Source: **TSG CN WG3**

Title: **CRs on <R99 Work Item GPRS**

Agenda item: **7.12**

Document for: **APPROVAL**

Introduction:

This document contains **12** CRs on **<R99** Work Item **"GPRS"**, that have been agreed by TSG CN WG3, and are presented to TSG CN Plenary meeting #14 for approval.

NP Tdoc	WG Tdoc	Subject	Spec	CR	R.	Cat	Ph.	C_Ver	WI
NP-010572	N3-010450	Correction to 3GPP specific attribute: 3GPP-IMSI	09.61	A023	1	F	R97	6.5.0	GPRS
NP-010572	N3-010449	Correction to 3GPP specific attribute: 3GPP-IMSI	09.61	A024	1	A	R98	7.4.0	GPRS
NP-010572	N3-010448	Correction to 3GPP specific attribute: 3GPP-IMSI	29.061	029	1	A	R99	3.7.0	GPRS
NP-010572	N3-010447	Correction to 3GPP specific attribute: 3GPP-IMSI	29.061	030	1	A	Rel-4	4.2.0	GPRS
NP-010572	N3-010437	Correction to 3GPP specific attributes containing MCC-MNC IMSI	09.61	A025		F	R97	6.5.0	GPRS
NP-010572	N3-010438	Correction to 3GPP specific attributes containing MCC-MNC IMSI	09.61	A026		A	R98	7.4.0	GPRS
NP-010572	N3-010439	Correction to 3GPP specific attributes containing MCC-MNC IMSI	29.061	031		A	R99	3.7.0	GPRS
NP-010572	N3-010440	Correction to 3GPP specific attributes containing MCC-MNC IMSI	29.061	032		A	Rel-4	4.2.0	GPRS
NP-010572	N3-010465	Correction to Calling-station-id	09.61	A021	1	F	R97	6.5.0	GPRS
NP-010572	N3-010464	Correction to Calling-station-id	09.61	A022	1	A	R98	7.4.0	GPRS
NP-010572	N3-010463	Correction to Calling-station-id	29.061	027	1	A	R99	3.7.0	GPRS
NP-010572	N3-010462	Correction to Calling-station-id	29.061	028	1	A	Rel-4	4.2.0	GPRS

CR-Form-v4

CHANGE REQUEST

| ⌘ | **09.61** CR **A025** | ⌘ | ev | **-** | ⌘ | Current version: | **6.5.0** | ⌘ |

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

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

Title: ⌘	Correction to 3GPP vendor specific attributes containing MCC-MNC	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 12-10-01

Category: ⌘ **F**	***Release:*** ⌘ R97

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: ⌘	To maintain consistency by ensuring that, where applicable, a 3GPP vendor specific attribute will be variable in length and not fixed in length.
Summary of change: ⌘	Modified the length of the attributes 3GPP-IMSI-MCC-MNC and 3GPP-GGSN-MCC-MNC by including n, where n will be either 7 or 8 octets in length depending on the length of MNC. Included an indication that MNC digit 3 may not be present. Added text to indicate that there will be no padding of characters between the MCC and MNC.
Consequences if not approved: ⌘	Inconsistency in the length description between 3GPP vendor specific attributes which have the possibility of being variable in length.

Clauses affected: ⌘	16.4.7

Other specs affected: ⌘	☐ Other core specifications	⌘	
	☐ Test specifications		
	☐ O&M Specifications		

Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

1) CR page 2

<div style="border:1px solid">

Start of modified section

</div>

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

8 - 3GPP-*IMSI MCC-MNC*

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 8							
2	3GPP Length= n~~8~~							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 8

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 3~~8~~

MS address value: text

This is the UTF-8 encoding of the MS MCC-MNC values. ~~If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").~~In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

9 - 3GPP-*GGSN MCC-MNC*

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 9							
2	3GPP Length= n~~8~~							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 9

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 3~~8~~

GGSN address value: text

This is the UTF-8 encoding of the GGSN MCC-MNC values. ~~If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").~~ In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

End of modified section

CR-Form-v4

CHANGE REQUEST

| ⌘ | **09.61** CR **A026** | ⌘ | ev | **-** | ⌘ | Current version: | **7.4.0** | ⌘ |

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

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

Title: ⌘	Correction to 3GPP vendor specific attributes containing MCC-MNC	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 12-10-01
Category: ⌘ **A**		***Release:*** ⌘ R98

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: ⌘	To maintain consistency by ensuring that, where applicable, a 3GPP vendor specific attribute will be variable in length and not fixed in length.
Summary of change: ⌘	Modified the length of the attributes 3GPP-IMSI-MCC-MNC and 3GPP-GGSN-MCC-MNC by including n, where n will be either 7 or 8 octets in length depending on the length of MNC. Included an indication that MNC digit 3 may not be present. Added text to indicate that there will be no padding of characters between the MCC and MNC.
Consequences if not approved: ⌘	Inconsistency in the length description between 3GPP vendor specific attributes which have the possibility of being variable in length.

