**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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 canbe 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | CDR is available for a CAPIF Event |
|  |  |
| ***Summary of change:*** | Include CAPIF API Charging in NEF API Charging  |
|  |  |
| ***Consequences if not approved:*** | CAPIF biliing not available for processing |
|  |  |
| ***Clauses affected:*** | 3.3, 5.1.5.0 |
|  |  |
|  | **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's revision history:*** |  |

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| **First change** |

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [100] and the following apply.
An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [100].

5GS 5G System

3GPP 3rd Generation Partnership Project

ADC Application Detection and Control

ATSSS Access Traffic Steering, Switching, Splitting

ASN.1 Abstract Syntax Notation One

BD Billing Domain

BER Basic Encoding Rules

CAPIF Common API Framework

CS Circuit Switched

CDF Charging Data Function

CDIV Communication Diversion

CDR Charging Data Record

CEF Charging Enablement Function

CGF Charging Gateway Function

CIoT Cellular Internet of Things

CP Control Plane

CPCN Control Plane data transfer Charging Node (MME, SCEF, IWK-SCEF)

CSG Closed Subscriber Group

CSG ID Closed Subscriber Group Identity

CTF Charging Trigger Function

DCSF Data Channel Signalling Function

FBC Flow Based Charging

GPRS General Packet Radio Service

ISC IMS Service Control

IM IP Multimedia

IMS IM Subsystem

IMS-AGW IMS Access Media Gateway

IMS DC IMS Data Channel

ISO International Organisation for Standardisation

ITU International Telecommunication Union

IP Internet Protocol

IWK-SCEF Interworking SCEF

LAN Local Area Network

LCS LoCation Service

MCC Mobile Country Code

MME Mobility Management Entity

MMS Multimedia Messaging Service

MMTEL MultiMedia Telephony

MnS Management Service

MNC Mobile Network Code

NetLoc Network provided Location information

NIDD Non-IP Data Delivery

NNI Network to Network Interface

PCN Packet switched Core network Node (SGSN, S–GW, P–GW, TDF)

PER Packed Encoding Rules

P-GW PDN GateWay

PCC Policy and Charging Control

PLMN Public Land Mobile Network

PS Packet Switched

QBC QoS flow Based Charging

RG Residential Gateway

RDI Restricted Digital Information

S-GW Serving GateWay

SCUDIF Service Change and UDI/RDI Fallback

SMF Session Management Function

SMS Short Message Service

TDF Traffic Detection Function

TrGW Transition GateWay

UDI Unrestricted Digital Information

TWAG Trusted WLAN Access Gateway

TWAN Trusted WLAN Access Network

UMTS Universal Mobile Telecommunications System

UWAN Untrusted Wireless Access Network

WLAN Wireless LAN

XER XML Encoding Rules

XML eXtensible Mark-up Language

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| **Second change** |

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#### 5.1.5.0 CHF record (CHF-CDR)

If enabled, CHF records shall be produced for chargeable events, with or without quota management. A CHF-CDR shall be opened when the CHF receives Charging Data Request [Initial].

As an alternative to the default CHF behaviour, the "Individual Partial record" mechanism can be used based on Operator's policy configured in the CHF. In this case a new CDR shall be opened for each Charging Data Request [Initial, Update, Termination], charging information shall be added and the CDR shall then be closed. The Sequence Number will be incremented for each Charging Data Request [Initial, Update, Termination] received by the CHF.

 The generic fields in the record are specified in table 5.1.5.0.1. The NF specific parts will be concatenated to this e.g. the PDU Session Information, PDU Container Information and Roaming QBC Information are concatenated for the SMF.

