**3GPP TSG-SA5 Meeting #155 *S5-242859rev1***

**Jeju, South Korea, 27 - 31 May 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Rel-18 CR TS 32.297 Introduction of TS 28.203 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MATRIXX Software | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NETSLICE\_CH\_Ph2 | | | | |  | ***Date:*** | | | 2024-05-14 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | CHF CDRs for Network Slice Admission Control charging and Bnsac need to be introduced. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add TS 28.203 for CDR header related to Network Slice Admission Control charging CHF CDRs  Correct typo in 5.1.2 title | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Network Slice Admission Control charging CHF CDRs cannot be transferred to the Billing System | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.2, 4, 5.1.2, 6.1.2.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR needs to be implemented before CR#0043 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision of S5-242859 | | | | | | | | |

|  |
| --- |
| **First change** |

# 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, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 32.240: "Telecommunication management; Charging management; Charging architecture and principles".

[2] - [9] Void.

[10] 3GPP TS 32.250: "Telecommunication management; Charging management; Circuit Switched (CS) domain charging".

[11] 3GPP TS 32.251: "Telecommunication management; Charging management; Packet Switched (PS) domain charging".

[12] Void.

[13] 3GPP TS 32.253: "Telecommunication management; Charging management; Control Plane (CP) data transfer domain charging".

[14] 3GPP TS 32.254: "Telecommunication management; Charging management; Exposure function Northbound Application Program Interfaces (APIs) charging".

[15] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G Data connectivity domain charging; stage 2".

[16] 3GPP TS 32.256: "Charging management; 5G connection and mobility domain charging; Stage 2".

[17] 3GPP TS 32.257: "Telecommunication management; Charging management; Edge computing domain charging; stage 2".

[18] - [19] Void

[20] 3GPP TS 32.260: "Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging".

[21] - [29] Void.

[30] 3GPP TS 32.270: "Telecommunication management; Charging management; Multimedia Messaging Service (MMS) charging".

[31] 3GPP TS 32.271: "Telecommunication management; Charging management; Location Services (LCS) charging".

[32] 3GPP TS 32.272: "Telecommunication management; Charging management; Push-to-talk over Cellular (PoC) charging".

[33] 3GPP TS 32.273: "Telecommunication management; Charging management; Multimedia Broadcast and Multicast Service (MBMS) charging".

[34] 3GPP TS 32.274: "Telecommunication management; Charging management; Short Message Service (SMS) charging".

[35] 3GPP TS 32.275: "Telecommunication management; Charging management; Multimedia Telephony (MMTel) charging".

[36] Void.

[37] 3GPP TS 32.277: "Telecommunication management; Charging management; Proximity-based Services (ProSe) Charging".

[38] 3GPP TS 32.278: "Telecommunication management; Charging management; Monitoring Event charging".

[39] - [42] Void.

[43] 3GPP TS 32.282: "Charging management; Time-Sensitive Networking (TSN) charging".

[44] - [50] Void.

[50] 3GPP TS 32.299: "Telecommunication management; Charging management; Diameter charging application".

[51] 3GPP TS 32.298: "Telecommunication management; Charging management; Charging Data Record (CDR) encoding rules description".

[52] Void.

[53] 3GPP TS 32.296: "Telecommunication management; Charging management; Online Charging System (OCS) applications and interfaces".

[54] 3GPP TS 32.295: "Telecommunication management; Charging management; Charging Data Record (CDR) transfer".

[55] - [56] Void.

[57] 3GPP TS 32.290: "Telecommunication management; Charging management; 5G system; Services, operations and procedures of charging using Service Based Interface (SBI)".

[58] 3GPP TS 32.291: "Telecommunication management; Charging management; 5G system; Charging service, stage 3".

[59] - [99] Void.

[100] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[101] 3GPP TS 22.115: "Service aspects; Charging and billing".

[102] - [199] Void.

[200] 3GPP TS 23.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL); Stage 2".

[201] 3GPP TS 32.341: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP); Requirements".

[202] 3GPP TS 32.342: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP); Information Service (IS)".

