
Source: SA5 (Telecom Management)
Title: 4 R99 & Rel-4 CR 32.005 & 32.205 (CS charging), 32.015 & 32.215 (PS charging) Addition of CAMEL phase 3 extensions in SMS-MO CDR
Document for: Decision
Agenda Item: 7.5.3

Doc-1st-Level	Spec	CR	Phase	Subject	Category	Version - Current	Version - New	Doc-2nd-Level	Workitem
SP-020022	32.005	010	R99	Addition of CAMEL phase 3 extensions in SMS-MO CDR	F	3.5.0	3.6.0	S5-020182	OAM-CH
SP-020022	32.015	035	R99	Addition of CAMEL phase 3 extensions in SMS-MO CDR	F	3.8.0	3.9.0	S5-020185	OAM-CH
SP-020022	32.205	001	Rel-4	Addition of CAMEL phase 3 extensions in SMS-MO CDR	A	4.0.0	4.1.0	S5-020183	OAM-CH
SP-020022	32.215	004	Rel-4	Addition of CAMEL phase 3 extensions in SMS-MO CDR	A	4.1.0	4.2.0	S5-020186	OAM-CH

CHANGE REQUEST

⌘ **32.005 CR 010** ⌘ rev **-** ⌘ Current version: **3.5.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Addition of CAMEL phase 3 extensions in SMS-MO CDR		
Source:	⌘ SA5		
Work item code:	⌘ OAM-CH	Date:	⌘ 01/03/2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Alignment with TSs 23.078 (CN2) and 29.078 (CN2). SMS Reference Number, which has been included in CAMEL phase 3, is missing from the SMS-MO CDR.
Summary of change:	⌘ The SMS-MO CDR is extended with the "SMS Reference Number", allowing a correlation of charging data produced by the MSC and the SCP. This item is introduced into the SMS-MO CDR as required by CN2 in accordance with N2-010446.
Consequences if not approved:	⌘ Misalignment with CAMEL specifications.

Clauses affected:	⌘ A.9, B.3.9	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input checked="" type="checkbox"/> O&M Specifications	⌘ Correspondent changes are made in the scope of Rel-4 TS 32.205.
Other comments:	⌘	

How to create CRs using this form:

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

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

A.9 Abstract syntax

...

< unmodified ASN.1 >

...

```
CAMELSMSInformation ::= SET
{
  gsm-SCFAddress          [1] Gsm-SCFAddress OPTIONAL,
  serviceKey              [2] ServiceKey OPTIONAL,
  defaultSMShandling     [3] DefaultSMS-Handling OPTIONAL,
  freeFormatData         [4] FreeFormatData OPTIONAL,
  callingPartyNumber     [5] CallingNumber OPTIONAL,
  destinationSubscriberNumber [6] CalledNumber OPTIONAL,
  cAMELSMSCAddress       [7] AddressString OPTIONAL,
  smsReferenceNumber     [8] CallReferenceNumber OPTIONAL
}
```

B.3.9 CAMEL SMS Information

This field contains following CAMEL information for mobile originated SMS:

- Default SMS handling

This field indicates whether or not a CAMEL encounters default SMS handling. This field shall be present only if default SMS handling has been applied.

- Free format data

See subclause B.3.13.

- Calling Party Number

This field contains Calling Party Number modified by CAMEL service.

- CAMEL modified Service Centre

This field contains SMS-C address modified by CAMEL service.

- Destination Subscriber Number

This field contains short message Destination Number modified by CAMEL service.

- SMS Reference Number

This field contains the SMS Reference Number assigned to the Short Message by the MSC.

CHANGE REQUEST

⌘ **32.015 CR 035** ⌘ rev **-** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Addition of CAMEL phase 3 extensions in SMS-MO CDR		
Source:	⌘ SA5		
Work item code:	⌘ OAM-CH	Date:	⌘ 01/03/2002
Category:	⌘ F	Release:	⌘ R99
	<i>Use <u>one</u> of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

Reason for change:	⌘ Alignment with TSs 23.078 (CN2) and 29.078 (CN2). SMS Reference Number which has been included in CAMEL phase 3, is missing from the SMS-MO CDR.
Summary of change:	⌘ The SMS-MO CDR is extended with the "SMS Reference Number", allowing a correlation of charging data produced by the MSC and the SCP. This item is introduced into the SMS-MO CDR as required by CN2 in accordance with N2-010446.
Consequences if not approved:	⌘ Misalignment with CAMEL specifications.

