLMNCallDataRecord.callForwarding.tAC | string | <any> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------------------|---|----------|---|
| Call Reference (Combine with "_") | uMTSGSMPLMNCallDataRecord.callForwarding.callIdentificationNumber uMTSGSMPLMNCallDataRecord.callForwarding.networkCallReference uMTSGSMPLMNCallDataRecord.callForwarding.relatedCallNumber uMTSGSMPLMNCallDataRecord.callForwarding.switchIdentity | string | <usually digits> |
| Record Sequence Number | uMTSGSMPLMNCallDataRecord.callForwarding.recordSequenceNumber | integer | <any> |
| A-end Subscriber Type | uMTSGSMPLMNCallDataRecord.callForwarding.typeOfCallingSubscriber | string | <any> |
| A-end MSISDN | uMTSGSMPLMNCallDataRecord.callForwarding.callingPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| B-end MSISDN | uMTSGSMPLMNCallDataRecord.callForwarding.calledPartyNumber | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Actual Dialed Digits | uMTSGSMPLMNCallDataRecord.callForwarding.originalCalledNumber | string | <usually digits> |
| Redirecting Number | uMTSGSMPLMNCallDataRecord.callForwarding.redirectingNumber | string | 239228473216 |
| Redirecting Counter | uMTSGSMPLMNCallDataRecord.callForwarding.redirectionCounter | integer | <any> |
| Forwarding Subscriber Identity | uMTSGSMPLMNCallDataRecord.callForwarding.redirectingIMSI | string | 262092464569171 |
| Mobile Station Roaming Number | uMTSGSMPLMNCallDataRecord.callForwarding.mobileStationRoamingNumber | string | <usually digits> |
| Disconnecting Party | uMTSGSMPLMNCallDataRecord.callForwarding.disconnectingParty See [BGAN GSM Types], 8. | integer | 0 (callingPartyRelease) |
| Call Start Time | uMTSGSMPLMNCallDataRecord.callForwarding.dateForStartOfCharge | datetime | 20011106203145 |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------|---|----------|-------------------------------------|
| | uMTSGSMPLMNCallDataRecord.callForwarding.timeForStartOfCharge | | |
| Call End Time | uMTSGSMPLMNCallDataRecord.callForwarding.dateForStartOfCharge uMTSGSMPLMNCallDataRecord.callForwarding.timeForStopOfCharge | datetime | 20011106203146 |
| Call Duration | uMTSGSMPLMNCallDataRecord.callForwarding.chargeableDuration | integer | HHMMSS converted to seconds |
| Interruption Time | uMTSGSMPLMNCallDataRecord.callForwarding.interruptionTime | integer | HHMMSS converted to seconds |
| Seizure Time | uMTSGSMPLMNCallDataRecord.callForwarding.timeFromRegisterSeizureToStartOfCharging | integer | HHMMSS converted to seconds |
| Charging Indicator | uMTSGSMPLMNCallDataRecord.callForwarding.chargedParty See [BGAN GSM Types], 4. | string | chargingOfCallingSubscriber |
| Origin For Charging | uMTSGSMPLMNCallDataRecord.callForwarding.originForCharging | string | <any> |
| Recording Entity | uMTSGSMPLMNCallDataRecord.callForwarding.exchangeIdentity | string | <any> |
| MSC Identity | uMTSGSMPLMNCallDataRecord.callForwarding.mSCIdentification | string | <any> |
| Outgoing Circuit Group | uMTSGSMPLMNCallDataRecord.callForwarding.outgoingRoute | string | <usually digits> |
| Incoming Circuit Group | uMTSGSMPLMNCallDataRecord.callForwarding.incomingRoute | string | <usually digits> |
| A-end Location Area Code | uMTSGSMPLMNCallDataRecord.callForwarding.originatingLocationNumber | string | <usually digits> |
| Call Position | uMTSGSMPLMNCallDataRecord.callForwarding.callPosition | string | callHasReachedCongestionOrBusyState |
| EoS Info | uMTSGSMPLMNCallDataRecord.callForwarding.eoSInfo | string | <any> |
| Termination Cause | uMTSGSMPLMNCallDataRecord.callForwarding.internalCauseAndLoc | integer | <any> |
