3GPP TSG SA WG5 Meeting 135-e TDoc S5-211125

electronic meeting, online, 25 January - 3 February 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **32.254** | **CR** | **0014** | **rev** | **1** | **Current version:** | **16.3.0** |  |
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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:***  | Correction on different identities |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | 5GS\_Ph1\_NEFCH |  | ***Date:*** | 2021-01-14 |
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| ***Category:*** | **F** |  | ***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 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:*** | The Subscriber Identifier is defined as "holds the identifier of the AF". However the Subscriber Identifier is mapped to the supi TS 32.291 which cannot be an identifier for the AF per TS 23.003 Supi definition.The NEF API Charging Information contains an "external Identifier" which is wrongly mapped to groupIdentifier (of type GroupId representing a group of IMSI) in TS 32.291. Instead, for Individual UE identified under "external identifier", the Information Element should be mapped to GPSI (which also allows an Individual UE to be identified by an MSISDN).A new Information Element mapping to "ExternalGroupId" is needed for group of UE(s). |
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| ***Summary of change:*** | Introduce "AF identifier" instead of using the "Subscriber Identifier"Replace "external Identifier" IE by "external Individual Identifier" Information Element to be mapped to gpsi data type.Add "External Group Identifier" Information Element to be mapped to ExternalGroupId data type. |
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| ***Consequences if not approved:*** | Incorrect charging for NEF APIs due to wrong identification of the UE(s) and the AF invoking the APIs  |
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| ***Clauses affected:*** | 6.2a.1.2.1, 6.2a.3.2, 6.3.1.4.1, 6.3.4  |
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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:*** |  |

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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 NEF 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 [57] |
| Subscriber Identifier | - | This field is not applicable |
| AF identifier | OM | This field holds the identifier of the AF. |
| NF Consumer Identification | M | 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 | This field indicates, if included, that this is a one-time event and that there will be no update or termination. |
| One-time Event Type | OC | Described in TS 32.290 [57]. |
| Notify URI | OC | This field contains URI to which notifications are sent by the CHF. The latest received value shall always be used at notifications. |
| Triggers | OC | This field is described in TS 32.290 [57] and holds the NEF specific triggers described in clause 5.x |
| Multiple Unit Usage | OC | This field contains the parameters for the quota management request and/or usage reporting. |
| NEF API Charging Information | OM | This field holds the NEF API specific information described in clause 6.3.1.x |

Editor's note: The Multiple Unit Usage is FFS.

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| **Next change** |

#### 6.2a.3.2 NEF charging CHF CDR data

If enabled, CHF CDRs for NEF charging shall be produced for NEF chargeable events.

The fields of NEF charging CHF CDR are specified in table 6.2a.3.2.1.

Table 6.2a.3.2.1: NEF charging CHF record data

|  |  |  |
| --- | --- | --- |
| **Field** | **Category** | **Description** |
| Record Type  | M | Described in TS 32.298 [3] |
| Recording Network Function ID | OM | Described in TS 32.298 [3] |
| Subscriber Identifier | - | This field is not applicable |
| AF identifier | OM | This field holds the identifier of the AF.  |
| NF Consumer Information | OC | This field holds the information of the NEF that used the charging service |
| Triggers | OC | This field is described in TS 32.298 [3] and holds the NEF specific triggers described in clause 5.x |
| List of Multiple Unit Usage | OM | Described in TS 32.298 [3] |
| Record Opening Time | OC | Described in TS 32.298 [3] |
| Duration | M | Described in TS 32.298 [3] |
| Record Sequence Number | C | Described in TS 32.298 [3] |
| Cause for Record Closing  | M | Described in TS 32.298 [3] |
| Local Record Sequence Number | OM | Described in TS 32.298 [3] |
| Record Extensions | OC | Described in TS 32.298 [3] |
| NEF API Charging Information | OM | This field holds the NEF specific information defined in clause 6.3.1.x |

Editor's note: The List of Multiple Unit Usage is FFS.

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| **Next change** |

##### 6.3.1.4.1 Definition of the NEF API Charging Information

Network Exposure Function API specific charging information is provided within the NEF API Charging Information. The detailed structure of the NEF API Charging Information can be found in table 6.3.1.4.1.

Table 6.3.1.4.1: Structure of the NEF API Charging Information

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| --- | --- | --- |
| Information Element | Category | Description |
| External Individual Identifier | OC | This parameter holds the external Identifier or the MSISDN associated to the GPSI of the individual UE, if available. |
| External Group Identifier | OC | This parameter holds the external identifier for a group of individual UE(s), if available. |
| API Direction | M | This field holds the direction to indicate if it is an API invocation from an AF or notification to an AF. |
| API Target Network Function | OC | This field holds the identifier of the network function that either is the destination of the API invocation or triggers the notification. |
| API Result Code | OC | This parameter holds the result of API Invocation. |
| API Name | M | This field holds the name of the API invoked. |
| API Reference | OC | This field holds the reference to the definition of the format of the API invocation, this can be a URI or refence to the standard where it's specified |
| API Content | OC | This field holds the actual content of the API invocation, in the format described by the API Reference |

Editor's note: The full list of information elements is FFS.

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| **Next change** |

### 6.3.4 Detailed message format for 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 6.3.4.1 illustrates the basic structure of the supported fields in the Charging Data Request for exposure function API online charging.

Table 6.3.4.1: Supported fields in Charging Data Request message

| Information Element | Node Type | NEF |
| --- | --- | --- |
| Supported Operation Types | I/T/U/E |
| Session Identifier | ITE |
| Subscriber Identifier | --- |
| AF identifier | ITE |
| NF Consumer Identification | ITE |
| Invocation Timestamp | ITE |
| Invocation Sequence Number | ITE |
| Retransmission Indicator | --- |
| One-time Event | --E |
| One-time Event Type | --E |
| Notify URI | I-- |
| Triggers | ITE |
| Multiple Unit Usage | ITE |
| NEF API Charging Information |
| External Individual Identifier | ITE |
| External Group Identifier | ITE |
| API Direction | ITE |
| API Target Network Function | ITE |
| API Result Code | ITE |
| API Name | ITE |
| API Reference | ITE |
| API Content | ITE |

Table 6.3.4.2 illustrates the basic structure of the supported fields in the Charging Data Response for exposure function API converged charging.

Table 6.3.4.2: Supported fields in *Charging Data Response* Message

| Information Element | Node Type | NEF |
| --- | --- | --- |
| Supported Operation Types | I/U/T/E |
| Session Identifier | ITE |
| Invocation Timestamp | ITE |
| Invocation Result | ITE |
| Invocation Sequence Number | ITE |
| Session Failover | ITE |
| Triggers  | ITE |
| Multiple Unit Information | I-E |

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| **End of changes** |