Clauses affected:	⌘ 6.1, 6.3, 8.1		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input checked="" type="checkbox"/> O&M Specifications	⌘	Correspondent changes are made in the scope of REL-4 in TS 32.215.
Other comments:	⌘		

How to create CRs using this form:

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

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

6.1.6.3 CAMEL Information

This field includes following CAMEL information elements for PDP context (S-CDR), Attach/Detach session (M-CDR) and Mobile originated SMS (S-SMO-CDR) if corresponding CAMEL service is activated.

- CAMEL Access Point Name NI (S-CDR)
This field contains the network identifier part of APN before modification by the SCF.
- CAMEL Access Point Name OI (S-CDR)
This field contains the operator identifier part of APN before modification by the SCF.
- CAMEL Calling Party Number (S-SMO-CDR)
This field contains the Calling Party Number modified by the CAMEL service.
- CAMEL Destination Subscriber Number (S-SMO-CDR)
This field contains the short message Destination Number modified by the CAMEL service.
- CAMEL SMSC Address (S-SMO-CDR)
This field contains the SMSC address modified by the CAMEL service.
- SCF address (S-CDR, M-CDR, S-SMO-CDR)
This field identifies the CAMEL server serving the subscriber. Address is defined in HLR as part of CAMEL subscription information
- Service key (S-CDR, M-CDR, S-SMO-CDR)
This field identifies the CAMEL service logic applied. Service key is defined in HLR as part of CAMEL subscription information.
- Default Transaction/SMS Handling (S-CDR, M-CDR, S-SMO-CDR)
This field indicates whether or not a CAMEL encountered default GPRS- or SMS-handling. This field shall be present only if default call handling has been applied. Parameter is defined in HLR as part of CAMEL subscription information.
- Free Format Data (S-CDR, M-CDR, S-SMO-CDR)
This field contains charging information sent by the gsmSCF in the Furnish Charging Information GPRS messages as defined in 3GPP TS 29.078 [20]. The data can be sent either in one FCI message or several FCI messages with append indicator. This data is transferred transparently in the CAMEL sections of the relevant call records.

If the FCI is received more than once during one CAMEL call, the append indicator defines whether the FCI information is appended to previous FCI and stored in the relevant record or the information of the last FCI received is stored in the relevant record (the previous FCI information shall be overwritten).

In the event of partial output the currently valid 'Free format data' is stored in the partial record.
- FFD Append Indicator (S-CDR, M-CDR)
This field contains an indicator whether CAMEL free format data is to be appended to free format data stored in previous partial CDR. This field is needed in CDR post processing to sort out valid

free format data for that call leg from sequence of partial records. Creation of partial records is independent on received FCIs and thus valid free format data may be divided to different partial records.

If field is missing then free format data in this CDR replaces all received free format data in previous CDRs. Append indicator is not needed in the first partial record. In following partial records indicator shall get value true if all FCIs received during that partial record have append indicator. If one or more of the received FCIs for that call leg during the partial record do not have append indicator then this field shall be missing.

- Level of CAMEL services (S-CDR, M-CDR)

This field describes briefly the complexity of CAMEL invocation. Categories are same than in circuit switched services and measure of resource usage in VPLMN requested by HPLMN.

- 'Basic' means that CAMEL feature is invoked during the PDP context activation phase only (e.g. to modify APN_NI / APN_OI).

- 'Call duration supervision' means that PDP context duration or volume supervision is applied in the gprsSSF of the VPLMN (Apply Charging message is received from the gsmSCF)

- Number of DP encountered (S-CDR, M-CDR)

This field indicates how often armed CAMEL detection points (TDP and EDP) were encountered and is a measure of signalling between VPLMN and CAMEL service and complements 'Level of CAMEL service' field.

- SMSReferenceNumber (S-SMO-CDR)

This parameter contains the SMS Reference Number assigned to the Short Message by the SGSN.