| System Recovery | uMTSGSMPLMNCallDataRecord.callForwarding.restartDuringCall | string | 0_0_1_0 |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------------------|--|---------|--|
| (combined with " _") | uMTSGSMPLMNCallDataRecord.callForwarding.restartDuringOutputIndicator uMTSGSMPLMNCallDataRecord.callForwarding.incompleteCallDataIndicator uMTSGSMPLMNCallDataRecord.callForwarding.disconnectionDueToSystemRecovery | | |
| Indicator of full or partial record | uMTSGSMPLMNCallDataRecord.callForwarding.lastPartialOutput uMTSGSMPLMNCallDataRecord.callForwarding.partialOutputRecNum | string | F (Full i.e. not partial) PF (PartialFirst) PI (PartialIntermediate) PL (PartialLast) C (Consolidated) |
| Partial Record Order | uMTSGSMPLMNCallDataRecord.callForwarding.partialOutputRecNum | integer | <any> |
| CUG Interlock Code | uMTSGSMPLMNCallDataRecord.callForwarding.cUGInterlockCode | string | <any> |
| CUG Index | uMTSGSMPLMNCallDataRecord.callForwarding.cUGIndex | string | <any> |
| CUG Outgoing Access Used | uMTSGSMPLMNCallDataRecord.callForwarding.cUGOutgoingAccessUsed | bool | 1 or 0 |
| CUG Outgoing Access Indicator | uMTSGSMPLMNCallDataRecord.callForwarding.cUGOutgoingAccessIndicator | bool | 1 or 0 |
| Regional Service Used | uMTSGSMPLMNCallDataRecord.callForwarding.regionalServiceUsed See [BGAN GSM Types], 18. | string | localSubscription |
| Region Charging Origin | uMTSGSMPLMNCallDataRecord.callForwarding.regionDependentChargingOrigin | string | <any> |
| Screening Indicator | uMTSGSMPLMNCallDataRecord.callForwarding.presentationAndScreeningIndicator | string | <any> |
| Fault Code | uMTSGSMPLMNCallDataRecord.callForwarding.faultCode | string | <any> |
| Subscription Type | uMTSGSMPLMNCallDataRecord.callForwarding.subscriptionType | string | <any> |
| Forlopp Indicator | uMTSGSMPLMNCallDataRecord.callForwarding.forloppDuringOutputIndicator | bool | 1 or 0 |
| Forlopp Release | uMTSGSMPLMNCallDataRecord.callForwarding.forloppReleaseDuringCall | bool | 1 or 0 |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------------|---|--------|----------------------------|
| Translated Number | uMTSGSMPLMNCallDataRecord.callForwarding.translatedNumber | string | <usually digits> |
| CAMEL Initiated CallForwarding | uMTSGSMPLMNCallDataRecord.callForwarding.cAMELInitiatedCallForwarding | bool | 1 or 0 |
| BCSMTDPData1 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData1.serviceKey | string | <any> |
| BCSMTDPData1 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData1.gsmSCFAddress | string | <any> |
| BCSMTDPData2 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData2.serviceKey | string | <any> |
| BCSMTDPData2 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData2.gsmSCFAddress | string | <any> |
| BCSMTDPData3 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData3.serviceKey | string | <any> |
| BCSMTDPData3 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData3.gsmSCFAddress | string | <any> |
| BCSMTDPData4 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData4.serviceKey | string | <any> |
| BCSMTDPData4 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData4.gsmSCFAddress | string | <any> |
| BCSMTDPData5 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData5.serviceKey | string | <any> |
| BCSMTDPData5 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData5.gsmSCFAddress | string | <any> |
| BCSMTDPData6 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData6.serviceKey | string | <any> |
| BCSMTDPData6 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData6.gsmSCFAddress | string | <any> |
| BCSMTDPData7 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData7.serviceKey | string | <any> |
