**3GPP TSG-SA5 Meeting #142-e *S5-222438***

**e-meeting, 4 - 12 April 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.274** | **CR** | **draftCR** | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *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:*** | Correcting support of charging scenarios for roaming | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2022-03-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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:*** | | The use and description of charging identifier for SMS is missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding the charging identifier with description as well as all other parameters defined for the charging request response messages to have all paraments and their usage described. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The use of charging identifier would be unspecified for SMS which may lead to interoperability issues | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2a.1.2.1, 6.5.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 6.2a.1.2.1 Charging Data Request message

Table 6.2a.1.2.1.1 illustrates the basic structure of a Charging Data Request message as used for SMS converged charging.

Table 6.2a.1.2.1.1: Charging Data Request message contents

| **Information Element** | **Category** | **Description** |
| --- | --- | --- |
| Session Identifier | OC | Described in TS 32.290 [57] |
| Subscriber Identifier | OM | Described in TS 32.290 [57] |
| NF Consumer Identification | M | Described in TS 32.290 [57] |
| NF Functionality | M | Described in TS 32.290 [57] |
| NF Name | OC | Described in TS 32.290 [57] |
| NF Address | OC | Described in TS 32.290 [57] |
| NF PLMN ID | OC | Described in TS 32.290 [57] |
| Charging Identifier | OM | Described in TS 32.290 [57] |
| Invocation Timestamp | M | Described in TS 32.290 [57] |
| Invocation Sequence Number | M | Described in TS 32.290 [57] |
| Retransmission Indicator | - | This field is not applicable. |
| One-time Event | OC | Described in TS 32.290 [57] |
| One-time Event Type | OC | Described in TS 32.290 [57] |
| Notify URI | OC | This field is not applicable. |
| Supported Features | OC | Described in TS 32.290 [57] |
| Service Specification Information | OC | Described in TS 32.290 [57] |
| Triggers | - | This field is not applicable. |
| Multiple Unit Usage | OC | This field is present when the number of units is beyond one (i.e. more than one SMS) |
| Rating Group | M | Described in TS 32.290 [57] |
| Requested Unit | OC | Described in TS 32.290 [57] |
| Used Unit Container | OC | This field holds SMS charging information when more than one SMS. It may have multiple occurrences. |
| SMS Charging Information | OM | This field holds the SMS specific information described in clause 6.5.2 |

##### 6.2a.1.2.2 Charging Data Response message

Table 6.2a.1.2.2.1 illustrates the basic structure of a Charging Data Response message as used for SMS converged charging.

Table 6.2a.1.2.2.1: Charging Data Response Message Contents

| **Information Element** | **Category** | **Description** |
| --- | --- | --- |
| Session Identifier | OC | Described in TS 32.290 [57] |
| Invocation Timestamp | M | Described in TS 32.290 [57] |
| Invocation Result | OC | Described in TS 32.290 [57] |
| Result code | OC | Described in TS 32.290 [57] |
| Failed parameter | OC | Described in TS 32.290 [57] |
| Failure Handling | OC | Described in TS 32.290 [57] |
| Invocation Sequence Number | M | Described in TS 32.290 [57] |
| Session Failover | OC | Described in TS 32.290 [57] |
| Supported Features | OC | Described in TS 32.290 [57] |
| Triggers | - | This field is not applicable. |
| Multiple Unit information | OC | This field is applicable for ECUR. |
| Result Code | OC | Described in TS 32.290 [57] |
| Rating Group | OM | Described in TS 32.290 [57] |
| Granted Unit | OC | Described in TS 32.290 [57] |
| Validity Time | OC | Described in TS 32.290 [57] |
| Final Unit Indication | - | This field is not applicable. |
| Time Quota Threshold | - | This field is not applicable. |
| Volume Quota Threshold | - | This field is not applicable. |
| Unit Quota Threshold | - | This field is not applicable. |
| Quota Holding Time | - | This field is not applicable. |
| Triggers | - | This field is not applicable. |

|  |
| --- |
| **Second change** |

### 6.5.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by SMS Node for 5G SMS converged charging.

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

Table 6.5.3.1 defines the basic structure of the supported fields in the *Charging Data Request* message for SMS converged charging.

Table 6.5.3.1: Supported fields in *Charging Data Request* message

| Information Element | | Node Type | SMSF | |
| --- | --- | --- | --- | --- |
| Supported Operation Types | ITE | |
| Session Identifier | | | -TE | |
| Subscriber Identifier | | | ITE | |
| NF Consumer Identification | | | ITE | |
| Charging Identifier | | | ITE | |
| Invocation Timestamp | | | ITE | |
| Invocation Sequence Number | | | ITE | |
| Retransmission Indicator | | | - | |
| One-time Event | | | --E | |
| One-time Event Type | | | --E | |
| Notify URI | | | - | |
| Supported Features | | | I-E | |
| Service Specification Information | | | ITE | |
| Triggers | | | - | |
| Multiple Unit Usage | | | ITE | |
| Rating Group | | | IT- | |
| Requested Unit | | | I-- | |
| Used Unit Container | | | IT- | |
| SMS Charging Information | | |  | |
| Originator Info | | | ITE | |
| Recipient Info | | | ITE | |
| User Equipment Info | | | ITE | |
| Roamer In Out | | | ITE | |
| User Location Info | | | ITE | |
| UE Time Zone | | | ITE | |
| RAT Type | | | ITE | |
| SMSC Address | | | ITE | |
| SM Data Coding Scheme | | | ITE | |
| SM Message Type | | | ITE | |
| SM Reply Path Requested | | | ITE | |
| SM User Data Header | | | ITE | |
| SM Status | | | ITE | |
| SM Discharge Time | | | ITE | |
| Number of Messages Sent | | | ITE | |
| SM Service Type | | | ITE | |
| SM Sequence Number | | | ITE | |
| SMS result | | | ITE | |
| Submission Time | | | ITE | |
| SMPriority | | | ITE | |
| Message Reference | | | ITE | |
| Message Size | | | ITE | |
| Message Class | | | ITE | |
| Delivery Report Requested | | | ITE | |

Table 6.5.3.2 defines the basic structure of the supported fields in the *Charging Data Response* message for SMS converged charging.

Table 6.5.3.2: Supported fields in *Charging Data Response* message

| Information Element | Node Type | SMSF |
| --- | --- | --- |
| Supported Operation Types | ITE |
| Session Identifier | | ITE |
| Invocation Timestamp | | ITE |
| Invocation Result | | ITE |
| Invocation Sequence Number | | ITE |
| Session Failover | | I-- |
| Supported Features | | I-E |
| Triggers | | - |
| Multiple Unit information | | I-E |
| Result Code | | I-- |
| Rating Group | | I-- |
| Granted Unit | | I-- |
| Validity Time | | I-- |
| Final Unit Indication | | - |
| Time Quota Threshold | | - |
| Volume Quota Threshold | | - |
| Unit Quota Threshold | | - |
| Quota Holding Time | | - |
| Triggers | | - |

|  |
| --- |
| **End of changes** |