[203] 3GPP TS 32.343: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

[204] 3GPP TS 32.344: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP); Common Management Information Protocol (CMIP) Solution Set (SS)".

[205] - [299] Void

[300] 3GPP TS 28.201: "Charging management; Network slice performance and analytics charging in the 5G System (5GS); Stage 2".

[301] 3GPP TS 28.202: "Charging management; Network slice management charging in the 5G System (5GS); Stage 2

[302] 3GPP TS 28.203: "Charging management; Network slice admission control charging in the 5G System (5GS)".

[30x] - [399] Void

[400] IETF RFC 959 (1985): "File Transfer Protocol".

[401] ATIS-PP-0300075.1.200X "Usage Data Management for Packet-Based Services - Service Neutral Protocol Specification for Billing Applications"

[402] IPDR "IPDR/File Transfer Protocol".

[403] IPDR "IPDR/SP Protocol Specification".

|  |
| --- |
| **Next change** |

## 3.2 Symbols

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

Bam Reference point for the CDR file transfer from the 5G connection and mobility CGF to the BD.

Bc Reference point for the CDR file transfer from the Circuit Switched CGF to the BD.

Bcp Reference point for the CDR file transfer from the CP data transfer CGF to the BD.

Bd Reference point for the CDR file transfer from the 5G Data Connectivity CGF to the BD.

Bea Reference point for the CDR file transfer from the Exposure function API CGF to the BD.

Bec Reference point for the CDR file transfer from the Edge Computing CGF to the BD.

Bi Reference point for the CDR file transfer from the IMS CGF to the BD.

Bl Reference point for the CDR file transfer from the GMLC CGF to the BD.

Bm Reference point for the CDR file transfer from the MMS CGF to the BD.

Bmb Reference point for the CDR file transfer from the MBMS CGF to the BD.

Bmn Reference point for the CDR file transfer from the Monitoring Event CGF to the BD.

Bns Reference point for the CDR file transfer from the Network slice CGF to the BD.

Bnsac Reference point for the CDR file transfer from the NSACF CGF to the BD.

Bo Reference point for the CDR file transfer from the OCF CGF to the BD.

Bp Reference point for the CDR file transfer from the Packet Switched CGF to the BD.

Bpr Reference point for CDR file transfer between ProSe CGF and the BD.

Bs Reference point for the CDR file transfer for CAMEL services to the BD, i.e. from the SCF CGF to the BD.

Bsm Reference point for the CDR file transfer from SMS CGF to the BD

Bt Reference point for the CDR file transfer from the PoC CGF to the BD.

Btsn Reference point for the CDR file transfer from the TSN CGF to the BD.

Bw Reference point for the CDR file transfer from the WLAN CGF to the BD (discontinued in Release 12).

Bx Reference point for CDR file transfer between any (generic) 3G domain, subsystem or service CGF and the BD.

Ga Reference point for CDR transfer between a CDF and the CGF.

Rf Offline Charging Reference Point between the CTF within a 3G network entity and the CDF.

|  |
| --- |
| **Next change** |

# 4 Architecture considerations

"Bx" is a common designator for the reference points from the network to the Billing Domain (BD) that are intended for the transport of CDR files. The letter "x" indicates the different 3GPP network domain, subsystem or service, where