| BCSMTDPData7 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData7.gsmSCFAddress | string | <any> |
| BCSMTDPData8 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData8.serviceKey | string | <any> |
| BCSMTDPData8 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData8.gsmSCFAddress | string | <any> |
| BCSMTDPData9 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData9.serviceKey | string | <any> |
| BCSMTDPData9 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData9.gsmSCFAddress | string | <any> |
| BCSMTDPData10 serviceKey | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData10.serviceKey | string | <any> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-----------------------------|--|--------|----------------------------|
| BCSMTDPData10 gsmSCFAddress | uMTSGSMPLMNCallDataRecord.callForwarding.bCSMTDPData10.gsmSCFAddress | string | <any> |
| B-end PLMN Identity | uMTSGSMPLMNCallDataRecord.callForwarding.calledPartyMNPIInfo | string | <usually digits> |
| Carrier Information | uMTSGSMPLMNCallDataRecord.callForwarding.carrierInformation | string | <any> |
| Originating Line Info | uMTSGSMPLMNCallDataRecord.callForwarding.originatingLineInformation | string | <any> |

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3.4 GPRS – BDRS + BDRSTV

Table 67: BGAN CB GPRS S-CDR Record from R-BGAN BGW GPRS

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|-------------|----------------------------|
| Record Type Tag | (BGAN CB GPRS S-CDR from R-BGAN) | string | BCRS |
| Consolidated Reference | The fields combinedSandGCDR.chargingID and combinedSandGCDR.ggsnAddressUsed will be concatenated. | string | 612039_161.30.40.197 |
| Atomic Reference | A copy of the duplicate check fields. See [SADD_EVIDENT], section 'Duplicate xDR Handling of GPRS BGAN'. GAD,REF,RSEQ GAD = ggsnAddressUsed.iPBinaryAddress.iPBinV4Address/ggsnAddressUsed.iPBinaryAddress.iPBinV6Address/ggsnAddressUsed.iPTextRepresentedAddress.iPTextV4Address/ggsnAddressUsed.iPTextRepresentedAddress.iPTextV6Address REF = chargingID RSEQ = recordSequenceNumber | string | <any> |
| Time Zone | Use combinedSandGCDR.cellIdentity as lookup. TZ_ID is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | offset time | +0400 |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------------------------|--|--|---|
| Geographical Zone | Use combinedSandGCDR.cellIdentity as lookup. COUNTRY_ID is the value. See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'. | integer | 1 |
| DP Identity | Use combinedSandGCDR.servedIMSI. SPID is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'DP Prov Reference Table'. | string | <any> 0, if not available - e.g. in case of inbound roamers. |
| National Number | Use combinedSandGCDR.servedMSISDN. NAT_NUMB is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table'. | string | <usually digits> |
| Spot Beam ID | Use combinedSandGCDR.locationAreaCode. locationAreaCode> ::= <Spot Beam ID - BITSTRING(10)><SGSN ID - BITSTRING(6)> | integer | <any> |
| Source File Name | Evident will populate with input file name. | string | <any> |
| PrePay Indicator | Evident will set it to "post". | string | post |
| Record Type | combinedSandGCDR.recordType. | string | combinedSandGCDR |
| A-end Subscriber Identity | combinedSandGCDR.servedIMSI | string | 262092464569171 |
| A-end Equipment Identity | combinedSandGCDR.servedIMEI | string | 49010041059856 |
| SGSN Address (First one not NULL) | combinedSandGCDR.sgsnAddress.iPBinaryAddress.iPBinV4Address combinedSandGCDR.sgsnAddress.iPBinaryAddress.iPBinV6Address combinedSandGCDR.sgsnAddress.iPTextRepresentedAddress.iPTextV4Address combinedSandGCDR.sgsnAddress.iPTextRepresentedAddress.iPTextV6Address | string string string string | 192.168.262.97 2001:0000:1234:0000:0000:C1C0:ABCD:0876 |
