3GPP TSG SA WG5 Meeting 137-e TDoc S5-213355

electronic meeting, online, 10 - 19 May 2021

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.275** | **CR** | **0082** | **rev** | **-** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Adding converged charging data description | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSIMSCH | | | | |  | ***Date:*** | | | 2021-04-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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 data description for MMTel converged charging is missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding data description for MMTel converged charging and referring to IMS charging information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The data for converged charging wouldn’t be described. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.x (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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** |

## 6.x Data description for MMTel converged charging

### 6.x.1 Message contents

#### 6.4.1.1 General

The Charging Data Request and Charging Data Response are specified in TS 32.290 [57] and include charging information. The Charging Data Request can be of type [Event, Initial, Update, Termination].

Table 6.x.1.1.1 describes the use of these messages for converged charging.

Table 6.x.1.1.1: Converged charging messages reference table

|  |  |  |
| --- | --- | --- |
| **Message** | **Source** | **Destination** |
| Charging Data Request | IMS Node | CHF |
| Charging Data Response | CHF | IMS Node |

#### 6.x.1.2 Structure for the converged charging message formats

##### 6.x.1.2.1 Charging Data Request message

Table 6.4.1.2.1.1 illustrates the basic structure of a Charging Data Request message as used for MMTel converged charging.

Table 6.x.1.2.1.1: Charging Data Request message contents

| Information Element | Category | Description |
| --- | --- | --- |
| See Charging Data-Request message fields described in TS 32.260 [20] with MMTel specific triggers described in clause 5.4.1.2. | | |
| MMTel information | OC | This field includes a list of MMTel supplementary services specific information described in clause 6.x |

##### 6.x.1.2.2 Charging Data Response message

Table 6.x.1.2.2.1 illustrates the basic structure of a Charging Data Response message as used for MMTel converged charging.

Table 6.x.1.2.2.1: Charging Data Response Message Contents

| **Information Element** | **Category** | **Description** |
| --- | --- | --- |
| See Charging Data-Response message fields described in TS 32.260 [20] with MMTel specific triggers described in clause 5.4.1.2. | | |
| MMTel information | OC | This field includes a list of MMTel supplementary services specific information described in clause 6.x |

### 6.x.2 Definition of the MMTel converged charging information

#### 6.x.2.1 General

The Charging Information parameter used for MMTel converged charging is provided in the following clauses.

#### 6.x.2.2 Definition of MMTel charging information

MMTel specific charging information used for MMTel converged charging is provided within the MMTel charging Information.

Table 6.x.2.2.1: Structure of MMTel Charging Information

|  |  |  |
| --- | --- | --- |
| Information Element | Category | Description |
| Supplementary Service | OM | This is a grouped field comprising several sub-fields associated with one supplementary service. It can be present multiple times as necessary to present the parallel activity of the different supplementary services. |
| Service Type | OM | This field holds the type of the supplementary service: OIP, OIR, TIP, TIR, CW, HOLD, CB, MWI, CONF, CDIV, ECT, FA, MCID, CAT, CUG, PNM, or CRS. |
| Service Mode | OC | This field holds the mode of specific service type for  - CB: ACR, ICB, OC, or B,  - CDIV: CFU, CFB, CFNR, CFNRc, CFNL, or CFUDB and  - CONF: 3PTY |
| Number of diversions | OC | This field holds the number of diversions for CDIV. |
| Associated party address | OC | This field holds additional party identification needed for the service charging for  - CDIV the "forwarding party"  - ECT the "transferor"  - FA the "Pilot Identity"  - 3PTY the "Initiator party". |
| Conference Id | OC | This field holds the conference ID specific for CONV |
| Participant Action Type | OC | This field holds the participant action type for CONF: CREATE\_CONF, JOIN\_CONF, INVITE\_CONF, QUIT\_CONF at the time stamped indicated in the "Change Time". |
| Change Time | OC | This field holds the time of the requested action indicated in the "Participant Action Type" during the supplementary service CONF.  For "Participant Action Type":  - CREATE this field indicates the start time of the CONF  - QUIT and Number Of Participants is 0, this field indicates the end time of the CONF |
| Number Of Participants | OC | This field holds the number of parties who are currently attached to the Conference at the time stamped indicated in the "Change Time", for the CONF supplementary service. |
| CUG Information | OC | This field holds the CUG information conveyed by the Network and identifies the CUG-communication: it is the "CUG Interlock Code". |

Editor’s Note: The full structure of the MMTel charging information is FFS.

#### 6.x.2.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by IMS node for IMS 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. I-TE). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.x.2.3.1 defines the basic structure of the supported fields in the *Charging Data Request* message for MMTel converged charging.

Table 6.x.2.3.1: Supported fields in *Charging Data Request* message

| Information Element | Node Type | IMS Node |
| --- | --- | --- |
| Supported Operation Types | IUTE |
| Session Identifier | | -UTE |
| Subscriber Identifier | | IUTE |
| NF Consumer Identification | | IUTE |
| Invocation Timestamp | | IUTE |
| Invocation Sequence Number | | IUTE |
| Retransmission Indicator | | IUT- |
| Notify URI | | IU-- |
| Supported Features | | IU-E |
| Service Specification Information | | IUTE |
| Triggers | | -UT- |
| Multiple Unit Usage | | IUT- |
| Rating Group | | IUT- |
| Requested Unit | | IU-- |
| Used Unit Container | | -UT- |
| Triggers | | -UT- |
| IMS Charging Information | | IUTE |
| MMTel Charging Information | | IUTE |
| Supplementary Service | | IUTE |
| Service Type | | IUTE |
| Service Mode | | IUTE |
| Number of diversions | | IUTE |
| Associated party address | | I--E |
| Conference Id | | I--E |
| Participant Action Type | | IUTE |
| Change Time | | -UTE |
| Number Of Participants | | IUTE |
| CUG Information | | I--E |

Table 6.x.2.3.2 defines the basic structure of the supported fields in the *Charging Data Response* message for MMTel converged charging.

Table 6.x.2.3.2: Supported fields in *Charging Data Response* message

| Information Element | Node Type | IMS Node |
| --- | --- | --- |
| Supported Operation Types | IUTE |
| Session Identifier | | IUTE |
| Invocation Timestamp | | IUTE |
| Invocation Result | | IUTE |
| Invocation Sequence Number | | IUTE |
| Session Failover | | I--- |
| Triggers | | - |
| Multiple Unit information | | I--E |
| Result Code | | IU-E |
| Rating Group | | IU-- |
| Granted Unit | | IU-- |
| Validity Time | | IU-- |

#### 6.x.2.4 Formal MMTel converged charging parameter description

##### 6.x.2.4.1 MMTel charging CHF CDR parameters

The detailed definitions, abstract syntax and encoding of the MMTel charging CHF CDR parameters are specified in TS 32.298 [51].

##### 6.x.2.4.2 MMTel charging resources attributes

The detailed definitions of resources attributes used for MMTel charging are specified in TS 32.291 [58].

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| **End of changes** |