Table 5.1.5.0.1: CHF record (CHF-CDR)

|  |  |  |
| --- | --- | --- |
| Field | Category | Description |
| Record Type  | M | CHF record, clause 5.1.5.1.10. |
| Recording Network Function ID | OM | This field holds the name of the recording entity, clause 5.1.5.1.11. |
| Charging Session Identifier | OC | This field holds the Session Identifier described in TS 32.290 [57]. |
| Subscriber Identifier | OM | This field holds the 5G Subscription Permanent Identifier (SUPI), clause 5.1.5.1.13. |
| Tenant Identifier | OM | This field holds the tenant identifier |
| MnS Consumer Identifier | OM | This fields holds the identifier of the MnS Consumer. |
| NF Consumer Information | M | This field holds the information of the NF consumer of the charging service, clause 5.1.5.1.6. |
| NF Functionality | M | This field holds the type of functionality the NF provides. |
| NF Name | OC | This field holds the name of the NF used. |
| NF Address | OC | This field holds the IP Address of the NF used. |
| NF PLMN ID | OC | This field holds the PLMN identifier (MCC MNC) of the NF. |
| Invocation Timestamp | OM | This field holds the timestamp of the charging service invocation, clause 5.1.5.1.19. |
| Charging Identifier | OM | Charging identifier for correlation between different records. Only applicable if not available in the service specific information. |
| Triggers | OC | This field holds the triggers that are common to all Multiple Unit Usage. Can be the same as in Used Unit Container. |
| SMF Triggers | OC | This field holds the 5G data connectivity specific triggers described in TS 32.255 [15]. |
| List of Multiple Unit Usage | OC | This field holds the parameters for the unit reporting. It may have multiple occurrences, clause 5.1.5.1.3. |
| Rating Group | M | This filed holds the rating group, clause 5.1.5.1.7. |
| Used Unit Container | OC | This field holds the used units and information connected to the reported units, clause 5.1.5.1.14. |
| Service Identifier | OC | This field holds the Service Identifier. |
| Quota management Indicator | OC | This field holds an indicator on whether the reported used units are with or without quota management control. If the field is not present, it indicates the used unit is without quota management applied.  |
| Local Sequence Number | OM | This field holds the container sequence number. |
| Time | OC | This field holds the amount of used time. |
| Uplink Volume  | OC | This field holds the amount of used volume in uplink direction. |
| Downlink Volume  | OC | This field holds the amount of used volume in downlink direction. |
| Total Volume | OC | This field holds the amount of used volume in both uplink and downlink directions. |
| Service Specific Units | OC | This field holds the amount of used service specific units. |
| Event Time Stamp | OC | This field holds the timestamps of the event reported in the Service Specific Units, if the reported units are event based.  |
| Rating Indicator | OC | This field indicates if the units have been rated or not. |
| Triggers | OC | This field holds the triggers that caused the Used Unit Container to be reported, independently on if they are PDU Session or RG level triggers. |
| SMF Triggers | OC | This field holds the 5G data connectivity specific triggers described in TS 32.255 [15]. |
| IMS Triggers | OC | This field holds the IMS specific triggers described in TS 32.260 [20]. |
| MB-SMF Triggers | OC | This field holds the 5G Multicast-broadcast Services related triggers described in TS 32.279 [39]. |
| Trigger Time Stamp | OC | This field holds the timestamp of the trigger. |
| PDU Container Information | OC | This field holds the 5G data connectivity specific information described in TS 32.255 [15]. |
| NSPA Container Information | OC | This field holds the network slice performance and analytics container specific information described in TS 28.201 [151]. |
| PC5 Container Information | OC | This field holds the PC5 container information |
| MBS Container Information | OC | This field holds the MBS container information |
| Allocated Unit  | OC | This field holds the Allocated Unit. |
| Quota management Indicator | OC | This field holds an indicator on whether the reported allocated unit are with or without quota management control. If the field is not present, it indicates the allocated unit without quota management applied. |
| Triggers | OC | This field holds the triggers that caused the Allocated unit Container to be reported. |
| NSACF Triggers | OC | This field holds the Network slice admission control Charging specific triggers described in TS 28.203 [72]. |