Clauses affected: ⌘	16.4.7
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

1) CR page 2

Start of modified section

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

8 - 3GPP-IMSI MCC-MNC

	Bits							
Octets	8	7	6	5	4	3	2	1
1	3GPP type = 8							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 8

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 3̶8̶

MS address value: text

This is the UTF-8 encoding of the MS MCC-MNC values. ~~If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").~~In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

9 - 3GPP-GGSN MCC-MNC

	Bits							
Octets	8	7	6	5	4	3	2	1
1	3GPP type = 9							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 9

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 3̶8̶

GGSN address value: text

This is the UTF-8 encoding of the GGSN MCC-MNC values. ~~If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").~~ In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

End of modified section

<table>
<tr><td colspan="2" align="right">*CR-Form-v4*</td></tr>
</table>

	CR-Form-v4

CHANGE REQUEST

| ⌘ | **29.061** CR **031** | ⌘ ev **-** ⌘ | Current version: | **3.7.0** ⌘ |

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

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

Title: ⌘	Correction to 3GPP vendor specific attributes containing MCC-MNC	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 12-10-01
Category: ⌘ **A**		***Release:*** ⌘ R99

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

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

Reason for change: ⌘	To maintain consistency by ensuring that, where applicable, a 3GPP vendor specific attribute will be variable in length and not fixed in length.
Summary of change: ⌘	Modified the length of the attributes 3GPP-IMSI-MCC-MNC and 3GPP-GGSN-MCC-MNC by including n, where n will be either 7 or 8 octets in length depending on the length of MNC. Included an indication that MNC digit 3 may not be present. Added text to indicate that there will be no padding of characters between the MCC and MNC.
Consequences if not approved: ⌘	Inconsistency in the length description between 3GPP vendor specific attributes which have the possibility of being variable in length.

Clauses affected: ⌘	16.4.7
Other specs affected: ⌘	☐ Other core specifications ⌘
	☐ Test specifications
	☐ O&M Specifications
Other comments: ⌘	

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1) CR page 2

<div style="border:1px solid; text-align:center">Start of modified section</div>

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

8 - 3GPP-IMSI MCC-MNC

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 8							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 8

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 38

MS address value: text

This is the UTF-8 encoding of the MS MCC-MNC values. If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

9 - 3GPP-GGSN MCC-MNC

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 9							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 9

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 38

GGSN address value: text

This is the UTF-8 encoding of the GGSN MCC-MNC values. If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078"). In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

End of modified section

CR-Form-v4

CHANGE REQUEST

⌘	**29.061** CR **032**	⌘	ev	**-**	⌘	Current version:	**4.2.0**	⌘

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

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

Title: ⌘	Correction to 3GPP vendor specific attributes containing MCC-MNC	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 12-10-01

Category: ⌘ **A**	***Release:*** ⌘ REL-4

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

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

Reason for change: ⌘	To maintain consistency by ensuring that, where applicable, a 3GPP vendor specific attribute will be variable in length and not fixed in length.
Summary of change: ⌘	Modified the length of the attributes 3GPP-IMSI-MCC-MNC and 3GPP-GGSN-MCC-MNC by including n, where n will be either 7 or 8 octets in length depending on the length of MNC. Included an indication that MNC digit 3 may not be present. Added text to indicate that there will be no padding of characters between the MCC and MNC.
Consequences if not approved: ⌘	Inconsistency in the length description between 3GPP vendor specific attributes which have the possibility of being variable in length.

Clauses affected: ⌘	16.4.7

Other specs affected: ⌘	☐ Other core specifications	⌘	
	☐ Test specifications		
	☐ O&M Specifications		

Other comments: ⌘	

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1) CR page 2

<div style="border:1px solid">Start of modified section</div>

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

8 - 3GPP-*IMSI MCC-MNC*

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 8							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 8

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 38

MS address value: text

This is the UTF-8 encoding of the MS MCC-MNC values. If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078").In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

9 - 3GPP-*GGSN MCC-MNC*

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 9							
2	3GPP Length= n8							
3	MCC digit1 (UTF-8 encoded)							
4	MCC digit2 (UTF-8 encoded)							
5	MCC digit3 (UTF-8 encoded)							
6	MNC digit1 (UTF-8 encoded)							
7	MNC digit2 (UTF-8 encoded)							
8	MNC digit3 if present (UTF-8 encoded)							

3GPP Type: 9

Length: n shall be 7 or 8 octets depending on the presence of MNC digit 38

GGSN address value: text

This is the UTF-8 encoding of the GGSN MCC-MNC values. If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0', (e.g. "078"). In accordance with [24] and [40] the MCC shall be 3 digits and the MNC shall be either 2 or 3 digits. There shall be no padding characters between the MCC and MNC.

