Network Equipment Security Assurance Scheme Pilot Information

Version 0.3

9th June 2016

Security Classification: Non-confidential

Copyright Notice

Disclaimer

Antitrust Notice

Table of Contents

1 Introduction 3
1.1 Overview 3
1.2 Scope 3
1.3 References 3
1.4 Conventions 4
2 Pilot Objectives 4
3 Pilot Scope 5
3.1 Vendor Development and Product Lifecycle Requirement Evaluation 5
3.2 Product Evaluation 5
3.3 Test Lab Accreditation 6
4 Pilot Participants 6
5 Pilot Prerequisites 7
6 Pilot Dependencies 7
7 Pilot Funding 8
8 Post Pilot 8
Annex A Document Management 10
A.1 Document History 10
A.2 Other Information 10

1 Introduction

1.1 Overview

The Network Equipment Security Assurance Scheme (NESAS) is a joint initiative of GSMA and 3GPP that is scheduled to launch in the first half of 2017. This is an industry first attempt to establish a product security evaluation process across the mobile industry for equipment designed to support 3GPP defined standards. The overall objective of the scheme is to provide a baseline security assurance level for a range of product classes to be defined by 3GPP.

Much work has been necessary to develop a range of enablers required to support the scheme and a number of these are close to delivery. This progress has initiated work to develop and run a Pilot to test the efficacy of the scheme and this commenced in April 2016. The GSMA is committed to ensure a comprehensive test of all elements is conducted in a real environment with real participants. Such an approach is necessary to ensure all elements of the scheme are stringently tested in a manner designed to capture and highlight any deficiencies that may require remedial action before a full launch of the programme takes place in the first half of 2017.

The conduct of a pilot and the analysis of the results will be critical to the success of NESAS and the initial evaluations and audits will provide essential feedback and validation of the key resources that are required to support the scheme. Running a Pilot that involves all stakeholders will provide those stakeholders with first hand experience of how the scheme works and ensure Release 1 of NESAS meets industry needs and can be efficiently applied.

To conduct the Pilot, all relevant 3GPP and GSMA documents apply. They are all referenced in Section 1.3. Stakeholders who wish to get involved in the Pilot, should familiarise themselves with SCASes, NESAS and the Pilot by reading the following documents:

- NESAS Pilot Information (This document),
- NESAS Overview FS.13,
- 3GPP TR 33.916 [3].

These three documents introduce NESAS and refer to all the other relevant documents.

1.2 Scope

This document defines the NESAS Pilot to be conducted to establish if the defined scheme is fit for purpose, based on work done to date, and to assess the state of readiness of the initiative.

1.3 References

Ref	Doc Number	Title
[1]	3GPP TS 33.116	Security Assurance Specification for the MME network product class
[2]	3GPP TS 33.117	Catalogue of General Security Assurance Requirements

Ref	Doc Number	Title
[3]	3GPP TR 33.916	Security Assurance Methodology for 3GPP network products
[4]	GSMA FS.13	Network Equipment Security Assurance Scheme – Overview
[5]	GSMA FS.14	Network Equipment Security Assurance Scheme – Security Test Laboratory Accreditation Requirements and Process
[6]	GSMA FS.15	Network Equipment Security Assurance Scheme – Vendor Development and Product Lifecycle Requirements and Accreditation Process
[7]	GSMA FS.16	Network Equipment Security Assurance Scheme – Dispute Resolution Process
[8]	GSMA NESAS RFP Doc	Network Equipment Security Assurance Scheme – Request for Proposal for vendor processes auditor

1.4 Conventions

The key words “must”, “must not”, “required”, “shall”, “shall not”, “should”, “should not”, “recommended”, “may”, and “optional” in this document are to be interpreted as described in RFC 2119.

2 Pilot Objectives

The overall objective of the NESAS Pilot programme of activities is to test new working procedures, practices, techniques and documentation pertaining to NESAS to ensure the scheme is capable of functioning in a way that benefits all stakeholders with an interest in product security evaluation.

