**3GPP TSG SA WG5 Meeting #148-eS5-233454rev1**

**Electronic, 17-25 April 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **32.240** | **CR** | **0459** | **rev** | **1** | **Current version:** | **18.2.0** |  |
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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:*** | An Architecture for CHF Distributed Availability in Migration Mode | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | DIST\_CH | | | | |  | ***Date:*** | | | 2023-04-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | This change provides a solution for the New WID on CHF Distributed Availability in the migration mode, i.e. the Converged Charging System (CCS), regarding Charging Function (CHF), Account Balance Management Function (ABMF), and Rating Function (RF) could be available at the UE’s current location. | | | | | | | | |
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| ***Summary of change:*** | | This change add an annex for CHF Distributed Availability in TS 32.240. The annex includes an architecture for CHF distributed availability in migration mode. | | | | | | | | |
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| ***Consequences if not approved:*** | | If not approved, the architectural options for CHF distributed availability will not be sufficient. | | | | | | | | |
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| ***Clauses affected:*** | | Annex X (new) | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **First change** |

Annex X (Informative):  
CHF distributed availability

# X.1 General

This annex contains the deployment options for Converged Charging System (CCS), in regards to Charging Function (CHF), Account Balance Management Function (ABMF), and Rating Function (RF) for information.

# X.y Migration mode availability

## X.y.1 General

In the migration mode, the Charging Function (CHF), Account Balance Management Function (ABMF), and Rating Function (RF) could be available at the UE’s current location. In this case, UE data related to charging is maintained by the CHF with related RF andABMF that is close to the UE’s current location, and migrate to another CHF with related RF and ABMFwhen UE changes location.

When a UE is served by a CHF instance, UE data related to charging (e.g. account balance) is maintained by the CHF instance, as well as the RF and ABMF that interact with this CHF instance.

When a UE changes location, the NF(CTF) could re-select the CHF instance for the UE. For example, when a UE changes from location A to location B, the CHF instance in location A is different from the CHF instance in location B. In this case, the CHF instance should be re-selected for the UE. In addition, UE data related to charging (e.g. account balance) is migrated to the CHF instance with related RF and ABMF in location B.

## X.y.2 Architecture

The architecture for distributed CHF availability in migration mode is demonstrated in Figure X.y.2-1. In this architecture, the UE data related to charging is only available at the CHF instance with related RF and ABMFthat is currently serving the UE.

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Figure X.y.2-1: The Architecture for Distributed CHF Availability in Migration Mode

Editor’s note: The data management principle is FFS, e.g. how to manage legacy data related to charging.

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| **End of changes** |