**3GPP TSG-SA5 Meeting #140-e *S5-216076***

**e-meeting, 15 - 24 November 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.291** | **CR** | **0357** | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Addition of MMTel converged charging information | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSIMSCH | | | | |  | ***Date:*** | | | 2021-11-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | Adding the MMTel converged charging information | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The initial MMTel converged charging information types. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Charging for MMTel cannot be supported by converged charging. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.1.6.2.x (new), 6.1.6.2.x.1 (new), 6.1.6.2.x.2 (new), 6.1.6.2.x.3 (new), 6.1.6.2.x.4 (new), 6.1.6.3.a (new), 6.1.6.3.b (new), 6.1.6.3.c (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** |

# 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] - [13] Void.

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

[15] - [28] Void.

[29] 3GPP TS 32.274: "Telecommunication management; Charging management;Short Message Service (SMS) charging".

[30] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G Data connectivity domain charging; stage 2".

[31] 3GPP TS 32.256: "Telecommunication management; Charging management; 5G connection and mobility domain charging; stage 2".

[32] 3GPP TS 32.260: "Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging".

[33] 3GPP TS 32.275: "Telecommunication management; Charging management; MultiMedia Telephony (MMTel) charging".

[34] - [49] Void.

[50] - [57] Void.

[58] 3GPP TS 32.290: "Telecommunication management; Charging management; 5G system; Services, operations and procedures of charging using Service Based Interface (SBI).

[59] - [69] Void.

[70] 3GPP TS 28.201: "Charging management; Network slice performance and analytics charging in the 5G System (5GS); Stage 2".

[71] 3GPP TS 28.202: "Charging management; Network slice management charging in the 5G System (5GS); Stage 2".

[72] - [99] Void.

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

[101] 3GPP TR 21.900: "Technical Specification Group working methods".

[102] 3GPP TS 24.605: "Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification".

[103] - [199] Void

[200] - [252] Void

[253] 3GPP TS 28.532: "Management and orchestration; Management services".

[254] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3".

[255] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[256] 3GPP TS 28.554: "Management and orchestration;5G end to end Key Performance Indicators (KPI)".

[257] 3GPP TS 28.623: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions".

[258] - [298] Void

[299] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[300] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[301] 3GPP TS 29.594: "5G System; Spending Limit Control Service; Stage 3".

[302] 3GPP TS 29.512: "5G System; Session Management Policy Control Service; Stage 3".

[303] 3GPP TS 24.501: "Non-Access-Stratum (NAS) Protocol for 5G System (5GS); Stage 3".

[304] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[305] 3GPP TS 29.510: "Network Function Repository Services; Stage 3".

[306] 3GPP TS 29.520: "5G System; Network Data Analytics Services;Stage 3".

[307] - [370] Void

[371] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[372] - [389] Void

[390] 3GPP TS 33.501: "Security architecture and procedures for 5G System".

[391] - [399] Void

[400] Void.

[401] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2) ".

[402] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format ".

[403] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[405] - [499] Void.

[500] OpenAPI: "OpenAPI 3.0.0 Specification", <https://github.com/OAI/OpenAPI-Specification/blob/master/versions/3.0.0.md>.

[501] - [599] Void.

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| **Second change** |

##### 6.1.6.2.x MMTel Specified Data Type

###### 6.1.6.2.x.1 Type ChargingDataRequest

This clause is additional attributes of the type ChargingDataRequest defined in clause 6.4.1.2.1 for MMTel charging described in 3GPP TS 32.275 [33].

Table 6.1.6.2.x.1-1: IMS specified attribute of type ChargingDataRequest

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| mMTelChargingInformation | MMTelChargingInformation | OC | 0..1 | This field holds the MMTel specific information. | IMS |

###### 6.1.6.2.x.2 Type ChargingDataResponse

This clause is additional attributes of the type ChargingDataResponse defined in clause 6.4.1.2.2 for MMTel charging described in 3GPP TS 32.275 [33].

