

**TSG-RAN Meeting #8
Düsseldorf, Germany, 21 - 23 June 2000**

TSGRP#8(00)0239

Title: Agreed CRs to TS 25.419

Source: TSG-RAN WG3

Agenda item: 5.3.3

Tdoc_Num	Specification	CR_Num	Revision_Nu	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Nu
R3-001536	25.419	003		Clarification of notations used in SABP	D	agreed	3.0.0	3.1.0
R3-001577	25.419	002	1	Clarification of which ASN.1	F	agreed	3.0.0	3.1.0
R3-001621	25.419	001	1	Section 9.1 alignment	D	agreed	3.0.0	3.1.0
R3-001622	25.419	004		Insertion of missing chapter header	D	agreed	3.0.0	3.1.0
R3-001625	25.419	007		Connection of the tabular format/ASN.1 for the	F	agreed	3.0.0	3.1.0
R3-001626	25.419	008		Clarification of criticality modelling and protocol	F	agreed	3.0.0	3.1.0
R3-001627	25.419	009		Introduction of "rapporteur number" into criticality	C	agreed	3.0.0	3.1.0
R3-001646	25.419	010	1	Clariification to SABP message syntax.	F	agreed	3.0.0	3.1.0
R3-001653	25.419	005	2	Introduction of the description of the	F	agreed	3.0.0	3.1.0
R3-001654	25.419	006	2	ntroduction of "Presence" Information element for	F	agreed	3.0.0	3.1.0

9.1 Message [Functional Definition and Contents](#)

[9.1.1 General](#)

NOTE: The messages have been defined in accordance to the guidelines specified in [12].

For each message there is, a table listing the signalling elements in their order of appearance in the transmitted message.

[All the SABP messages are listed in the following table:](#)

Table 3: List of SABP Messages

Message name	Reference
WRITE-REPLACE	9.1.1
WRITE-REPLACE COMPLETE	9.1.2
WRITE-REPLACE FAILURE	9.1.3
KILL	9.1.4
KILL COMPLETE	9.1.5
KILL FAILURE	9.1.6
LOAD QUERY	9.1.7
LOAD QUERY COMPLETE	9.1.8
LOAD QUERY FAILURE	9.1.9
MESSAGE STATUS QUERY	9.1.10
MESSAGE STATUS QUERY COMPLETE	9.1.11
MESSAGE STATUS QUERY FAILURE	9.1.12
RESET	9.1.13
RESET COMPLETE	9.1.14
RESET FAILURE	9.1.15
RESTART	9.1.16
FAILURE	9.1.17
ERROR INDICATION	9.1.18

[9.1.2 Message Contents](#)

[9.1.2.1 Presence](#)

All information elements in the message descriptions below are marked mandatory, optional or conditional according to the following table:

Table 43: Meaning of abbreviations used in SABP messages

Abbreviation	Meaning
M	IE's marked as Mandatory (M) will always be included in the message.
O	IE's marked as Optional (O) may or may not be included in the message.
C	IE's marked as Conditional (C) will be included in a message only if the condition is satisfied. Otherwise the IE is not included.

[9.1.2.2 Criticality](#)

[Each Information Element or Group of Information Elements may have a criticality information applied to it. Following cases are possible:](#)

Table 4: Meaning of content within “Criticality” column

<u>Abbreviation</u>	<u>Meaning</u>
<u>–</u>	No criticality information is applied explicitly.
<u>YES</u>	Criticality information is applied. This is usable only for non-repeatable IEs
<u>GLOBAL</u>	The IE and all its repetitions together have one common criticality information. This is usable only for repeatable IEs.
<u>EACH</u>	Each repetition of the IE has its own criticality information. It is not allowed to assign different criticality values to the repetitions. This is usable only for repeatable IEs.

9.1.43 WRITE-REPLACE

This message is sent by the CN to the RNC.

Direction: CN → RNC

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
New-Serial-Number	M		9.2.5	
Old-Serial-Number	O		9.2.4	
Service-Areas-List	M		9.2.6	
Category	O		9.2.7	
Repetition-Period	O		9.2.8	
No-of-Broadcasts-Requested	M		9.2.9	
Data Coding Scheme	M		9.2.15	
Broadcast-Message-Content	M		9.2.2	

9.1.24 WRITE-REPLACE COMPLETE

This message will be sent by the RNC to the CN in a successful response to a WRITE-REPLACE message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
New-Serial-Number	M		9.2.5	
No-of-Broadcasts-Completed-List	M		9.2.9	
Criticality Diagnostics	O		9.2.17	

9.1.35 WRITE-REPLACE FAILURE

This message will be sent by the RNC to the CN as an unsuccessful response to a WRITE-REPLACE message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
New-Serial-Number	M		9.2.5	
Failure-List	M		9.2.12	
No-of-Broadcasts-Completed-List	O		9.2.10	
Criticality Diagnostics	O		9.2.17	

9.1.46 KILL

This message is sent by the CN to the RNC to stop broadcasting of a specific message.

Direction: CN → RNC

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Message-Identifier	M		9.2.1	
Old-Serial-Number	M		9.2.4	
Service-Areas-List	M		9.2.6	

9.1.57 KILL COMPLETE

This message is sent by the RNC to the CN as a successful response to a KILL message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Old-Serial-Number	M		9.2.4	
No-of-Broadcasts-Completed-List	M		9.2.9	
Criticality Diagnostics	O		9.2.17	

9.1.68 KILL FAILURE

This message is sent by the RNC to the CN as unsuccessful response to a KILL message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Old-Serial-Number	M		9.2.4	
Failure-List	M		9.2.12	
No-of-Broadcasts-Completed-List	O		9.2.10	
Criticality Diagnostics	O		9.2.17	

9.1.79 LOAD QUERY

This message is sent by the CN to the RNC to gain an indication of broadcast resources available.

Direction: CN → RNC

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Service-Areas-List	M		9.2.6	

9.1.810 LOAD QUERY COMPLETE

This message will be sent by the RNC as a successful response to the LOAD QUERY message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Radio-Resource-Loading-List	M		9.2.13	
Criticality Diagnostics	O		9.2.17	

9.1.911 LOAD QUERY FAILURE

This message is sent by the RNC to the CN as an unsuccessful response to a LOAD QUERY message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Failure-List	M		9.2.12	
Radio-Resource-Loading-List	O		9.2.13	
Criticality Diagnostics	O		9.2.17	

9.1.4012 MESSAGE STATUS QUERY

This message is sent by the CN to the RNC to obtain the current status of a Service Area broadcasting message.

Direction: CN → RNC

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Old-Serial-Number	M		9.2.4	
Service-Areas-List	M		9.2.6	

9.1.4413 MESSAGE STATUS QUERY COMPLETE

This message is sent by the RNC to the CN as a successful response to a MESSAGE QUERY message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Old-Serial-Number	M		9.2.4	
No-of-Broadcasts-Completed-List	M		9.2.10	
Criticality Diagnostics	O		9.2.17	

9.1.4214 MESSAGE STATUS QUERY FAILURE

This message is sent by the RNC to the CN in an unsuccessful response to a MESSAGE QUERY message.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Failure-List	M		9.2.12	
Old-Serial-Number	M		9.2.4	
No-of-Broadcasts-Completed-List	O		9.2.10	
Criticality Diagnostics	O		9.2.17	

9.1.4315 RESET

The message is sent by the CN to the RNC to request that the RNC end broadcasting in one or more Service Areas.

Direction: CN → RNC

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Service-Areas-List	M		9.2.6	

9.1.4416 RESET COMPLETE

This message is sent from the RNC to the CN as a successful response to a RESET message where indicated Service-Area(s) are now not broadcasting any messages.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Service-Areas-List	M		9.2.6	
Criticality Diagnostics	O		9.2.17	

9.1.4517 RESET FAILURE

This message is sent from the RNC to the CN as an unsuccessful response to a RESET message to indicate that a Service Area broadcasting related problem exists in one or more of its Service Areas.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Failure-List	M		9.2.12	
Service-Areas-List	O		9.2.6	
Criticality Diagnostics	O		9.2.17	

9.1.4618 RESTART

This message is sent from the RNC to the CN to indicate a Service Area broadcasting related restart situation in one or more of its Service-Areas.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Service-Areas-List	M		9.2.6	
Recovery Indication	O		9.2.16	

9.1.4719 FAILURE

This message is sent from the RNC to the CN to indicate that a Service Area broadcasting related problem exists in one or more of its Service-Areas.

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and	Semantics Description
Service-Areas-List	M		9.2.6	

9.1.4820 ERROR INDICATION

This message is sent by the RNC to the CN in response to any message which is not understood (e.g. invalid parameter or parameter value).

Direction: RNC → CN

PARAMETER	PRESENCE	RANGE	IE Type and Reference	Semantics Description
Message-Identifier	M		9.2.1	
Serial Number	O		9.2.3	
Cause	O		9.2.14	
Criticality Diagnostics	O		9.2.17	

<h2 style="margin: 0;">CHANGE REQUEST</h2>		<small>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</small>
25.419	CR 002r1	Current Version: 3.0.0
<small>GSM (AA.BB) or 3G (AA.BBB) specification number ↑</small>	<small>↑ CR number as allocated by MCC support team</small>	
For submission to: RAN#8 <small>list expected approval meeting # here ↑</small>	for approval for information <input checked="" type="checkbox"/>	strategic <input type="checkbox"/> non-strategic <input type="checkbox"/> <small>(for SMG use only)</small>

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** 2000-05-24

Subject: Clarification of which ASN.1 encoding rules that are used.

Work item:

Category:	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change: It should be clarified that Basic PER is used as encoding rule for SABP.
It is proposed to add a chapter 9.4 where this is stated.

Clauses affected: 9.4

Other specs affected:	Other 3G core specifications <input type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/>	→ List of CRs: → List of CRs: → List of CRs: → List of CRs: → List of CRs:
------------------------------	---	--

Other comments:



<----- double-click here for help and instructions on how to create a CR.

9.4 Message Transfer Syntax

SABP shall use the ASN.1 Basic Packed Encoding Rules (BASIC-PER) Aligned Variant as transfer syntax as specified in ref. [11].