| Network Capability | combinedSandGCDR.msNetworkCapability | integer | <any> |
| Routing Area | combinedSandGCDR.routingArea | integer | <any> |
| A-end Location | combinedSandGCDR.locationAreaCode | integer | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--|--|-------------|--|
| A-end Cell Identity | combinedSandGCDR.cellIdentity | string | <usually digits> |
| Call Reference | combinedSandGCDR.chargingID | integer | <usually digits> |
| GGSN Address (First one not NULL) | combinedSandGCDR.ggsnAddressUsed.iPBinaryAddress.iPBinV4Address | string | 192.168.262.97 |
| | combinedSandGCDR.ggsnAddressUsed.iPBinaryAddress.iPBinV6Address | string | 2001:0000:1234:0000:000:C1C0:ABCD:0876 |
| | combinedSandGCDR.ggsnAddressUsed.iPTextRepresentedAddress.iPTextV4Address | string | |
| | combinedSandGCDR.ggsnAddressUsed.iPTextRepresentedAddress.iPTextV6Address | string | |
| APN Network Identifier | combinedSandGCDR.accessPointName | string | inmarsat |
| Network Protocol | combinedSandGCDR.pdpType | string | <any> |
| A-end Network Address (First one not NULL) | combinedSandGCDR.servedPDPAddress.iPAddress.iPBinaryAddress.iPBinV4Address | string | 192.168.262.101 |
| | combinedSandGCDR.servedPDPAddress.iPAddress.iPBinaryAddress.iPBinV6Address | string | 2001:0000:1234:0000:000:C1C0:ABCD:0876 |
| | combinedSandGCDR.servedPDPAddress.iPAddress.iPTextRepresentedAddress.iPTextV4Address | string | |
| | combinedSandGCDR.servedPDPAddress.iPAddress.iPTextRepresentedAddress.iPTextV6Address | string | |
| combinedSandGCDR.servedPDPAddress.eTSIAAddress | string | | |
| Call Start Time | combinedSandGCDR.sgsnrecordOpeningTime | datetime | 20011106203145 |
| Call Start Time Offset | combinedSandGCDR.sgsnrecordOpeningTime | offset time | +0230 |
| Call Duration | combinedSandGCDR.sgsnduration | integer | <any> |
| SGSN Change | - | bool | <empty> |
| Termination Cause | combinedSandGCDR.causeForRecClosing | integer | <any> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|---------------------------------------|---|---------|--|
| Diagnostics (First one not NULL) | combinedSandGCDR.diagnostics.gsm0408Cause | integer | <any> |
| | combinedSandGCDR.diagnostics.gsm0902MapErrorValue | | |
| Partial Record Order | combinedSandGCDR.recordSequenceNumber | integer | <any> |
| Indicator of Full or Partial Record | combinedSandGCDR.recordSequenceNumber | string | F (Full i.e. not partial) PF (PartialFirst) PI (PartialIntermediate) PL (PartialLast) C (Consolidated) |
| Recording Entity | combinedSandGCDR.sgsnnodeID | string | <any> |
| Record Sequence Number | combinedSandGCDR.recordSequenceNumber | integer | |
| APN Network Identifier Selection Mode | - | string | <empty> |
| APN Operator Identifier | - | string | <empty> |
| A-end Subscriber Number | combinedSandGCDR.servedMSISDN | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Charging Indicator | - | string | <empty> |
| Dynamic Address Flag | combinedSandGCDR.dynamicAddressFlag | bool | 1 or 0 |
| PLMN Identity | - | string | <empty> |
| Service Area Name | Use combinedSandGCDR.cellIdentity as lookup. NAME is the value. See [SADD_EVIDENT], section "Time/Geographic Zone Reference Tables of GSM BGAN". | string | "Azuba" |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------------------|---|---------|----------------------------|
| ISO3 Code | Use combinedSandGCDR.cellIdentity as lookup. ISO3_CODE is the value. <i>See [SADD_EVIDENT], section 'Time/Geographic Zone Reference Tables of GSM BGAN'.</i> | string | "ABW" |