The NESAS pilot that will precede full implementation of the scheme will consist of three distinct streams as there are a number of different and disparate elements that need to be tested, collectively and individually. These are defined in more detail elsewhere in this document but can be summarised as follows;

1. Product evaluation by a test laboratory
2. Test laboratory accreditation
3. Accreditation of a vendor development lifecycle and product lifecycle

In addition to the overall objective, undertaking the pilot will help achieve the following:

- Assess the state of readiness to fully implement and launch NESAS
- Highlight challenges and difficulties not foreseen that could negatively impact the scheme
- Identify any changes and adjustments that may be required to benefit the scheme
- Ensure participants and key stakeholders will be well prepared for when the scheme launches
- Facilitate resource estimation and capacity planning for the live scheme

3 Pilot Scope

NESAS consists of a range of components and evaluation processes that involve a number of diverse stakeholders and all of these need to be included and involved in the NESAS Pilot. Although the preceding section highlighted just three specific elements that will be tested, there is a range of enablers that need to be in place that will, by definition, test and challenge other aspects and participants.

3.1 Vendor Development and Product Lifecycle Requirement Evaluation

A vendor that wishes to have its development and product life cycle accredited should contact the GSMA which will nominate an auditor selected by GSMA in accordance with the requirements specified in the NESAS RFP [8].

The auditor performs the evaluation in accordance with the NESAS Vendor Development and Product Lifecycle Requirements and Accreditation Process (see FS.15 [6]). At the end of the process an Evaluation Report is provided to the vendor and to the appointed GSMA staff. If the outcome of the evaluation is positive and the vendor is seeking accreditation, the Evaluation Report will be forwarded to the NESAS Accreditation Board for awarding accreditation. Accreditation in the context of the pilot will be based on the NESAS Pilot Release. If, during or after the Pilot, or prior to pub;ictaion of Release 1, the NESAS requirements change, a re-audit of the delta is required to award accreditation for Release 1.

If any issues are encountered with the NESAS documentation, in terms of its usefulness these should be discussed with the vendor and documented. Any issues raised in the course of the pilot should be documented and referred to the appointed GSMA staff and the NESAS Accreditation Board.

During the pilot process, the Audit Team will define the evidence that is to be provided to the test laboratory for evidence evaluation (see 3.2.1).

3.2 Product Evaluation

3.2.1 Evidence Evaluation

The test laboratory shall evaluate the Evidence received from the vendor. The Evidence shall prove that the MME produce under evaluation was created by following the processes that were accredited as described in Section 3.1.

FS.15 [6] Section 8 describes what constitutes Evidence in the context of NESAS.

The vendor that selected a test laboratory is requested to provide feedback on the overall process of Evidence evaluation, duration, encountered difficulties, etc. to the NESAS Accreditation Board. The feedback is essential to facilitate an assessment of the suitability of the accreditation process and any improvements that may be required. The feedback should not include the Evidence and the conclusions of the evaluation process.

3.2.2 Network Product Evaluation – MME Testing

A vendor that wishes to provide an MME product for evaluation, will request a test lab, to evaluate the target product and testing is done in accordance with the security requirements described in the 3GPP defined SCAS.

At the end of the process an evaluation report is provided to the vendor. This evaluation report assesses the product’s compliance with SCAS requirements. The report is not provided to the NESAS Accreditation Board but remains confidential between the test lab and the vendor. However, feedback from the evaluation process will be provided to the NESAS Accreditation Board. The feedback should not include the results.

If any issues are encountered with the SCAS specifications that suggest changes to those specifications are required, these should be discussed between the vendor and the test lab and conclusions and actions agreed. If required, the vendor could raise the relevant issues pertaining to 3GPP TS 33.116 or 33.117 to GSMA or 3GPP.

Product evaluation and development process evaluation could be decoupled for the sake of the pilot.

Test lab accreditation is not required for the test lab to perform product evaluation during the pilot. The test lab will benefit from this product evaluation experience when applying for test lab accreditation as described in Section 3.3.