Table 6.1.6.2.x.2-1: IMS specified attribute of type ChargingDataResponse

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
|  |  |  |  |  |  |

###### 6.1.6.2.x.3 Type MMTelChargingInformation

Table 6.1.6.2.x.3-1: Definition of type MMTelChargingInformation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supplementaryServices | SupplementaryService | OM | 1..N | This field holds the associated supplementary services. It can be present multiple times as necessary to present the parallel activity of the different supplementary services. |  |

###### 6.1.6.2.x.4 Type SupplementaryService

Table 6.1.6.2.x.4-1: Definition of type SupplementaryService

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supplementaryServiceType | SupplementaryServiceType | OM | 1 | This field identifies the type of supplementary service. |  |
| supplementaryServiceMode | SupplementaryServiceMode | OC | 0..1 | This field provides the mode for CDIV, CB and ECT supplementary services |  |
| numberOfDiversions | Uint32 | OC | 0..1 | This field holds the and holds the number of diversions related to a CDIV service. |  |
| associated party address | string | OC | 0..1 | This filed holds the address (SIP URI or Tel URI) of the user, the supplementary service is provided to:  - the "forwarding party" for CDIV  - the "transferor" for ECT  - the "pilot identity" for FA  - the "initiator party" for 3PTY. |  |
| conferenceId | string | OC | 0..1 | This filed holds the conference ID. |  |
| participantActionType | ParticipantActionType | OC | 0..1 | This field holds the participant's action type during the conference, see TS 24.605 [102]. |  |
| changeTime | DateTime | OC | 0..1 | This filed holds the UTC time indicating the moment when the conference participant has an action (e.g., creating the conference, joining in the conference, being invited into the conference, and quitting the conference). |  |
| Number Of Participants | Uint32 | OC | 0..1 | This field holds for the  - initial request the number of invited parties  - interim / update request the number of parties who are currently attached in the session. |  |
| CUG Information | OctetString | OC | 0..1 | This field holds the "CUG Interlock Code" which identifies CUG membership within the network. |  |

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| **Third change** |

##### 6.1.6.3.a Enumeration: SupplementaryServiceType

Table 6.1.6.3.a-1: Enumeration SupplementaryServiceType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| OIP | Indicates originating identification presentation. |  |
| OIR | Indicates originating identification restriction. |  |
| TIP | Indicates terminating identification presentation. |  |
| TIR | Indicates terminating identification restriction. |  |
| HOLD | Indicates communication hold. |  |
| CB | Indicates communication barring. |  |
| CDIV | Indicates communication diversion. |  |
| CW | Indicates communication waiting. |  |
| MWI | Indicates message waiting indicator. |  |
| CONF | Indicates conference. |  |
| FA | Indicates flexible alerting. |  |
| CCBS | Indicates completion of communication to busy subscriber. |  |
| CCNR | Indicates completion of communications on no reply. |  |
| MCID | Indicates malicious communication identification. |  |
| CAT | Indicates customized alerting tone. |  |
| CUG | Indicates closed user group. |  |
| PNM | Indicates personal network management. |  |
| CRS | Indicates customized ringing signal. |  |
| ECT | Indicates explicit communication transfer, |  |

##### 6.1.6.3.b Enumeration: SupplementaryServiceMode

Table 6.1.6.3.b-1: Enumeration SupplementaryServiceMode

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| CFU | Indicates communication forwarding unconditional. |  |
| CFB | Indicates communication forwarding busy. |  |
| CFNR | Indicates communication forwarding no reply. |  |
| CFNL | Indicates communication forwarding not logged in. |  |
| CD | Indicates communication deflection. |  |
| CFNRC | Indicates communication forwarding on subscriber not reachable. |  |
| ICB | Indicates incoming call barring. |  |
| OCB | Indicates outgoing call barring. |  |
| ACR | Indicates anonymous communication rejection. |  |
| BLIND\_TRANFER | Indicates blind transfer. |  |
| CONSULTATIVE\_TRANFER | Indicates consultative transfer. |  |

##### 6.1.6.3.c Enumeration: ParticipantActionType

Table 6.1.6.3.c-1: Enumeration ParticipantActionType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| CREATE | Indicates creating the conference. |  |
| JOIN | Indicates joining in the conference. |  |
| INVITE\_INTO | Indicates being invited into the conference. |  |
| QUIT | Indicates quitting the conference. |  |

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| **End of changes** |