| Sub Record Type Tag | BGAN CB GPRS S-CDR listOfTrafficVolumes from R-BGAN) | string | BCRSTV |
| Requested Allocation Retention Prio | - | integer | <empty> |
| Requested Reliability | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosRequested.reliability | integer | <any> |
| Requested Delay | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosRequested.delay | integer | <any> |
| Requested Precedence | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosRequested.precedence | integer | <any> |
| Requested PeakThroughput | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosRequested.peakThroughput | integer | <any> |
| Requested MeanThroughput | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosRequested.meanThroughput | integer | <any> |
| Requested Traffic Class | - | integer | <empty> |
| Requested Delivery Order | - | integer | <empty> |
| Requested Delivery Erroneous SDU | - | integer | <empty> |
| Requested Maximum SDU Size | - | integer | <empty> |
| Requested Maximum Bit Rate Uplink | - | integer | <empty> |
| Requested Maximum Bit Rate Downlink | - | integer | <empty> |
| Requested Residual BER | - | integer | <empty> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--|--|---------|----------------------------|
| Requested SDU error Ratio | - | integer | <empty> |
| Requested Transfer Delay | - | integer | <empty> |
| Requested Traffic Handling Prio | - | integer | <empty> |
| Requested Guaranteed Bit Rate Uplink | - | integer | <empty> |
| Requested Guaranteed Bit Rate Downlink | - | Integer | <empty> |
| Negotiated Allocation Retention Prio | - | integer | <empty> |
| Negotiated Reliability | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosNegotiated.reliability | integer | <any> |
| Negotiated Delay | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosNegotiated.delay | integer | <any> |
| Negotiated Precedence | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosNegotiated.precedence | integer | <any> |
| Negotiated PeakThroughput | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosNegotiated.peakThroughput | integer | <any> |
| Negotiated MeanThroughput | combinedSandGCDR.sgsnlistOfTrafficVolumes.qosNegotiated.meanThroughput | integer | <any> |
| Negotiated Traffic Class | - | integer | <empty> |
| Negotiated Delivery Order | - | integer | <empty> |
| Negotiated Delivery Erroneous SDU | - | integer | <empty> |
| Negotiated Maximum SDU Size | - | integer | <empty> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|---|--|-------------|----------------------------|
| Negotiated Maximum Bit Rate Uplink | - | integer | <empty> |
| Negotiated Maximum Bit Rate Downlink | - | integer | <empty> |
| Negotiated Residual BER | - | integer | <empty> |
| Negotiated SDU error Ratio | - | integer | <empty> |
| Negotiated Transfer Delay | - | integer | <empty> |
| Negotiated Traffic Handling Prio | - | integer | <empty> |
| Negotiated Guaranteed Bit Rate Uplink | - | integer | <empty> |
| Negotiated Guaranteed Bit Rate Downlink | - | integer | <empty> |
| Upstream (A-B) Data Volume | combinedSandGCDR.sgsnlistOfTrafficVolumes.dataVolumeGPRSUplink | integer | 45000 |
| Downstream (B-A) Data Volume | combinedSandGCDR.sgsnlistOfTrafficVolumes.dataVolumeGPRSDownlink | integer | 56000 |
| Container Closure Change Condition | combinedSandGCDR.sgsnlistOfTrafficVolumes.changeCondition | string | <any> |
| Container Closure Change Time | combinedSandGCDR.sgsnlistOfTrafficVolumes.changeTime | datetime | 20011106203145 |
| Change Time Offset | combinedSandGCDR.sgsnlistOfTrafficVolumes.changeTime | offset time | +0230 |

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3.5 SMS - BDSCDR