am represents 5G connection and mobility in TS 32.256 [16],

c represents Circuit Switched (CS) in TS 32.250 [10],

cp represents Control Plane data transfer (CP) in TS 32.253 [13],

d represents 5G Data Connectivity in TS 32.255 [15],

ea represents Exposure function API in TS 32.254 [14],

ec represents Edge Computing in TS 32.257 [17],

i represents IP Multimedia Subsystem (IMS) in TS 32.260 [20],

l represents Location Service (LCS) in TS 32.271 [31],

m represents Multimedia Messaging Service (MMS) in TS 32.270 [30],

mb represents Multimedia Broadcast/Multicast Service (MBMS) in TS 32.273 [33],

ns represents Network Slice in TS 28.201 [300] and TS 28.202 [301],

nsac represents Network Slice admission control in TS 28.203 [302],

o represents the Online Charging System (OCS) in TS 32.296 [53],

p represents Packet Switched (PS) in TS 32.251 [11],

pr represents Proximity-based Services (ProSe) in TS 32.277 [37],

s represents the CAMEL SCF in TS 23.078 [200],

sm represents Short Message Service (SMS) in TS 32.274 [34],

t represents the PoC service (PoC) in TS 32.272 [32],

tsn represents time sensitive networking in TS 32.282 [43],

w represents interworking Wireless LAN (discontinued in Release 12), and

mn represents Monitoring Event in TS 32.278 [38].

In the 3GPP charging architecture, the Bx reference point connects the CGF in each network domain, service or subsystem to the Billing Domain.   
Further details of the Billing Domain, i.e. beyond terminating Bx, are outside the scope of 3GPP standardization. Refer to TS 32.240 [1] for the complete description of the 3GPP charging architecture.

Note that the OCS can also generate CDRs and transfer them to the BD across the Bo reference point as described in TS 32.296 [53].

Furthermore the GSM SCF, defined in CAMEL, can also generate CDRs and transfer them to the BD across the Bs reference point as described in TS 23.078 [200].

|  |
| --- |
| **Next change** |

### 5.1.2 CDR routing

In the default mode of operation, the CGF manages a single ("default") file for the storage of all "acceptable" CDRs. However, the CGF may also route CDRs to different files that are kept open concurrently, i.e. additional files may be configured by OAM&P commands together with associated CDR routeing filters. While the CGF stores only those CDRs matching the associated routeing filter on each of the additional files, the default file is used to store all CDRs that do not match any of the routeing filters configured for the additional files.

The CDR routeing function shall apply CDR parameters and CDR origin to decide into which file to place the CDR. The file name shall, within the limits of the file naming conventions, contain an indication of the CDR routeing filter applied.

As a minimum, each CGF implementation shall support the CDR type and the sending CDF as selection criteria for CDR routeing. It shall then be possible to include in a file only the following CDRs:

- CDRs of a single type;

- CDRs of a set of specified types (e.g. only IMS CDR types);

- CDRs originated by a single CDF;

- CDRs originated by a set of CDFs;

- Any combination of the above.

Further details of the CDR routeing function, such as:

- the maximum number of simultaneously open CDR files;

- the order in which the routeing filters are evaluated;

- the way CDR filters can be configured by OAM&P;

are implementation specific. In order to avoid arbitrary routeing of CDRs, operators should assure that the routeing filters assigned per file, do not overlap with each other.

The term "matching CDR" is used in the present document to denote a CDR that matches the routeing filter of a given CDR file.

|  |
| --- |
| **Next change** |

#### 6.1.2.5 TS number

This five bit field contains a binary value that identifies the number of the TS associated to the domain CDRs encoding according to table 6.1.2.5.1:

Table 6.1.2.5.1: "TS number" identifier

|  |  |
| --- | --- |
| "TS number" identifier  (5 bits) | TS number |
| 0 | 32.005 |
| 1 | 32.015 |
| 2 | 32.205 |
| 3 | 32.215 |
| 4 | 32.225 |
| 5 | 32.235 |
| 6 | 32.250 |
| 7 | 32.251 |
| 9 | 32.260 |
| 10 | 32.270 |
| 11 | 32.271 |
| 12 | 32.272 |
| 13 | 32.273 |
| 14 | 32.275 |
| 15 | 32.274 |
| 16 | 32.277 |
| 17 | 32.296 |
| 18 | 32.278 |
| 19 | 32.253 |
| 20 | 32.255 |
| 21 | 32.254 |
| 22 | 32.256 |
| 23 | 28.201 |
| 24 | 28.202 |
| 25 | 32.257 |
| 26 | 32.282 |
| 27 | 28.203 |
| NOTE 1: 27-31 are for future use.  NOTE 2: 8 is discontinued in Release 12. | |

|  |
| --- |
| **End of change** |