8 Charging Data Record Structure

8.1 ASN.1 definitions for CDR information

Within the current GSM 12-series of specifications the ASN.1 definitions are based on ISO8824 (90) / X.208 (88) [40], which has been superseded by ISO8824-1 (94) / X.680 (94). This newer version not only includes new features but also removes some that were present in ISO8824 (90) / X.208 (88) [40].

Where possible, the GPRS work would be based on those ASN.1 features to both. However, where necessary, the new features in ISO8824-1 (94) / X.680 (94) [41] be used in some places. ISO8824 (90) / X.208 (88) [40] features that are no longer in ISO8824-1 (94) / X.680 (94) [41] will not be used.

Changes (enhancements) in GSM1205-DataTypes:

```
CallEventRecordType ::= INTEGER
{
    moCallRecord      (0),
    mtCallRecord      (1),
    roamingRecord     (2),
    incGatewayRecord  (3),
    outGatewayRecord  (4),
    transitCallRecord (5),
    moSMSRecord       (6),
    mtSMSRecord       (7),
    moSMSIWRecord     (8),
    mtSMSGWRecord     (9),
    ssActionRecord    (10),
    hlrIntRecord      (11),
    locUpdateHLRRecord (12),
    locUpdateVLRRecord (13),
    commonEquipRecord (14),
    moTraceRecord     (15),
    mtTraceRecord     (16),
    termCAMELRecord   (17),
    ggsnPDPRecord     (18),
    ggsnPDPRecord     (19),
    ggsnMMRecord      (20),
    ggsnSMORRecord    (21),
    ggsnSMTRRecord    (22)
}
GPRS-Charging-DataTypes {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Operation-Maintenance (3) ts-32-015 (15) informationModel (0) asn1Module (2)
version1 (1)}

DEFINITIONS IMPLICIT TAGS ::=

BEGIN

EXPORTS everything

IMPORTS

CellId, Diagnostics, CallDuration, ManagementExtensions, TimeStamp, MSISDN,
LocationAreaCode, MessageReference, RecordingEntity, SMSResult, LevelOfCAMELService,
CalledNumber, CallingNumber
FROM GSM1205-DataTypes{ ccitt (0) identified-organization (4) etsi(0) mobileDomain (0)
gsm-Operation-Maintenance (3) moduleId (3) gsm-12-05 (5) informationModel (0) asn1Module
(2) 1 }

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

CallReferenceNumber
```

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

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

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

```

;
--
-- Note that the syntax of AE-title to be used is from
-- CCITT Rec. X.227 / ISO 8650 corrigendum and not "ANY"
--
```

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

```
...
< unmodified ASN.1 >
```

```
...
```

```
CAMELInformationSMS ::= SET
{
    sCFAddress [1] SCFAddress OPTIONAL,
    serviceKey [2] ServiceKey OPTIONAL,
    defaultSMSHandling [3] DefaultSMS-Handling OPTIONAL,
    cAMELCallingPartyNumber [4] CallingNumber OPTIONAL,
    cAMELDestinationSubscriberNumber [5] CalledNumber OPTIONAL,
    cAMELSMSCAddress [6] AddressString OPTIONAL,
    freeFormatData [7] FreeFormatData OPTIONAL,
    sMSReferenceNumber [8] CallReferenceNumber OPTIONAL
}
```


CHANGE REQUEST

⌘ **32.205 CR 001** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Addition of CAMEL phase 3 extensions in SMS-MO CDR		
Source:	⌘ SA5		
Work item code:	⌘ OAM-CH	Date:	⌘ 01/03/2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Alignment with TSs 23.078 (CN2) and 29.078 (CN2). SMS Reference Number, which has been included in CAMEL phase 3, is missing from the SMS-MO CDR.
Summary of change:	⌘ The SMS-MO CDR is extended with the "SMS Reference Number", allowing a correlation of charging data produced by the MSC and the SCP. This item is introduced into the SMS-MO CDR as required by CN2 in accordance with LS N2-010446.
Consequences if not approved:	⌘ Misalignment with CAMEL specifications.

