**3GPP TSG-SA3 Meeting #115 *S3-240849-r6***

**Athens, Greece, 26 February -01 March 2024**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **33.122** | **CR** | **0061** | **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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Clarification to flow selection for RNAA |
|  |  |
| ***Source to WG:*** | Huawei, HiSilicon, Ericsson, Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** |  SNAAPPY |  | ***Date:*** | 2024-02-18 |
| ***30*** |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | In TS 33.122, it is stated that CCF shall indicate the supported flows to the API invoker. It is not clear how or when to indicate. It is proposed to add in clarifcation text to reuse the CAPIF procedure in clause 6.3.1.2.  |
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| ***Summary of change:*** | Add in referenece to reuse the procedure in clause 6.3.1.2 with addition of RNAA flows |
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| ***Consequences if not approved:*** | Spec is ambiguous on how to choose an authorization flow |
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| ***Clauses affected:*** | 6.3.1.2, 6.5.3.1 |
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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:*** | S3-240427 (merged with S-240427) |

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

### 6.5.3 Authentication and authorization for RNAA

6.5.3.1 General

The authorization function shall obtain the necessary permission from the resource owner for allowing the API invoker to access a northbound API.

RNAA shall use token-based authorization using OAuth 2.0 framework with the following roles:

- The API invoker has the role of the OAuth 2.0 client.

- The CCF has the role of the OAuth 2.0 authorization server, i.e., providing the access token used for RNAA.

- The AEF has the role of the resource server.

The access tokens used for RNAA shall contain the resource owner ID.

The resource owner, but the resource owner ID is specified as the GPSI of the corresponding UE if the resource is related to a UE.

NOTE: The present document does not specify the resource owner.

The access token shall include the resource owner ID and the API invoker ID. The resource owner ID is GPSI. The API invoker ID binds the token to the API invoker. To avoid privacy issues, GPSI should be different from MSISDN, SUPI etc.

Editor's Note: The details of access tokens used for RNAA need to be aligned with stage 3 (e.g., claim versus scope).

AEF shall do the authorization check of the API invocation request for accessing the resources of the resource owner. AEF checks the request against the token, including

1) checking the token integrity and

2) checking whether the GSPI (if present) in the API invocation request is compliant with the resource owner ID in the access token. As the token includes resource owner ID, there is no need for additional UE authentication in API invocation. Moreover, the token should be able to restrict the API invoker to a specific resource (e.g., location, QoS, PDN connectivity status) of the resource owner.

For OAuth 2.0 flows involving redirection, authentication between CCF/AUF and UE should be performed after API Invoker redirects the UE to CCF/AUF.

In case of an external AF (i.e., not the application on the UE) being the API invoker, for mutual authentication of API invoker AF and API exposing function, the authentication methods of clause 6.4 and clause 6.5.2 are reused.

For authorization, the following OAuth 2.0 flows may be used:

- Client credential flow (according to RFC 6749 [4]),

- Authorization code flow (according to RFC 6749 [4]), or

- Authorization code flow with PKCE (according to RFC 7636 [11]).

CCF shall give service authorization which subscribers or users can use RNAA.

For selecting the authorization method, the procedure as specified in clause 6.3.1.2. is used with the following RNAA specific additions. The API invoker shall include in the Security Method Request the supported RNAA authorization flows. The CCF shall determine the RNAA authorization flow based on the RNAA capabilities of the CCF, AEF, and API invoker. The API invoker shall use the determined RNAA authorization flow in the subsequent communication with the CCF and AEF.

NOTE: In this specification, only a UE accessing its own resources is considered if the API invoker is on a UE.

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