**3GPP TSG-SA3 Meeting #107e *draft\_S3-221050-r3***

e-meeting, 16 – 20 May 2022

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **33.501** | **CR** | **CR1407** | **rev** | 1 | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | Update Subscription and unsubscription procedure of NSACF notification service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Xiaomi | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS2\_SEC | | | | |  | ***Date:*** | | | 2022-05-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Token is the base of 16.6.3. But fore AFs outside 3GPP operator domain, the network function that can generate tokens is not clear descripted. CAPIF can authorize AF outside the 3GPP operator domain to access the service of NEF. Specifically, CAPIF can generate a token for the AF. And the NEF needs to verify the token before offering service to the AF.  Therefore, the EN “*It is FFS how AF outside the 3GPP operator domain is authorized*.” in clause 16.6.3 of TS 33.501 can be removed. | | | | | | | | |
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| ***Summary of change:*** | | The authorization procedure for AF outside the 3GPP operator domain is added.  “*Editor’s Note: It is FFS how AF outside the 3GPP operator domain is authorized*” in clause 16.6.3 of TS 33.501 is removed. | | | | | | | | |
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| ***Consequences if not approved:*** | | The Editor’s Note remains unresolved and the procedure is imcomplete. | | | | | | | | |
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| ***Clauses affected:*** | | 16.6.3 | | | | | | | | |
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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:*** | |  | | | | | | | | |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of the Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 16.6.3 Subscription/unsubscription procedure of NSACF notification service

Editor's Note: the procedure shall be aligned with SA2.



Figure 16.6.3-1: Subscription/unsubscription of NSACF notification procedure

1. 0. Authentication of AF: AF is authenticated by NRF or authenticated by NEF or CAPIF core function based on description in clause 13 or clause 12. A token is generated for AF after authentication and authorization.
2. 1. To subscribe or unsubscribe for the number of UEs or the number of PDU Sessions per network slice notification with the NSACF, the AF sends Nnef\_EventExposure\_Subscribe/Unsubscribe Request (Event ID, Event Filter, Event Reporting information) message to the NEF as described in TS 23.502 [8]. The Event Filter parameter shall be ENSI for an AF deployed outside the 3GPP operator domain. Other parameters are specified in TS 23.502 [8].

2The NEF checks whether the AF is authorised for the requested subscription based on the AF token. . NEF may query the NRF to find the NSACF responsible for the requested S-NSSAI (NEF needs to map to S-NSSAI based on ENSI for the AF deployed outside the 3GPP operator domain). The NEF confirms with Nnef\_ SliceStatusEventExposure \_Subscribe/Unsubscribe Response message to the AF.

The Event Filter parameter is the mapped ENSI for the AF deployed outside the 3GPP operator domain.

3. The NEF checks whether the AF is authorised for the requested subscription based on the AF token. It needs to check whether the token claims match the AF’s identity and the Event Filter parameter. If authorised, the NEF may query the NRF to find the NSACF responsible for the requested S-NSSAI (NEF needs to map to S-NSSAI based on ENSI for the AF deployed outside the 3GPP operator domain).

4. The NEF forwards the request to the NSACF with Nnsacf\_SliceEventExposure\_Subscribe/Unsubscribe Request (Event ID, Event Filter, Event Reporting information). The Event Filter parameter shall be the mapped S-NSSAI for the AF deployed outside the 3GPP operator domain.

5. The NSACF confirms with Nnsacf\_SliceEventExposure\_Subscribe/Usubscribe Response message to the NEF as in TS 23.502 [8].

6-7a. The NSACF triggers a notification towards the AF and sends the Nnsacf\_SliceEvent Exposure\_Notify (Event ID, Event Filter, Event Reporting information) message to the NEF as described in TS 23.502 [8].

7b-9. The NEF forwards the message to the AF for single NSACF or aggregates reporting information for multiple NSACFs in the Nnef\_EventExposure\_Notify (Event ID, Event Filter, Event Reporting information) message as described in TS 23.502 [8]. The Event Filter parameter shall be the mapped ENSI from the S-NSSAI for the AF deployed outside the 3GPP operator domain.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of the Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*