**3GPP TSG-SA3 Meeting #101-e *S3-203213***

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

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0054** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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:*** | AKMA Anchor Function selection clause | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | AKMA | | | | |  | ***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 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to the AKMA procedures, the AUSF needs to select an instance of AAnF to store the AKMA context (at least (SUPI, A-KID, KAKMA)) for a UE upon primary authentication of the UE . The AF/NEF need to select the appropriate AAnF instance based on the AF request containing A-KID. The appropriate instance is the one that contains the correct AKMA context. The criteria used for the discovery of the right AAnF from an AUSF point of view and from an AF/NEF point of view are different. However existing specification details are not clear on this aspect of discovery and selection of the right AAnF.  SA3 has also agreed that the A-KID includes extended the Routing Indicator (RID) for the purposes of AAnF selection. | | | | | | | | |
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| ***Summary of change:*** | | Detailed clause specifying the AAnF discovery and selection procedures. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not clear specification for the selection of AAnF by the different NFs in AKMA. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.X (new clause) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\* 1st CHANGE \*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

[3] 3GPP TS 23.501: "System Architecture for the 5G System".

[4] 3GPP TS 33.220: "Generic Authentication Architecture (GAA); Generic Bootstrapping Architecture (GBA)".

[5] 3GPP TS 23.222: "Common API Framework for 3GPP Northbound APIs".

[XX] 3GPP TS 23.003: "Numbering, addressing and identification".

\*\*\* 2nd CHANGE \*\*\*

## 6.X AAnF Discovery and Selection

EN: The AAnF selection clause should be checked by SA2

The NF consumer or the SCP performs AAnF discovery to discover an AAnF instance.

In the case of NF consumer-based discovery and selection, the following applies:

- Internal AFs and the NEF performs AAnF selection to allocate an AAnF Instance that handles the AKMA request. The AF/NEF shall utilize the NRF to discover the AAnF instance(s) unless AAnF information is available by other means, e.g. locally configured on the AF/NEF.

- The AUSF performs AAnF selection to allocate an AAnF Instance to send the AKMA key material related to the UE. The AUSF shall utilize the NRF to discover the AAnF instance(s) unless AAnF information is available by other means, e.g. locally configured on the AUSF.

The AAnF selection functionality in NF consumer or in SCP should consider one of the following factors:

1. the UE's Routing Indicator.

NOTE X: The UE provides the Routing Indicator to the AMF as part of the SUCI as defined in TS 23.003  [XX] during initial registration. The AF/NEF obtains the Routing Indicator as part of the A-KID in the AKMA request. The AMF provides the UE's Routing Indicator to AUSF as part of the primary authentication procedure as described in TS 33.501 [2].

When the UE's Routing Indicator is set to its default value as defined in TS 23.003  [XX], the AAnF NF consumer can select any AAnF instance within the home network of the UE.

2. AAnF Group ID the UE's SUPI belongs to.

NOTE X: The AUSF can infer the AAnF Group ID the UE's SUPI belongs to, based on the results of AAnF discovery procedures with NRF.

3. SUPI; e.g. the AUSF selects an AAnF instance based on the SUPI range the UE's SUPI belongs to or based on the results of a discovery procedure with NRF using the UE's SUPI as input for AAnF discovery.

In the case of delegated discovery and selection in SCP, NF consumer shall forward the request towards SCP.

NOTE X: The AAnF is realized as an NF Set.

\*\*\* END OF CHANGES\*\*\*