**3GPP TSG-WG SA2 Meeting #156-e *SP-230xxx***

**April 17 - 21, 2023, Electronic**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.502** | **CR** |  | **rev** | **-** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | MBSR Authorization Update in UCU | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | KPN N.V. | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | VMR | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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 CR reflects the changes made to the 23.501 CR … which specifies that the MBSR authorization can be updated by the AMF by sending a UE Configuration Update command to the UE. | | | | | | | | |
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| ***Summary of change:*** | | Add IAB authorized indication IE to UE Configuration Update. | | | | | | | | |
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| ***Consequences if not approved:*** | | MBSR Authorization change using UCU is not supported. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.4.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 depends on … | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

#### 4.2.4.2 UE Configuration Update procedure for access and mobility management related parameters

This procedure is initiated by the AMF when the AMF wants to update access and mobility management related parameters in the UE configuration.

This procedure is also used to trigger UE to perform, based on network indication, either Mobility Registration Update procedure while the UE is in CM-CONNECTED state to modify NAS parameters that require negotiation (e.g. MICO mode) or to steer the UE towards EPC as specified in clause 5.31.3 of TS 23.501 [2], or Mobility Registration Update procedure after the UE enters CM-IDLE state (e.g. for changes to Allowed NSSAI that require re-registration). If a Registration procedure is needed, the AMF provides an indication to the UE to initiate a Registration procedure.

UE Configuration Update shall be sent over the Access Type (i.e. 3GPP access or non-3GPP access) the UE Configuration Update is applied to, when applicable. If the AMF wants to update NAS parameters in the UE which require UE acknowledgement, then the AMF provides an indication to the UE of whether the UE shall acknowledge the command or not. The AMF should not request acknowledgement of the NITZ command. The AMF shall request acknowledgement for NSSAI information (e.g. Allowed NSSAI), 5G-GUTI, TAI List and Mobility Restrictions, LADN Information, MICO, Operator-defined access category definitions, PLMN-assigned UE Radio Capability ID and SMS subscription.



Figure 4.2.4.2-1: UE Configuration Update procedure for access and mobility management related parameters

0. AMF determines the necessity of UE configuration change due to various reasons (e.g. UE mobility change, NW policy, reception of Subscriber Data Update Notification from UDM, change of Network Slice configuration (including due to change of the NSSRG information in subscription information as specified in clause 5.15.12 of TS 23.501 [2], or due to change of NSAG Information as specified in clause 5.15.14 of TS 23.501 [2]), need to assign PLMN-assigned UE Radio Capability ID, change of Enhanced Coverage Restriction information in the UE context, change in MBSR IAB-DU Authorization) or that the UE needs to perform a Registration Procedure. If a UE is in CM-IDLE, the AMF can wait until the UE is in CM-CONNECTED state or triggers Network Triggered Service Request (in clause 4.2.3.3).

NOTE 1: It is up to the network implementation whether the AMF can wait until the UE is in CM-CONNECTED state or trigger the Network Triggered Service Request.

NOTE 2: The AMF can check whether Network Slice configuration needs to be updated by using the Nnssf\_NSSelection\_Get service operation and in such case the AMF compares the stored information with the output from the NSSF to decide whether an update of the UE is required.

The AMF may include Mobility Restriction List in N2 message that delivers UE Configuration Update Command to the UE if the service area restriction for the UE is updated.

1. The AMF sends UE Configuration Update Command containing one or more UE parameters (Configuration Update Indication, 5G-GUTI, TAI List, Allowed NSSAI, Mapping Of Allowed NSSAI, Configured NSSAI for the Serving PLMN, Mapping Of Configured NSSAI, [NSSRG Information], rejected S-NSSAIs, NITZ, Mobility Restrictions, LADN Information, MICO, Operator-defined access category definitions, SMS Subscribed Indication, [PLMN-assigned UE Radio Capability ID], [PLMN-assigned UE Radio Capability ID deletion indication], ["List of PLMN(s) to be used in Disaster Condition"], [Disaster Roaming wait range information], [Disaster Return wait range information], [MPS priority], [MCX priority], [UAS services Indication], [IAB Authorized Indication]) to the UE. Optionally, the AMF may update the rejected S-NSSAIs in the UE Configuration Update command.

The AMF includes one or more of 5G-GUTI, TAI List, Allowed NSSAI, Mapping Of Allowed NSSAI, Configured NSSAI for the Serving PLMN, Mapping Of Configured NSSAI, rejected S-NSSAIs, NITZ (Network Identity and Time Zone), Mobility Restrictions parameters, LADN Information, Operator-defined access category definitions, PLMN-assigned UE Radio Capability ID, or SMS Subscribed Indication if the AMF wants to update these NAS parameters without triggering a UE Registration procedure.