End of modified section

CR-Form-v4

CHANGE REQUEST

| ⌘ | **29.061** CR **030** | ⌘ | ev | **1** | ⌘ | Current version: | **4.2.0** | ⌘ |

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

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

Title: ⌘	Correction to 3GPP Vendor specify attribute 3GPP-IMSI	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001
Category: ⌘ **A**		***Release:*** ⌘ REL-4

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

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

Reason for change: ⌘	The octet length of the attribute is incorrect. The length of the attribute is fixed (17 octets) and does not consider that the IMSI may be less than 15 digits.
Summary of change: ⌘	Modified the attribute length to be m octets, where m represents the variable attribute length, as the IMSI may have a variable length of n to 15 digits. Modified the attribute encoding table to include the variable length indicator "m". Added text to indicate that padding in the GTP IE is to be removed if the IMSI is less than 15 digits.
Consequences if not approved: ⌘	The length of the attribute will be incorrect when an IMSI is less than 15 digits.

Clauses affected: ⌘	16
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
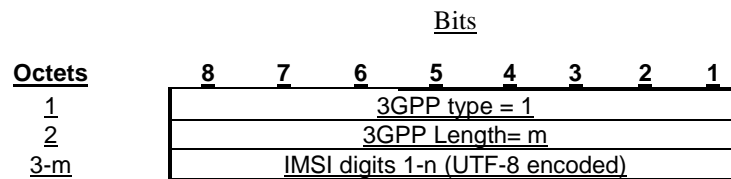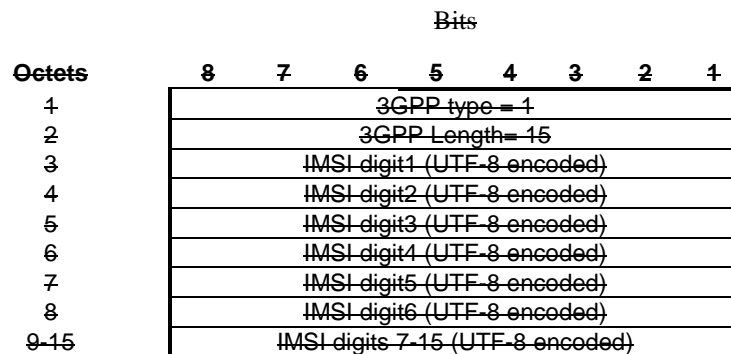
Start of modified section

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

The 3GPP specific attributes encoding is clarified below.

1 - 3GPP-IMSI

~~Bits~~

~~Octets~~	~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~
~~1~~	~~3GPP type = 1~~							
~~2~~	~~3GPP Length= 15~~							
~~3~~	~~IMSI digit1 (UTF-8 encoded)~~							
~~4~~	~~IMSI digit2 (UTF-8 encoded)~~							
~~5~~	~~IMSI digit3 (UTF-8 encoded)~~							
~~6~~	~~IMSI digit4 (UTF-8 encoded)~~							
~~7~~	~~IMSI digit5 (UTF-8 encoded)~~							
~~8~~	~~IMSI digit6 (UTF-8 encoded)~~							
~~9-15~~	~~IMSI digits 7-15 (UTF-8 encoded)~~							

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 1							
2	3GPP Length= m							
3-m	IMSI digits 1-n (UTF-8 encoded)							

3GPP Type: 1

n <=15

Length: m~~L~~ <=17

IMSI value: Text:

This is the UTF-8 encoded IMSI.~~; If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0',~~ ~~(e.g. "078")~~ The definition of IMSI shall be in accordance with [24] and [40]. There shall be no padding characters between the MCC and MNC, and between the MNC and MSIN. If the IMSI is less than 15 digits, the padding in the GTP information element shall be removed by the GGSN and not encoded in this sub-attribute.

End of modified section

CR-Form-v4

CHANGE REQUEST

| ⌘ | **29.061** CR **029** | ⌘ | ev | **1** | ⌘ | Current version: | **3.7.0** | ⌘ |

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

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

Title: ⌘	Correction to 3GPP Vendor specify attribute 3GPP-IMSI	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001
Category: ⌘ **A**		***Release:*** ⌘ R99

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: ⌘	The octet length of the attribute is incorrect. The length of the attribute is fixed (17 octets) and does not consider that the IMSI may be less than 15 digits.
Summary of change: ⌘	Modified the attribute length to be m octets, where m represents the variable attribute length, as the IMSI may have a variable length of n to 15 digits. Modified the attribute encoding table to include the variable length indicator "m". Added text to indicate that padding in the GTP IE is to be removed if the IMSI is less than 15 digits.
Consequences if not approved: ⌘	The length of the attribute will be incorrect when an IMSI is less than 15 digits.