3.3 Test Lab Accreditation

A vendor or third party organisation that wishes to have its test lab accredited contacts its local ISO 17025 Accreditation Body and requests that testing according to a specific SCAS (e.g. MME), in line with NESAS, be included in its accredited scope. To be able to undertake the evaluation, an ISO 17025 Accreditation Body requires the NESAS Test Laboratory Accreditation Requirements and Process document (FS.14 [5]), the NESAS Vendor Development and Product Lifecycle Requirements and Accreditation Process (FS.15 [6]), and the relevant SCAS specifications 3GPP TS 33.117 [2] and 3GPP TS 33.116 [1]. Additionally, a network equipment security subject matter expert is required to undertake the NESAS/SCAS competency evaluation on behalf of the ISO 17025 Accreditation Body.

If any issues regarding the usefulness of the NESAS documentation are encountered, these should be discussed between the ISO 17025 Accreditation Body and the test lab and conclusions and actions agreed. Any issues raised in the course of the pilot should be documented and referred to the NESAS Accreditation Board either by the vendor or, if possible, by the ISO 17025 Accreditation Body or the subject matter expert.

The vendor that selected the test laboratory is requested to provide feedback on the overall process of test lab accreditation, duration, encountered difficulties, etc. to the NESAS Accreditation Board. The feedback is essential to facilitate an assessment of the suitability of the accreditation process and any improvements that may be required. The feedback should not include the results.

It should be noted that a test lab needs to demonstrate competency and experience to achieve ISO 17025 accreditation. Therefore, it is expected that full and effective ISO 17025 accrediation, including testing according to a specific SCAS specification (e.g. MME), can only be achieved after the pilot evaluation, as defined in Section 3.1, has been exercised.

4 Pilot Participants

For the pilot to succeed the following parties will need to be involved in providing support or being directly involved as indicated below:

- 3GPP SA3 to produce the necessary SCAS documentation
- GSMA to produce additional documentation to describe evaluation processes
- NESAS Accreditation Board to oversee the pilot and to assess the results
- NESAS Dispute Resolution Committee to handle any disputes that may arise
- Vendor willing to submit its MME product for evaluation
- Vendor willing to subject its development lifecycle and product lifecycle for evaluation
- Test lab to be audited to achieve accreditation
- Auditors to evaluate the vendor development lifecycle and product lifecycle processes

5 Pilot Prerequisites

A number of resources and tools need to be in place before the pilot can be undertaken and those considered essential are listed below.

- Pilot stakeholder group to work collaboratively to champion and promote the pilot, provide input and generally work to ensure the pilot is a success
- A work plan and timeline to undertake the pilot and to ensure that all required elements are covered and tasks are completed on schedule
- A risk management plan to anticipate risks, threats and mitigating actions and to record them as they arise during the pilot
- NESAS documentation including fit for purpose SCASs, evaluation documents, etc.
- NESAS Accreditation Board and Dispute Resolution Committee to support the pilot as required
- Auditor(s) will have been chosen by GSMA, following a competitive tender, to conduct accreditation audits
- Mechanism to record feedback received from the pilot participants to ensure issues are captured and resolved

6 Pilot Dependencies

The different Pilot activities, as outlined in Section 3, can be performed independently to undertake the pilot. This means that a test lab can perform Network Product evaluations even if it does not have ISO 17025 accreditation for NESAS.

However, there are some dependencies that require the Pilot activities to be conducted in the order illustrated in Figure 1.

