**3GPP TSG-SA WG3 Meeting #100-E S3-202523**

**e-meeting, 12-16 October 2020** Revision of S3-20xxxx

**Source: Intel**

**Title: New SID on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM)**

**Document for: Approval**

**Agenda Item: 3**

3GPP™ Work Item Description

For guidance, see [3GPP Working Procedures](http://www.3gpp.org/About/WP.htm), article 39, and [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm).  
Comprehensive instructions can be found at <http://www.3gpp.org/Work-Items>

# Title: Study on the security of the system enablers for devices having multiple Universal Subscriber Identity Modules (USIM)

## Acronym: FS\_MUSIM\_SEC

## Unique identifier:

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | X | X | X |  |
| **No** | X |  |  |  |  |
| **Don't know** |  |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

This work item is a …

|  |  |
| --- | --- |
|  | Feature |
|  | Building Block |
|  | *Work Task* |
| X | Study Item |

### 2.2 Parent and child Work Items

|  |  |  |
| --- | --- | --- |
| Parent and child Work Items | | |
| Unique ID | Title | Nature of relationship |
| 820012 | Study on system enablers for devices having multiple Universal Subscriber Identity Modules (USIM) | Antecedent study item |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 840019 | Support for Multi-USIM Devices | TS22.101 and TS22.278 include new service requirements to enable the support of multi-USIMs for emergency services and normal services among USIMs. |
| 830019 | Study on Support for Multi-USIM Devices | SA1 TR 22.834. The scope of this SA1 Study includes the following:- identifies new potential service requirements for emergency services and normal services among USIMs |

## 3 Justification

The study of system enablers for devices having multiple Universal Subscriber Identity Modules (USIM) in the EPS and 5G system architecture is an on-going study in SA2 WG (SID FS\_MUSIM). This study aims to natively support multi-USIM devices in the EPS and 5GS, including mechanisms to support handling of MT services, coordinated UE leaving, handling of MT data and MT control plane activity on a suspended connection, etc. For such new efficient network resource utilization mechanisms, there may have some security and privacy implications.

SA1 WG also studied many use cases related to multi-USIM devices and have included new service requirements for privacy guarantee for each UICC/USIM and needs for a clear separation between the associated subscriptions in TS 22.101.

A relevant question is how to deal with the security for EPS and 5GS-capable UEs using multiple USIMs. The current EPS and 5G system do not deal with security and privacy implication for such multi-USIM devices, e.g., UE indicating to MNO owning one USIM that UE is also using another USIM.

It is, therefore, necessary to study whether there is a need for new or enhanced security signaling/procedures to address security implications for the privacy of UEs indicating to MNOs that they are registered via multiple USIMs, the privacy of identity (e.g.PEI, etc.), security and privacy implication of any optimization in network resources to support the multi-USIM devices.

## 4 Objective

The objective of this study item shall be based on SA2’s work, such as the potential architecture impact and signaling procedures including following:

* Study security and privacy issues exposing the Paging Cause in cleartext in paging message
* Study security aspects of the communication between UE and Paging Server and exposing Paging server address
* Security and Privacy implications if a Multi-USIM device needs to explicitly indicate to the MNO owning one USIM and that UE is also registered via another USIM at the same or different PLMNs.
* Study security aspects of busy indication to be sent in AS or NAS message.

The objectives listed above correspond to work that is expected to be primarily or entirely conducted in SA3.

As part of the study and in coordination with other WGs, it should be concluded whether to proceed with normative work.

## 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* | | | | | |
| Proposed Spec no. or series | Type (see note 1) | Rapporteur(s) (see note 2) | For info  at TSG# | For approval at TSG# | Remarks |
| *33.XXX* | *Internal TR* | *Abhijeet Kolekar, Intel Corporation*  *abhijeet.kolekar@intel.com* | *TSG#90*  *(December 2020)* | *TSG#91*  *(March 2021)* |  |

Note 1: Only TSs may contain normative provisions. Study Items shall create or impact only TRs.  
"Internal TR" is intended for 3GPP internal use only whereas "External TR" may be transposed by OPs.

Note 2: The first listed Rapporteur is the specification primary Rapporteur. Secondary Rapporteur(s) are possible for particular aspect(s) of the TS/TR. In this case, their responsibility has to be provided as "Remarks".

|  |  |  |
| --- | --- | --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* | | |
| TS/TR No. | Description of change | Target completion plenary# |
|  |  |  |

## 6 Work item Rapporteur(s)

Abhijeet Kolekar, Intel Corporation, abhijeet.kolekar@intel.com

## 7 Work item leadership

SA3

## 8 Aspects that involve other WGs

SA2 defines stage 2 architecture.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Intel Corporation |
| Interdigital |
| Apple |
| Samsung |
| Motorola Mobility? |
| Lenovo? |
| CableLabs |
| Ericsson |
| Nokia |
| Nokia Shanghai Bell |
| LG Electronics |
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