Table 52: BGAN CB SMS callDetailRecord Record

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|--------|---|
| Record Type Tag | A unique record type tag. (BGAN CB SMS callDetailRecord) | string | BCSCDR |
| Consolidated Reference | A copy of the CS record. Drop the "CS" bit. See [6.1.2 Solution]. See [SADD_EVIDENT], section 'BGW xDR Consolidation of SMS BGAN'. | string | <any> |
| Atomic Reference | A copy of the duplicate check fields. See [SADD_EVIDENT], section 'Duplicate xDR Handling of SMS BGAN'. CSREF,BasicId CSREF=bGANConsolidatedId.startTimeStamp, bGANConsolidatedId.utctimeOffset BasicId=<record type> (callDetailRecord) | string | <any> |
| DP Identity | Use SMSRecord.callDetailRecord.origAddress.msisdn as a lookup on the Nat Num Reference Table to retrieve the IMSI. Then use this IMSI as a lookup on the DP Format Reference Table. SPID is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table' and 'DP Prov Reference Table'. | string | <any> 0, if not available - e.g. in case of inbound roamers. |
| National Number | Use SMSRecord.callDetailRecord.origAddress.msisdn. NAT_NUMB is the value. See [SADD_EVIDENT], chapter 'Reference Data', section 'Nat Num Reference Table'. | string | <usually digits> |
| Source File Name | Evident will populate with input file name. | string | <any> |
| PrePay Indicator | Evident will set it to "post". | string | post |
| OrigAddress ton | SMSRecord.callDetailRecord.origAddress.ton See [BGAN SMS Types], 1. | string | international |
| OrigAddress npci | SMSRecord.callDetailRecord.origAddress.npci | string | telephone |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|-------------|---|
| | See [BGAN SMS Types], 2. | | |
| OrigAddress pid | SMSRecord.callDetailRecord.origAddress.pid See [BGAN SMS Types], 3. | string | wap |
| OrigAddress msisdn | SMSRecord.callDetailRecord.origAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| RecipAddress ton | SMSRecord.callDetailRecord.recipAddress.ton See [BGAN SMS Types], 1. | string | international |
| RecipAddress npci | SMSRecord.callDetailRecord.recipAddress.npci See [BGAN SMS Types], 2. | string | telephone |
| RecipAddress pid | SMSRecord.callDetailRecord.recipAddress.pid See [BGAN SMS Types], 3. | string | wap |
| RecipAddress msisdn | SMSRecord.callDetailRecord.recipAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Call Start Time | SMSRecord.callDetailRecord.submitDate SMSRecord.callDetailRecord.submitTime | datetime | 20011106203145 |
| Call Start Time Offset | - | offset time | Default to +0000 |
| Termination Cause | SMSRecord.callDetailRecord.status See [BGAN SMS Types], 4. | string | delivered |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|-------------|---|
| Call End Time | SMSRecord.callDetailRecord.terminDate SMSRecord.callDetailRecord.terminTime | datetime | 20011106203146 |
| Call End Time Offset | - | offset time | Default to +0000 |
| Length Of Message | SMSRecord.callDetailRecord.lengthOfMessage | integer | <any> |
| Prio Indicator | SMSRecord.callDetailRecord.prioIndicator | string | <any> |
| ValidityPeriod hours | SMSRecord.callDetailRecord.validityPeriod.hours | integer | <any> |
| ValidityPeriod minutes | SMSRecord.callDetailRecord.validityPeriod.minutes | integer | <any> |
| Defer Indicator | SMSRecord.callDetailRecord.deferIndicator | string | <any> |
| DeferPeriod hours | SMSRecord.callDetailRecord.deferPeriod.hours | integer | <any> |
| DeferPeriod minutes | SMSRecord.callDetailRecord.deferPeriod.minutes | integer | <any> |
| Notif Indicator | SMSRecord.callDetailRecord.notifIndicator | string | <any> |