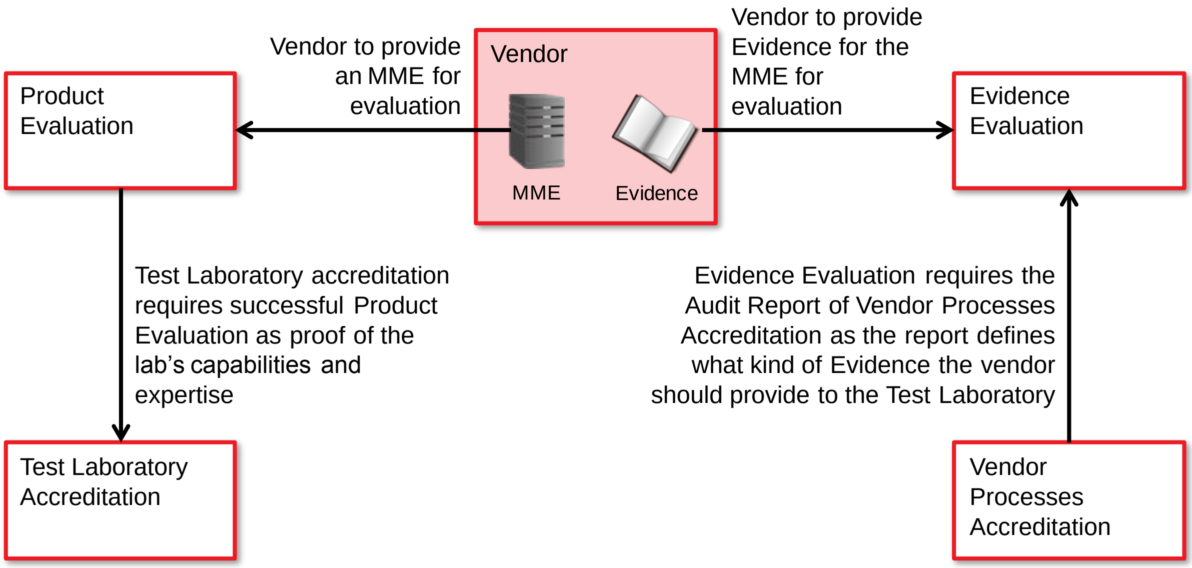
Vendor to provide an MME for evaluation
Vendor
Vendor to provide Evidence for the MME for evaluation
Product Evaluation
MME
Evidence
Evidence Evaluation
Test Laboratory accreditation requires successful Product Evaluation as proof of the lab's capabilities and expertise
Evidence Evaluation requires the Audit Report of Vendor Processes Accreditation as the report defines what kind of Evidence the vendor should provide to the Test Laboratory
Test Laboratory Accreditation
Vendor Processes Accreditation

Figure 1 NESAS Pilot Dependencies

Arrows in Figure 1 that point to a box mean that the activity stated in the box can only be performed if the input described next to the arrow is available. The figure suggests that the pilot starts with Product Evaluation and Vendor Processes Accreditation. These two activities can be performed in parallel. Evidence Evaluation depends on the Audit Report and Test Laboratory Evaluation depends on the capability of the Test Laboratory to demonstrate that it is capable of performing these tasks.

7 Pilot Funding

As NESAS is not a commercial enterprise and GSMA is a not for profit organisation the success and ability to complete the Pilot will depend on the goodwill of a range of stakeholders. It is envisaged that little or no funding will be available to remunerate Pilot participants. Consequently, it is requested that all participants will cover their own Pilot participation costs.

8 Post Pilot

On completion of the pilot every opportunity should be taken to gather feedback from everybody involved to ensure successes, failures and areas for improvement are fully identified and captured. The Pilot stakeholder group will be essential to that effort and that group will need to convene as soon as possible after conclusion of the pilot and on a regular basis for a period afterwards to assist with follow up activities.

Engagement with all Pilot participants must be undertaken to ensure their experiences are captured and understood, particularly if issues arise that need remedial action to be taken. A 'go live' plan should be developed that will detail any areas for improvement that require attention, will identify a target live date and will track progress on the activities necessary to launch NESAS.

The successful completion of the pilot should be useful to highlight the benefits that NESAS will deliver for the industry. Achievement of that important milestone should be communicated widely to ensure stakeholders are aware of the imminent launch of the scheme and that they know how to get involved, pledge support, etc. That will help ensure maximum value is extracted from the pilot and that the scheme is set up for success.

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
0.1	Nov 2015	First draft NESAS Pilot Proposal	SECAG	James Moran, GSMA
0.2	May 2016	Second draft NESAS Pilot Information	SECAG	James Moran, GSMA
0.3	Jun 2016	Final draft NESAS Pilot Information approved by SECAG	SECAG	James Moran, GSMA

A.2 Other Information

Type	Description
Document Owner	SECAG
Editor / Company	James Moran, GSMA

It is our intention to provide a quality product for your use. If you find any errors or omissions, please contact us with your comments. You may notify us at prd@gsma.com.

Your comments or suggestions & questions are always welcome.