**3GPP TSG-SA5 Meeting #156 *S5-244549***

Maastricht, Netherlands, 19 - 23 August 2024

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.256** | **CR** | **0040** | **rev** | **1** | **Current version:** | **18.4.1** |  |
|  | | | | | | | | |
| *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-18 CR 32.256 Correction on roaming architecture | | | | | | | | | |
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| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2024-08-09 |
|  |  | | | |  | |  | | |  |
| ***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 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)* | |
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| ***Reason for change:*** | | Both N107 and N41 are optional, the architecture depicting this is missing this case. | | | | | | | | |
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| ***Summary of change:*** | | Addition of a roaming architecture only using N42. | | | | | | | | |
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| ***Consequences if not approved:*** | | Inconsistent may lead till interoperability issues. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.2 | | | | | | | | |
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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:*** | | Revision of S5-244147 | | | | | | | | |

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| **First change** |

4.2.2 Roaming

Figure 4.2.2.1 shows the 5G connection and mobility converged charging architecture in roaming service based representation:

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**Figure 4.2.2.1: 5G connection and mobility converged charging architecture in roaming**

The architectural options of figure 4.2.1.1 apply with AMF located in VPLMN, V-CHF and corresponding Billing domain/CGF located in VPLMN.

The architectural options of figure 4.2.1.1 apply with AMF located in VPLMN, H-CHF and corresponding Billing domain/CGF located HPLMN. The Security Edge Protection Proxy (SEPP) specified in TS 23.501 [200] is used for inter-PLMN Nchf.

Figure 4.2.2.2 shows the 5G connection and mobility converged charging architecture in roaming with AMF to H-CHF, reference point representation:

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**Figure 4.2.2.2: 5G connection and mobility converged charging architecture in roaming with AMF to H-CHF - reference point representation**

NOTE: In some scenarios only N40 may be a deployment option based on agreement between HPLMN and VPLMN, in this case the interactions with HPLMN or MVNO is outside the scope of this specification.

The N41 reference point is defined for the interactions between AMF and H-CHF, and the N42 reference point is defined for the interactions between AMF and V-CHF.

Figure 4.2.2.3, an alternative to Figure 4.2.2.2, shows the 5G connection and mobility converged charging architecture in roaming, reference point representation:



**Figure 4.2.2.3: 5G connection and mobility converged charging architecture in roaming with V-CHF to H-CHF - reference point representation**

The N42 reference point is defined for the interactions between AMF and V-CHF, and the N107 reference point is defined for the interactions between V-CHF and H-CHF.

One or both of the architectures in Figure 4.2.2.2 and Figure 4.2.2.3 may be supported for local breakout roaming.

In case both architectures in Figure 4.2.2.2 and Figure 4.2.2.3 are supported for roaming, AMF and V-CHF determines which architecture should be selected for a roaming UE based on operator agreement.

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| **End of changes** |