CHANGE REQUEST		Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.
25.419	CR	003
GSM (AA.BB) or 3G (AA.BBB) specification number ↑		↑ CR number as allocated by MCC support team
For submission to: TSG RAN #8 <small>list expected approval meeting # here</small>		Current Version: 3.0.0
for approval <input checked="" type="checkbox"/>		strategic <input type="checkbox"/>
for information <input type="checkbox"/>		non-strategic <input type="checkbox"/>
		(for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** May 2000

Subject: Clarification of Notations used in SABP

Work item:

Category:	F Correction <input type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input checked="" type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change: In the current SABP specification there are some notations being used. The notations are used when referring to procedures, messages, IEs, and values of IEs. However, these notations have been developed based on a common understanding in RAN WG3 and are not clearly visible to people outside RAN WG3.

This CR proposes to introduce the notations used in SABP in clause 4 (*General*) of SABP (A new subclause denoted *Specification Notations*).

Clauses affected: 4

Other specs	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs: 25.413 CR102, 25.423 CR119, 25.433 CR139
affected:	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:
	MS test specifications	<input type="checkbox"/>	→ List of CRs:
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:
	O&M specifications	<input type="checkbox"/>	→ List of CRs:

Other comments:

4.x Specification Notations

For the purposes of the present document, the following notations apply:

- Procedure When referring to an elementary procedure in the specification the Procedure Name is written with the first letters in each word in upper case characters followed by the word "procedure", e.g. Write-Replace procedure.
- Message When referring to a message in the specification the MESSAGE NAME is written with all letters in upper case characters followed by the word "message", e.g. WRITE-REPLACE message.
- IE When referring to an information element (IE) in the specification the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in Italic font followed by the abbreviation "IE", e.g. *Old-Serial-Number* IE.
- Value of an IE When referring to the value of an information element (IE) in the specification the "Value" is written as it is specified in subclause 9.2 enclosed by quotation marks, e.g. "Abstract Syntax Error (Reject)" or "Background".

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 4

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **RAN#8**
list expected approval meeting # here
↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** 25/05/2000

Subject: Insertion of Missing Chapter Heading

Work item:

Category:	F Correction	<input type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
<small>(only one category shall be marked with an X)</small>	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input checked="" type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
				Release 00	<input type="checkbox"/>

Reason for change: The heading of the Information Element Definition section within the ASN.1 description was not formatted (or numbered) as a heading.

Clauses affected: 9.3.3 (and subsequent sections for renumbering)

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.3.3 PDU Definitions

```
-- *****
--
-- PDU definitions for SABP.
--
-- *****

SABP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Broadcast-Message-Content,
    Category,
    Cause,
    Criticality-Diagnostics,
    Data-Coding-Scheme,
    Failure-List,
    Message-Identifier,
    New-Serial-Number,
    No-of-Broadcasts-Completed-List,
    No-of-Broadcasts-Requested,
    Old-Serial-Number,
    Radio-Resource-Loading-List,
    Recovery-Indication,
    Repetition-Period,
    Serial-Number ,
    Service-Areas-List
FROM SABP-IEs

    ProtocolExtensionContainer{},
    ProtocolIE-Container{},
    SABP-PROTOCOL-EXTENSION,
    SABP-PROTOCOL-IES
FROM SABP-Containers
```

```

id-Broadcast-Message-Content,
id-Category,
id-Criticality-Diagnostics,
id-Cause,
id-Data-Coding-Scheme,
id-Failure-List,
id-Message-Identifier,
id-New-Serial-Number,
id-No-of-Broadcasts-Completed-List,
id-No-of-Broadcasts-Requested,
id-Old-Serial-Number,
id-Radio-Resource-Loading-List,
id-Recovery-Indication,
id-Repetition-Period,
id-Serial-Number,
id-Service-Areas-List
FROM SABP-Constants;

-- *****
--
-- Write-Replace
--
-- *****

Write-Replace ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    { {Write-Replace-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Extensions} } OPTIONAL,
    ...
}

Write-Replace-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
    { ID id-New-Serial-Number    CRITICALITY ignore  TYPE NewSerial-Number        PRESENCE mandatory } |
    { ID id-Old-Serial-Number    CRITICALITY ignore  TYPE Old-Serial-Number       PRESENCE optional  } |
    { ID id-Service-Areas-List   CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE mandatory } |
    { ID id-Category              CRITICALITY ignore  TYPE Category                 PRESENCE optional  } |
    { ID id-Repetition-Period     CRITICALITY ignore  TYPE Repetition-Period       PRESENCE optional  } |
    { ID id-No-of-Broadcasts-Requested
      CRITICALITY ignore  TYPE No-of-Broadcasts-Requested PRESENCE mandatory } |
    { ID id-Data-Coding-Scheme    CRITICALITY ignore  TYPE Data-Coding-Scheme      PRESENCE mandatory } |
    { ID id-Broadcast-Message-Content
      CRITICALITY ignore  TYPE Broadcast-Message-Content PRESENCE mandatory } ,
    ...
}

```

```

Write-Replace-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Write-Replace-Complete
--
-- *****

Write-Replace-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    { {Write-Replace-Complete-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Complete-Extensions} } OPTIONAL,
    ...
}

Write-Replace-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
    { ID id-New-Serial-Number    CRITICALITY ignore  TYPE New-Serial-Number      PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional },
    ...
}

Write-Replace-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Write-Replace-Failure
--
-- *****

Write-Replace-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    { {Write-Replace-Failure-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Failure-Extensions} } OPTIONAL,
    ...
}

Write-Replace-Failure-IEs SABP-PROTOCOL-IES ::= {

```

```

    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory } |
    { ID id-New-Serial-Number   CRITICALITY ignore  TYPE New-Serial-Number   PRESENCE mandatory } |
    { ID id-Failure-List        CRITICALITY ignore  TYPE Failure-List           PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
      PRESENCE optional  } |
  { ID id-Criticality-Diagnostics
  CRITICALITY ignore  TYPE Criticality-Diagnostics      PRESENCE optional },
  ...
}
Write-Replace-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Kill
--
-- *****

Kill ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container      {{Kill-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Kill-Extensions}}  OPTIONAL,
  ...
}

Kill-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory } |
  { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number   PRESENCE mandatory } |
  { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List   PRESENCE mandatory } ,
  ...
}

Kill-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Kill-Complete
--
-- *****

Kill-Complete ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container      {{Kill-Complete-IEs}},

```



```

    protocolExtensions      ProtocolExtensionContainer {{Kill-Complete-Extensions}}      OPTIONAL,
    ...
}

Kill-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier      PRESENCE mandatory } |
    { ID id-Old-Serial-Number    CRITICALITY ignore  TYPE Old-Serial-Number      PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore      TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore  TYPE Criticality-Diagnostics      PRESENCE optional },
    ...
}

Kill-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Kill-Failure
--
-- *****

Kill-Failure ::= SEQUENCE {
    protocolIEs      ProtocolIE-Container      {{Kill-Failure-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{Kill-Failure-Extensions}}      OPTIONAL,
    ...
}

Kill-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier      PRESENCE mandatory } |
    { ID id-Old-Serial-Number    CRITICALITY ignore  TYPE Old-Serial-Number      PRESENCE mandatory } |
    { ID id-Failure-List          CRITICALITY ignore  TYPE Failure-List          PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore      TYPE No-of-Broadcasts-Completed-List
      PRESENCE optional } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore  TYPE Criticality-Diagnostics      PRESENCE optional },
    ...
}

Kill-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

}
-- *****
--
-- Load-Query
--
-- *****

Load-Query ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          {{Load-Query-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Load-Query-Extensions}} OPTIONAL,
    ...
}

Load-Query-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Load-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Load-Query-Complete
--
-- *****

Load-Query-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          {{Load-Query-Complete-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Load-Query-Complete-Extensions}} OPTIONAL,
    ...
}

Load-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Radio-Resource-Loading-List
      CRITICALITY ignore TYPE Radio-Resource-Loading-List
      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional } ,
    ...
}

Load-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {

```

```

}
...
}
-- *****
--
-- Load-Query-Failure
--
-- *****

Load-Query-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container      {{Load-Query-Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Load-Query-Failure-Extensions}} OPTIONAL,
    ...
}

Load-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List    PRESENCE mandatory } |
    { ID id-Failure-List        CRITICALITY ignore  TYPE Failure-List              PRESENCE mandatory } |
    { ID id-Radio-Resource-Loading-List
      CRITICALITY ignore  TYPE Radio-Resource-Loading-List
      PRESENCE optional   } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore  TYPE Criticality-Diagnostics    PRESENCE optional },
    ...
}

Load-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query
--
-- *****

Message-Status-Query ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container      {{Message-Status-Query-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |

```

```

        { ID id-Old-Serial-Number  CRITICALITY ignore  TYPE Old-Serial-Number  PRESENCE mandatory } |
        { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List  PRESENCE mandatory } ,
    ...
}

Message-Status-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query-Complete
--
-- *****

Message-Status-Query-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Message-Status-Query-Complete-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Complete-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory } |
    { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number   PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |

    { ID id-Criticality-Diagnostics
      CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional },
    ...
}

Message-Status-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query-Failure
--
-- *****

Message-Status-Query-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Message-Status-Query-Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Failure-Extensions}} OPTIONAL,

```

```

}
...
}
Message-Status-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory } |
  { ID id-Failure-List CRITICALITY ignore TYPE Failure-List PRESENCE mandatory } |
  { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory } |

  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
    PRESENCE optional } |

  { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
  ...
}

Message-Status-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Reset
--
-- *****

Reset ::= SEQUENCE {
  protocolIEs ProtocolIE-Container {{Reset-IEs}},
  protocolExtensions ProtocolExtensionContainer {{Reset-Extensions}} OPTIONAL,
  ...
}

Reset-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
  ...
}

Reset-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Reset-Complete
--

```

```

-- *****
Reset-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Reset-Complete-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Reset-Complete-Extensions}}    OPTIONAL,
    ...
}

Reset-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List    CRITICALITY ignore    TYPE Service-Areas-List    PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore    TYPE Criticality-Diagnostics    PRESENCE optional } ,
    ...
}

Reset-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Reset-Failure
--
-- *****

Reset-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Reset-Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Reset-Failure-Extensions}}    OPTIONAL,
    ...
}

Reset-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Failure-List          CRITICALITY ignore    TYPE Failure-List          PRESENCE mandatory } |
    { ID id-Service-Areas-List    CRITICALITY ignore    TYPE Service-Areas-List    PRESENCE optional } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore    TYPE Criticality-Diagnostics    PRESENCE optional } ,
    ...
}

Reset-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--

```

```

-- Restart
--
-- *****

Restart ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Restart-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Restart-Extensions}} OPTIONAL,
    ...
}

Restart-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } |
    { ID id-Recovery-Indication CRITICALITY ignore TYPE Recovery-Indication PRESENCE optional } ,
    ...
}

Restart-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Failure
--
-- *****

Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Failure-Extensions}} OPTIONAL,
    ...
}

Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Error-Indication
--

```

```

-- *****
Error-Indication ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Error-Indication-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Error-Indication-Extensions}} OPTIONAL,
    ...
}

Error-Indication-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
    { ID id-Serial-Number       CRITICALITY ignore  TYPE Serial-Number        PRESENCE optional  } |
    { ID id-Cause                CRITICALITY ignore  TYPE Cause                        PRESENCE optional  } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional },
    ...
}

Error-Indication-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

END

```

9.3.4 Information Element Definitions

```

-- *****
--
-- Information Element Definitions
--
-- *****

SABP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxRadio-Resource-Loading-List,
    maxFailure-List,
    maxNo-of-Broadcasts-Completed-List,
    maxNrOfErrors,

```



```

    maxService-Areas-List
FROM SABP-Constants

    Criticality,
    ProcedureCode,
    TriggeringMessage,
    ProtocolIE-ID
FROM SABP-CommonDataTypes

    ProtocolExtensionContainer{},-

    SABP-PROTOCOL-EXTENSION
FROM SABP-Containers;

-- A

Available-Bandwidth      ::= INTEGER (0..20480)
-- bits/sec

-- B

Broadcast-Message-Content ::= OCTET STRING (SIZE (1246))
-- This IE is sent from the CN to the RNC containing user information i.e.
-- the message.

-- C

Category ::= ENUMERATED {
    high-priority,
    background-priority,
    normal-priority,
    default-priority,
    ...
}

Cause ::= INTEGER {
    parameter-not-recognised      (0),
    parameter-value-invalid       (1),
    valid-CN-message-not-identified (2),
    service-area-identity-not-valid (3),
    unrecognised-message          (4),
    missing-mandatory-element     (5),
    bss-capacity-exceeded         (6),
}

```

```

rNC-memory-exceeded          (7),
service-area-broadcast-not-supported (8),
service-area-broadcast-not-operational (9),
incompatible-DRX-parameter    (10),

message-reference-already-used (11),
unspecified-error             (12)} (0..255)

Criticality-Diagnostics ::= SEQUENCE {
  procedureCode          ProcedureCode          OPTIONAL,
  triggeringMessage      TriggeringMessage      OPTIONAL,
  criticalityResponse    Criticality            OPTIONAL,
  iEsCriticalityResponses CriticalityDiagnostics-IE-List OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
  ...
}

CriticalityDiagnostics-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
  ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
SEQUENCE {
  criticalityResponse    Criticality,
  iE-ID                  ProtocolIE-ID,
  iE-Extensions          ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
  ...
}

CriticalityDiagnostics-IE-List-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- D

Data-Coding-Scheme ::= INTEGER (0..255)

-- E

-- F

Failure-List ::= SEQUENCE (SIZE (1..maxFailure-List)) OF Failure-List-Item
Failure-List-Item ::= SEQUENCE {

```

```

    service-area-identifier    Service-Area-Identifier,
    cause                      Cause,
    iE-Extensions             ProtocolExtensionContainer { {FailureListItemIE-ExtIEs} } OPTIONAL,
    ...
}

FailureListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
...
}

-- G

-- H

-- I

-- J

-- K

-- L

-- M

Message-Identifier ::= OCTET STRING (SIZE (2))
-- This IE identifies the source/type of a CN message and is passed
-- transparently from the CN to the UE.

-- N

New-Serial-Number           ::= Serial-Number

No-of-Broadcasts-Completed-List ::= SEQUENCE (SIZE (1..maxNo-of-Broadcasts-Completed-List)) OF
    No-of-Broadcasts-Completed-List-Item

No-of-Broadcasts-Completed-List-Item ::= SEQUENCE {
    service-area-identifier    Service-Area-Identifier,
    no-of-broadcasts-compl     INTEGER (0..65535),
    no-of-broadcasts-compl-info No-Of-Broadcasts-Compl-Info          OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {NoOfBroadcastsCompletedListItemIE-ExtIEs} } OPTIONAL,
    ...
}

NoOfBroadcastsCompletedListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
...
}

```

```

}
No-Of-Broadcasts-Compl-Info ::= ENUMERATED {
    overflow,
    unknown,
    ...
}
No-of-Broadcasts-Requested ::= INTEGER {
    broadcast-indefinitely (0)
} (0..65535)
-- O
Old-Serial-Number ::= Serial-Number
-- P
-- Q
-- R
Radio-Resource-Loading-List ::= SEQUENCE (SIZE (1..maxRadio-Resource-Loading-List)) OF
    Radio-Resource-Loading-List-Item
Radio-Resource-Loading-List-Item ::= SEQUENCE {
    service-area-identifier Service-Area-Identifier,
    available-bandwidth Available-Bandwidth,
    iE-Extensions ProtocolExtensionContainer { {RadioResourceLoadingListItemIE-ExtIEs} } OPTIONAL,
    ...
}
RadioResourceLoadingListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}
Recovery-Indication ::= ENUMERATED {
    data-lost,
    data-available
}
Repetition-Period ::= INTEGER (1..4096)
-- Each unit repetition is a repetition of one second to a maximum of
-- once per 4096 seconds (~1 hour).

```

```

-- S

Serial-Number          ::= INTEGER (0..65535)

Service-Area-Identifier ::= SEQUENCE {
    plmn-id             OCTET STRING (SIZE (3))
                        -- Digits 0 to 9, two digits per octet.      --
                        -- Each octet encoded 0000 to 1001.          --
                        -- 1111 used as filler                        --
                        -- Bit 4 to 1 of octet n encoding digit 2n-1. --
                        -- Bit 8 to 5 of octet n encoding digit 2n.  --
                        -- The PLMN-ID consists of 3 digits from MCC  --
                        -- followed by either a filler plus 2 digits  --
                        -- from MNC (in case of 2 digit MNC) or 3 digits --
                        -- from MNC (in case of 3 digit MNC).        -- ,
    lac                 OCTET STRING (SIZE (2))
                        -- 0000 and FFFE not allowed                -- ,
    sac                 OCTET STRING (SIZE (2))
}

-- **TODO** The IE type for these parameters is not known as yet
Service-Areas-List ::= SEQUENCE (SIZE (1..maxService-Areas-List)) OF Service-Area-Identifier

-- T

-- U

-- V

-- W

-- X

-- Y

END

```

9.3.54 Common Definitions

```

-- *****
--

```

```

-- Common definitions
--
-- *****

SABP-CommonDataTypes -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

Criticality      ::= ENUMERATED { reject, ignore, notify }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

ProcedureCode    ::= INTEGER (0..255)

ProtocolExtensionID ::= INTEGER (0..65535)

ProtocolIE-ID    ::= INTEGER (0..65535)

TriggeringMessage ::= ENUMERATED {initiating-message, successful-outcome, unsuccessful-outcome,...}

END

```

9.3.65 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

SABP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- Elementary Procedures
--
-- *****

id-Write-Replace      INTEGER ::= 0
id-Kill                INTEGER ::= 1

```

```

id-Status-Load-Enquiry          INTEGER ::= 2
id-Status-Message-Query        INTEGER ::= 3
id-Restart-Indication           INTEGER ::= 4
id-Reset                        INTEGER ::= 5
id-Failure-Indication           INTEGER ::= 6
id-Error-Indication             INTEGER ::= 7

-- *****
--
-- IEs
--
-- *****

id-Broadcast-Message-Content    INTEGER ::= 0
id-Category                     INTEGER ::= 1
id-Cause                        INTEGER ::= 2
id-Criticality-Diagnostics      INTEGER ::= 3
id-Data-Coding-Scheme           INTEGER ::= 4
id-Failure-List                 INTEGER ::= 5
id-Message-Identifier           INTEGER ::= 6
id-New-Serial-Number            INTEGER ::= 7
id-No-of-Broadcasts-Completed-List INTEGER ::= 8
id-No-of-Broadcasts-Requested   INTEGER ::= 9
id-Old-Serial-Number            INTEGER ::= 10
id-Radio-Resource-Loading-List  INTEGER ::= 11
id-Recovery-Indication          INTEGER ::= 12
id-Repetition-Period            INTEGER ::= 13
id-Serial-Number                INTEGER ::= 14
id-Service-Areas-List          INTEGER ::= 15

-- *****
--
-- Extension constants
--
-- *****

-- *****
--
-- Lists
--
-- *****

maxRadio-Resource-Loading-List  INTEGER ::= 65535
maxFailure-List                 INTEGER ::= 65535
maxNo-of-Broadcasts-Completed-List INTEGER ::= 65535

```

```
maxNrOfErrors          INTEGER ::= 256
maxService-Areas-List  INTEGER ::= 65535

maxProtocolExtensions  INTEGER ::= 65535
maxProtocolIEs         INTEGER ::= 65535
```

```
END
```

9.3.76 Container Definitions

```
-- *****
--
-- Container definitions
--
-- *****

SABP-Containers -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Criticality,
    Presence,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM SABP-CommonDataTypes

    maxProtocolExtensions,
    maxProtocolIEs
FROM SABP-Constants;

-- *****
--
-- Class Definition for Protocol IEs
--
-- *****
```



```

SABP-PROTOCOL-IES ::= CLASS {
    &id          ProtocolIE-ID          UNIQUE,
    &criticality Criticality            DEFAULT ignore,
    &Value,
    &presence    Presence
}
WITH SYNTAX {
    ID          &id
    CRITICALITY &criticality
    TYPE        &Value
    PRESENCE    &presence
}

-- *****
--
-- Class Definition for Protocol Extensions
--
-- *****

SABP-PROTOCOL-EXTENSION ::= CLASS {
    &id          ProtocolExtensionID    UNIQUE,
    &criticality Criticality            DEFAULT ignore,
    &Extension
}
WITH SYNTAX {
    ID          &id
    CRITICALITY &criticality
    EXTENSION   &Extension
}

-- *****
--
-- Container for Protocol IEs
--
-- *****

ProtocolIE-Container {SABP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {SABP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id          SABP-PROTOCOL-IES.&id          ({{IEsSetParam}}),
    criticality SABP-PROTOCOL-IES.&criticality ({{IEsSetParam}}{@id}),
    value       SABP-PROTOCOL-IES.&Value      ({{IEsSetParam}}{@id})
}

```

```

-- *****
--
-- Container Lists for Protocol IE Containers
--
-- *****

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, SABP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
        ProtocolIE-Container {{IEsSetParam}}

-- *****
--
-- Container for Protocol Extensions
--
-- *****

ProtocolExtensionContainer {SABP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
        ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {SABP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id                SABP-PROTOCOL-EXTENSION.&id                ({ExtensionSetParam}),
    criticality       SABP-PROTOCOL-EXTENSION.&criticality       ({ExtensionSetParam}@id}),
    extensionValue    SABP-PROTOCOL-EXTENSION.&Extension         ({ExtensionSetParam}@id)}
}

END

```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 5r2

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN #8**
list expected approval meeting # here
↑

for approval
for information

Strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: **R-WG3** **Date:** **25/05/2000**

Subject: **Enhancement of the description of the Message Type IE**

Work item:

Category:	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change:

In the current ASN.1 part of the specification a message is identified by its Procedure Code in combination with the "type of message" (Initiating, Successful Outcome, Unsuccessful Outcome, Outcome). In the Tabular Format a message is identified by its *Message IdentifierType-IE*. However, there is no clear connection between the two different types of identification. Further more, chapter 10 (Handling of Unknown, Unforeseen and Erroneous Protocol Data) is based on the usage of the Procedure Code and the "type of message".

 In this CR the Message *Identifier IEType-IE* and the ASN.1 module "Elementary Procedure Definitions" are is modified to achieve a better alignment between the different parts of the specification and thus ease the understanding of the specification. The modification is to describe the Message *IdentifierType-IE* in a way that connects the ASN.1 and chapter 10 with the Tabular Format.

Clauses affected: **9.2.1**

Other specs Affected:	Other 3G core specifications <input checked="" type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/>	→ List of CRs: → List of CRs: → List of CRs: → List of CRs: → List of CRs:	
------------------------------	--	--	--

Other comments:

9.2 Information Element Definitions

9.2.1 Message-Identifier

This parameter identifies the source/type of a CN message and is passed transparently from the CN to the UE.

IE/GROUP NAME	PRESENCE	RANGE	IE Type and	Semantics Description
Message-Identifier	⊕		OCTET STRING (2)	
>Procedure Code	M		ENUMERATED (Write-Replace, Kill, Load Query, Message Query, Reset, ...)	
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 6r2

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **RAN#8**
list expected approval meeting # here
↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** 25/05/2000

Subject: Introduction of 'Presence' Information Element for Extension Containers (ASN.1)

Work item:

Category: <small>(only one category shall be marked with an X)</small>	F Correction	<input checked="" type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
			Release 00	<input type="checkbox"/>	

Reason for change: Even if the 'Presence' IE has only documentary character for the ASN.1 code it should be in the Extension Container (it is already in the Standard Protocol Container).

Clauses affected: 9.3.6 Container Definitions

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.3.3 PDU Definitions

```
-- *****
--
-- PDU definitions for SABP.
--
-- *****

SABP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Broadcast-Message-Content,
    Category,
    Cause,
    Criticality-Diagnostics,
    Data-Coding-Scheme,
    Failure-List,
    Message-Identifier,
    New-Serial-Number,
    No-of-Broadcasts-Completed-List,
    No-of-Broadcasts-Requested,
    Old-Serial-Number,
    Radio-Resource-Loading-List,
    Recovery-Indication,
    Repetition-Period,
    Serial-Number ,
    Service-Areas-List
FROM SABP-IEs

    ProtocolExtensionContainer{},
    ProtocolIE-Container{},
    SABP-PROTOCOL-EXTENSION,
    SABP-PROTOCOL-IES
FROM SABP-Containers

    id-Broadcast-Message-Content,
    id-Category,
    id-Criticality-Diagnostics,
    id-Cause,
    id-Data-Coding-Scheme,
    id-Failure-List,
    id-Message-Identifier,
    id-New-Serial-Number,
```

```

id-No-of-Broadcasts-Completed-List,
id-No-of-Broadcasts-Requested,
id-Old-Serial-Number,
id-Radio-Resource-Loading-List,
id-Recovery-Indication,
id-Repetition-Period,
id-Serial-Number,
id-Service-Areas-List
FROM SABP-Constants;

-- *****
--
-- Write-Replace
--
-- *****

Write-Replace ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          { {Write-Replace-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Extensions} } OPTIONAL,
    ...
}

Write-Replace-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier    CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
    { ID id-New-Serial-Number     CRITICALITY ignore  TYPE New-Serial-Number     PRESENCE mandatory } |
    { ID id-Old-Serial-Number     CRITICALITY ignore  TYPE Old-Serial-Number     PRESENCE optional } |
    { ID id-Service-Areas-List    CRITICALITY ignore  TYPE Service-Areas-List   PRESENCE mandatory } |
    { ID id-Category              CRITICALITY ignore  TYPE Category              PRESENCE optional } |
    { ID id-Repetition-Period     CRITICALITY ignore  TYPE Repetition-Period    PRESENCE optional } |
    { ID id-No-of-Broadcasts-Requested
      CRITICALITY ignore  TYPE No-of-Broadcasts-Requested PRESENCE mandatory } |
    { ID id-Data-Coding-Scheme    CRITICALITY ignore  TYPE Data-Coding-Scheme   PRESENCE mandatory } |
    { ID id-Broadcast-Message-Content
      CRITICALITY ignore  TYPE Broadcast-Message-Content PRESENCE mandatory } ,
    ...
}

Write-Replace-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Write-Replace-Complete
--
-- *****

Write-Replace-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          { {Write-Replace-Complete-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Complete-Extensions} } OPTIONAL,
    ...
}

Write-Replace-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier    CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |

```

```

    { ID id-New-Serial-Number    CRITICALITY ignore  TYPE New-Serial-Number    PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |
  { ID id-Criticality-Diagnostics
  CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional },
  ...
}

Write-Replace-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Write-Replace-Failure
--
-- *****

Write-Replace-Failure ::= SEQUENCE {
  protocolIEs      ProtocolIE-Container      { {Write-Replace-Failure-IEs} },
  protocolExtensions  ProtocolExtensionContainer { {Write-Replace-Failure-Extensions} } OPTIONAL,
  ...
}

Write-Replace-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
  { ID id-New-Serial-Number   CRITICALITY ignore  TYPE New-Serial-Number    PRESENCE mandatory } |
  { ID id-Failure-List        CRITICALITY ignore  TYPE Failure-List        PRESENCE mandatory } |
  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
    PRESENCE optional } |
  { ID id-Criticality-Diagnostics
  CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional },
  ...
}

Write-Replace-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Kill
--
-- *****

Kill ::= SEQUENCE {
  protocolIEs      ProtocolIE-Container      {{Kill-IEs}},
  protocolExtensions  ProtocolExtensionContainer {{Kill-Extensions}}  OPTIONAL,
  ...
}

Kill-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier    PRESENCE mandatory } |
  { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number    PRESENCE mandatory } |

```



```

    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Kill-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Kill-Complete
--
-- *****

Kill-Complete ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Kill-Complete-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Kill-Complete-Extensions}} OPTIONAL,
    ...
}

Kill-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory } |
    { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
    ...
}

Kill-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Kill-Failure
--
-- *****

Kill-Failure ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Kill-Failure-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Kill-Failure-Extensions}} OPTIONAL,
    ...
}

Kill-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory } |
    { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory } |
    { ID id-Failure-List CRITICALITY ignore TYPE Failure-List PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
      PRESENCE optional } |
    { ID id-Criticality-Diagnostics

```

```

CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
...
}

Kill-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Load-Query
--
-- *****

Load-Query ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Load-Query-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Load-Query-Extensions}} OPTIONAL,
    ...
}

Load-Query-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Load-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Load-Query-Complete
--
-- *****

Load-Query-Complete ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Load-Query-Complete-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Load-Query-Complete-Extensions}} OPTIONAL,
    ...
}

Load-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Radio-Resource-Loading-List
        CRITICALITY ignore TYPE Radio-Resource-Loading-List
        PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
        CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
    ...
}

Load-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****

```

```

--
-- Load-Query-Failure
--
-- *****

Load-Query-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          {{Load-Query-Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Load-Query-Failure-Extensions}} OPTIONAL,
    ...
}

Load-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } |
    { ID id-Failure-List CRITICALITY ignore TYPE Failure-List PRESENCE mandatory } |
    { ID id-Radio-Resource-Loading-List
      CRITICALITY ignore TYPE Radio-Resource-Loading-List
      PRESENCE optional } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
    ...
}

Load-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query
--
-- *****

Message-Status-Query ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          {{Message-Status-Query-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory } |
    { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory } |
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Message-Status-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query-Complete
--
-- *****

```

```

Message-Status-Query-Complete ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container      {{Message-Status-Query-Complete-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Complete-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore TYPE Message-Identifier      PRESENCE mandatory } |
    { ID id-Old-Serial-Number   CRITICALITY ignore TYPE Old-Serial-Number      PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore TYPE Criticality-Diagnostics      PRESENCE optional },
    ...
}

Message-Status-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Message-Status-Query-Failure
--
-- *****

Message-Status-Query-Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container      {{Message-Status-Query-Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Message-Status-Query-Failure-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier  CRITICALITY ignore TYPE Message-Identifier      PRESENCE mandatory } |
    { ID id-Failure-List        CRITICALITY ignore TYPE Failure-List          PRESENCE mandatory } |
    { ID id-Old-Serial-Number   CRITICALITY ignore TYPE Old-Serial-Number      PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
      PRESENCE optional } |
    { ID id-Criticality-Diagnostics
      CRITICALITY ignore TYPE Criticality-Diagnostics      PRESENCE optional },
    ...
}

Message-Status-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Reset
--

```

```

-- *****
Reset ::= SEQUENCE {
    protocolIEs      ProtocolIE-Container      {{Reset-IEs}},
    protocolExtensions  ProtocolExtensionContainer {{Reset-Extensions}}      OPTIONAL,
    ...
}

Reset-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE mandatory } ,
    ...
}

Reset-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Reset-Complete
--
-- *****

Reset-Complete ::= SEQUENCE {
    protocolIEs      ProtocolIE-Container      {{Reset-Complete-IEs}},
    protocolExtensions  ProtocolExtensionContainer {{Reset-Complete-Extensions}}      OPTIONAL,
    ...
}

Reset-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE mandatory } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore  TYPE Criticality-Diagnostics      PRESENCE optional } ,
    ...
}

Reset-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- Reset-Failure
--
-- *****

Reset-Failure ::= SEQUENCE {
    protocolIEs      ProtocolIE-Container      {{Reset-Failure-IEs}},
    protocolExtensions  ProtocolExtensionContainer {{Reset-Failure-Extensions}}      OPTIONAL,
    ...
}

Reset-Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Failure-List      CRITICALITY ignore  TYPE Failure-List      PRESENCE mandatory } |
    { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE optional } |

```

```

{ ID id-Criticality-Diagnostics
CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional } ,
...
}

Reset-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Restart
--
-- *****

Restart ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Restart-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Restart-Extensions}} OPTIONAL,
    ...
}

Restart-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } |
    { ID id-Recovery-Indication CRITICALITY ignore TYPE Recovery-Indication PRESENCE optional } ,
    ...
}

Restart-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Failure
--
-- *****

Failure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{Failure-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Failure-Extensions}} OPTIONAL,
    ...
}

Failure-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory } ,
    ...
}

Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Error-Indication

```

```

--
-- *****
Error-Indication ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container      {{Error-Indication-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{Error-Indication-Extensions}} OPTIONAL,
    ...
}

Error-Indication-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory } |
    { ID id-Serial-Number      CRITICALITY ignore TYPE Serial-Number      PRESENCE optional } |
    { ID id-Cause              CRITICALITY ignore TYPE Cause              PRESENCE optional } |
    { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
    ...
}

Error-Indication-Extensions SABP-PROTOCOL-EXTENSION ::= {
    ...
}

```

END

Information Element Definitions

```

-- *****
--
-- Information Element Definitions
--
-- *****

```

SABP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

```

    maxRadio-Resource-Loading-List,
    maxFailure-List,
    maxNo-of-Broadcasts-Completed-List,
    maxNrOfErrors,
    maxService-Areas-List
FROM SABP-Constants

```

FROM SABP-Constants

```

    Criticality,
    ProcedureCode,
    TriggeringMessage,
    ProtocolIE-ID
FROM SABP-CommonDataTypes

```

FROM SABP-CommonDataTypes

```

    ProtocolExtensionContainer{},-

```

```
SABP-PROTOCOL-EXTENSION
FROM SABP-Containers;
```

```
-- A
```

```
Available-Bandwidth ::= INTEGER (0..20480)
-- bits/sec
```

```
-- B
```

```
Broadcast-Message-Content ::= OCTET STRING (SIZE (1246))
-- This IE is sent from the CN to the RNC containing user information i.e.
-- the message.
```

```
-- C
```

```
Category ::= ENUMERATED {
    high-priority,
    background-priority,
    normal-priority,
    default-priority,
    ...
}
```

```
Cause ::= INTEGER {
    parameter-not-recognised (0),
    parameter-value-invalid (1),
    valid-CN-message-not-identified (2),
    service-area-identity-not-valid (3),
    unrecognised-message (4),
    missing-mandatory-element (5),
    bss-capacity-exceeded (6),

    rNC-memory-exceeded (7),
    service-area-broadcast-not-supported (8),
    service-area-broadcast-not-operational (9),
    incompatible-DRX-parameter (10),

    message-reference-already-used (11),
    unspecified-error (12)} (0..255)
```

```
Criticality-Diagnostics ::= SEQUENCE {
    procedureCode ProcedureCode OPTIONAL,
    triggeringMessage TriggeringMessage OPTIONAL,
    criticalityResponse Criticality OPTIONAL,
    iEsCriticalityResponses CriticalityDiagnostics-IE-List OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}
```

```
CriticalityDiagnostics-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}
```



```

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        criticalityResponse    Criticality,
        iE-ID                  ProtocolIE-ID,
        iE-Extensions          ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- D

Data-Coding-Scheme          ::= INTEGER (0..255)

-- E

-- F

Failure-List ::= SEQUENCE (SIZE (1..maxFailure-List)) OF Failure-List-Item

Failure-List-Item ::= SEQUENCE {
    service-area-identifier    Service-Area-Identifier,
    cause                      Cause,
    iE-Extensions              ProtocolExtensionContainer { {FailureListItemIE-ExtIEs} } OPTIONAL,
    ...
}

FailureListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}

-- G

-- H

-- I

-- J

-- K

-- L

-- M

Message-Identifier ::= OCTET STRING (SIZE (2))
-- This IE identifies the source/type of a CN message and is passed
-- transparently from the CN to the UE.

-- N

New-Serial-Number          ::= Serial-Number

```

```

No-of-Broadcasts-Completed-List ::= SEQUENCE (SIZE (1..maxNo-of-Broadcasts-Completed-List)) OF
    No-of-Broadcasts-Completed-List-Item

No-of-Broadcasts-Completed-List-Item ::= SEQUENCE {
    service-area-identifier    Service-Area-Identifier,
    no-of-broadcasts-compl     INTEGER (0..65535),
    no-of-broadcasts-compl-info No-Of-Broadcasts-Compl-Info      OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {NoOfBroadcastsCompletedListItemIE-ExtIEs} } OPTIONAL,
    ...
}

NoOfBroadcastsCompletedListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}

No-Of-Broadcasts-Compl-Info ::= ENUMERATED {
    overflow,
    unknown,
    ...
}

No-of-Broadcasts-Requested ::= INTEGER {
    broadcast-indefinitely (0)
} (0..65535)

-- O

Old-Serial-Number ::= Serial-Number

-- P

-- Q

-- R

Radio-Resource-Loading-List ::= SEQUENCE (SIZE (1..maxRadio-Resource-Loading-List)) OF
    Radio-Resource-Loading-List-Item

Radio-Resource-Loading-List-Item ::= SEQUENCE {
    service-area-identifier    Service-Area-Identifier,
    available-bandwidth        Available-Bandwidth,
    iE-Extensions              ProtocolExtensionContainer { {RadioResourceLoadingListItemIE-ExtIEs} } OPTIONAL,
    ...
}

RadioResourceLoadingListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
    ...
}

Recovery-Indication ::= ENUMERATED {
    data-lost,
    data-available
}

```

```

Repetition-Period ::= INTEGER (1..4096)
-- Each unit represents a repetition of one second to a maximum of
-- once per 4096 seconds (~1 hour).

-- S

Serial-Number ::= INTEGER (0..65535)

Service-Area-Identifier ::= SEQUENCE {
    plmn-id OCTET STRING (SIZE (3))
        -- Digits 0 to 9, two digits per octet. --
        -- Each octet encoded 0000 to 1001. --
        -- 1111 used as filler --
        -- Bit 4 to 1 of octet n encoding digit 2n-1. --
        -- Bit 8 to 5 of octet n encoding digit 2n. --
        -- The PLMN-ID consists of 3 digits from MCC --
        -- followed by either a filler plus 2 digits --
        -- from MNC (in case of 2 digit MNC) or 3 digits --
        -- from MNC (in case of 3 digit MNC). -- ,
    lac OCTET STRING (SIZE (2))
        -- 0000 and FFFE not allowed -- ,
    sac OCTET STRING (SIZE (2))
}

-- **TODO** The IE type for these parameters is not known as yet
Service-Areas-List ::= SEQUENCE (SIZE (1..maxService-Areas-List)) OF Service-Area-Identifier

-- T
-- U
-- V
-- W
-- X
-- Y

END

```

<p>NEXT MODIFIED SECTION</p>

9.3.6 Container Definitions

-- *****

```

--
-- Container definitions
--
-- *****

SABP-Containers -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Criticality,
    Presence,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM SABP-CommonDataTypes

    maxProtocolExtensions,
    maxProtocolIEs
FROM SABP-Constants;

-- *****
--
-- Class Definition for Protocol IEs
--
-- *****

SABP-PROTOCOL-IES ::= CLASS {
    &id          ProtocolIE-ID          UNIQUE,
    &criticality Criticality          DEFAULT ignore,
    &Value,
    &presence    Presence
}
WITH SYNTAX {
    ID          &id
    CRITICALITY &criticality
    TYPE        &Value
    PRESENCE    &presence
}

-- *****
--
-- Class Definition for Protocol Extensions
--
-- *****

SABP-PROTOCOL-EXTENSION ::= CLASS {
    &id          ProtocolExtensionID    UNIQUE,
    &criticality Criticality          DEFAULT ignore,

```

```

    &Extension,
    &pPresence PpPresence
}
WITH SYNTAX {
    ID          &id
    CRITICALITY &criticality
    EXTENSION   &Extension
    &presence PRESENCE &pPresence
}

-- *****
--
-- Container for Protocol IEs
--
-- *****

ProtocolIE-Container {SABP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
        ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {SABP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id          SABP-PROTOCOL-IES.&id          ({IEsSetParam}),
    criticality SABP-PROTOCOL-IES.&criticality  ({IEsSetParam}{@id}),
    value       SABP-PROTOCOL-IES.&Value       ({IEsSetParam}{@id})
}

-- *****
--
-- Container Lists for Protocol IE Containers
--
-- *****

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, SABP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
        ProtocolIE-Container {{IEsSetParam}}

-- *****
--
-- Container for Protocol Extensions
--
-- *****

ProtocolExtensionContainer {SABP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
        ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {SABP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id          SABP-PROTOCOL-EXTENSION.&id          ({ExtensionSetParam}),
    criticality SABP-PROTOCOL-EXTENSION.&criticality  ({ExtensionSetParam}{@id}),
    extensionValue SABP-PROTOCOL-EXTENSION.&Extension  ({ExtensionSetParam}{@id})
}

END

```

END OF MODIFICATIONS

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 7

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **RAN#8**
list expected approval meeting # here ↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** 25/05/2000

Subject: Correction of the tabular format/ASN.1 for the Cause IE.

Work item:

Category: <small>(only one category shall be marked with an X)</small>	F Correction	<input checked="" type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
			Release 00	<input type="checkbox"/>	

Reason for change:

The tabular format for the Cause IE does not follow the rules for how to write tabular format. This CR proposes an alternative way.

A few editorial errors in the tabular format (remaining references to set DRX parameters etc) have been corrected.

Finally, the ASN.1 for the Cause IE has been aligned with the tabular format, removing inconsistencies.

Clauses affected: 9.2.14, 9.3.3

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.2.14 Cause

The purpose of the cause information element is to indicate the reason for a particular event for the SABP protocol.

IE/GROUP NAME	PRESENCE	RANGE	IE Type and Reference	Semantics Description
>Cause	M ⊕		ENUMERATED <u>INTEGER (</u> Parameter-not-recognized(<u>40</u>), Parameter-value-invalid(<u>21</u>), Valid-CN-message-not-identified(<u>32</u>), Service-Area-identity-not-valid(<u>34</u>), Unrecognized-message(<u>54</u>), Missing-mandatory-element(<u>65</u>), RNC-capacity-exceeded(<u>76</u>).	<u>Range is 0-255</u> Sent when the recipient (CN or RNC) was unable to act upon the message received due to an unrecognized parameter. A message should not be rejected only because a parameter is not recognized as this would prevent extensions to the service Sent when a failure occurred due to the value of a parameter being invalid, e.g. out of range, or in Write-Replace, the parameter "no of pages" does not equal the number of pages received Sent when the RNC does not recognize the CN message reference Sent when the RNC does not recognize a Service-Area Identity Sent when the RNC did not recognize the message at all Sent when a mandatory element is missing from the message Sent when a write-replace fails because the RNC cannot meet the requested repetition period or when the set-drx parameters cannot be applied because of the

IE/GROUP NAME	PRESENCE	RANGE	IE Type and Reference	Semantics Description
	M		ENUMERATED	
			<p>RNC-memory-exceeded(87).</p> <p>Service-Area-broadcast-not-supported(98).</p> <p>Service-Area-broadcast-not-operational(940).</p> <p>Message-reference already-used(104).</p> <p>Unspecified-error(112).</p>	<p>cell loading</p> <p>Sent when the RNC is unable to store a CBS message as the RNC memory has been exceeded.</p> <p>Sent when the SABCH/CN related Radio Resource is not configured for a Service-Area</p> <p>Sent when the SABCH/CN related radio resource is not available because of error conditions or due to maintenance activities</p> <p>Sent when the recipient was unable to act upon the Write-Replace message received due to a previous Write-Replace received with the same message _reference.</p> <p>Sent when none of the above cause values apply.</p>

Information Element Definitions

```
-- *****
--
-- Information Element Definitions
--
-- *****
```

SABP-IEs -- { object identifier to be allocated }--
 DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

maxRadio-Resource-Loading-List,
 maxFailure-List,
 maxNo-of-Broadcasts-Completed-List,
 maxNrOfErrors,
 maxService-Areas-List

FROM SABP-Constants

Criticality,
 ProcedureCode,
 TriggeringMessage,
 ProtocolIE-ID

FROM SABP-CommonDataTypes

ProtocolExtensionContainer{ },-

SABP-PROTOCOL-EXTENSION

FROM SABP-Containers;

-- A

Available-Bandwidth ::= INTEGER (0..20480)
 -- bits/sec

-- B

Broadcast-Message-Content ::= OCTET STRING (SIZE (1246))
 -- This IE is sent from the CN to the RNC containing user information i.e.
 -- the message.

-- C

Category ::= ENUMERATED {
 high-priority,
 background-priority,
 normal-priority,
 default-priority,
 ...
}

Cause ::= INTEGER {
 parameter-not-recognised (0),
 parameter-value-invalid (1),
 valid-CN-message-not-identified (2),
 service-area-identity-not-valid (3),
 unrecognised-message (4),
 missing-mandatory-element (5),
~~bsrNC-capacity-exceeded (6),~~

 rNC-memory-exceeded (7),
 service-area-broadcast-not-supported (8),
 service-area-broadcast-not-operational (9),
~~incompatible-DRX-parameter (10),~~

 message-reference-already-used (~~11~~10),
 unspecified-error (~~11~~2)} (0..255)

Criticality-Diagnostics ::= SEQUENCE {
 procedureCode ProcedureCode OPTIONAL,
 triggeringMessage TriggeringMessage OPTIONAL,
 criticalityResponse Criticality OPTIONAL,
 iEsCriticalityResponses CriticalityDiagnostics-IE-List OPTIONAL,
 iE-Extensions ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,

```
} ...
```

```
-- lots of unaffected ASN.1 missed out!
```

**TSG-RAN Working Group 3 Meeting #13
Oahu, USA. May 22nd - May 26th, 2000**

Document R3-001626

e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

<h2 style="margin: 0;">CHANGE REQUEST</h2>		<small>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</small>
25.419	CR	8
		Current Version: 3.0.0
<small>GSM (AA.BB) or 3G (AA.BBB) specification number ↑</small>		<small>↑ CR number as allocated by MCC support team</small>
For submission to: TSG RAN #8 <small>list expected approval meeting # here ↑</small>	for approval for information	Strategic non-strategic
	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <small>(for SMG use only)</small>

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** 25/05/00

Subject: Clarification of Criticality Modelling and Protocol Error Handling

Work item:

Category:	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change: In the current SABP specification, the description of the handling of IEs/IE groups with Criticality Information is not aligned with the other application protocol specifications and remains a bit ambiguous.

Following CRr1 on RANAP, the changes detailed here are now being implemented to 25.419.

Clauses affected: 10

Other specs affected:	Other 3G core specifications <input checked="" type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/>	→ List of CRs: → List of CRs: → List of CRs: → List of CRs: → List of CRs:	
------------------------------	--	--	--

Other comments:

10 Handling of Unknown, Unforeseen or Erroneous Protocol Data

10.1 General

Protocol Error cases can be divided into three classes:

- Transfer Syntax Error;
- Abstract Syntax Error;
- Logical Error.

10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received physical message ~~i.e. the transfer syntax can not be opened. Transfer syntax errors are always detected in the process of ASN.1 decoding.~~ If a Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the Transfer Syntax protocol error.

10.3 Abstract Syntax Error

10.3.1 General

An Abstract Syntax Error occurs when the receiving functional SABP entity receives IEs or IE groups that cannot be understood. The abstract syntax error also appears if the logical range of an IE is violated (e.g.: ASN.1 definition: 0 to 15, the logical range is 0 to 10 (values 11 to 15 are undefined), and 12 will be received; this case will be handled as an abstract syntax error using criticality information sent by the originator of the message)

10.3.2 Definition of Criticality Information

In the SABP messages there is criticality information set for individual IEs and/or IE groups. This criticality information instructs the receiver how to act when receiving an IE or an IE group that is not comprehended i.e. the entire item (IE or IE group) which is not (fully or partially) comprehended shall be treated in accordance with its own criticality information as specified in subclause 10.3.32. ~~An IE/IE group shall be regarded as not comprehended if the receiving node either cannot decode the IE/IE Group or does not comprehend the function represented by the IE value. The case of the not comprehended IE/IE group is an Abstract Syntax Error.~~

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error act according to the Criticality Information for the IE/IE group due to which Abstract Syntax Error occurred in accordance with subclause 10.3.32.

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information for an IE/IE group are:

- Reject IE;
- Ignore IE and Notify Sender;
- Ignore IE.

10.3.32 Handling of the Criticality Information at Reception

10.3.32.1 Procedure Code

The receiving node shall treat the different types of criticality information of the *Procedure Code* according to the following:

Reject IE:

- If a message is received with a *Procedure Code* marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall reject the procedure using the Error Indication procedure.

Ignore IE and Notify Sender:

- If a message is received with a *Procedure Code* marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the procedure and initiate the Error Indication procedure.

Ignore IE:

- If a message is received with a *Procedure Code* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

10.3.32.2 IEs other than the Procedure Code

The receiving node shall treat the different types of criticality information of an IE/IE group other than the *Procedure Code* according to the following:

Reject IE:

- If a message *initiating* a procedure is received containing one or more Ies/IE groups marked with "*Reject IE*" which the receiving node does not comprehend; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the rejection of one or more Ies/IE groups using the message normally used to report unsuccessful outcome of the procedure.
- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more Ies/IE groups marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall initiate the Error Indication procedure.
- If a *response* message is received containing one or more IEs marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall initiate local error handling.

Ignore IE and Notify Sender:

- If a message *initiating* a procedure is received containing one or more Ies/IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using only the understood IEs/IE groups, and report in the response message of the procedure that one or more IEs/IE groups have been ignored.
- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IE/IE groups and initiate the Error Indication procedure.

Ignore IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using only the understood IEs/IE groups.

10.4 Logical Error

Logical error situations occur when a message is comprehended correctly, but the information contained within the message is not valid (i.e. semantic error), or describes a procedure which is not compatible with the state of the receiver. In these conditions, the following behaviour shall be performed (unless otherwise specified) as defined by the class of the elementary procedure, irrespective of the criticality information of the IE's/IE groups containing the erroneous values.

Class 1:

Where the logical error occurs in a request message of a class 1 procedure, and the procedure has a failure message, the failure message shall be sent with an appropriate cause value. Typical cause values are:

- Semantic Error;
- Message not compatible with receiver state.

Where the logical error is contained in a request message of a class 1 procedure, and the procedure does not have a failure message, the ERROR INDICATION procedure shall be initiated with an appropriate cause value.

Where the logical error exists in a response message of a class 1 procedure, local error handling shall be initiated.

Class 2:

Where the logical error occurs in a message of a class 2 procedure, the ERROR INDICATION procedure shall be initiated with an appropriate cause value.

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 9

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **RAN#8**
List expected approval meeting # here ↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: **R-WG3** **Date:** **25/05/00**

Subject: **Introduction of 'Repetition Number' into 'Criticality Diagnostics' IE**

Work item:

Category: F Correction **Release:** Phase 2
(only one category shall be marked with an X) A Corresponds to a correction in an earlier release Release 96
B Addition of feature Release 97
C Functional modification of feature Release 98
D Editorial modification Release 99
Release 00

Reason for change: **If a repeated IE has criticality information applied to EACH repetition, it must be possible to report the repetition number of the not comprehended information element.**

Clauses affected: **9.2.1.17 Criticality Diagnostics IE; 9.3.3 PDU Definitions**

Other specs affected: Other 3G core specifications → List of CRs:
Other GSM core specifications → List of CRs:
MS test specifications → List of CRs:
BSS test specifications → List of CRs:
O&M specifications → List of CRs:

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.2.17 Criticality-Diagnostics

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Criticality Diagnostics				
>Procedure Code	O		INTEGER (0..255)	Procedure code is to be used if Criticality diagnostics is part of Error Indication procedure, and not within the response message of the same operation that caused the error
>Triggering Message	O		ENUMERATED(initiating message, successful outcome, unsuccessful outcome, outcome)	The Triggering Message is used only if the Criticality diagnostics is part of Error Indication procedure except when the procedure code is not understood.
>Criticality Response	O		ENUMERATED(reject, ignore, notify)	This Criticality response IE is used for reporting the Criticality of the Triggering message
Information Element Criticality Diagnostics		0 to <maxnoof errors>		
>Criticality Response	M		ENUMERATED(reject, ignore, notify)	The Criticality response IE is used for reporting the criticality of the triggering IE. The value 'ignore' shall not be used.
>IE Id	M		INTEGER (0..65535)	The IE Id of the not understood IE
<u>>Repetition Number</u>	<u>O</u>		<u>INTEGER (0..255)</u>	<u>The repetition number of the not understood IE if applicable</u>

Range bound	Explanation
Maxnooferrors	Maximum no. of IE errors allowed to be reported with a single message. The value for maxnooferrors is 256.

9.3.3 PDU Definitions

