



Network Function Virtualisation (NFV) Release 5; Security; Security Assurance Specification (SCAS) for NFVO

Document Preview

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F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Network Functions Virtualisation (NFV).

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document defines the security assurance of Network Functions Virtualisation Orchestrator (NFVO) products, which is part of MANO system. The outcome of the present document expects the security assets, security threats, security requirements and test cases for evaluating the security NFVO products. In the present document, the security assurance methodology introduced in 3GPP specifications will be leveraged. Security test cases including testing goals, testing steps, and evidence of testing results will be produced for evaluating whether the security requirements are implemented by NFVO based products.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the [ETSI docbox](#).

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] [ETSI GS NFV-SEC 028](#): "Network Functions Virtualisation (NFV) Release 5; Security; Security Assurance Specification (SCAS) for Generic NFV-MANO".
- [2] [ETSI GS NFV-IFA 010](#): "Network Functions Virtualisation (NFV) Release 5; Management and Orchestration; Functional requirements specification".
- [3] [ETSI GS NFV-SEC 021](#): "Network Functions Virtualisation (NFV) Release 4; Security; VNF Package Security Specification".

2.2 Informative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI GS NFV 003: "Network Functions Virtualisation (NFV); Terminology for Main Concepts in NFV".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI GS NFV 003 [i.1] apply.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI GS NFV 003 [i.1] apply.

4 Catalogue of security requirements and related test cases for NFVO product

4.1 Introduction

The present clause describes security functional requirements and the corresponding test cases for NFVO products. It is noted that the requirements for interfaces external to NFV-MANO in ETSI GS NFV-SEC 028 [1] are applicable to the interfaces for NFVO by default. Exceptions shall be listed with justifications.

4.2 Security functional requirements and related test cases

4.2.1 Introduction

All test cases in clause 4.2 of ETSI GS NFV SEC 028 [1] can be applied to NFVO products with the exceptions listed in the following clauses.

4.2.2 Security functional requirements deriving from ETSI specifications and related test cases

4.2.2.1 Verification of VNF package integrity and authenticity during on-boarding procedure

Requirement Name: Verification of VNF package integrity and authenticity during on-boarding procedure

Requirement Reference: ETSI GS NFV-IFA 010 [2], clause 6.5.1

Requirement Description:

"The NFVO shall support the capability to verify the integrity and authenticity of the VNF Package". As specified in ETSI GS NFV-IFA 010 [2], clause 6.5.1, Nfvo.VnfPkgm.002.

Threat Reference: ETSI GS NFV-SEC 028 [1], clause B.3.4.1, Software Tampering

Test case:

Test Name: TC_VERIFICATION_VNF_PACKAGE_INTEGRITY_AUTHENTICATION

Purpose:

To test whether NFVO under test will verify the integrity and authenticity of the VNF package during on-boarding procedure.

Procedure and execution steps:

Pre-Conditions:

The NFVO documentation describes information regarding integrity and authenticity protection of VNF package.