**3GPP TSG-SA3 Meeting #123 *draft\_S3-252964-r1***

**Goteborg, Sweden, 25 – 29 August 2025** **(revision of S3-252879)**

**Source: Ericsson, Nokia, Nokia Shanghai Bell, BSI**

**Title: New SID on Security Assurance Specification (SCAS) for Container-based Products**

**Document for: Agreement**

**Agenda Item: 6.2**

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: Study on Security Assurance Specification (SCAS) for Container-based Product

Acronym: FS\_SCAS\_CP

Unique identifier:

Potential target Release: Rel-20

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X | X |  |
| No | 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 …

|  |  |
| --- | --- |
| X | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | 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 |
| SCAS\_5G\_Maint | Security Assurance Specification for maintenance of 5G features | Rel-19 work item of SCAS |
| SCAS\_5G\_Ph3 | Security Assurance Specification for 5G (SCAS\_5G\_Ph3) | Rel 18 work item of SCAS |
| SCAS\_5G\_Ph2 | Security Assurance Specification for 5G (SCAS\_5G\_Ph2) | Rel 18 work item of SCAS |
| eSCAS\_5G | Security Assurance Specification for 5G (eSCAS\_5G) | Rel 17 work item of SCAS |
| SCAS\_5G | Security Assurance Specification for 5G | Rel 16 work item of SCAS |
| VNP\_SECAM\_SCAS | SECAM and SCAS for 3GPP virtualized network products | Rel-18 work item on SECAM and SCAS for 3GPP virtualized network products |
| FS\_VNP\_SECAM\_SCAS | Study on SECAM and SCAS for 3GPP virtualized network products | Rel-17 study item on SECAM and SCAS for 3GPP virtualized network products |
| FS\_SIV | Study on Security Impacts of Virtualisation | Rel-18 study item on security impacts of virtualisation |

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

[**ETSI GR NFV-IFA 029**](https://www.etsi.org/deliver/etsi_gr/NFV-IFA/001_099/029/03.03.01_60/gr_NFV-IFA029v030301p.pdf) **: Report on the Enhancements of the NFV architecture towards "Cloud-native" and "PaaS"**

# 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, SCP, MnF, split gNB, PCF, AAnF.

First generation Network function virtualization (NFV) implementations were based on Virtual Machine (VM) architectures. Current generation Network function virtualization implementations are using a container-based implementation architecture as either full replacement to VMs (which results in higher density of network functions on the same hardware), or through groups of containers running with Virtual Machines. Despite sharing the host OS kernel, containerized environments provide process and resource isolation between containers through mechanisms like namespaces and cgroups, ensuring sufficient isolation for most use cases.

SCAS for 3GPP virtualized network products was studied in Rel-17 and test cases were captured in TS 33.527. The scope of that work was limited to first generation Network function virtualization (NFV) implementations based on Virtual Machine (VM) architectures. Current generation Network functions are container-based, which needs to be reflected in the security assurance test cases. Mainly because the rapid deployment capabilities aligning with DevOps practices, supporting continuous integration and continuous deployment (CI/CD) pipelines for network services needs to be in line with appropriate testing and assurance.

**Dedicated SCAS specification will support continuous improvement in container security and** maintain the security posture of CNCF-based applications**,** by identifying emerging threats, incorporating new best practices, and adapting to the evolving container technologies.

# 4 Objective

The objective is to develop the SCAS for the Container-based network products, with the aims to:

- WT1: Analyze critical assets and threats in TR 33.926 and TR 33.927 regarding their applicability to container-based network products. Analyze if existing assets and threats need to be adapted to container-based network products, and whether new assets and threats for container-based network products are necessary.

- WT2: Analyze the test cases in TS 33.117 regarding their applicability to container-based network products. Analyze whether existing test cases need to be adapted to container-based network products, and whether new test cases for container-based network products are necessary.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Work Task ID | TU Estimate(Study) | TU Estimate(Normative) | RAN Dependency(Yes/No/Maybe)  | Inter Work Tasks Dependency  |
| 1. | 1,5 TU | 1 TU | No |  |
| 2. | 1,5 TU  | 1 TU | No |  |
|  |  |  |  |  |

Total TU estimates for the study phase: 3 TUs

Total TU estimates for the normative phase: 2 TU

Total TU estimates: 5

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications  |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| TR | 33.xxx | Study on Security Assurance Specification (SCAS) for Container-based Product | TSG#113(Sep 2026) | TSG#113(Sep 2026) | NA |

|  |
| --- |
| Impacted existing TS/TR  |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
|  |  |  |  |
|  |  |  |  |

# 6 Work item Rapporteur(s)

Tbd

# 7 Work item leadership

SA3

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Ericsson |
| Nokia, Nokia Shanghai Bell |
| BSI |
| MITRE |
| Huawei |
| AT&T |