**3GPP TSG-SA3 Meeting #110 Adhoc-e *draft\_*S3-232026-r7**

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

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **CR** | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | HONTRA Clarifications | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Lenovo | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | HN\_Auth | | | | |  | ***Date:*** | | | 2023-04-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The Living CR for the HONTRA Procedure is agreed in S3-230977 during SA3#110 Meeting. The HONTRA procedure has some Editor’s Notes on ‘type of interactions between AMF and UDM’ and ‘step details, trigger to UDM etc.,’. Further NOTE 1 mentions an example which states that, ‘if the PLMN does not support the SoR/UPU feature, then a policy to initiate HONTRA upon SoR/UPU counter wrap around will not be required.’. The observation here is that, if the PLMN does not support the SoR/UPU feature, first there will not be any SoR/UPU wrap around can happen. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This contribution provides clarifications on ‘interaction between AMF and UDM’ and ‘steps details’ to resolve the related Editor’s Note. Further this contribution corrects the NOTE 1. | | | | | | | | |
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| ***Consequences if not approved:*** | | The HONTRA procedure will remain incomplete and incorrect. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.X, 6.14.2.3, 6.15.2.2, 14.2.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 Change 1\*\*\*

## 6.1X Home network triggered primary authentication procedure

### 6.1X.1 General

In case the HN and the SN support the services defined in clause 14.2.x, then the UDM is able to trigger a primary authentication procedure as described in the following clause.

Editor's Note: The impact of HONTRA on the security related service operations in clause 14 is FFS. The above statement wil be updated when the service operations are agreed.

### 6.1X.2 Security mechanisms

The UDM may initiate primary authentication based on events from other NFs, considering local policy into account as well.



**Figure 6.1.x.2-1 Home Network triggered primary authentication procedure**

0a.[optional] The UDM may be pre-configured with an operator policy in order to determine when to trigger a primary authentication procedure.

A prerequisite for the initiation of Home Network Triggered Primary Authentication is that the UDM already has the information about the AMF serving the UE. Otherwise, the UDM cannot contact any AMF in later steps.

Editor’s Note: Whether a new UDM service is needed is FFS, whether it is needed that a consumer NF (e.g. AUSF) triggers the UDM is FFS.

The UDM decides itself based on events (e.g., SoR/UPU or if AAnF requests) or authentication policy and performs home network triggers primary authentication as described in the following steps. The AAnF considers based on certain factors to request the UDM for primary authentication using the UDM services as described in clause 14.

Editor’s Note: The factor the AAnF considers to request UDM for primary authentication is FFS, as AAnF request(s) should not lead to signalling overload as well as the AF key expiry/refresh issue should be handled.

1. Based on a received event and the local operator policy, if there is no ongoing primary authentication for the UE, and if the UDM determines to trigger the primary authentication, the UDM determines the serving AMF/SEAF of the target UE.

Editor’s Note: The handling of multiple AMFs registered to the UDM is FFS.

NOTE 1: The reasons for the UDM determining that the UE needs to be authenticated can be different. For example, the UDM can determine to initiate a primary authentication when the AMF registers the UE upon the Registration procedure during the mobility from EPC or when SoR/UPU counters are about to wrap around, or when required based on local policy. The UDM behaviour is determined by the primary authentication policy which takes into account the support of certain features in the PLMN. For example, if the PLMN does not support the SoR/UPU feature, then a policy to initiate HONTRA upon SoR/UPU counter wrap around will not be required.

2. The UDM sends an authentication message to the AMF/SEAF with the UE’s SUPI.

Editor’s Note: The name and the type (request/reply, subscribe notify etc) of the interaction between the AMF and UDM is FFS.

3. After receiving the authentication message from the UDM, the AMF/SEAF shall decide whether run the primary authentication procedure based on its own local authentication policy. If the AMF/SEAF cannot run a primary authentication as described in steps 4, the AMF/SEAF sends the authentication response message to the UDM with an acknowledgement which includes failure cause else it is set as success.

Editor’s Note: The serving network has its own authentication policy. Moreover, it is possible that the UE cannot be reached. Therefore, it is FFS whether it can start a primary authentication right away after receiving the authentication message from the UDM.

4. The AMF/SEAF starts the primary authentication procedure as defined in clause 6.2.1 of the present document.

The UDM may execute other procedures (e.g., SoR/UPU) depending on the reason that motivated the UDM triggered (re-)authentication procedure in step 1.

Editor’s Note: The step details such as for aspects covering operator/local configuration/policy usage, UDM logic, or trigger to UDM etc. are FFS.

\*\*\*End of Change 1\*\*\*

\*\*\*Start of Change 4\*\*\*

### 14.2.6 Nudm\_UEAuthentication\_ Trigger service operation

The following table illustrates the authentication related services for home network triggered primary (re)authentication initiation that UDM provides.

Table 14.2.6-1: NF services for authentication trigger provided by UDM

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | Operation Semantics | Example Consumer(s) |
| Nudm\_UEAuthentication\_ Trigger | authentication | Request/Response | AAnF |

**Service operation name:** Nudm\_UEAuthentication\_ Trigger.

**Description:** This service operation allows the NF (i.e., AUSF) to request UDM to trigger a primary (re-)authentication as described in Clause 6.1.5.

**Input, Required:** SUPI, Cause (set as Counter wrap indication by AUSF i.e., related to SoR or UPU as applicable).

**Input, Optional:** None.

**Output, Required:** ACK Indication.

**Output, Optional:** None.

\*\*\*End of Change 4\*\*\*