| Trigger Timestamp | OC | This field holds the timestamp of the trigger. |
| Local Sequence Number  | OM | This field holds the container sequence number. |
| NSAC Container Information | OC | This field holds the Network Slice Admission Control specific units in use described in TS 28.203 [72]. |
| UPF ID | OC | This field holds the UPF identifier used to identify the UPF when reporting the usage for the UPF. |
| Record Opening Time | OC | This field contains the time stamp when the record is opened, clause 5.1.5.1.8. |
| Duration | M | This field holds the duration of this record, clause 5.1.5.1.3. |
| Record Sequence Number | C | Partial record sequence number, clause 5.1.5.1.9. |
| Cause for Record Closing  | M | The reason for the release of the record, clause 5.1.5.1.2. |
| Local Record Sequence Number | OM | This field holds consecutive record number, described in clause 5.1.5.1.5. The number is allocated sequentially including all CDR types. |
| Record Extensions | OC | A set of network operator/manufacturer specific extensions to the record, clause 5.1.5.1.12.  |
| Service Specification Information | OC | Identifies service specific document that applies to the request, clause 5.1.5.1.16. |
| PDU Session Charging Information | OM | This field holds the 5G data connectivity specific information described in TS 32.255 [15] |
| Roaming QBC Information | OM | This field holds the roaming 5G data connectivity specific information described in TS 32.255 [15] |
| SMS Charging Information | OC | This field holds the SMS specific information described in TS 32.274 [34]. |
| Registration Charging Information | OM | This field holds the 5G registration specific information described in TS 32.256 [16]. |
| N2 connection charging Information | OM | This field holds the N2 connection specific information described in TS 32.256 [16]. |
| Location reporting charging Information | OM | This field holds the Location reporting specific information described in TS 32.256 [16]. |
| NEF API Charging Information | OM | This field holds the NEF API, and CAPIF API specific information described in TS 32.254 [14]. |
| NSPA Charging Information | OM | This field holds the performance and analytics specific information described in TS 28.201 [151]. |
| NSM charging Information | OM | This field holds the Network Slice Management (NSM) specific information described in TS 28.202 [71]. |
| IMS Charging Information | OM | This field holds the IMS specific information described in TS 32.260 [20]. |
| ProSe charging Information | OM | This field holds the ProSe specific information described in TS 32.277 [37]. |
| Edge Enabling Infrastructure Resource Usage Charging Information | OM | This field holds the Edge Enabling Infrastructure Resource Usage Charging Information described in TS 32.257 [17]. |
| EAS Deployment Charging Information | OM | This field holds the EAS Deployment Charging Information described in TS 32.257 [17]. |
| Direct Edge Enabling Service Charging Information | OM | This field holds the Direct Edge Enabling Service Charging Information described in TS 32.257 [17]. |
| Exposed Edge Enabling Service Charging Information | OM | This field holds the Exposed Edge Enabling Service Charging Information described in TS 32.257 [17]. |
| EAS ID | OC | This field holds the EAS ID described in TS 32.257 [17]. |
| EDN ID | OC | This field holds the DN of EdgeDataNetwork MOI described in TS 32.257 [17]. |
| EAS Provider Identifier | OC | This field holds the identifier of the ASP that provides the EAS described in TS 32.257 [17]. |
| NSACF Charging Information | OC | This field holds the Network slice admission control Charging Information described in TS 28.203 [72]. |
| TSN Charging Information | OM | This field holds the time sensitive networking charging information described in TS 32.282 [43]. |
| MBS Session charging Information | OC | This field holds the MBS Session specific information described in TS 32.279 [39]. |
| NSSAA Charging Information | OC | This field holds the Network slice-specific authentication and authorization Charging Information described in TS 28.204 [73]. |
| Ranging and Sidelink Positioning Charging Information | OC | This field holds the Ranging and Sidelink Positioning Charging Information described in TS 32.271 [31]. |
| LCS Information | OC | This field holds the 5GS LCS Charging Information described in TS 32.271 [31]. |

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| **End of changes** |