Clauses affected: ⌘	16
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
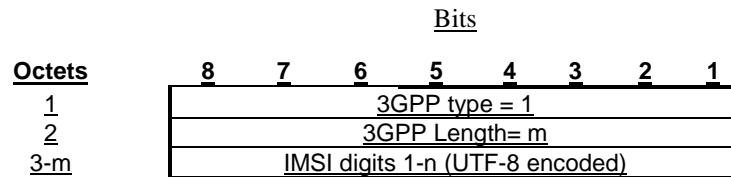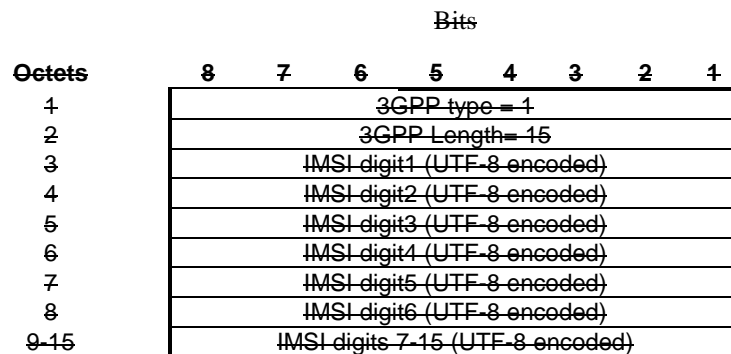
Start of modified section

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

The 3GPP specific attributes encoding is clarified below.

1 - 3GPP-*IMSI*

~~Bits~~

~~Octets~~	~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~
~~1~~	~~3GPP type = 1~~							
~~2~~	~~3GPP Length= 15~~							
~~3~~	~~IMSI digit1 (UTF-8 encoded)~~							
~~4~~	~~IMSI digit2 (UTF-8 encoded)~~							
~~5~~	~~IMSI digit3 (UTF-8 encoded)~~							
~~6~~	~~IMSI digit4 (UTF-8 encoded)~~							
~~7~~	~~IMSI digit5 (UTF-8 encoded)~~							
~~8~~	~~IMSI digit6 (UTF-8 encoded)~~							
~~9-15~~	~~IMSI digits 7-15 (UTF-8 encoded)~~							

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 1							
2	3GPP Length= m							
3-m	IMSI digits 1-n (UTF-8 encoded)							

3GPP Type: 1

n <=15

Length: mL <=17

IMSI value: Text:

This is the UTF-8 encoded IMSI.~~; If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0',~~ ~~(e.g. "078")~~ The definition of IMSI shall be in accordance with [24] and [40]. There shall be no padding characters between the MCC and MNC, and between the MNC and MSIN. If the IMSI is less than 15 digits, the padding in the GTP information element shall be removed by the GGSN and not encoded in this sub-attribute.

End of modified section

CR-Form-v4

CHANGE REQUEST

	⌘	**09.61** CR **A024**	⌘	ℛev	**1**	⌘	Current version:	**7.4.0**	⌘

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

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

Title:	⌘	Correction to 3GPP Vendor specify attribute 3GPP-IMSI
Source:	⌘	CN3
Work item code:	⌘	GPRS ***Date:*** ⌘ 17.10.2001
Category:	⌘	**A** ***Release:*** ⌘ R98

Use one of the following categories:	*Use one of the following releases:*
F (correction)	*2 (GSM Phase 2)*
A (corresponds to a correction in an earlier release)	*R96 (Release 1996)*
B (addition of feature),	*R97 (Release 1997)*
C (functional modification of feature)	*R98 (Release 1998)*
D (editorial modification)	*R99 (Release 1999)*
Detailed explanations of the above categories can	*REL-4 (Release 4)*
be found in 3GPP TR 21.900.	*REL-5 (Release 5)*

Reason for change:	⌘	The octet length of the attribute is incorrect. The length of the attribute is fixed (17 octets) and does not consider that the IMSI may be less than 15 digits.
Summary of change:	⌘	Modified the attribute length to be m octets, where m represents the variable attribute length, as the IMSI may have a variable length of n to 15 digits. Modified the attribute encoding table to include the variable length indicator "m". Added text to indicate that padding in the GTP IE is to be removed if the IMSI is less than 15 digits.
Consequences if not approved:	⌘	The length of the attribute will be incorrect when an IMSI is less than 15 digits.

Clauses affected:	⌘	16
Other specs affected:	⌘	☐ Other core specifications ⌘
		☐ Test specifications
		☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Start of modified section

16.4.7   Sub-attributes of the 3GPP Vendor-Specific attribute

...

The 3GPP specific attributes encoding is clarified below.

