Technical Specification Group Services and System Aspects
Meeting #19, Birmingham, UK, 17-20 March 2003

**TSGS#19(03)0053**

**Source:** **SA5 (Telecom Management)**

**Title:** **3 Rel-99/4/5 CRs 32.015/32.200 (PS/Bearer Charging): "Correction of M-CDR usage"**

**Document for:** **Approval**

**Agenda Item:** **7.5.3**

| Doc-1st-Level | Spec | CR | Rev | Phase | Subject | Cat | Version-Current | Doc-2nd-Level | Workitem |
|---|---|---|---|---|---|---|---|---|---|
| SP-030053 | 32.015 | 038 | - | R99 | **Correction of M-CDR usage - alignment with SA2's 23.060** | F | 3.10.0 | S5-034156 | OAM-CH |
| SP-030053 | 32.200 | 019 | - | Rel-4 | **Correction of M-CDR usage - alignment with SA2's 23.060** | A | 4.3.0 | S5-034157 | OAM-CH |
| SP-030053 | 32.200 | 020 | - | Rel-5 | **Correction of M-CDR usage - alignment with SA2's 23.060** | A | 5.2.0 | S5-034158 | OAM-CH |

**3GPP TSG-SA5 (Telecom Management)** **S5-034156**
**Meeting #33, Phoenix, USA, 24-28 February 2003**

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# CHANGE REQUEST

⌘ **32.015** **CR** **038** ⌘ **rev** **-** ⌘ Current version: **3.10.0** ⌘

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

***Proposed change affects:*** UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction of M-CDR usage - alignment with SA2's 23.060 |
| ***Source:*** | ⌘ | S5 |
| ***Work item code:*** | ⌘ | OAM-CH |
| ***Date:*** | ⌘ | 28/02/2003 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | R99 |

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***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)*
*Rel-6 (Release 6)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | Recording of mobility management information in the M-CDR is not correctly described. |
| ***Summary of change:*** | ⌘ | The limitations when using the M-CDR in a 3G or combined 2G/3G SGSN are clarified. |
| ***Consequences if not approved:*** | ⌘ | The specification will contain ambiguous information regarding information collected in the M-CDR which may result in billing errors. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.6.2 |

| ***Other specs affected:*** ⌘ | Y | N | |
|---|---|---|---|
| | | X | Other core specifications |
| | | X | Test specifications |
| | | X | 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.

**Change in Clause 5.6.2**

## 5.6.2 Triggers for M-CDR Charging Information Collection

An M-CDR is used to collect charging information related to the mobility management of a GPRS mobile in the SGSN.

An M-CDR shall be opened for each GPRS mobile upon GPRS Attach, and record details such as Record Type, Served IMSI, Sequence Number etc. Not all of the charging information to be collected is static, and other charging information is directly dependent on the mobility of the MS as provided by the Radio Access Network (RAN). Subsequent partial records may be opened if the M-CDR is closed and the MS is still attached to the network.

The subsequent subclauses identify the conditions for adding information to, and closing of the M-CDR for generation towards the CGF.

NOTE: In case of a 3G or a combined 2G/3G SGSN, the specified mobility management handling implies that not every routing area update is captured by the core network, depending on the mobility management state of the UE. This may result in e.g. not every change of Routing Area being recorded in the M-CDR. For more information about mobility management procedures in GPRS, see TS 23.060 [8].

**End of Change in Clause 5.6.2**

**3GPP TSG-SA5 (Telecom Management)** **S5-034157**
**Meeting #33, Phoenix, USA, 24-28 February 2003**

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# CHANGE REQUEST

⌘ **32.200** **CR** **019** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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***Proposed change affects:*** UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction of M-CDR usage - alignment with SA2's 23.060 |
| ***Source:*** | ⌘ | S5 |
| ***Work item code:*** | ⌘ | OAM-CH |
| ***Date:*** | ⌘ | 28/02/2003 |
| ***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)*
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*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)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | Recording of mobility management information in the M-CDR is not correctly described. |
| ***Summary of change:*** | ⌘ | The limitations when using the M-CDR in a 3G or combined 2G/3G SGSN are clarified. |
| ***Consequences if not approved:*** | ⌘ | The specification will contain ambiguous information regarding information collected in the M-CDR which may result in billing errors. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 2, 6.2.1.2 |

| ***Other specs affected:*** | ⌘ | Y | N | |
|---|---|---|---|---|
| | | | X | Other core specifications |
| | | | X | Test specifications |
| | | | X | O&M Specifications |

⌘

| | | |
|---|---|---|
| ***Other comments:*** | ⌘ | |

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**Change in Clause 2**

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
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...

[23] 3GPP TS 24.086: "Advice of charge (AoC) supplementary services - Stage 3".

[24] 3GPP TS 23.060: “General Packet Radio Service (GPRS); Service description; Stage 2".

**End of Change in Clause 2**

**Change in Clause 6.2.1.2**

## 6.2.1.2 Triggers for M-CDR Charging Information Collection

An M-CDR is used to collect charging information related to the mobility management of a mobile in the SGSN.

