**3GPP TSG-SA5 Meeting #156 *S5-244488***

**Maastricht, Netherlands, 19 - 23 August 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.255** | **CR** | **0549** | **rev** | **1** | **Current version:** | **18.4.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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-19 CR 32.255 Addition of NRF discovery reference | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | CHFSeg | | | | |  | ***Date:*** | | | 2024-08-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The NRF discovery have been updated in TS 32.290. | | | | | | | | |
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| ***Summary of change:*** | | Adding the reference to NRF discovery handling in TS 32.290. | | | | | | | | |
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| ***Consequences if not approved:*** | | The CHF selection based on NRF will be incomplete. | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.8, and A.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Revision of S5-244138 | | | | | | | | |

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| **First change** |

5.1.8 CHF selection

The CHF selection by the SMF is done at the PDU session establishment, this selection shall be based on the following and with this priority order (highest to lowest):

- PCF provided CHF address(es) with possible associated CHF instance ID(s) and/or CHF set ID(s).

- UDM provided charging characteristics.

- NRF based discovery.

- SMF locally provisioned possibly based on charging characteristics.

The UDM provided charging characteristics may be used to indicate CHF instance ID(s), CHF set ID(s), CHF Group ID. and that NRF based discovery is to be used, for charging characteristics see annex A and NRF based discovery see TS 32.290 [57] clause 6.1.

The only case when a CHF instance(s) supporting “offline only” may be selected is when NRF is used for the CHF selection, and the PDU session charging method indicates "offline only", it is possible to select an CHF supporting converged charging without using quota management in this case as well.

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| **Second change** |

A.1 General

Subscribers may have Charging Characteristics assigned to the subscription and/or the subscribed DNNs. Default Charging Characteristics may also be pre-provisioned on the SMF.

During PDU session establishment, when the SMF retrieves subscription data from the UDM, if a subscribed Charging Characteristics for the requested DNN is identified, it may override the SMF pre-provisioned Charging Characteristics.

The Charging Characteristics parameter consists of a string of 16 bits designated as behaviours, freely defined by Operators. These behaviours may be things like:

- CHF addresses: to be used by the SMF, optionally with associated CHF instance ID(s), CHF set ID(s), CHF Group ID

- CHF selection method: this indicates how the SMF is to select the CHF instance e.g., local configuration, NRF

- Charging method: indicates what charging method to be used for every PCC rule of the PDU Session, i.e., "online", "offline", or “offline only”

- Charging service: indicates if converged charging or offline only charging service is to be used

- Metering method: indicates if duration, volume, or duration and volume of the service data flow traffic is to be metered

- Service data flow handling: wherever the service data flow is allowed to start while the SMF is waiting for the response to the converged charging request

- Triggers: the default triggers for the PDU session e.g., tariff time, time limit, volume limit, number of charging condition changes

One usage may be as a behaviour index associated to the PDU session in converged charging as described in the example in Table A.1.

**Table A.1: Example of Charging Characteristics behaviours for SMF**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **5G data connectivity domain charging behaivours** | | | | | | | | | |
| **Behaviour index** | **CHF address** | **CHF selection method** | **Charging method** | **Charging service** | **Metering method** | **Time Limit** | **Volume Limit** | **Cond. changes** | **Tariff time** | **…** |
| 0 | CHF Set ID 1 | NRF | Online | Converged charging | Volume | 30 min | 2 MB | 2 | - | ... |
| 1 | Primary & secondary CHF addr.  1 & 2 | Local config. | Offline only | Converged charging | Volume | 15 min | 5 MB | 3 | 00:00 | … |
| 2 | CHF Group ID 1 | NRF | Offline | Converged charging | Volume | 30 min | 1 MB | 1 | - | ... |
| 3 | Primary & secondary CHF addr. 3 & 4 | Local config. | Offline only | Offline only charging | Volume | 15 min | 10 MB | 3 | 00:00 | ... |
| 4 | CHF Group ID 2 | NRF | Online | Converged charging | Volume | 15 min | 3 MB | 1 | - | … |
| … | … | … | … | … | … | … | … | … | … | … |



Any of the behaviours may be overridden by information provided by PCF or CHF.

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| **End of changes** |