1 - 3GPP-IMSI

~~Bits~~

~~Octets~~	~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~
~~1~~	~~3GPP type = 1~~							
~~2~~	~~3GPP Length= 15~~							
~~3~~	~~IMSI digit1 (UTF-8 encoded)~~							
~~4~~	~~IMSI digit2 (UTF-8 encoded)~~							
~~5~~	~~IMSI digit3 (UTF-8 encoded)~~							
~~6~~	~~IMSI digit4 (UTF-8 encoded)~~							
~~7~~	~~IMSI digit5 (UTF-8 encoded)~~							
~~8~~	~~IMSI digit6 (UTF-8 encoded)~~							
~~9-15~~	~~IMSI digits 7-15 (UTF-8 encoded)~~							

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 1							
2	3GPP Length= m							
3-m	IMSI digits 1-n (UTF-8 encoded)							

3GPP Type: 1

n <=15

Length: mL <=17

IMSI value: Text:

This is the UTF-8 encoded IMSI.~~; If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0',~~ ~~(e.g. "078")~~ The definition of IMSI shall be in accordance with [24] and [40]. There shall be no padding characters between the MCC and MNC, and between the MNC and MSIN. If the IMSI is less than 15 digits, the padding in the GTP information element shall be removed by the GGSN and not encoded in this sub-attribute.

End of modified section

CR-Form-v4

CHANGE REQUEST

| ⌘ | **09.61** CR **A023** | ⌘ | ℮v | **1** | ⌘ | Current version: | **6.5.0** | ⌘ |

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

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

Title: ⌘	Correction to 3GPP Vendor specify attribute 3GPP-IMSI	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001
Category: ⌘	**F**	***Release:*** ⌘ R97

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: ⌘	The octet length of the attribute is incorrect. The length of the attribute is fixed (17 octets) and does not consider that the IMSI may be less than 15 digits.
Summary of change: ⌘	Modified the attribute length to be m octets, where m represents the variable attribute length, as the IMSI may have a variable length of n to 15 digits. Modified the attribute encoding table to include the variable length indicator "m". Added text to indicate that padding in the GTP IE is to be removed if the IMSI is less than 15 digits.
Consequences if not approved: ⌘	The length of the attribute will be incorrect when an IMSI is less than 15 digits.

Clauses affected: ⌘	16
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
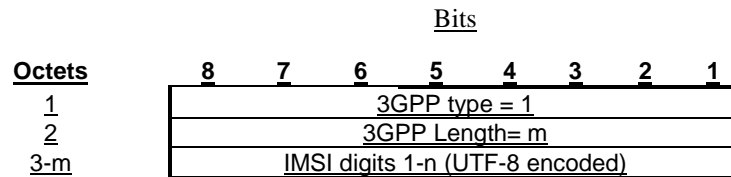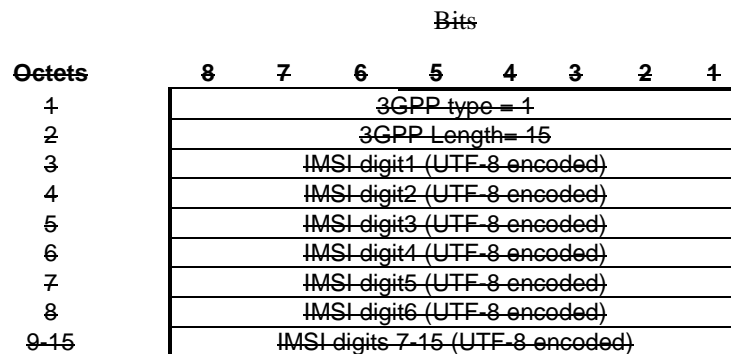
Start of modified section

16.4.7 Sub-attributes of the 3GPP Vendor-Specific attribute

...

The 3GPP specific attributes encoding is clarified below.

1 - 3GPP-IMSI

~~Bits~~

~~Octets~~	~~8~~	~~7~~	~~6~~	~~5~~	~~4~~	~~3~~	~~2~~	~~1~~
~~1~~	~~3GPP type = 1~~							
~~2~~	~~3GPP Length= 15~~							
~~3~~	~~IMSI digit1 (UTF-8 encoded)~~							
~~4~~	~~IMSI digit2 (UTF-8 encoded)~~							
~~5~~	~~IMSI digit3 (UTF-8 encoded)~~							
~~6~~	~~IMSI digit4 (UTF-8 encoded)~~							
~~7~~	~~IMSI digit5 (UTF-8 encoded)~~							
~~8~~	~~IMSI digit6 (UTF-8 encoded)~~							
~~9-15~~	~~IMSI digits 7-15 (UTF-8 encoded)~~							

Bits

Octets	8	7	6	5	4	3	2	1
1	3GPP type = 1							
2	3GPP Length= m							
3-m	IMSI digits 1-n (UTF-8 encoded)							

3GPP Type: 1

n <=15

Length: mL <=17

IMSI value: Text:

This is the UTF-8 encoded IMSI.~~; If the MNC is only 2 digits (e.g. MNC = 78), its encoding shall be with a leading '0',~~ ~~(e.g. "078")~~ The definition of IMSI shall be in accordance with [24] and [40]. There shall be no padding characters between the MCC and MNC, and between the MNC and MSIN. If the IMSI is less than 15 digits, the padding in the GTP information element shall be removed by the GGSN and not encoded in this sub-attribute.

