**3GPP TSG SA WG5 Meeting #155 *S5-243030***

Jeju, South Korea, 27 - 31 May 2024

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **32.277** | **CR** | **0051** | **rev** | **1** | **Current version:** | **18.0.0** |  |
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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:***  | Rel-18 CR 32.277 Add tenant identifier and correct charging information for 5G ProSe converged charging  |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI18, 5G\_ProSe |  | ***Date:*** | 2024-05-30 |
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| ***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 o. | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | 1. “Tenant identifier” is introduced in Release 18 to be part of the common IEs in TS 32.290 table 7.1. This field contains the identification of the business subscriber that uses the requested service. Currently, the 5G ProSe converged charging information holds the AF identifier using “subscriber identifier” IE. It is more suitable to use Tenant identifier for holding the AF identifier. To ensure backward compatibility, the description for subscriber identifier can remain unchanged.2. TR 28.286 concluded on Solution #6.10: Only Applicable Common IEs should be reflected in common part description compared to TS 32.290.3. Some referenced clause numbers in the IE description does not refer to the correct clauses defined for 5G ProSe converged charging. Some IEs in the detailed message format does not align with the Charging Data Request. |
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| ***Summary of change:*** | 1. Add Tenant Identifier in Table 6.2a.1.2.1.1, Table 6.5.3.1.2. Remove not applicable IE and expand applicable sub-fields in Table 6.2a.1.2.2.1, Table 6.5.3.1, Table 6.5.3.2.3a. Correct the referenced clause numbers in Table 6.2a.1.2.1.1. 3b. Correct the IEs in Table 6.5.3.1. |
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| ***Consequences if not approved:*** | The 5G ProSe charging cannot work properly, due to the error in charging information and absence of CHF CDR. |
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| ***Clauses affected:*** | 6.2a.1.2.1, 6.2a.1.2.2, 6.5.3 |
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|  | **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  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Revision of S5-242730 |

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| **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 5G ProSe converged charging.

Table 6.2a.1.2.1.1: Charging Data Request message contents

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| --- | --- | --- |
| **Information Element** | **Category** | **Description** |
| Session Identifier | OC | Described in TS 32.290 [55] |
| Subscriber Identifier | OM | Described in TS 32.290 [55], and may hold the identifier of the AF as an alternative to tenant identifier. |
| Tenant Identifier | OC | Described in TS 32.290 [55], and holds the identifier of the AF. |
| NF Consumer Identification | M | Described in TS 32.290 [55] |
| NF Functionality | M | Described in TS 32.290 [55]. |
| NF Name | OC | Described in TS 32.290 [55]. |
| NF Address | OC | Described in TS 32.290 [55]. |
| NF PLMN ID | OC | Described in TS 32.290 [55]. |
| Charging Identifier | OM | Described in TS 32.290 [55]. |
| Invocation Timestamp | M | Described in TS 32.290 [55] |
| Invocation Sequence Number | M | Described in TS 32.290 [55] |
| Retransmission Indicator | OC | Described in TS 32.290 [55] |
| One-time Event | OC | Described in TS 32.290 [55]. |
| One-time Event Type | OC | Described in TS 32.290 [55]. |
| Notify URI | OC | Described in TS 32.290 [55]. |
| Supported Features | OC | Described in TS 32.290 [55]. |
| Service Specification information | OC | Described in TS 32.290 [55]. |
| Triggers | OC | This field is described in TS 32.290 [55] and holds the ProSe specific triggers described in clause 5.4.2.2.1. |
| Multiple Unit Usage | OC | This field contains the parameters for the quota management request and/or usage reporting. |
| Rating Group | M | Described in TS 32.290 [55] |
| Requested Unit | OC | Described in TS 32.290 [55] |
| Time | OC | Described in TS 32.290 [55] |
| Total Volume | OC | Described in TS 32.290 [55] |
| Uplink Volume | OC | Described in TS 32.290 [55] |
| Downlink Volume | OC | Described in TS 32.290 [55] |
| Service Specific Units | OC | Described in TS 32.290 [55] |
| Used Unit Container | OC | Described in TS 32.290 [55] |
| Service Identifier | OC | Described in TS 32.290 [55] |
| Quota management Indicator | OC | Described in TS 32.290 [55] |
| Triggers | OC | Described in TS 32.290 [55] |
| PC5 Container Information | OC | This field holds the 5G ProSe specific information described in clause 6.5.2.2. |
| Trigger Timestamp | OC | Described in TS 32.290 [55] |
| Time | OC | Described in TS 32.290 [55] |
| Total Volume | OC | Described in TS 32.290 [55] |
| Uplink Volume | OC | Described in TS 32.290 [55] |
| Downlink Volume | OC | Described in TS 32.290 [55] |
| Service Specific Unit | OC | Described in TS 32.290 [55] |
| Event Time Stamps | OC | Described in TS 32.290 [55] |
| Local Sequence Number  | OM | Described in TS 32.290 [55] |
| ProSe Information | OM | This field holds the 5G ProSe specific information described in clause 6.5.2.1. |