The AMF may include in the UE Configuration Update Command also Configuration Update Indication parameters indicating whether:

- Network Slicing Subscription Change has occurred;

- the UE shall acknowledge the command; and

- whether a Registration procedure is requested.

If the AMF indicates Network Slicing Subscription Change, then the UE shall locally erase all the network slicing configuration for all PLMNs and, if applicable, update the configuration for the current PLMN based on any received information. If the AMF indicates Network Slicing Subscription Change, the UE shall also be requested to acknowledge in step 2.

If the AMF also includes in the UE Configuration Update Command message a new Configured NSSAI for the Serving PLMN, then the AMF should also include a new Allowed NSSAI with, if available, the associated Mapping Of Allowed NSSAI, unless the AMF cannot determine the new Allowed NSSAI after the Subscribed S-NSSAI(s) are updated, in which case the AMF does not include in the UE Configuration Update Command message any Allowed NSSAI. If the UE has indicated its support of the subscription-based restrictions to simultaneous registration of network slices feature in the UE 5GMM Core Network Capability, the AMF includes, if available, the NSSRG Information, defined in clause 5.15.12 of TS 23.501 [2]. If the UE has not indicated its support of the subscription-based restrictions to simultaneous registration of network slices feature and the subscription information for the UE includes NSSRG information and the AMF is providing the Configured NSSAI to the UE, the Configured NSSAI shall include the S-NSSAIs according to clause 5.15.12 of TS 23.501 [2].

If the UE has indicated its support of NSAG feature in 5GMM Core Network Capability, the AMF includes, if available, the NSAG Information, defined in clause 5.15.14 of TS 23.501 [2] when providing a new Configured NSSAI which includes S-NSSAIs with associated NSAG Value(s) or when the NSAG Information changes for some S-NSSAI in the Configured NSSAI. When NSAG Information is provided to the UE, the AMF requests the UE to acknowledge the UE Configuration Command message.

When the UE and the AMF supports RACS as defined in clause 5.4.4.1a of TS 23.501 [2] and the AMF needs to configure the UE with a UE Radio Capability ID and the AMF already has the UE radio capabilities other than NB-IoT radio capabilities for the UE and, the AMF may provide the UE with the UE Radio Capability ID for the UE radio capabilities the UCMF returns to the AMF in a Nucmf\_assign service operation for this UE.

If the UE is needed to be redirected to the dedicated frequency band(s) for S-NSSAI(s), the AMF may determine a Target NSSAI, as described in clause 5.3.4.3.3 of TS 23.501 [2], itself or by interacting with the NSSF using Nnssf\_NSSelection\_Get which includes e.g. the Rejected S-NSSAI(s) for RA and Allowed NSSAI. The AMF may determine RFSP index associated to the Target NSSAI by interacting with the PCF using Npcf\_AMPolicyControl\_Update which includes the Target NSSAI to retrieve a corresponding RFSP index or based on local configuration in case PCF is not deployed. The Target NSSAI and the RFSP index associated with the Target NSSAI are provided to the NG-RAN within the N2 message carrying the UE Configuration Update Command message.

If the UE and AMF supports Disaster Roaming service, the AMF may include the "list of PLMN(s) to be used in Disaster Condition", Disaster Roaming wait range information and Disaster Return wait range information as specified in TS 23.501 [2]. When the disaster condition is no longer applicable, the serving AMF that provides Disaster Roaming service may notify the UE as specified in clause 5.40.5 of TS 23.501 [2].

If the AMF receives a Subscriber Data Update Notification from the UDM that includes MPS priority or MCX priority, the AMF includes MPS priority or MCX priority in the UE Configuration Update Command, respectively, as specified in clause 5.22.2 of TS 23.501 [2].

If UAS service becomes enabled or disabled (e.g. because the aerial subscription is part of the UE subscription data retrieved from UDM changes), the AMF may include an Indication of UAS services being enabled or disabled in the UE Configuration Update Command.

If the UE indicates its support of LADN per DNN and S-NSSAI in the UE MM Core Network Capability during the Registration procedure as specified in clause 4.2.2.2.2, the AMF may include LADN Information per DNN and S-NSSAI.

If the UE is an MBSR IAB-DU, and its authorization to operate as an MBSR has changed after its registration (e.g. due to update in the subscription information, or for radio network optimization depending on the number of MBSRs in the area as discussed in clause 5.35A.4 in TS 23.501), the AMF includes the IAB Authorized Indication in the UE Configuration Update Command.

\* \* \* \* End of changes \* \* \* \*