End of modified section

CR-Form-v4

CHANGE REQUEST

| ⌘ | **29.061** CR **028** | ⌘ | rev | **1** | ⌘ | Current version: | **4.2.0** | ⌘ |

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

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

Title: ⌘	Correction to the Calling-Station-Id attribute	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001

Category: ⌘ **A**	***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: ⌘	Under certain circumstances, e.g. where a subscriber has withheld their Calling Line Identity (CLI), the MSISDN may, depending on privacy laws within specific countries, not be allowed to pass outside of the PLMN. Currently, the presence requirement associated with the attribute is mandatory. This is incorrect, it should be specified as optional in order to cater for the circumstances as explained.
Summary of change: ⌘	The presence requirement of the attribute has been changed from mandatory to optional. Text has been added to the attribute description in order to clarify that the attribute is configurable per APN.
Consequences if not approved: ⌘	The MSISDN will be sent outside of the PLMN when not allowed to do so.

Clauses affected: ⌘	16
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

<div align="center">Start of modified sections</div>

16.4.1 Access-Request message (sent from the GGSN to AAA server)

The table below describes the attributes of the Access-Request message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username is provided by the user (extracted from the Protocol Configuration Options (PCO) field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present.	String	Mandatory
2	User-Password	User password provided by the user if PAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no password is available a generic password, configurable on a per APN basis, shall be present.	String	Conditional Note 1
3	CHAP-Password	User password provided by the user if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed-Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	IP address allocated for this user	IPv4	Conditional
9	Framed-IP-Netmask	Netmask for the user IP address	IPv4	Conditional
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
60	CHAP-Challenge	Challenge if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

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<div align="center">Next modified section</div>

16.4.3 Accounting-Request START (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request START message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	GGSN IP address for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Conditional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Type of accounting message	START	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time (in seconds) of the event generating this Accounting-Request.	32 unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7.	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

Next modified section

16.4.4 Accounting Request STOP (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request STOP message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Optional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded. Note that there are no leading characters in front of the country code.	Optional~~Manda tory~~
40	Acct-Status-Type	Indicates the type of accounting request	STOP	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time of the event generating this Accounting-Request	Second	Optional
42	Acct-Input-Octets	GGSN counted number of octets sent by the user for the PDP context	32 bit unsigned integer	Optional
43	Acct-Output-Octets	GGSN counted number of octets received by the user for the PDP context	32 bit unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
46	Acct-Session-Time	Duration of the session	Second	Optional
47	Acct-Input-Packets	GGSN counted number of packets sent by the user	Packet	Optional
48	Acct-Output-Packets	GGSN counted number of packets received by the user	Packet	Optional
49	Acct-Terminate-Cause	Indicate how the session was terminated	See RFC 2866	Optional

| 61 | NAS-Port-Type | Port type for the GGSN | As per RFC 2865 | Optional |
| 26/10415 | 3GPP Vendor-Specific | Sub-attributes according to sub-clause 16.4.7. | See sub-clause 16.4.7 | Optional except sub-attribute 3 which is conditional |

<div align="center">

End of modified sections

</div>

CR-Form-v4

CHANGE REQUEST

⌘ **29.061** CR **027** ⌘ ev **1** ⌘ Current version: **3.7.0** ⌘

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

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

Title: ⌘	Correction to the Calling-Station-Id attribute	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001

Category: ⌘ **A**		***Release:*** ⌘ R99

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: ⌘	Under certain circumstances, e.g. where a subscriber has withheld their Calling Line Identity (CLI), the MSISDN may, depending on privacy laws within specific countries, not be allowed to pass outside of the PLMN. Currently, the presence requirement associated with the attribute is mandatory. This is incorrect, it should be specified as optional in order to cater for the circumstances as explained.
Summary of change: ⌘	The presence requirement of the attribute has been changed from mandatory to optional. Text has been added to the attribute description in order to clarify that the attribute is configurable per APN.
Consequences if not approved: ⌘	The MSISDN will be sent outside of the PLMN when not allowed to do so.