| NotifAddress ton | SMSRecord.callDetailRecord.notifAddress.ton See [BGAN SMS Types], 1. | string | international |
| NotifAddress npci | SMSRecord.callDetailRecord.notifAddress.npci See [BGAN SMS Types], 2. | string | telephone |
| NotifAddress pid | SMSRecord.callDetailRecord.notifAddress.pid See [BGAN SMS Types], 3. | string | wap |
| NotifAddress msisdn | SMSRecord.callDetailRecord.notifAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| VsmcId | SMSRecord.callDetailRecord.vsmcId | string | <any> |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|--------------------|---|--------|---|
| Vsmc Type | SMSRecord.callDetailRecord.vsmctype See [BGAN SMS Types], 5. | string | private |
| DgtiAddress ton | SMSRecord.callDetailRecord.dgtiAddress.ton See [BGAN SMS Types], 1. | string | international |
| DgtiAddress npci | SMSRecord.callDetailRecord.dgtiAddress.npci See [BGAN SMS Types], 2. | string | telephone |
| DgtiAddress pid | SMSRecord.callDetailRecord.dgtiAddress.pid See [BGAN SMS Types], 3. | string | wap |
| DgtiAddress msisdn | SMSRecord.callDetailRecord.dgtiAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Dest Point Code | SMSRecord.callDetailRecord.destPointCode | string | <any> |
| OgtiAddress ton | SMSRecord.callDetailRecord.ogtiAddress.ton See [BGAN SMS Types], 1. | string | international |
| OgtiAddress npci | SMSRecord.callDetailRecord.ogtiAddress.npci See [BGAN SMS Types], 2. | string | telephone |
| OgtiAddress pid | SMSRecord.callDetailRecord.ogtiAddress.pid See [BGAN SMS Types], 3. | string | wap |
| OgtiAddress msisdn | SMSRecord.callDetailRecord.ogtiAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------|--|-------------|---|
| | | | CC and NDC |
| Orig Point Code | SMSRecord.callDetailRecord.origPointCode | string | <any> |
| Orgl Submit Time | SMSRecord.callDetailRecord.orglSubmitDate SMSRecord.callDetailRecord.orglSubmitTime | datetime | 20011106203145 |
| Orgl Submit Time Offset | - | offset time | Default to +0000 |
| Mesg Reply Path | SMSRecord.callDetailRecord.mesgReplyPath See [BGAN SMS Types], 6. | string | request |
| Intl Mobile Sub Id | SMSRecord.callDetailRecord.intlMobileSubId | string | <any> |
| CallinglineId ton | SMSRecord.callDetailRecord.callingLineId.ton See [BGAN SMS Types], 1. | string | international |
| CallinglineId npi | SMSRecord.callDetailRecord.callingLineId.npi See [BGAN SMS Types], 2. | string | telephone |
| CallinglineId pid | SMSRecord.callDetailRecord.callingLineId.pid See [BGAN SMS Types], 3. | string | wap |
| CallinglineId msisdn | SMSRecord.callDetailRecord.callingLineId.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Consolidation | SMSRecord.callDetailRecord.consolidation | string | <any> |
| Aser | SMSRecord.callDetailRecord.aser See [BGAN SMS Types], 9. | string | swinq |
| Mser | SMSRecord.callDetailRecord.mser | string | svp |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|-------------------------|---|--------|----------------------------|
| | See [BGAN SMS Types], 10. | | |
| Nser | SMSRecord.callDetailRecord.nser See [BGAN SMS Types], 11. | string | clir |
| Xser | SMSRecord.callDetailRecord.xser See [BGAN SMS Types], 12. | string | inqdel |
| Orig Intl Mobile Sub Id | SMSRecord.callDetailRecord.origIntlMobileSubId | string | <any> |
| BillId | SMSRecord.callDetailRecord.billid | string | <any> |
| Lang | SMSRecord.callDetailRecord.lang | string | <any> |
| Pppser | SMSRecord.callDetailRecord.ppPser See [BGAN SMS Types], 13. | string | free |
| Ppaser | SMSRecord.callDetailRecord.ppAser See [BGAN SMS Types], 14. | string | forward-uncond |
| Ppaser During Jam | SMSRecord.callDetailRecord.ppAserDuringJam See [BGAN SMS Types], 14. | string | forward-uncond |