```

-- *****
--
-- PDU definitions for SABP.
--
-- *****

SABP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Broadcast-Message-Content,
    Category,
    Cause,
    Criticality-Diagnostics,
    Data-Coding-Scheme,
    Failure-List,
    Message-Identifier,
    New-Serial-Number,
    No-of-Broadcasts-Completed-List,
    No-of-Broadcasts-Requested,
    Old-Serial-Number,
    Radio-Resource-Loading-List,
    Recovery-Indication,
    Repetition-Period,
    Serial-Number ,
    Service-Areas-List
FROM SABP-IEs

    ProtocolExtensionContainer{ },
    ProtocolIE-Container{ },
    SABP-PROTOCOL-EXTENSION,
    SABP-PROTOCOL-IES
FROM SABP-Containers

    id-Broadcast-Message-Content,
    id-Category,
    id-Criticality-Diagnostics,
    id-Cause,
    id-Data-Coding-Scheme,
    id-Failure-List,
    id-Message-Identifier,
    id-New-Serial-Number,
    id-No-of-Broadcasts-Completed-List,
    id-No-of-Broadcasts-Requested,
    id-Old-Serial-Number,
    id-Radio-Resource-Loading-List,
    id-Recovery-Indication,
    id-Repetition-Period,
    id-Serial-Number,
    id-Service-Areas-List
FROM SABP-Constants;

-- *****
--
-- Write-Replace
--
-- *****

Write-Replace ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          { {Write-Replace-IEs} },
    protocolExtensions   ProtocolExtensionContainer { {Write-Replace-Extensions} } OPTIONAL,
    ...
}

Write-Replace-IEs SABP-PROTOCOL-IES ::= {

```

```

    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
  |
  { ID id-New-Serial-Number CRITICALITY ignore TYPE NewSerial-Number PRESENCE mandatory }
  |
  { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE optional }
  |
  { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory }
  |
  { ID id-Category CRITICALITY ignore TYPE Category PRESENCE optional } |
  { ID id-Repetition-Period CRITICALITY ignore TYPE Repetition-Period PRESENCE optional }
  |
  { ID id-No-of-Broadcasts-Requested
    CRITICALITY ignore TYPE No-of-Broadcasts-Requested PRESENCE mandatory } |
  { ID id-Data-Coding-Scheme CRITICALITY ignore TYPE Data-Coding-Scheme PRESENCE mandatory }
  |
  { ID id-Broadcast-Message-Content
    CRITICALITY ignore TYPE Broadcast-Message-Content PRESENCE mandatory } ,
  ...
}

Write-Replace-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Write-Replace-Complete
--
-- *****

Write-Replace-Complete ::= SEQUENCE {
  protocolIEs ProtocolIE-Container { {Write-Replace-Complete-IEs} },
  protocolExtensions ProtocolExtensionContainer { {Write-Replace-Complete-Extensions} }
OPTIONAL,
  ...
}

Write-Replace-Complete-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
  |
  { ID id-New-Serial-Number CRITICALITY ignore TYPE New-Serial-Number PRESENCE mandatory }
  |
  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
    PRESENCE mandatory } |
  { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
  ...
}

Write-Replace-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Write-Replace-Failure
--
-- *****

Write-Replace-Failure ::= SEQUENCE {
  protocolIEs ProtocolIE-Container { {Write-Replace-Failure-IEs} },
  protocolExtensions ProtocolExtensionContainer { {Write-Replace-Failure-Extensions} }
OPTIONAL,
  ...
}

Write-Replace-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
  |
  { ID id-New-Serial-Number CRITICALITY ignore TYPE New-Serial-Number PRESENCE mandatory }
  |
  { ID id-Failure-List CRITICALITY ignore TYPE Failure-List PRESENCE mandatory } |
  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
    PRESENCE optional } |
  { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },

```

```

...
}
Write-Replace-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}
-- *****
--
-- Kill
--
-- *****

Kill ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Kill-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Kill-Extensions}}  OPTIONAL,
  ...
}

Kill-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory }
|
  { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number    PRESENCE mandatory }
|
  { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List  PRESENCE mandatory }
,
  ...
}

Kill-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}
-- *****
--
-- Kill-Complete
--
-- *****

Kill-Complete ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Kill-Complete-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Kill-Complete-Extensions}}  OPTIONAL,
  ...
}

Kill-Complete-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory }
|
  { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number    PRESENCE mandatory }
|
  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore          TYPE No-of-Broadcasts-Completed-List
    PRESENCE mandatory }
|
  { ID id-Criticality-Diagnostics
    CRITICALITY ignore          TYPE Criticality-Diagnostics    PRESENCE optional },
  ...
}

Kill-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}
-- *****
--
-- Kill-Failure
--
-- *****

Kill-Failure ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Kill-Failure-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Kill-Failure-Extensions}}  OPTIONAL,
  ...
}

Kill-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier  CRITICALITY ignore  TYPE Message-Identifier  PRESENCE mandatory }
|
  { ID id-Old-Serial-Number   CRITICALITY ignore  TYPE Old-Serial-Number    PRESENCE mandatory }
|

```

```

    { ID id-Failure-List          CRITICALITY ignore  TYPE Failure-List          PRESENCE mandatory } |
    { ID id-No-of-Broadcasts-Completed-List
      CRITICALITY ignore  TYPE No-of-Broadcasts-Completed-List
      PRESENCE optional } |
  { ID id-Criticality-Diagnostics
  CRITICALITY ignore  TYPE Criticality-Diagnostics          PRESENCE optional },
  ...
}

Kill-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Load-Query
--
-- *****

Load-Query ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container          {{Load-Query-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Load-Query-Extensions}}  OPTIONAL,
  ...
}

Load-Query-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List    PRESENCE mandatory }
  ,
  ...
}

Load-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Load-Query-Complete
--
-- *****

Load-Query-Complete ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container          {{Load-Query-Complete-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Load-Query-Complete-Extensions}}  OPTIONAL,
  ...
}

Load-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Radio-Resource-Loading-List
    CRITICALITY ignore  TYPE Radio-Resource-Loading-List
    PRESENCE mandatory } |
  { ID id-Criticality-Diagnostics
  CRITICALITY ignore  TYPE Criticality-Diagnostics          PRESENCE optional },
  ...
}

Load-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Load-Query-Failure
--
-- *****

Load-Query-Failure ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container          {{Load-Query-Failure-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Load-Query-Failure-Extensions}}  OPTIONAL,
  ...
}

Load-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List  CRITICALITY ignore  TYPE Service-Areas-List    PRESENCE mandatory }
  |
  { ID id-Failure-List          CRITICALITY ignore  TYPE Failure-List          PRESENCE mandatory } |
  { ID id-Radio-Resource-Loading-List
  CRITICALITY ignore  TYPE Radio-Resource-Loading-List
  PRESENCE mandatory }
}

```

```

                CRITICALITY ignore TYPE Radio-Resource-Loading-List
                PRESENCE optional } |
{ ID id-Criticality-Diagnostics
CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
...
}

Load-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Message-Status-Query
--
-- *****

Message-Status-Query ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Message-Status-Query-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Message-Status-Query-Extensions}} OPTIONAL,
    ...
}

Message-Status-Query-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
    |
    { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory }
    |
    { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory }
    ,
    ...
}

Message-Status-Query-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Message-Status-Query-Complete
--
-- *****

Message-Status-Query-Complete ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Message-Status-Query-Complete-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Message-Status-Query-Complete-Extensions}}
OPTIONAL,
    ...
}

Message-Status-Query-Complete-IEs SABP-PROTOCOL-IES ::= {
    { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
    |
    { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory }
    |
    { ID id-No-of-Broadcasts-Completed-List
        CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
        PRESENCE mandatory } |
{ ID id-Criticality-Diagnostics
CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
...
}

Message-Status-Query-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- Message-Status-Query-Failure
--
-- *****

Message-Status-Query-Failure ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{Message-Status-Query-Failure-IEs}},
    protocolExtensions ProtocolExtensionContainer {{Message-Status-Query-Failure-Extensions}}
OPTIONAL,
    ...
}

```

```

}

Message-Status-Query-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier CRITICALITY ignore TYPE Message-Identifier PRESENCE mandatory }
  |
  { ID id-Failure-List CRITICALITY ignore TYPE Failure-List PRESENCE mandatory } |
  { ID id-Old-Serial-Number CRITICALITY ignore TYPE Old-Serial-Number PRESENCE mandatory }
  |
  { ID id-No-of-Broadcasts-Completed-List
    CRITICALITY ignore TYPE No-of-Broadcasts-Completed-List
    PRESENCE optional } |
  { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
  ...
}

Message-Status-Query-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Reset
--
-- *****

Reset ::= SEQUENCE {
  protocolIEs ProtocolIE-Container {{Reset-IEs}},
  protocolExtensions ProtocolExtensionContainer {{Reset-Extensions}} OPTIONAL,
  ...
}

Reset-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE
    mandatory } ,
  ...
}

Reset-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Reset-Complete
--
-- *****

Reset-Complete ::= SEQUENCE {
  protocolIEs ProtocolIE-Container {{Reset-Complete-IEs}},
  protocolExtensions ProtocolExtensionContainer {{Reset-Complete-Extensions}} OPTIONAL,
  ...
}

Reset-Complete-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List CRITICALITY ignore TYPE Service-Areas-List PRESENCE mandatory }
  |
  { ID id-Criticality-Diagnostics
    CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
  ...
}

Reset-Complete-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Reset-Failure
--
-- *****

Reset-Failure ::= SEQUENCE {
  protocolIEs ProtocolIE-Container {{Reset-Failure-IEs}},
  protocolExtensions ProtocolExtensionContainer {{Reset-Failure-Extensions}} OPTIONAL,
  ...
}

```