Clauses affected: ⌘	16

Other specs affected: ⌘	☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Start of modified sections

16.4.1 Access-Request message (sent from the GGSN to AAA server)

The table below describes the attributes of the Access-Request message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username is provided by the user (extracted from the Protocol Configuration Options (PCO) field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present.	String	Mandatory
2	User-Password	User password provided by the user if PAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no password is available a generic password, configurable on a per APN basis, shall be present.	String	Conditional Note 1
3	CHAP-Password	User password provided by the user if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed-Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	IP address allocated for this user	IPv4	Conditional
9	Framed-IP-Netmask	Netmask for the user IP address	IPv4	Conditional
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
60	CHAP-Challenge	Challenge if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

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Next modified section

16.4.3   Accounting-Request START (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request START message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	GGSN IP address for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Conditional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Type of accounting message	START	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time (in seconds) of the event generating this Accounting-Request.	32 unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7.	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

Next modified section

16.4.4 Accounting Request STOP (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request STOP message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Optional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Indicates the type of accounting request	STOP	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time of the event generating this Accounting-Request	Second	Optional
42	Acct-Input-Octets	GGSN counted number of octets sent by the user for the PDP context	32 bit unsigned integer	Optional
43	Acct-Output-Octets	GGSN counted number of octets received by the user for the PDP context	32 bit unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
46	Acct-Session-Time	Duration of the session	Second	Optional
47	Acct-Input-Packets	GGSN counted number of packets sent by the user	Packet	Optional
48	Acct-Output-Packets	GGSN counted number of packets received by the user	Packet	Optional
49	Acct-Terminate-Cause	Indicate how the session was terminated	See RFC 2866	Optional

| 61 | NAS-Port-Type | Port type for the GGSN | As per RFC 2865 | Optional |
| 26/10415 | 3GPP Vendor-Specific | Sub-attributes according to sub-clause 16.4.7. | See sub-clause 16.4.7 | Optional except sub-attribute 3 which is conditional |

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End of modified sections

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CR-Form-v4

CHANGE REQUEST

⌘	**09.61** CR **A022**	⌘	rev **1**	⌘	Current version:	**7.4.0**	⌘

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

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

Title:	⌘	Correction to the Calling-Station-Id attribute
Source:	⌘	CN3
Work item code: ⌘	GPRS	***Date:*** ⌘ 17.10.2001
Category: ⌘ **A**		***Release:*** ⌘ R98

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

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

Reason for change:	⌘	Under certain circumstances, e.g. where a subscriber has withheld their Calling Line Identity (CLI), the MSISDN may, depending on privacy laws within specific countries, not be allowed to pass outside of the PLMN. Currently, the presence requirement associated with the attribute is mandatory. This is incorrect, it should be specified as optional in order to cater for the circumstances as explained.
Summary of change: ⌘		The presence requirement of the attribute has been changed from mandatory to optional. Text has been added to the attribute description in order to clarify that the attribute is configurable per APN.
Consequences if not approved:	⌘	The MSISDN will be sent outside of the PLMN when not allowed to do so.

Clauses affected:	⌘	16
Other specs affected:	⌘ ☐	Other core specifications ⌘
	☐	Test specifications
	☐	O&M Specifications
Other comments:	⌘	

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

16.4.1   Access-Request message (sent from the GGSN to AAA server)

The table below describes the attributes of the Access-Request message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username is provided by the user (extracted from the Protocol Configuration Options (PCO) field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present.	String	Mandatory
2	User-Password	User password provided by the user if PAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no password is available a generic password, configurable on a per APN basis, shall be present.	String	Conditional Note 1
3	CHAP-Password	User password provided by the user if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed-Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	IP address allocated for this user	IPv4	Conditional
9	Framed-IP-Netmask	Netmask for the user IP address	IPv4	Conditional
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
60	CHAP-Challenge	Challenge if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

16.4.3   Accounting-Request START (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request START message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	GGSN IP address for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Conditional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Type of accounting message	START	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time (in seconds) of the event generating this Accounting-Request.	32 unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7.	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

Next modified section

16.4.4　Accounting Request STOP (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request STOP message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Optional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Indicates the type of accounting request	STOP	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time of the event generating this Accounting-Request	Second	Optional
42	Acct-Input-Octets	GGSN counted number of octets sent by the user for the PDP context	32 bit unsigned integer	Optional
43	Acct-Output-Octets	GGSN counted number of octets received by the user for the PDP context	32 bit unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
46	Acct-Session-Time	Duration of the session	Second	Optional
47	Acct-Input-Packets	GGSN counted number of packets sent by the user	Packet	Optional
48	Acct-Output-Packets	GGSN counted number of packets received by the user	Packet	Optional
49	Acct-Terminate-Cause	Indicate how the session was terminated	See RFC 2866	Optional

| 61 | NAS-Port-Type | Port type for the GGSN | As per RFC 2865 | Optional |
| 26/10415 | 3GPP Vendor-Specific | Sub-attributes according to sub-clause 16.4.7. | See sub-clause 16.4.7 | Optional except sub-attribute 3 which is conditional |

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End of modified sections

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CR-Form-v4

CHANGE REQUEST

⌘ **09.61** CR **A021** ⌘ ev **1** ⌘ Current version: **6.5.0** ⌘

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

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

Title: ⌘	Correction to the Calling-Station-Id attribute	
Source: ⌘	CN3	
Work item code: ⌘	GPRS	*Date:* ⌘ 17.10.2001

Category: ⌘ **F**

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

Release: ⌘ R97

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

Reason for change: ⌘	Under certain circumstances, e.g. where a subscriber has withheld their Calling Line Identity (CLI), the MSISDN may, depending on privacy laws within specific countries, not be allowed to pass outside of the PLMN. Currently, the presence requirement associated with the attribute is mandatory. This is incorrect, it should be specified as optional in order to cater for the circumstances as explained.
Summary of change: ⌘	The presence requirement of the attribute has been changed from mandatory to optional. Text has been added to the attribute description in order to clarify that the attribute is configurable per APN.
Consequences if not approved: ⌘	The MSISDN will be sent outside of the PLMN when not allowed to do so.

Clauses affected: ⌘	16
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

	Start of modified sections	

16.4.1   Access-Request message (sent from the GGSN to AAA server)

The table below describes the attributes of the Access-Request message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username is provided by the user (extracted from the Protocol Configuration Options (PCO) field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present.	String	Mandatory
2	User-Password	User password provided by the user if PAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no password is available a generic password, configurable on a per APN basis, shall be present.	String	Conditional Note 1
3	CHAP-Password	User password provided by the user if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed-Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	IP address allocated for this user	IPv4	Conditional
9	Framed-IP-Netmask	Netmask for the user IP address	IPv4	Conditional
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
60	CHAP-Challenge	Challenge if CHAP is used (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used).	String	Conditional Note 2
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

	Next modified section	

16.4.3   Accounting-Request START (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request START message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	GGSN IP address for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Conditional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded decimal. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Type of accounting message	START	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time (in seconds) of the event generating this Accounting-Request.	32 unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
61	NAS-Port-Type	Port type for the GGSN	As per RFC 2865	Optional
26/10415	3GPP Vendor-Specific	Sub-attributes according sub-clause 16.4.7.	See sub-clause 16.4.7	Optional except sub-attribute 3 which is conditional

Next modified section

16.4.4   Accounting Request STOP (sent from GGSN to AAA server)

The table below describes the attributes of the Accounting-Request STOP message.

Attr #	Attribute Name	Description	Content	Presence Requirement
1	User-Name	Username provided by the user (extracted from the PCO field of the Create PDP Context Request message) or PPP authentication phase (if PPP PDP type is used). If no username is available a generic username, configurable on a per APN basis, shall be present. If the User-Name has been received in the Access-Accept message, this user-name shall be used in preference to the above	String	Optional
4	NAS-IP-Address	IP address of the GGSN for communication with the AAA server.	IPv4	Conditional Note 3
32	NAS-Identifier	Hostname of the GGSN for communication with the AAA server.	String	Conditional Note 3
6	Service-Type	Indicates the type of service for this user	Framed	Optional
7	Framed Protocol	Indicates the type of protocol for this user	7 (GPRS PDP Context)	Optional
8	Framed-IP-Address	User IP address	IPv4	Mandatory
25	Class	Received in the access accept	String	Optional (NOTE 4)
30	Called-Station-Id	Identifier for the target network	APN (UTF-8 encoded)	Mandatory
31	Calling-Station-Id	~~Identifier for the MS~~ This attribute is the identifier for the MS, and it shall be configurable on a per APN basis.	MSISDN in international format according to 3GPP TS 23.003, UTF-8 encoded. Note that there are no leading characters in front of the country code.	Optional~~Mandatory~~
40	Acct-Status-Type	Indicates the type of accounting request	STOP	Mandatory
41	Acct-Delay-Time	Indicates how many seconds the GGSN has been trying to send this record for, and can be subtracted from the time of arrival on the AAA server to find the approximate time of the event generating this Accounting-Request	Second	Optional
42	Acct-Input-Octets	GGSN counted number of octets sent by the user for the PDP context	32 bit unsigned integer	Optional
43	Acct-Output-Octets	GGSN counted number of octets received by the user for the PDP context	32 bit unsigned integer	Optional
44	Acct-Session-Id	User session identifier.	GGSN IP address and Charging-ID concatenated in a UTF-8 encoded hexadecimal. NOTE: The GGSN IP address is the same as that used in the GCDRs.	Mandatory
45	Acct-Authentic	Authentication method	RADIUS or LOCAL	Optional
46	Acct-Session-Time	Duration of the session	Second	Optional
47	Acct-Input-Packets	GGSN counted number of packets sent by the user	Packet	Optional
48	Acct-Output-Packets	GGSN counted number of packets received by the user	Packet	Optional
49	Acct-Terminate-Cause	Indicate how the session was terminated	See RFC 2866	Optional

| 61 | NAS-Port-Type | Port type for the GGSN | As per RFC 2865 | Optional |
| 26/10415 | 3GPP Vendor-Specific | Sub-attributes according to sub-clause 16.4.7. | See sub-clause 16.4.7 | Optional except sub-attribute 3 which is conditional |

<div align="center">

End of modified sections

</div>