Clauses affected:	⌘ 5.12, 6.1	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input checked="" type="checkbox"/> O&M Specifications	⌘ Correspondent changes are made in the scope of R99 TS 32.005.
Other comments:	⌘	

5.12 CAMEL SMS Information

This field contains following CAMEL information for mobile originated SMS:

- Default SMS handling
This field indicates whether or not a CAMEL encounters default SMS handling. This field shall be present only if default SMS handling has been applied.
- Free format data
See clause 5.22.
- Calling Party Number
This field contains Calling Party Number modified by CAMEL service.
- CAMEL modified Service Centre
This field contains SMS-C address modified by CAMEL service.
- CAMEL Destination Subscriber Number
This field contains short message Destination Number modified by CAMEL service.
- SMS Reference Number
This field contains the SMS Reference Number assigned to the Short Message by the MSC.

6 Charging Data Record Structure

6.1 ASN.1 definitions for CDR information

...

< unmodified ASN.1 >

...

```
CAMELSMSInformation ::= SET
{
  gsm-SCFAddress          [1] Gsm-SCFAddress OPTIONAL,
  serviceKey              [2] ServiceKey OPTIONAL,
  defaultSMSHandling      [3] DefaultSMS-Handling OPTIONAL,
  freeFormatData          [4] FreeFormatData OPTIONAL,
  callingPartyNumber      [5] CallingNumber OPTIONAL,
  destinationSubscriberNumber [6] CalledNumber OPTIONAL,
  cAMELSMSCAddress        [7] AddressString OPTIONAL,
  smsReferenceNumber      [8] CallReferenceNumber OPTIONAL
}
```

CHANGE REQUEST

⌘ **32.215 CR 004** ⌘ rev **-** ⌘ Current version: **4.1.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Addition of CAMEL phase 3 extensions in SMS-MO CDR		
Source:	⌘ SA5		
Work item code:	⌘ OAM-CH	Date:	⌘ 01/03/2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Alignment with TSs 23.078 (CN2) and 29.078 (CN2). SMS Reference Number which has been included in CAMEL phase 3 is missing from the SMS-MO CDR.
Summary of change:	⌘ The SMS-MO CDR is extended with the "SMS Reference Number", allowing a correlation of charging data produced by the MSC and the SCP. This item is introduced into the SMS-MO CDR as required by CN2 in accordance with LS N2-010446.
Consequences if not approved:	⌘ Misalignment with CAMEL specifications.

Clauses affected:	⌘ 5.3, 6.1	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input checked="" type="checkbox"/> O&M Specifications	⌘ Correspondent changes are made in the scope of R99 in TS 32.015.
Other comments:	⌘	

5.3 CAMEL Information

This field includes following CAMEL information elements for PDP context (S-CDR), Attach/Detach session (M-CDR) and Mobile originated SMS (S-SMO-CDR) if corresponding CAMEL service is activated.

- CAMEL Access Point Name NI (S-CDR)

This field contains the network identifier part of APN before modification by the CSE.
- CAMEL Access Point Name OI (S-CDR)

This field contains the operator identifier part of APN before modification by the CSE.
- CAMEL Calling Party Number (S-SMO-CDR)

This field contains the Calling Party Number modified by the CAMEL service.
- CAMEL Destination Subscriber Number (S-SMO-CDR)

This field contains the short message Destination Number modified by the CAMEL service.
- CAMEL SMSC Address (S-SMO-CDR)

This field contains the SMSC address modified by the CAMEL service.
- SCF address (S-CDR, M-CDR, S-SMO-CDR)

This field identifies the CAMEL server serving the subscriber. Address is defined in HLR as part of CAMEL subscription information.
- Service key (S-CDR, M-CDR, S-SMO-CDR)

This field identifies the CAMEL service logic applied. Service key is defined in HLR as part of CAMEL subscription information.
- Default Transaction/SMS Handling (S-CDR, M-CDR, S-SMO-CDR)

This field indicates whether or not a CAMEL encountered default GPRS- or SMS-handling. This field shall be present only if default call handling has been applied. Parameter is defined in HLR as part of CAMEL subscription information.
- Free Format Data (S-CDR, M-CDR, S-SMO-CDR)

This field contains charging information sent by the gsmSCF in the Furnish Charging Information GPRS messages as defined in 3GPP TS 29.078 [9]. The data can be sent either in one FCI message or several FCI messages with append indicator. This data is transferred transparently in the CAMEL clauses of the relevant call records.

