**3GPP TSG-SA3 Meeting #111 *S3-23xxxx***

**Berlin, Germany, 22 – 26 May 2023** **(revision of S3-230680)**

**Source: Federal Office for Information Security (BSI)**

**Title: New WID on 5G Security Assurance Specification (SCAS) for the Unified Data Repository (UDR)**

**Document for: Approval**

**Agenda Item: X**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: New WID on 5G Security Assurance Specification (SCAS) for the Unified Data Repository (UDR)

Acronym: SCAS\_5G\_UDR

Unique identifier: XXXXX

Potential target Release: Rel-18

# 1 Impacts

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

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
| X | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| N/A | N/A | N/A | N/A |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| eSCAS\_5G | Security Assurance Specification for 5G (eSCAS\_5G) | Baseline of Rel 17 |
| SCAS\_5G | Security Assurance Specification for 5G | Baseline of Rel 16 |

**Dependency on non-3GPP (draft) specification: N/A**

# 3 Justification

As 5G technology becomes more widespread, more attention is being paid to ensuring the security of network products. The 3GPP has established the SCAS specification for various components of a 5G network, including gNB, AMF, SMF, UDM, AUSF, NRF, NEF, SEPP and UPF, as well as newer components such as N3IWF, NWDAF, IPUPS, SECOP.

The Unified Data Repository (UDR) is a security-related network function of 5G networks responsible for storing and retrieving subscription data, policy data and subscriber identifiers. It plays a critical role in the authentication process of the UE. According to TR 33.845, different models can be used to implement UDR together with UDM and ARPF. A key feature of the UDR is that it stores the long term keys, which are also transmitted to the UDM. This feature along makes it security critical because these long term keys could leave a secure hardware environment. Furthermore, while the study concludes that normative text will be added to the specification for certain use cases, it is unknown whether these normative requirements will be actually implemented in the network functions. To ensure the security of this function, it is necessary to extend the Security Assurance Specifications (SCAS) to include the UDR. This would involve identifying and defining the security functional and baseline vulnerability requirements to be tested for security assurance of the UDR. To fully address security concerns for 5G networks, a separate SCAS specification for the UDR is required.

# 4 Objective

The objective is to develop the SCAS for the UDR network product class, with the aims to:

- identify critical assets and threats of the UDR not already identified in TR 33.926

- develop and/or adapt UDR-specific security functional requirements and related test cases

- develop and/or adapt UDR-specific basic vulnerability testing requirements and related test cases

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications  |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| TS | 33.xxx | Security Assurance Specification for Unified Data Repository (UDR) |

|  |
| --- |
| TSG#100( Jun 2023) |

 | TSG#101( Sep 2023) | Andreas,Joerg,BSI Germany,joerg.andreas@bsi.bund.de |

|  |
| --- |
| Impacted existing TS/TR  |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TR 33.926 | The critical assets and threats discovered during the work of 5G UDR SCAS |  |  |

# 6 Work item Rapporteur(s)

Andreas, Joerg, BSI Germany, joerg.andreas@bsi.bund.de

# 7 Work item leadership

SA3

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Federal Office for Information Security Germany (BSI) |
| Deutsche Telekom AG |
| Vodafone |
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