Technical Specification Group Services and System Aspects
Meeting #15, Cheju Island, Korea, 11-14 March 2002

TSGS#15(02)0026

Source: **SA5 (Telecom Management)**

Title: **Rel-4 CR 32.403 (Performance measurements - UMTS and combined UMTS/GSM) Correction of the measured object class for some SGSN MM measurement definitions**

Document for: **Decision**

Agenda Item: **7.5.3**

Doc-1st-Level	Spec	CR	R	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
SP-020026	32.403	002		Rel-4	**Correction of the measured object class for some SGSN MM measurement definitions**	F	4.1.0	4.2.0	S5-020212	OAM-PM

3GPP TSG-SA5 (Telecom Management) **S5-020212**
Meeting #26, Miami / FL, USA, 25 February - 1 March 2002 **S5B020115r1**

CR-Form-v5

CHANGE REQUEST

⌘ **32.403** **CR** **002** ⌘ **rev** **-** ⌘ Current version: **4.1.0** ⌘

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

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

Title:	⌘	Correction of the measured object class for some SGSN MM measurement definitions
Source:	⌘	SA5
Work item code:	⌘	OAM-PM
Date:	⌘	01/03/2002
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Some SGSN Mobility Management (MM) measurements do not support cases where the Routing Area is situated in several PLMNs.
Summary of change:	⌘	Add MCC+MNC in Measured Object Class (MO)C) for some SGSN MM measurements. Correct accordingly the definition of private object class RA.
Consequences if not approved:	⌘	The SGSN MM measurements will lack support for cases where the Routing Area covers several PLMNs. The Measured Object Class for the concerned measurements will not be consistent with the definitions of 3GPP TS 23.003.

Clauses affected:	⌘	3.4.1, 5.1.1 – 5.1.29
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

3.4 Definition of private Object Classes

Private Object Classes are Object Classes which are needed for PM purposes, but that are not yet defined by CM.

3.4.1 Routing Area

The Object Class Routing Area (RA) is needed to conduct measurements on RA level. For the purpose of the present document, the Routing Area should be encoded in the file format as the concatenation of the MCC, MNC ,LAC and the RAC, in decimal notation. See further definition of Routing Area Identification in 3GPP TS 23.003. Since LAC is a 2 byte number (00000-65535), 5 characters are needed in the moid PrintableString. Since RAC is a 1 byte number (000-255) 3 characters are needed in the moid PrintableString. MCC is 3 digits and MNC 2 or 3 digits. The concatenated moid PrintableString will always contain ~~8~~ 14 characters. In the case where MNC has the length 2, a leading underscore character will be added.

EXAMPLE: LAC = Hexadecimal 4E20 = Decimal 20000;
RAC = Hexadecimal BE = Decimal 190; MCC = Decimal 046; MNC = Decimal 01
moid = "046_0120000190".

5 Measurements related to the SGSN

5.1 Mobility Management

5.1.1 Attempted GPRS attach procedures

a) This measurement provides the number of attempted GPRS attach procedures initiated within this SGSN area. The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "ATTACH REQUEST" message from the MS, indicating a GPRS attach(TS 24.008; attach type = GPRS attach).

d) A single integer value per measurement type defined in E.

e) MM.AttGprsAttach:

MM.AttGprsAttach	Combined (don't care)
MM.AttGprsAttach.G	GSM
MM.AttGprsAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.2 Successful GPRS attach procedures

a) This measurement provides the number of successfully performed GPRS attach procedures within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of a "ATTACH ACCEPT" message to the MS, indicating a GPRS only attached (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccGprsAttach:

MM.SuccGprsAttach	Combined (don't care)
MM.SuccGprsAttach.G	GSM
MM.SuccGprsAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.3 Attempted intra-SGSN Routing Area update procedures

a) This measurement provides the number of attempted intra-SGSN Routing Area Update procedures initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of a "ROUTING AREA UPDATE REQUEST" message from the MS, where the old RA and the new RA are served by this SGSN (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttIntraSgsnRaUpdate:

MM.AttIntraSgsnRaUpdate	Combined (don't care)
MM.AttIntraSgsnRaUpdate.G	GSM
MM.AttIntraSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.4 Successful intra-SGSN Routing Area update procedures

a) This measurement provides the number of successfully performed intra-SGSN Routing Area Update procedures initiated in this SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of "ROUTING AREA UPDATE ACCEPT" message to the MS (TS 24.008).

d) A single integer value.

e) MM.SuccIntraSgsnRaUpdate:

MM.SuccIntraSgsnRaUpdate	Combined (don't care)
MM.SuccIntraSgsnRaUpdate.G	GSM
MM.SuccIntraSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.5 Attempted GPRS detach procedures initiated by MS

a) This measurement provides the number of MS initiated GPRS detach procedures within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of a "DETACH REQUEST" message from the MS indicating a GPRS detach (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttGprsDetachMs:

MM.AttGprsDetachMs	Combined (don't care)
MM.AttGprsDetachMs.G	GSM
MM.AttGprsDetachMs.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.6 Attempted GPRS detach procedures initiated by SGSN

a) This measurement provides the number of attempted GPRS detach procedures initiated by SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of a "DETACH REQUEST" message to the MS (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttGprsDetachSgsn:

MM.AttGprsDetachSgsn	Combined (don't care)
MM.AttGprsDetachSgsn.G	GSM
MM.AttGprsDetachSgsn.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.7 Attempted inter-SGSN Routing Area update procedures

a) This measurement provides the number of attempted inter-SGSN Routing Area Update procedures initiated in this SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of an "ROUTING AREA UPDATE REQUEST" message from the MS where the old RA is served by another SGSNs (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttInterSgsnRaUpdate:

MM.AttInterSgsnRaUpdate	Combined (don't care)
MM.AttInterSgsnRaUpdate.G	GSM
MM.AttInterSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.8 Successful inter-SGSN Routing Area update procedures

a) This measurement provides the number of successfully completed inter-SGSN Routing Area Update procedures in this SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of a "ROUTING AREA UPDATE COMPLETE" message from the MS (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccInterSgsnRaUpdate:

MM.SuccInterSgsnRaUpdate	Combined (don't care)
MM.SuccInterSgsnRaUpdate.G	GSM
MM.SuccInterSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.9 Attempted GPRS attach procedures with IMSI already attached

a) This measurement provides the number of attempted GPRS attach procedures, while IMSI is already attached. We count the attempt initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "ATTACH REQUEST" Message from the MS, indicating GPRS attach while IMSI attached (3GPP TS 24.008; attach type = GPRS attach while IMSI attached).

d) A single integer value per measurement type defined in E.

e) MM.AttImsiAttach:

MM.AttImsiAttach	Combined (don't care)
MM.AttImsiAttach.G	GSM
MM.AttImsiAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.10 Successful GPRS attach procedures with IMSI already attached

a) This measurement provides the number of successfully performed GPRS attach procedures, while IMSI is already attached. We count the attempt initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of a "ATTACH ACCEPT" message to the MS, indicating a GPRS attach while IMSI attached (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccImsiAttach:

MM.SuccImsiAttach	Combined (don't care)
MM.SuccImsiAttach.G	GSM
MM.SuccImsiAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.11 Attempted IMSI detach procedures initiated by MS

a) This measurement provides the number of attempted IMSI detach procedures MS-initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "DETACH REQUEST" message from the MS, indicating a IMSI detach (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttImsiDetachMs:

MM.AttImsiDetachMs	Combined (don't care)
MM.AttImsiDetachMs.G	GSM
MM.AttImsiDetachMs.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.12 Attempted combined GPRS/IMSI attach procedures

a) This measurement provides the number of attempt of combined GPRS/IMSI attach procedures initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "ATTACH REQUEST" message from the MS, indicating combined GPRS/IMSI attach (TS 24.008; attach type = Combined GPRS/IMSI attach).

d) A single integer value per measurement type defined in E.

e) MM.AttCombiAttach:

MM.AttCombiAttach	Combined (don't care)
MM.AttCombiAttach.G	GSM
MM.AttCombiAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.13 Successful combined GPRS/IMSI attach procedures

a) This measurement provides the number of success-fully completed of Combined GPRS/IMSI attach pro-cedures initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of "ATTACH ACCEPT" message to the MS, indicating combined GPRS/IMSI attach (3GPP TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccCombiAttach:

MM.SuccCombiAttach	Combined (don't care)
MM.SuccCombiAttach.G	GSM
MM.SuccCombiAttach.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.14 Attempted combined GPRS/IMSI detach procedures initiated by MS

a) This measurement provides the number of attempted Combined GPRS/IMSI detach procedures MS-initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "DETACH REQUEST" message from the MS, indicating a Combined GPRS/IMSI detach (3GPP TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttCombiDetachMs:

MM.AttCombiDetachMs	Combined (don't care)
MM.AttCombiDetachMs.G	GSM
MM.AttCombiDetachMs.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.15 Successful GPRS detach procedures initiated by SGSN

a) This measurement provides the number of successfully completed GPRS detach procedures SGSN-initiated within this SGSN area.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "DETACH ACCEPT" message from the MS (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccGprsDetachSgsn:

MM.SuccGprsDetachSgsn	Combined (don't care)
MM.SuccGprsDetachSgsn.G	GSM
MM.SuccGprsDetachSgsn.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.16 Attempted combined RA/LA intra-SGSN Routing Area update procedures

a) This measurement provides the number of combined RA/LA updates (intra-SGSN) procedures initiated in this SGSN. These are counted as attempts.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "Routing Area Update REQUEST" message from the MS, indicating a combined RA/LA update (3GPP TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttCombiIntraSgsnRaUpdate:

MM.AttCombiIntraSgsnRaUpdate	Combined (don't care)
MM.AttCombiIntraSgsnRaUpdate.G	GSM
MM.AttCombiIntraSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.17 Attempted "combined RA/LA with IMSI Attach" intra-SGSN Routing Area update procedures

a) This measurement provides the number of combined RA/LA updates with IMSI attach (intra-SGSN) procedures initiated in this SGSN. These are counted as attempts.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "Routing Area Update REQUEST" message from the MS, indicating a combined RA/LA update with IMSI attach. (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttImsiCombiIntraSgsnRAUpdate:

MM.AttImsiCombiIntraSgsnRAUpdate	Combined (don't care)
MM.AttImsiCombiIntraSgsnRAUpdate.G	GSM
MM.AttImsiCombiIntraSgsnRAUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.18 Successful combined RA/LA intra-SGSN Routing Area update procedures

a) This measurement provides the number of success-fully performed combined RA/LA updates (intra-SGSN) procedures initiated in this SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of "Routing Area Update ACCEPT" message to the MS (3GPP TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccCombiIntraSgsnRaUpdate:

MM.SuccCombiIntraSgsnRaUpdate	Combined (don't care)
MM.SuccCombiIntraSgsnRaUpdate.G	GSM
MM.SuccCombiIntraSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.19 Attempted combined RA/LA inter-SGSN Routing Area update procedures

a) This measurement provides the number of combined RA/LA updates (inter-SGSN) procedures initiated in this SGSN. These are counted as attempts.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "Routing Area Update REQUEST" message from the MS, indicating a combined RA/LA update (3GPP TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.AttCombiInterSgsnRaUpdate:

MM.AttCombiInterSgsnRaUpdate	Combined (don't care)
MM.AttCombiInterSgsnRaUpdate.G	GSM
MM.AttCombiInterSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.20 Attempted "combined RA/LA with IMSI Attach" inter-SGSN Routing Area update procedures

a) This measurement provides the number of combined RA/LA updates with IMSI attach (inter-SGSN) procedures initiated in this SGSN. These are counted as attempts:
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of "Routing Area Update REQUEST" message from the MS, indicating a combined RA/LA update with IMSI attach.E52.

d) A single integer value per measurement type defined in E.

e) MM.AttImsiCombiInterSgsnRAUpdate:

MM.AttImsiCombiInterSgsnRAUpdate	Combined (don't care)
MM.AttImsiCombiInterSgsnRAUpdate.G	GSM
MM.AttImsiCombiInterSgsnRAUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.21 Successful combined RA/LA inter-SGSN Routing Area update procedures

a) This measurement provides the number of success-fully performed combined RA/LA updates (inter-SGSN) procedures initiated in this SGSN.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Transmission of "Routing Area Update ACCEPT" message to the MS (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.SuccCombiInterSgsnRaUpdate:

MM.SuccCombiInterSgsnRaUpdate	Combined (don't care)
MM.SuccCombiInterSgsnRaUpdate.G	GSM
MM.SuccCombiInterSgsnRaUpdate.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.22 Number of received invalid P-TMSI's during detach

a) This measurement provides the number of received invalid P-TMSI's during detach.
The three measurement types defined in E are subject to the "2 out of 3 approach".

b) CC.

c) Receipt of an "DETACH_REQUEST" with invalid P-TMSI (TS 24.008).

d) A single integer value per measurement type defined in E.

e) MM.NbrPTMSIDetachFail:

MM.NbrPTMSIDetachFail	Combined (don't care)
MM.NbrPTMSIDetachFail.G	GSM
MM.NbrPTMSIDetachFail.U	UMTS

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM/UMTS.

5.1.23 Attempted GSM PS paging procedures

a) This measurement provides the total number of PS paging procedures that are initiated at the SGSN, over the Gb interface.

b) CC.

c) Incremented when a GSM paging procedure is started, i.e. at the transmission of the first BSSGP Paging Request (GSM TS 08.18) from the SGSN to the MS.

d) A single integer value.

e) MM.AttPsPagingProcGb.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM.

5.1.24 Attempted UMTS PS paging procedures

a) This measurement provides the total number of PS paging procedures that are initiated at the SGSN, over the Iu interface.

b) CC.

c) Incremented when a UMTS paging procedure is started i.e. at the transmission of the first "Paging" message (3GPP TS 25.413) from the SGSN to the MS.

d) A single integer value.

e) MM.AttPsPagingProcIu.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) UMTS.

5.1.25 Attempted PS paging procedures with unknown access type

a) This measurement provides the total number of PS paging procedures that are initiated at the SGSN, with access type unknown. In this case the paging will be done both over the Gb and the Iu interface.

b) CC.

c) Incremented when a paging procedure is started for which MM doesn't know the access type i.e. at the transmission of the first BSSGP Paging Request (GSM TS 08.18) and/or "Paging" message (3GPP TS 25.413) from the SGSN to the MS.

d) A single integer value.

e) MM.AttPsPagingProcGbIu.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) Combined.

5.1.26 Number of PS paging message sends from 2G-SGSN to the MS

a) This measurement provides the Number of PS paging message sends from 2G-SGSN to the MS.

b) CC.

c) Transmission of "GMM-PAGING.req" (GSM TS 08.18) from the SGSN to the MS. Each paging message will be counted separately, addressed to all BSS in this certain RA.

d) A single integer value.

e) MM.NbrPsPagingMesGb.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM.

5.1.27 Number of PS paging message sends from 3G-SGSN to the MS

a) This measurement provides the Number of PS paging message sends from 3G-SGSN to the MS.

b) CC.

c) Transmission of "Paging" message (CN Domain Indicator = PS Domain) from the SGSN to the MS (3GPP TS 25.413). Each paging message will be counted separately, addressed to all RNC in this certain RA.

d) A single integer value.

e) MM.NbrPsPagingMesIu.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) UMTS.

5.1.28 Successful GSM PS paging procedures

a) This measurement provides the total number of successful PS paging procedures that are initiated at the SGSN, over the Gb interface.

b) CC.

c) when an uplink_trigger (any LLC frame) is received by the SGSN from the MS (over the Gb interface) as response to a GSM paging PS procedure (3GPP TS 23.060) or during intersystem change UMTS -> GSM.

d) A single integer value.

e) MM.SuccPsPagingProcGb.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) GSM.

5.1.29 Successful UMTS PS paging procedures

a) This measurement provides the total number of successful PS paging procedures that are initiated at the SGSN, over the Iu interface.

b) CC.

c) When a paging_response is received by the SGSN from the MS (over the Iu interface) as response to a UMTS paging PS procedure (Receipt of "Service Request" message (with Service Type = Paging Response) to the MS (3GPP TS 24.008)) or during intersystem change GSM -> UMTS.

d) A single integer value.

e) MM.SuccPsPagingProcIu.

f) RA, specified by a concatenation of the MCC, MNC, LAC and the RAC.

g) Valid for packet switching.

h) UMTS.