An M-CDR shall be opened for each mobile upon GPRS Attach, and record details such as Record Type, Served IMSI, Sequence Number etc. Not all of the charging information to be collected is static, and other charging information is directly dependent on the mobility of the MS as provided by the Radio Access Network (RAN). Subsequent partial records may be opened if the M-CDR is closed and the MS is still attached to the network.

The subsequent clauses identify the conditions for adding information to, and closing of the M-CDR for generation towards the CGF.

NOTE: In case of a 3G or a combined 2G/3G SGSN, the specified mobility management handling implies that not every routing area update is captured by the core network, depending on the mobility management state of the UE. This may result in e.g. not every change of Routing Area being recorded in the M-CDR. For more information about mobility management procedures in GPRS, see TS 23.060 [24].

**End of Change in Clause 6.2.1.2**

**3GPP TSG-SA5 (Telecom Management)** **S5-034158**
**Meeting #33, Phoenix, USA, 24-28 February 2003**

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# CHANGE REQUEST

⌘ **32.200** **CR** **020** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

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

***Proposed change affects:*** UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction of M-CDR usage - alignment with SA2's 23.060 |
| ***Source:*** | ⌘ | S5 |
| ***Work item code:*** | ⌘ | OAM-CH |
| ***Date:*** | ⌘ | 28/02/2003 |
| ***Category:*** | ⌘ | **A** |
| ***Release:*** | ⌘ | Rel-5 |

*Use one of the following categories:*
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*R98 (Release 1998)*
*R99 (Release 1999)*
*Rel-4 (Release 4)*
*Rel-5 (Release 5)*
*Rel-6 (Release 6)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | Recording of mobility management information in the M-CDR is not correctly described. |
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| ***Consequences if not approved:*** | ⌘ | The specification will contain ambiguous information regarding information collected in the M-CDR which may result in billing errors. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 2, 6.2.1.2 |

***Other specs affected:*** ⌘

| Y | N | |
|---|---|---|
| | X | Other core specifications |
| | X | Test specifications |
| | X | O&M Specifications |

⌘

***Other comments:*** ⌘

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**Change in Clause 2**

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[1] 3GPP TS 22.101: "Service aspects; Service Principles".

[2] 3GPP TS 22.115 "Service aspects; Charging and Billing".

[3] 3GPP TS 32.101 "3G Telecom Management: Principles and high level requirements".

[4] 3GPP TS 32.102 "3G Telecom Management architecture".

[5] 3GPP TS 32.205: "Telecommunication management; Charging management; 3G charging data description for the Circuit Switched (CS) domain".

[6] 3GPP TS 32.215: "3G Telecom Management; Charging management; Charging data description for the Packet Switched (PS) domain".

[7] 3GPP TS 22.024: "Description of Charge Advice Information (CAI)".

[8] 3GPP TS 22.086: "Advice of charge (AoC) supplementary services - Stage 1".

[9] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core Network Protocols; Stage 3".

[10] GSM 12.00: "Digital cellular telecommunication system (Phase 2); Network Management (NM); Part 1: Objectives and structure of network management".

[11] GSM 12.01: "Digital cellular telecommunication system (Phase 2); Network Management (NM); Part 2: Common aspects of GSM/DCS 1800 network management".

[12] 3GPP TS 29.060: "General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp Interface".

[13] 3GPP TS 23.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL) - Phase 3; Stage 2".

[14] 3GPP TS 29.078: "Customised Application for Mobile network Enhanced Logic (CAMEL) Phase 3; CAMEL Application Part (CAP) specification".

[15] IETF RFC 959 (1985): "File Transfer Protocol"; J. Postel, J. Reynolds, ISI.

[16] IETF RFC 783 (1981): "TFTP Protocol (revision 2)"; K.R. Sollins MIT.

[17] 3GPP TS 32.235: "Telecommunication management; Charging management; Charging data description for application services".

[18] ITU-T Recommendation D.93: "Charging and accounting in the international land mobile telephone service (provided via cellular radio systems)".

[19] 3GPP TS 23 140: "Multimedia Messaging Service (MMS); Functional Description; Stage 2".

[20] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[21] 3GPP TS 23.002: "Network Architecture (Release 4)".

[22] 3GPP TS 23.009: "Handover Procedures".

[23] 3GPP TS 24.086: "Advice of charge (AoC) supplementary services - Stage 3".

[24] 3GPP TS 32.225: " Telecommunications management; Charging management; Charging Data Description for IP Multimedia Subsystem".

[25] 3GPP TS 23.060: “General Packet Radio Service (GPRS); Service description; Stage 2".

**End of Change in Clause 6.2.1.2**

**Change in Clause 6.2.1.2**

### 6.2.1.2 Triggers for M-CDR Charging Information Collection

An M-CDR is used to collect charging information related to the mobility management of a mobile in the SGSN.

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**End of Change in Clause 6.2.1.2**