| Ppaser Free | SMSRecord.callDetailRecord.ppAserFree See [BGAN SMS Types], 14. | string | forward-uncond |
| Ppaser Recip | SMSRecord.callDetailRecord.ppAserRecip See [BGAN SMS Types], 14. | string | forward-uncond |
| Sme Reference | SMSRecord.callDetailRecord.smeReference | string | <any> |
| Cm Reference Nr | SMSRecord.callDetailRecord.cmReferenceNr | string | <any> |
| Current Segment | SMSRecord.callDetailRecord.currentSegment | string | <any> |

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| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|----------|----------------------------|
| Segments Total | SMSRecord.callDetailRecord.segmentsTotal | integer | <any> |
| Bytes Compressed Data | SMSRecord.callDetailRecord.bytesCompressedData | string | <any> |
| Predefined Animations | SMSRecord.callDetailRecord.predefinedAnimations | string | <any> |
| Userdefined Animations | SMSRecord.callDetailRecord.userDefinedAnimations | string | <any> |
| Predefined Sounds | SMSRecord.callDetailRecord.predefinedSounds | string | <any> |
| Userdefined Sounds | SMSRecord.callDetailRecord.userDefinedSounds | string | <any> |
| Black White Pictures | SMSRecord.callDetailRecord.blackWhitePictures | string | <any> |
| Standard Wvg | SMSRecord.callDetailRecord.standardWvg | string | <any> |
| Characterize Wvg | SMSRecord.callDetailRecord.characterSizeWvg | string | <any> |
| Greyscale Pictures | SMSRecord.callDetailRecord.greyscalePictures | string | <any> |
| Colour Pictures | SMSRecord.callDetailRecord.colourPictures | string | <any> |
| Business Cards | SMSRecord.callDetailRecord.businessCards | string | <any> |
| Calendar Entries | SMSRecord.callDetailRecord.calendarEntries | string | <any> |
| Polyphonic Melodies | SMSRecord.callDetailRecord.polyphonicMelodies | string | <any> |
| Lmsg Nr Seg | SMSRecord.callDetailRecord.lmsgNrSeg | string | <any> |
| Message Reference | SMSRecord.callDetailRecord.messageReference | string | <any> |
| Orig LASN | SMSRecord.callDetailRecord.origLASN | string | <any> |
| Recip LASN | SMSRecord.callDetailRecord.recipLASN | string | <any> |
| Orig MsgId | SMSRecord.callDetailRecord.origMsgID | string | <any> |
| Recip MsgId | SMSRecord.callDetailRecord.recipMsgID | string | <any> |
| Receipt Time | SMSRecord.callDetailRecord.receiptDate | datetime | 20011106203145 |

| Output Field Name | ASN.1 source and Mapping | Coding | Possible or example values |
|------------------------|--|-------------|---|
| | SMSRecord.callDetailRecord.receiptTime | | |
| Receipt Time Offset | - | offset time | Default to +0000 |
| Isr | SMSRecord.callDetailRecord.isr See [BGAN SMS Types], 15. | string | reg-del-nde |
| RecipAltAddress ton | SMSRecord.callDetailRecord.recipAltAddress.ton See [BGAN SMS Types], 1. | string | international |
| RecipAltAddress npI | SMSRecord.callDetailRecord.recipAltAddress.npi See [BGAN SMS Types], 2. | string | telephone |
| RecipAltAddress pid | SMSRecord.callDetailRecord.recipAltAddress.pid See [BGAN SMS Types], 3. | string | wap |
| RecipAltAddress msisdn | SMSRecord.callDetailRecord.recipAltAddress.msisdn | string | 239228473214 Normalized MSISDN number contains always CC and NDC |
| Service Type | SMSRecord.callDetailRecord.serviceType | string | <any> |

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4. Appendix CDR Format Document

The full specification of the billing files is in the following PDF document – the above chapters will refer to the pages in this document for further details.



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5. Sample Record Files

GPRS, SMS, GSM, NoR and BRR file samples:



Additional sample records:

