**3GPP TSG-SA5 Meeting #154 *S5-241864***

**Changsha, CHINA, 15 Apr - 19 Apr 2024**  Revision of S5-241629

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **32.257** | **CR** | **0013** | **rev** | **1** | **Current version:** | **18.0.0** |  |
|  |
| *For* [***HELP***](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:***  | Rel-18 CR 32.257 Correction on message content for Edge Charging |
|  |  |
| ***Source to WG:*** | Huawei, Ericsson LM |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI18 |  | ***Date:*** | 2024-04-17 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | Based on the conclusion of triggers mechanism (S5-237838 and S5-241623), the triggers for IEC, PEC and ECUR which can be linked and stated in the service special charging information are not required to be reported to CHF. For the IEC and PEC, the Session Identifier is not applicable in the Charging Data Request, but can be included in the Charging Data Response. For the ECUR, the Session Identifier is not applicable in the Charging Data Request [Initial], but can be included in the Charging Data Response and Charging Data Request [Termination].The charging data request doesn’t match the CDR definitionTR 28.286 concluded on Solution #6.10: Only Applicable Common IEs should be reflected in common part description compared to TS 32.290. |
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| ***Summary of change:*** | Clarify the triggers in the Edge Computing message content.Correct on the Session Identifier.Change the charging data request and response to match CDR.Remove not applicable IEs and Expand the sub-fields in the message content. |
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| ***Consequences if not approved:*** | The triggers for Edge Computing charging is unclear. The mismatch between charging data request and CDR information may lead to incorrect charging information. |
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| ***Clauses affected:*** | 6.1.1.1.2, 6.1.1.3.2, 6.1.2.3, 6.2.1.1.2, 6.2.1.1.3, 6.2.1.3.2, 6.2.2.3, 6.3.1.1.2, 6.3.1.1.3, 6.3.1.3.2, 6.3.2.3 |
|  |  |
|  | **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:*** | Merge S5-241761 |
|  |  |
| ***This CR's revision history:*** |  |

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| **First change** |

##### 6.1.1.1.2 Charging Data Request message

Table 6.1.1.1.2-1 illustrates the basic structure of a Charging Data Request message from the CEF as used for edge enabling infrastructure resource usage converged charging.

Table 6.1.1.1.2-1: Charging Data Request message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| Tenant Identifier | OC | Described in 3GPP TS 32.290 [6]. |
| MnS Consumer Identifier | OC | This fields holds the identifier of the MnS Consumer of Provisioning MnS. |
| NF Consumer Identification | M | Described in 3GPP TS 32.290 [6]. |
| NF Functionality | M | Described in 3GPP TS 32.290 [6]. |
| NF Name | OC | Described in 3GPP TS 32.290 [6]. |
| NF Address | OC | Described in 3GPP TS 32.290 [6]. |
| NF PLMN ID | OC | Described in 3GPP TS 32.290 [6]. |
| Charging Identifier | OM | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Retransmission Indicator | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event Type | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
| Service Specification Information | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Multiple Unit Usage  | OM | Described in 3GPP TS 32.290 [6]. |
| Rating Group | OM | Described in 3GPP TS 32.290 [6]. |
| Used Unit Container | OC | Described in 3GPP TS 32.290 [6]. |
| Uplink Volume | OC | Described in 3GPP TS 32.290 [6]. |
| Downlink Volume | OC | Described in 3GPP TS 32.290 [6]. |
| Local Sequence Number  | OM | Described in 3GPP TS 32.290 [6]. |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9]. |
| EDN ID | OM | This field holds the DN of EdgeDataNetwork MOI, see 3GPP TS 28.538 [12]. |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9]. |
| Edge Enabling Infrastructure Resource Usage Charging Information | OM | This field holds the for edge enabling infrastructure resource usage charging specific information described in clause 6.1.2.1.2. |

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| **Next change** |

##### 6.1.1.1.3 Charging data response message

Table 6.1.1.1.3-1 illustrates the basic structure of a Charging Data Response message from the CHF as used for edge enabling infrastructure resource usage converged charging.

Table 6.1.1.1.3-1: Charging Data Response message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
| Session Identifier | OC | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
| Invocation Result | OC | Described in 3GPP TS 32.290 [6]. |
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|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
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| Multiple Unit Information | OC | Described in 3GPP TS 32.290 [6]. |
| Result Code | OC | Described in 3GPP TS 32.290 [6]. |
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##### 6.1.1.3.2 Edge enabling infrastructure resource usage charging CHF CDR data

If enabled, CHF CDRs for edge enabling infrastructure resource usage charging shall be produced for each performance measurement report.

The fields of enabling infrastructure resource usage charging CHF CDR are specified in table 6.1.1.3.2-1.

Table 6.1.1.3.2-1: Edge enabling infrastructure resource usage charging CHF record data

|  |  |  |
| --- | --- | --- |
| Field | Category | Description |
| Record Type  | M | Described in 3GPP TS 32.298 [3] |
| Recording Network Function ID | OM | Described in 3GPP TS 32.298 [3] |
| Tenant Identifier | OM | Described in 3GPP TS 32.298 [3] |
| MnS Consumer Identifier | OC | Described in 3GPP TS 32.298 [3] |
| NF Consumer Information | M | This field holds the information of the CEF that used the charging service |
| NF Functionality | M | This field contains the function of the node (i.e. CEF) |
| NF Name | OC | This field holds the name of the CEF used |
| NF Address | OC | This fields holds the IP Address of the CEF used |
| NF PLMN ID | OC | This field holds the PLMN identifier (MCC MNC) of the CEF |
| Charging Identifier | OM | Described in 3GPP TS 32.298 [3] |
|  |  |  |
| List of Multiple Unit Usage | OM | This field holds a list of changes in charging conditions for the edge enabling infrastructure resource usage |
| Rating Group | OM | Described in 3GPP TS 32.298 [3] |
| Used Unit Container | OM | Described in 3GPP TS 32.298 [3] |
| Time | OM | This field holds the amount of used time |
| Uplink Volume  | OM | This field holds the information of incoming data volume for the EAS, see DataVolum.InBytesEAS in clause 5.7.2.1 of 3GPP TS 28.552 [13] |
| Downlink Volume  | OM | This field holds the information of outgoing data volume for the EAS, see DataVolum.OutBytesEAS in clause 5.7.2.2 of 3GPP TS 28.552 [13] |
| Duration | M | Described in 3GPP TS 32.298 [3] |
| Record Sequence Number | C | Described in 3GPP TS 32.298 [3] |
| Cause for Record Closing  | M | Described in 3GPP TS 32.298 [3] |
| Local Record Sequence Number | OM | Described in 3GPP TS 32.298 [3] |
| Record Extensions | OC | Described in 3GPP TS 32.298 [3] |
| Service Specification Information | OC | Described in 3GPP TS 32.298 [3] |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9] |
| EDN ID | OM | This field holds the DN of EdgeDataNetwork MOI, see 3GPP TS 28.538 [12] |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9] |
| Edge Enabling Infrastructure Resource Usage Charging Information | OM | This field holds the for edge enabling infrastructure resource usage charging specific information described in clause 6.1.2.1.2 |

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| **Next change** |

####  6.1.2.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by CEF for edge enabling infrastructure resource usage converged charging.

The Operation Types are listed in the following order: I (Initial)/U (Update)/T (Termination)/E (Event). Therefore, when all Operation Types are possible it is marked as IUTE. If only some Operation Types are allowed for a node, only the appropriate letters are used (i.e. IUT or E) as indicated in the table heading. The omission of an Operation Type for a particular field is marked with "-" (i.e. IU-E). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.1.2.3-1 defines the basic structure of the supported fields in the *Charging Data Request* message for edge enabling infrastructure resource usage converged charging.

Table 6.1.2.3-1: Supported fields in Charging Data Request message

| Information Element | Functionality of CEF | Edge enabling infrastructure resource usage charging |
| --- | --- | --- |
| Supported Operation Types | E |
|  |  |
|  |  |
| Tenant Identifier | E |
| MnS Consumer Identifier | E |
| NF Consumer Identification | E |
| NF Functionality | E |
| NF Name | E |
| NF Address | E |
| NF PLMN ID | E |
| Charging Identifier | E |
| Invocation Timestamp | E |
|  |  |
| Retransmission Indicator | E |
| One-time Event | E |
| One-time Event Type | E |
|  |  |
| Supported Features | E |
| Service Specification Information | E |
|  |  |
| Multiple Unit Usage  | E |
| Rating Group | E |
| Used Unit Container | E |
| Uplink Volume | E |
| Downlink Volume | E |
| Local Sequence Number  | E |
| EAS ID | E |
| EDN ID | E |
| EAS Provider Identifier | E |
| Edge Enabling Infrastructure Resource Usage Charging Information | E |

Table 6.1.2.3-2 defines the basic structure of the supported fields in the *Charging Data Response* message for edge enabling infrastructure resource usage converged charging.

Table 6.1.2.3-2: Supported fields in Charging Data Response message

| Information Element | Functionality of CEF | Edge enabling infrastructure resource usage charging |
| --- | --- | --- |
| Supported Operation Types | E |
| Session Identifier | E |
| Invocation Timestamp | E |
| Invocation Result | E |
|  |  |
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|  |  |
|  |  |
|  |  |
| Supported Features | E |
|  |  |
| Multiple Unit Information | E |
| Result Code | E |
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##### 6.2.1.1.2 Charging Data Request message

Table 6.2.1.1.2-1 illustrates the basic structure of a Charging Data Request message from the CEF as used for EAS deployment converged charging.

Table 6.2.1.1.2-1: Charging Data Request message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| NF Consumer Identification | M | Described in 3GPP TS 32.290 [6]. |
| NF Functionality | M | Described in 3GPP TS 32.290 [6]. |
| NF Name | OC | Described in 3GPP TS 32.290 [6]. |
| NF Address | OC | Described in 3GPP TS 32.290 [6]. |
| NF PLMN ID | OC | Described in 3GPP TS 32.290 [6]. |
| Charging Identifier | OM | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Retransmission Indicator | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event Type | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
| Service Specification Information | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Multiple Unit Usage  | OM | Described in 3GPP TS 32.290 [6]. |
| Rating Group | OM | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
|  |  |  |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9]. |
| EDN ID | OM | This field holds the DN of EdgeDataNetwork MOI, see 3GPP TS 28.538 [12]. |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9]. |
| EAS Deployment Charging Information | OM | This field holds the for EAS deployment charging specific information described in clause 6.2.2.1.2. |

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##### 6.2.1.1.3 Charging data response message

Table 6.2.1.1.3-1 illustrates the basic structure of a Charging Data Response message from the CHF as used for EAS deployment converged charging.

Table 6.2.1.1.3-1: Charging Data Response message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
| Session Identifier | M | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
| Invocation Result | OC | Described in 3GPP TS 32.290 [6]. |
| Invocation Result Code | OC | Described in 3GPP TS 32.290 [6]. |
| Failed parameter | OC | Described in 3GPP TS 32.290 [6]. |
| Failure Handling | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Multiple Unit Information | OC | Described in 3GPP TS 32.290 [6]. |
| Result Code | OC | Described in 3GPP TS 32.290 [6]. |
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##### 6.2.1.3.2 EAS deployment charging CHF CDR data

If enabled, CHF CDRs for EAS deployment charging shall be produced for each EAS LCM notification (i.e. notifyMOICreation, notifyMOIAttributeValueChanges, or notifyMOIDeletion).

The fields of EAS deployment charging CHF CDR are specified in table 6.2.1.3.2-1.

Table 6.2.1.3.2-1: EAS deployment charging CHF record data

|  |  |  |
| --- | --- | --- |
| Field | Category | Description |
| Record Type  | M | Described in 3GPP TS 32.298 [3] |
| Recording Network Function ID | OM | Described in 3GPP TS 32.298 [3] |
| Tenant Identifier | OM | Described in 3GPP TS 32.298 [3] |
| MnS Consumer Identifier | OC | Described in 3GPP TS 32.298 [3] |
| NF Consumer Information | M | This field holds the information of the CEF that used the charging service. |
| NF Functionality | M | This field contains the function of the node (i.e. CEF) |
| NF Name | OC | This field holds the name of the CEF used. |
| NF Address | OC | This fields holds the IP Address of the CEF used. |
| NF PLMN ID | OC | This field holds the PLMN identifier (MCC MNC) of the CEF. |
| Charging Identifier | OM | Described in 3GPP TS 32.298 [3] |
|  |  |  |
| List of Multiple Unit Usage | OM | Described in 3GPP TS 32.298 [3] |
| Rating Group | OM | Described in 3GPP TS 32.298 [3] |
| Duration | M | Described in 3GPP TS 32.298 [3] |
| Record Sequence Number | C | Described in 3GPP TS 32.298 [3] |
| Cause for Record Closing  | M | Described in 3GPP TS 32.298 [3] |
| Local Record Sequence Number | OM | Described in 3GPP TS 32.298 [3] |
| Record Extensions | OC | Described in 3GPP TS 32.298 [3] |
| Service Specification Information | OC | Described in 3GPP TS 32.298 [3] |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9]. |
| EDN ID | OM | This field holds the DN of EdgeDataNetwork MOI, see 3GPP TS 28.538 [12]. |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9]. |
| EAS Deployment Charging Information | OM | This field holds the EAS deployment charging specific information defined in clause 6.2.2.1.2. |

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| **Next change** |

#### 6.2.2.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by CEF for EAS deployment converged charging.

The Operation Types are listed in the following order: I (Initial)/U (Update)/T (Termination)/E (Event). Therefore, when all Operation Types are possible it is marked as IUTE. If only some Operation Types are allowed for a node, only the appropriate letters are used (i.e. IUT or E) as indicated in the table heading. The omission of an Operation Type for a particular field is marked with "-" (i.e. IU-E). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.2.2.3-1 defines the basic structure of the supported fields in the *Charging Data Request* message for EAS deployment converged charging.

Table 6.2.2.3-1: Supported fields in Charging Data Request message

| Information Element | Functionality of CEF | EAS deployment charging |
| --- | --- | --- |
| Supported Operation Types | E |
|  |  |
|  |  |
| NF Consumer Identification | E |
| NF Functionality | E |
| NF Name | E |
| NF Address | E |
| NF PLMN ID | E |
| Charging Identifier | E |
| Invocation Timestamp | E |
|  |  |
| Retransmission Indicator | E |
| One-time Event | E |
| One-time Event Type | E |
|  |  |
| Supported Features | E |
| Service Specification Information | E |
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| Multiple Unit Usage  | E |
| Rating Group | E |
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| EAS ID | E |
| EDN ID | E |
| EAS Provider Identifier | E |
| Edge Enabling Infrastructure Resource Usage Charging Information | E |

Table 6.2.2.3-2 defines the basic structure of the supported fields in the *Charging Data Response* message for EAS deployment converged charging.

Table 6.2.2.3-2: Supported fields in Charging Data Response message

| Information Element | Functionality of CEF | EAS deployment charging |
| --- | --- | --- |
| Supported Operation Types | E |
| Session Identifier | E |
| Invocation Timestamp | E |
| Invocation Result | E |
| Invocation Result Code | E |
| Failed parameter | E |
| Failure Handling | E |
|  |  |
|  |  |
| Supported Features | E |
| Triggers  | - |
| Multiple Unit Information | E |
| Result Code | E |
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| **Next change** |

##### 6.3.1.1.2 Charging data request message

Table 6.3.1.1.2-1 illustrates the basic structure of a Charging Data Request message from the EES as used for edge enabling services converged charging.

Table 6.3.1.1.2-1: Charging Data Request message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| NF Consumer Identification | M | Described in 3GPP TS 32.290 [6]. |
| NF Functionality | M | Described in 3GPP TS 32.290 [6]. |
| NF Name | OC | Described in 3GPP TS 32.290 [6]. |
| NF Address | OC | Described in 3GPP TS 32.290 [6]. |
| NF PLMN ID | OC | Described in 3GPP TS 32.290 [6]. |
| Charging Identifier | OM | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Retransmission Indicator | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event | OC | Described in 3GPP TS 32.290 [6]. |
| One-time Event Type | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
| Service Specification Information | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Multiple Unit Usage  | OM | Described in 3GPP TS 32.290 [6]. |
| Rating Group | OM | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
|  |  |  |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9]. |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9]. |
| Direct Edge Enabling Service Charging Information | OM | This field holds the charging information described in clause 6.3.2.1.2 specific for charging of the edge enabling services directly provided by EES, used if structured charging information is required. |
| Exposed Edge Enabling Service Charging Information | OM | This field is mapped to the NEF API Charging information defined in 3GPP TS 32.254 [16], clause 6.3.1.4, and holds the charging information described in clause 6.3.2.1.3. |

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| **Next change** |

##### 6.3.1.1.3 Charging data response message

Table 6.3.1.1.3-1 illustrates the basic structure of a Charging Data Response message from the CHF as used for edge enabling services converged charging.

Table 6.3.1.1.3-1: Charging Data Response message contents

| Information Element | Converged ChargingCategory | Description |
| --- | --- | --- |
| Session Identifier | M | Described in 3GPP TS 32.290 [6]. |
| Invocation Timestamp | M | Described in 3GPP TS 32.290 [6]. |
| Invocation Result | OC | Described in 3GPP TS 32.290 [6]. |
| Invocation Result Code | OC | Described in 3GPP TS 32.290 [6]. |
| Failed parameter | OC | Described in 3GPP TS 32.290 [6]. |
| Failure Handling | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
|  |  |  |
| Supported Features | OC | Described in 3GPP TS 32.290 [6]. |
|  |  |  |
| Multiple Unit Information | OC | Described in 3GPP TS 32.290 [6]. |
| Result Code | OC | Described in 3GPP TS 32.290 [6]. |
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##### 6.3.1.3.2 Edge enabling services charging CHF CDR data

If enabled, CHF CDRs for edge enabling services charging shall be produced for each triggering event.

The fields of edge enabling services charging CHF CDR are specified in table 6.3.1.3.2-1.

Table 6.3.1.3.2-1: Edge enabling services charging CHF record data

|  |  |  |
| --- | --- | --- |
| Field | Category | Description |
| Record Type  | M | Described in 3GPP TS 32.298 [3]. |
| Recording Network Function ID | OM | Described in 3GPP TS 32.298 [3]. |
| Tenant Identifier | OM | Described in 3GPP TS 32.298 [3]. |
| MnS Consumer Identifier | OC | Described in 3GPP TS 32.298 [3]. |
| NF Consumer Information | M | This field holds the information of the EES that used the charging service. |
| NF Functionality | M | This field contains the function of the node (i.e. EES). |
| NF Name | OC | This field holds the name of the EES used. |
| NF Address | OC | This fields holds the IP Address of the EES used. |
| NF PLMN ID | OC | This field holds the PLMN identifier (MCC MNC) of the EES. |
| Charging Identifier | OM | Described in 3GPP TS 32.298 [3]. |
|  |  |  |
| List of Multiple Unit Usage | OM | Described in 3GPP TS 32.298 [3]. |
| Rating Group | OM | Described in 3GPP TS 32.298 [3]. |
| Duration | M | Described in 3GPP TS 32.298 [3]. |
| Record Sequence Number | C | Described in 3GPP TS 32.298 [3]. |
| Cause for Record Closing  | M | Described in 3GPP TS 32.298 [3]. |
| Local Record Sequence Number | OM | Described in 3GPP TS 32.298 [3]. |
| Record Extensions | OC | Described in 3GPP TS 32.298 [3]. |
| Service Specification Information | OC | Described in 3GPP TS 32.298 [3]. |
| EAS ID | OM | This field holds the EAS ID, see 3GPP TS 23.558 [9]. |
| EAS Provider Identifier | OM | The identifier of the ASP that provides the EAS, see 3GPP TS 23.558 [9]. |
| Direct Edge Enabling Service Charging Information | OM | This field holds the charging information described in clause 6.3.2.1.2 specific for charging of the edge enabling services directly provided by EES, may be used if structured charging information is required. |
| Exposed Edge Enabling Service Charging Information | OM | This field is mapped to the NEF API Charging information defined in 3GPP TS 32.254 [16], clause 6.3.1.4, and holds the charging information described in clause 6.3.2.1.3. |

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| **Next change** |

#### 6.3.2.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by EES for edge enabling services converged charging.

The Operation Types are listed in the following order: I (Initial)/U (Update)/T (Termination)/E (Event). Therefore, when all Operation Types are possible it is marked as IUTE. If only some Operation Types are allowed for a node, only the appropriate letters are used (i.e. IUT or E) as indicated in the table heading. The omission of an Operation Type for a particular field is marked with "-" (i.e. IU-E). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.3.2.3-1 defines the basic structure of the supported fields in the *Charging Data Request* message for edge enabling services converged charging.

Table 6.3.2.3-1: Supported fields in Charging Data Request message

| Information Element | Functionality of EES | Edge enabling services charging |
| --- | --- | --- |
| Supported Operation Types | E |
|  |  |
|  |  |
| NF Consumer Identification | E |
| NF Functionality | E |
| NF Name | E |
| NF Address | E |
| NF PLMN ID | E |
| Charging Identifier | E |
| Invocation Timestamp | E |
|  |  |
| Retransmission Indicator | E |
| One-time Event | E |
| One-time Event Type | E |
|  |  |
| Supported Features | E |
| Service Specification Information | E |
|  |  |
| Multiple Unit Usage  | E |
| Rating Group | E |
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| EAS ID | E |
| EAS Provider Identifier | E |
| Direct Edge Enabling Service Charging Information | E |
| Exposed Edge Enabling Service Charging Information | E |

Table 6.3.2.3-2 defines the basic structure of the supported fields in the *Charging Data Response* message for edge enabling services converged charging.

Table 6.3.2.3-2: Supported fields in Charging Data Response message

| Information Element | Functionality of EES | Edge enabling services charging |
| --- | --- | --- |
| Supported Operation Types | E |
| Session Identifier | E |
| Invocation Timestamp | E |
| Invocation Result | E |
| Invocation Result Code | E |
| Failed parameter | E |
| Failure Handling | E |
|  |  |
|  |  |
| Supported Features | E |
|  |  |
| Multiple Unit Information | E |
| Result Code | E |
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| **End of change** |