```

Reset-Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Failure-List          CRITICALITY ignore  TYPE Failure-List          PRESENCE mandatory } |
  { ID id-Service-Areas-List    CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE optional  }
}
|
{ ID id-Criticality-Diagnostics
CRITICALITY ignore  TYPE Criticality-Diagnostics  PRESENCE optional } ,
...
}

Reset-Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Restart
--
-- *****

Restart ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Restart-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Restart-Extensions}}  OPTIONAL,
  ...
}

Restart-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List    CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE mandatory }
|
  { ID id-Recovery-Indication    CRITICALITY ignore  TYPE Recovery-Indication      PRESENCE
optional } ,
  ...
}

Restart-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Failure
--
-- *****

Failure ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Failure-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Failure-Extensions}}  OPTIONAL,
  ...
}

Failure-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Service-Areas-List    CRITICALITY ignore  TYPE Service-Areas-List      PRESENCE mandatory }
,
  ...
}

Failure-Extensions SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- Error-Indication
--
-- *****

Error-Indication ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{Error-Indication-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{Error-Indication-Extensions}}  OPTIONAL,
  ...
}

Error-Indication-IEs SABP-PROTOCOL-IES ::= {
  { ID id-Message-Identifier    CRITICALITY ignore  TYPE Message-Identifier      PRESENCE mandatory }
|
  { ID id-Serial-Number         CRITICALITY ignore  TYPE Serial-Number           PRESENCE optional  } |
  { ID id-Cause                 CRITICALITY ignore  TYPE Cause                   PRESENCE optional  } |
  { ID id-Criticality-Diagnostics
}

```

```

CRITICALITY ignore TYPE Criticality-Diagnostics PRESENCE optional },
...
}
Error-Indication-Extensions SABP-PROTOCOL-EXTENSION ::= {
...
}
END

```

Information Element Definitions

```

-- *****
--
-- Information Element Definitions
--
-- *****

```

```

SABP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

```

```

BEGIN

```

IMPORTS

```

    maxRadio-Resource-Loading-List,
    maxFailure-List,
    maxNo-of-Broadcasts-Completed-List,
    maxNrOfErrors,
    maxService-Areas-List

```

```

FROM SABP-Constants

```

```

    Criticality,
    ProcedureCode,
    TriggeringMessage,
    ProtocolIE-ID

```

```

FROM SABP-CommonDataTypes

```

```

    ProtocolExtensionContainer{ },-

```

```

    SABP-PROTOCOL-EXTENSION

```

```

FROM SABP-Containers;

```

```

-- A

```

```

Available-Bandwidth ::= INTEGER (0..20480)
-- bits/sec

```

```

-- B

```

```

Broadcast-Message-Content ::= OCTET STRING (SIZE (1246))
-- This IE is sent from the CN to the RNC containing user information i.e.
-- the message.

```

```

-- C

```

```

Category ::= ENUMERATED {
    high-priority,
    background-priority,
    normal-priority,
    default-priority,
    ...
}

```

```

Cause ::= INTEGER {
    parameter-not-recognised (0),
    parameter-value-invalid (1),
    valid-CN-message-not-identified (2),
    service-area-identity-not-valid (3),
    unrecognised-message (4),
    missing-mandatory-element (5),
    bss-capacity-exceeded (6),

    rNC-memory-exceeded (7),
    service-area-broadcast-not-supported (8),
    service-area-broadcast-not-operational (9),
}

```

```

incompatible-DRX-parameter      (10),
message-reference-already-used  (11),
unspecified-error              (12)} (0..255)

Criticality-Diagnostics ::= SEQUENCE {
  procedureCode      ProcedureCode      OPTIONAL,
  triggeringMessage  TriggeringMessage  OPTIONAL,
  criticalityResponse Criticality      OPTIONAL,
  iEsCriticalityResponses CriticalityDiagnostics-IE-List OPTIONAL,
  iE-Extensions     ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
  ...
}

CriticalityDiagnostics-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
  ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
  SEQUENCE {
    criticalityResponse Criticality,
    iE-ID               ProtocolIE-ID,
    repetitionNumber   RepetitionNumber OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
    ...
  }

CriticalityDiagnostics-IE-List-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- D

Data-Coding-Scheme ::= INTEGER (0..255)

-- E

-- F

Failure-List ::= SEQUENCE (SIZE (1..maxFailure-List)) OF Failure-List-Item

Failure-List-Item ::= SEQUENCE {
  service-area-identifier Service-Area-Identifier,
  cause                  Cause,
  iE-Extensions         ProtocolExtensionContainer { {FailureListItemIE-ExtIEs} } OPTIONAL,
  ...
}

FailureListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
  ...
}

-- G

-- H

-- I

-- J

-- K

-- L

-- M

Message-Identifier ::= OCTET STRING (SIZE (2))
-- This IE identifies the source/type of a CN message and is passed
-- transparently from the CN to the UE.

-- N

New-Serial-Number ::= Serial-Number

No-of-Broadcasts-Completed-List ::= SEQUENCE (SIZE (1..maxNo-of-Broadcasts-Completed-List)) OF
  No-of-Broadcasts-Completed-List-Item

```

```

No-of-Broadcasts-Completed-List-Item ::= SEQUENCE {
    service-area-identifier      Service-Area-Identifier,
    no-of-broadcasts-compl      INTEGER (0..65535),
    no-of-broadcasts-compl-info No-Of-Broadcasts-Compl-Info      OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {NoOfBroadcastsCompletedListItemIE-ExtIEs} }
OPTIONAL,
    ...
}

NoOfBroadcastsCompletedListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
...
}

No-Of-Broadcasts-Compl-Info      ::= ENUMERATED {
    overflow,
    unknown,
    ...
}

No-of-Broadcasts-Requested      ::= INTEGER {
    broadcast-indefinitely (0)
} (0..65535)

-- O

Old-Serial-Number               ::= Serial-Number

-- P

-- Q

-- R

Radio-Resource-Loading-List ::= SEQUENCE (SIZE (1..maxRadio-Resource-Loading-List)) OF
    Radio-Resource-Loading-List-Item

Radio-Resource-Loading-List-Item ::= SEQUENCE {
    service-area-identifier      Service-Area-Identifier,
    available-bandwidth          Available-Bandwidth,
    iE-Extensions               ProtocolExtensionContainer { {RadioResourceLoadingListItemIE-ExtIEs} }
OPTIONAL,
    ...
}

RadioResourceLoadingListItemIE-ExtIEs SABP-PROTOCOL-EXTENSION ::= {
...
}

Recovery-Indication ::= ENUMERATED {
    data-lost,
    data-available
}

RepetitionNumber             ::= INTEGER(0..255)

Repetition-Period               ::= INTEGER (1..4096)
-- Each unit represents a repetition of one second to a maximum of
-- once per 4096 seconds (~1 hour).

-- S

Serial-Number                   ::= INTEGER (0..65535)

Service-Area-Identifier ::= SEQUENCE {
    plmn-id                      OCTET STRING (SIZE (3))
                                -- Digits 0 to 9, two digits per octet.      --
                                -- Each octet encoded 0000 to 1001.          --
                                -- 1111 used as filler                      --
                                -- Bit 4 to 1 of octet n encoding digit 2n-1. --
                                -- Bit 8 to 5 of octet n encoding digit 2n.  --
                                -- The PLMN-ID consists of 3 digits from MCC --
                                -- followed by either a filler plus 2 digits --
                                -- from MNC (in case of 2 digit MNC) or 3 digits --
                                -- from MNC (in case of 3 digit MNC).      -- ,
    lac                          OCTET STRING (SIZE (2))
}

```

```

    sac          -- 0000 and FFFE not allowed          -- ,
                OCTET STRING (SIZE (2))
}

-- **TODO** The IE type for these parameters is not known as yet
Service-Areas-List ::= SEQUENCE (SIZE (1..maxService-Areas-List)) OF Service-Area-Identifier

-- T
-- U
-- V
-- W
-- X
-- Y
END
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.419 CR 10r1

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN#8**

list expected approval meeting # here ↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG

The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: R-WG3 **Date:** May 25, 2000

Subject: Clarification to SABP Message Syntax

Work item:

Category:	F Correction	<input checked="" type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
				Release 00	<input type="checkbox"/>

(only one category shall be marked with an X)

Reason for change: ASN.1 description of SABP messages has been written in a way that SABP messages can contain any IEs specified in object set definition(s) for that message without the order or number of occurrence being restricted by ASN.1 rules.

This CR clarifies that messages shall be constructed according to the order and number of occurrences that is specified in the ASN.1 *PDU Definitions* module, and if differently formed message is received, it is considered as Logical-an Abstract Syntax error.

Clauses affected: New section: 9.3.0

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.3 Message and Information Element Abstract Syntax (with ASN.1)

9.3.0 General

The ASN.1 definition specifies the structure and content of SABP messages. SABP messages can contain any IEs specified in the object set definitions for that message without the order or number of occurrence being restricted by ASN.1. However, for this version of the standard, a sending entity shall construct a SABP message according to the PDU definitions module and with the following additional rules (Note that in the following IE means an IE in the object set with an explicit id. If one IE needed to appear more than once in one object set, then the different occurrences have different IE ids):

- IEs shall be ordered (in an IE container) in the order they appear in object set definitions..
- Object set definitions specify how many times IEs may appear. An IE shall appear exactly once if the presence field in an object has value "mandatory". An IE may appear at most once if the presence field in an object has value "optional" or "conditional". If in a tabular format there is multiplicity specified for an IE (i.e. an IE list) then in the corresponding ASN.1 definition the list definition is separated into two parts. The first part defines an IE container list where the list elements reside. The second part defines list elements. The IE container list appears as an IE of its own. For this version of the standard an IE container list may contain only one kind of list elements.

If a SABP message that is not constructed as defined above is received, this shall be considered as Abstract Syntax Error, and the message shall be handled as defined for Abstract Syntax error in [Chapter 10.section 10.4](#).

9.3.1 Usage of protocol extension mechanism for non-standard use

The protocol extension mechanism for non-standard use may be used:

- for special operator- (and/or vendor) specific features considered not to be part of the basic functionality, i.e. the functionality required for a complete and high-quality specification in order to guarantee multivendor interoperability.
- by vendors for research purposes, e.g. to implement and evaluate new algorithms/features before such features are proposed for standardisation.

The extension mechanism shall not be used for basic functionality. Such functionality shall be standardised.