**3GPP TSG-WG SA2 Meeting #88E e-meeting  *SP-200529***

**Elbonia, June 30 -July 3, 2020 (revision of S2-2003288)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.502** | **CR** | **2278** | **rev** | **2** | **Current version:** | **15.9.0** |  |
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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 Deregistration procedures for SMS over NAS | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_Ph1 | | | | |  | ***Date:*** | | | 2020-04-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
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| ***Reason for change:*** | | This CR proposes the following changes:   1. Consider the Access Type over which the SMS is deactivated.   According to the clause 4.13.3.2, the SMS deactivation is triggered by Deregistration or Registration with UE’s capability change for SMS over NAS.  The general Registration or Deregistration is associated with Access Type (i.e., 3GPP Access or non-3GPP Access).  It is clarified the UE is deregistered for SMS for both access type at one AMF if only one Registration misses the "SMS supported" indication.   1. Some editorial changes to correct the Nudr\_DM\_Unsubscribe service operation. | | | | | | | | |
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| ***Summary of change:*** | | It is proposed to consider the Access Type over which the SMS is deactivated. | | | | | | | | |
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| ***Consequences if not approved:*** | | Deregistration on one of the access types will cause SMS service become completely unusable to the UE. | | | | | | | | |
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| ***Clauses affected:*** | | 4.13.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | | R2 updates the SA2 agreed CR in S2-2003288 to avoid the possiblity the Support of SMS over NAS at a single AMF is slective per access type when the UE is registered for both. | | | | | | | | |

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

#### 4.13.3.2 Deregistration procedures for SMS over NAS

If the UE no longer indicates "SMS supported" to the AMF in a Registration Request message, or, the AMF considers that UE is deregistered for one Access Type, or the AMF receives for one Access Type a Deregistration Notification from UDM indicating UE Initial Registration, Subscription Withdrawn or 5GS to EPS Mobility as specified in clause 5.2.3.2.2, then:

- When the UE is not registered at the AMF for the other Access Type, the AMF may unsubscribe from SMS Subscription data changes notification with the UDM by means of the Nudm\_SDM\_Unsubscribe service operation. The UDM may remove the corresponding subscription of data change notification in UDR by Nudr\_DM\_Unsubscribe service operation.

- The AMF invokes, for every impacted Access Type, Nsmsf\_SMService\_Deactivate service operation to trigger the release of UE Context for SMS on SMSF.

- When the UE is not registered at the AMF for the other Access Type, the AMF shall delete or deactivate the stored SMSF address in its UE Context.

- The SMSF shall invoke Nudm\_UECM\_Deregistration (SUPI, NF ID, Access Type) service operation from UDM to trigger UDM to delete SMSF address of the UE for the impacted Access Type(s) and the UDM may update the UE context in SMSF in UDR by Nudr\_DM\_Update (SUPI, Subscription Data, SMS Subscription data, SMSF address). The SMSF also removes the UE Context for SMS for the impacted Access Type(s), including the AMF address.

- If the UE is no longer registered for SMS over NAS service at the SMSF for any Access Type, the SMSF unsubscribes from SMS Management Subscription data changes notification with the UDM by means of the Nudm\_SDM\_Unsubscribe service operation. The UDM may remove the corresponding subscription of data change notification in UDR by Nudr\_DM\_Unsubscribe service operation.

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