

# ETSI GS NFV-SEC 030 V5.2.1 (2024-11)



## Network Functions Virtualisation (NFV) Release 5; Security; Security Assurance Specification (SCAS) for VNFM

Document Preview

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## Foreword

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

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## 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 VNFM 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 VNFM 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 VNFM based products.

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## 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-SOL 003](#): "Network Functions Virtualisation (NFV) Release 5; Protocols and Data Models; RESTful protocols specification for the Or-Vnfm Reference Point".
- [3] [ETSI GS NFV-SOL 016](#): "Network Functions Virtualisation (NFV) Release 5; Protocols and Data Models; NFV-MANO procedures specification".
- [4] [ETSI GS NFV-SEC 021](#): "Network Functions Virtualisation (NFV) Release 4; Security; VNF Package Security Specification".

### 2.2 Informative 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.

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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 GR NFV 003: "Network Functions Virtualisation (NFV); Terminology for Main Concepts in NFV".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

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

## 3.2 Symbols

Void.

## 3.3 Abbreviations

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

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# 4 Catalogue of security requirements and related test cases for VNFM product

## 4.1 Introduction

The present clause describes security functional requirements and the corresponding test cases for VNFM products. It is noted that the requirements for interfaces external to NFV-MANO in ETSI NFV-SEC 028 [1] are applicable to the interfaces for VNFM 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 NFV-SEC 028 [1] can be applied to VNFM 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 Signature Verification for files in VNFD

*Requirement Name:* Signature Verification for files in VNFD.

*Requirement Reference:* ETSI GS NFV-SEC 021 [4], clause 6.2. ETSI GS NFV-SOL 016 [3], clauses 5.1.3 and 5.2.3. ETSI GS NFV-SOL 003 [2], clause 10.4.4.3.2.

*Requirement Description:*

During VNF package on-boarding procedure, NFVO shall sign the VNF package artifacts using the appropriate signing key(s), as specified in ETSI GS NFV-SEC 021 [4], clause 6.2.

If VNFM requires VNFD in the VNF package, the VNFM fetches the VNFD from NFVO, as specified in ETSI GS NFV-SOL 016 [3], clause 5.1.3, step 12 and clause 5.2.3, step 6.

Then NFVO provides VNFD as a ZIP archive embedding files with their signatures (if available) to VNFM for response, as specified in ETSI GS NFV-SOL 003 [2], clause 10.4.4.3.2. Therefore, VNFM will verify the signatures of the files.

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

*Test case:*

**Test Name:** TC\_SIGNATURE\_VERIFICATION\_FILES\_VNFD

**Purpose:**

To test whether VNFM under test shall verify the signatures of the files in VNFD when NFVO provides them.