If the FCI is received more than once during one CAMEL call, the append indicator defines whether the FCI information is appended to previous FCI and stored in the relevant record or the information of the last FCI received is stored in the relevant record (the previous FCI information shall be overwritten).

In the event of partial output the currently valid "Free format data" is stored in the partial record.

- FFD Append Indicator (S-CDR, M-CDR)

This field contains an indicator whether CAMEL free format data is to be appended to free format data stored in previous partial CDR. This field is needed in CDR post processing to sort out valid free format data for that call leg from sequence of partial records. Creation of partial records is independent of received FCIs and thus valid free format data may be divided to different partial records.

If field is missing then free format data in this CDR replaces all received free format data in previous CDRs.

Append indicator is not needed in the first partial record. In following partial records indicator shall get value true if all FCIs received during that partial record have append indicator. If one or more of the received FCIs for that call leg during the partial record do not have append indicator then this field shall be missing.

- Level of CAMEL services (S-CDR, M-CDR)

This field describes briefly the complexity of CAMEL invocation. Categories are the same as in circuit switched services and measure of resource usage in VPLMN requested by HPLMN.

- "Basic" means that CAMEL feature is invoked during the PDP context activation phase only (e.g. to modify APN_NI/APN_OI).

- "Call duration supervision" means that PDP context duration or volume supervision is applied in the gprsSSF of the VPLMN (Apply Charging message is received from the gsmSCF).

- Number of DPs encountered (S-CDR, M-CDR)

This field indicates how many armed CAMEL detection points (TDP and EDP) were encountered and complements "Level of CAMEL service" field.

- smsReferenceNumber (S-SMO-CDR)

This parameter contains the SMS Reference Number assigned to the Short Message by the SGSN.

6 Charging Data Record Structure

6.1 ASN.1 definitions for CDR information

The ASN.1 definitions are based on ISO8824 (90)/X.208 (88) [17], which has been superseded by ISO8824-1 (94)/X.680 (94)[18]. This newer version not only includes new features but also removes some that were present in ISO8824 (90)/X.208 (88) [17]. Where possible, the GPRS work would be based on those ASN.1 features to both. However, where necessary, the new features in ISO8824-1 (94)/X.680 (94) [18] be used in some places. ISO8824 (90)/X.208 (88) [17] features that are no longer in ISO8824-1 (94)/X.680 (94) [18] will not be used.

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

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

```
BEGIN
```

```
-- EXPORTS everything
```

```
IMPORTS
```

```
CallEventRecordType, CellId, Diagnostics, CallDuration, ManagementExtensions, TimeStamp, MSISDN,
LocationAreaCode, MessageReference, RecordingEntity, SMSResult, LevelOfCAMELService, CalledNumber,
CallingNumber, CallEventRecord
```

```
FROM TS32205-DataTypes {itu-t (0) identified-organization (4) etsi(0) mobileDomain (0)
umts-Operation-Maintenance (3) ts-32-205 (205) informationModel (0) asn1Module (2) version1 (1)}
```

```
IMSI, IMEI
```

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

```
DefaultGPRS-Handling, DefaultSMS-Handling, ServiceKey
```

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

```
CallReferenceNumber
```

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

```
ManagementExtension
```

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

```
--
```

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

```
...
```

```
< unmodified ASN.1 >
```

```
...
```

```
CAMELInformationSMS ::= SET
```

```
{
  sCFAddress [1] SCFAddress OPTIONAL,
  serviceKey [2] ServiceKey OPTIONAL,
  defaultSMSHandling [3] DefaultSMS-Handling OPTIONAL,
  cAMELCallingPartyNumber [4] CallingNumber OPTIONAL,
  cAMELDestinationSubscriberNumber [5] CalledNumber OPTIONAL,
  cAMELSMSCAddress [6] AddressString OPTIONAL,
  freeFormatData [7] FreeFormatData OPTIONAL,
  smsReferenceNumber [8] CallReferenceNumber OPTIONAL
}
```