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| **Next change** |

##### 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 ProSe converged charging.

Table 6.2a.1.2.2.1: Charging Data Response message content

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| **Information Element** | **Category** | **Description** |
| Session Identifier | OC | Described in TS 32.290 [55] |
| Invocation Timestamp | M | Described in TS 32.290 [55] |
| Invocation Result | OC | Described in TS 32.290 [55] |
| Invocation Result | 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 [55] |
| Session Failover | OC | Described in TS 32.290 [55] |
| Supported Features | OC | Described in TS 32.290 [55] |
| Triggers  | OC | Described in TS 32.290 [55] |
| Multiple Unit Information | OC | Described in TS 32.290 [55] |
| Result Code | OC | Described in TS 32.290 [55] |
| Rating Group | OM | Described in TS 32.290 [55] |
| Granted Unit | OC | Described in TS 32.290 [55] |
| Tariff Time Change | OC | Described in TS 32.290 [55] |
| Time | OC | Described in TS 32.290 [55] |
| Total Volume | OC | Described in TS 32.290 [55] |
| Uplink Volume | OC | Described in TS 32.290 [55] |
| Downlink Volume | OC | Described in TS 32.290 [55] |
| Service Specific Units | OC | Described in TS 32.290 [55] |
| Validity Time | OC | Described in TS 32.290 [55] |
| Final Unit Indication | OC | Described in TS 32.290 [55] |
| Time Quota Threshold  | OC | Described in TS 32.290 [55] |
| Volume Quota Threshold  | OC | Described in TS 32.290 [55] |
| Unit Quota Threshold  | OC | Described in TS 32.290 [55] |
| Quota Holding Time | OC | Described in TS 32.290 [55] |
| Triggers | OC | Described in TS 32.290 [55] |

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| **Next change** |

### 6.5.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data for 5G ProSe 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 (e.g. IUT or E) as indicated in the table heading. The omission of an Operation type for a particular field is marked with "-" (e.g. I-E). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.5.3.1 illustrates the basic structure of the supported fields in the Charging Data Request for 5G ProSe converged charging.

Table 6.5.3.1: Supported fields in Charging Data Request message

| Information Element | Node Type | DirectDiscovery | DirectCommunication |
| --- | --- | --- | --- |
| Supported Operation Types | I/U/T/E | I/U/T/E |
| Session Identifier | --E | IUTE |
| Subscriber Identifier | --E | IUTE |
| Tenant Identifier | --E | IUTE |
| NF Consumer Identification | --E | IUTE |
| NF Functionality | --E | IUTE |
| NF Name | --E | IUTE |
| NF Address | --E | IUTE |
| NF PLMN ID | --E | IUTE |
| Invocation Timestamp | --E | IUTE |
| Invocation Sequence Number | --E | IUTE |
|  |  |  |
| One-time Event | --E | --E |
| One-time Event Type | --E | --E |
| Notify URI | I-- | I-- |
| Triggers | --E | IUTE |
| Multiple Unit Usage | --E | IUTE |
| **ProSe Information** |
| Announcing PLMN ID | ---E | - |
| Announcing UE HPLMN Identifier | ---E | - |
| Announcing UE VPLMN Identifier | ---E | - |
| Monitoring UE HPLMN Identifier | ---E | - |
| Monitoring UE VPLMN Identifier | ---E | - |
| Discoverer UE HPLMN Identifier | ---E | - |
| Discoverer UE VPLMN Identifier | ---E | - |
| Discoveree UE HPLMN Identifier | ---E | - |
| Discoveree UE VPLMN Identifier | ---E | - |
| Monitored PLMN Identifier | ---E | - |
| ProSe Application ID | ---E | - |
| Application ID | ---E | IUTE |
| Application Specific Data | - | IUTE |
| ProSe functionality | ---E | IUTE |
| ProSe Event Type | ---E | - |
| Direct Discovery Model | ---E |  |
| Validity Period | ---E |  |
| Role of UE | ---E |  |
| ProSe Request Timestamp | ---E |  |
| PC3 Protocol Cause | ---E |  |
| Monitoring UE Identifier | ---E |  |
| Requested Application Layer User ID | ---E |  |
| Requested PLMN Identifier | ---E |  |
| Time Window | ---E |  |
| Range Class | ---E |  |
| Proximity Alert Indication | ---E |  |
| Proximity Alert Timestamp | ---E |  |
| Proximity Cancellation Timestamp | ---E |  |
| Relay IP address | - | IUTE |
| ProSe UE-to-Network Relay UE ID  | - | IUTE |
| ProSe Destination Layer-2 ID | - | IUTE |
| PFI Container information | - | IUTE |
| Transmission Data Container | - | IUTE |
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| Reception Data Container | - | IUTE |
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Table 6.5.3.2 illustrates the basic structure of the supported fields in the Charging Data Response for 5G ProSe converged charging.

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

| Information Element | Node Type | DirectDiscovery | DirectCommunication |
| --- | --- | --- | --- |
| Supported Operation Types | I/U/T/E | I/U/T/E |
| Session Identifier | --E | IUTE |
| Invocation Timestamp | --E | IUTE |
| Invocation Result | --E | IUTE |
| Invocation Result | --E | IUTE |
| Failed parameter | --E | IUTE |
| Failure Handling | --E | IUTE |
| Invocation Sequence Number | --E | IUTE |
| Session Failover | - | IUTE |
| Supported Features | - | IUTE |
| Triggers | I--E | IUTE |
| Multiple Unit Usage | --E | IUTE |
| Result Code | --E | IUTE |
| Rating Group | --E | IUTE |
| Granted Unit | --E | IUTE |
| Tariff Time Change | --E | IUTE |
| Time | --E | IUTE |
| Total Volume | --E | IUTE |
| Uplink Volume | --E | IUTE |
| Downlink Volume | --E | IUTE |
| Service Specific Units | --E | IUTE |
| Validity Time | --E | IUTE |
| Final Unit Indication | --E | IUTE |
| Time Quota Threshold  | --E | IUTE |
| Volume Quota Threshold  | --E | IUTE |
| Unit Quota Threshold  | --E | IUTE |
| Quota Holding Time | --E | IUTE |
| Triggers | --E | IUTE |

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| **End of change** |