**3GPP TSG-SA3 Meeting #101-e *S3-203148***

**e-meeting, 9-20 November 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **33.501** | **CR** |  | **rev** | **-** | **Current version:** | **16.4.0** |  |
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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:***  | Token-based authorization for subsequent service requests in model D |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | 5G\_eSBA |  | ***Date:*** | 2020-10-30 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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-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:*** | Currently, token-based authorization in model D (indirect communication with delegated discovery) is only described for initial service requests, not for subsequent service requests. |
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| ***Summary of change:*** | Specify token-based authorization in model D for subsequent requests. The SCP can send the access token to the NF consumer for potential storage. In a subsequent service request, the NF consumer can then include the stored access token. If the access token has expired, the NF consumer sends to the SCP the parameters required for the access token request as described in clause 13.4.1.1.How the parameters required for the access token request by the SCP are included in the service request by the consumer is up to CT4. For example, it could be a subset of the discovery request parameters as described in TS 29.500 clause 5.2.3.2.7, or some new type of custom headers. |
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| ***Consequences if not approved:*** | Token-based authorization in model D only described for initial requests. |
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| ***Clauses affected:*** | 13.4.1.3.2 |
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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:*** |  |

### \*\*\* BEGIN CHANGES \*\*\*

##### 13.4.1.3.2 Authorization for indirect communication with delegated discovery procedure

This clause covers the scenario where the NF Service Consumer use the SCP to discover and select the NF Service Producer instance that can process the service request.



Figure 13.4.1.3.2-1: Authorization and service invocation procedure, for indirect communication with delegated discovery

1. The NF Service Consumer sends a service request to the SCP. The service request may include the NF Service Consumer client credentials assertion as defined in clause 13.3.8. If the NF Service Consumer has received access token from the SCP in a previous service response and a subsequent request targeting the same resource is sent, the NF service consumer includes the access token in the service request. In case the access token received by NF Service Consumer has expired, the NF Service Consumer does not include the access token but sends the discovery parameters to SCP (in the subsequent request).

???NFp instance id -- how known to SCP with the latter part?

2. The SCP may perform a service discovery with the NRF. If NF Service Consumer included anaccess token in step 1, or if the SCP has a cached granted access token, the SCP may reuse the access token and proceeds at step 6.

3. The SCP sends an access token request (Nnrf\_AccessToken\_Get Request) to the NRF. The access token request includes parameters as defined in clause 13.4.1.1. The access token request may include the NF Service Consumer client credentials assertion if received in Step 1.

4. The NRF authenticates the NF service consumer using one of the methods described in clause 13.3.1.2. If cNF authentication is successful and the NF Service Consumer is authorized based on the NRF policy, the NRF issues an access token as described in clause 13.4.1.1. The NRF uses the NF Service Consumer instance ID as the subject of the access token.

5. The NRF sends the access token to the SCP in an access token response (Nnrf\_AccessToken\_Get Response).

6. The SCP sends the service request to the NF Service Producer. The service request includes an access token (i.e., received in Step 5, received in Step 1, or previously cached), and may include the NF Service Consumer client credentials assertion if received in Step 1.

7. The NF Service Producer authenticates the NF service consumer by one of the methods described in clause 13.3.2.2 and if successful, it validates the access token as described in clause 13.4.1.1.

8. If the validation of the access token is successful, the NF Service Producer sends the service response to the SCP.

9. The SCP forwards the service response to the NF Service Consumer. The SCP may include the access token in the service response to NF Service Consumer for possible re-use for subsequent service requests.

NOTE: Without SCP providing NF Service Consumer with access token, a subsequent request is only possible, if the SCP is maintaining NF Service Producer instance ID.

### \*\*\* END CHANGES \*\*\*