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Technical Specification

3rd Generation Partnership Project;

Technical Specification Group Services and System Aspects;

Telecommunication management;

Performance Management (PM) for mobile networks that include virtualized network functions;

Stage 2

(Release 16)

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Contents

Foreword [4](#__RefHeading___Toc484107477)

Introduction [4](#__RefHeading___Toc484107478)

1 Scope [5](#__RefHeading___Toc484107479)

2 References [5](#__RefHeading___Toc484107480)

3 Definitions and abbreviations [5](#__RefHeading___Toc484107481)

3.1 Definitions [5](#__RefHeading___Toc484107482)

3.2 Abbreviations [5](#__RefHeading___Toc484107483)

4 General descriptions [6](#__RefHeading___Toc484107484)

5 Information Model Definition [6](#__RefHeading___Toc484107485)

5.1 Itf-N [6](#__RefHeading___Toc484107486)

5.2 Os-Ma-nfvo [6](#__RefHeading___Toc484107487)

5.3 Ve-Vnfm-em [6](#__RefHeading___Toc484107488)

5.4 Ve-Vnfm-vnf [6](#__RefHeading___Toc484107489)

6 Interface Definition [6](#__RefHeading___Toc484107490)

6.1 Itf-N [6](#__RefHeading___Toc484107491)

6.2 Os-Ma-nfvo [6](#__RefHeading___Toc484107492)

6.3 Ve-Vnfm-em [7](#__RefHeading___Toc484107493)

6.4 Ve-Vnfm-vnf [7](#__RefHeading___Toc484107494)

Annex A (informative): Change history [8](#__RefHeading___Toc484107495)

# Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

# Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project Technical Specification Group Services and System Aspects, Telecommunication Management; as identified below:

TS 28.520: Telecommunication management; Performance Management (PM) for mobile networks that include virtualized network functions; Requirements.

TS 28.521: Telecommunication management; Performance Management (PM) for mobile networks that include virtualized network functions; Procedures.

**TS 28.522: Telecommunication management; Performance Management (PM) for mobile networks that include virtualized network functions; Stage 2.**

TS 28.523: Telecommunication management; Performance Management (PM) for mobile networks that include virtualized network functions; Stage 3.

# 1 Scope

The present document is the Performance Management stage 2 specification for mobile networks that include virtualized network functions.

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 32.412: "Telecommunication management; Performance Management (PM) Integration Reference Point (IRP): Information Service (IS)".

[3] 3GPP TS 28.520: "Telecommunication management; Performance Management (PM) for mobile networks that include virtualized network functions; Requirements".

[4] ETSI GS NFV IFA 008 V2.1.1 (2016-10): "Network Functions Virtualisation (NFV); Management and Orchestration; Ve-Vnfm reference point – Interface and Information Model Specification".

[5] 3GPP TS 28.500: "Telecommunication management; Management concept, architecture and requirements for mobile networks that include virtualized network functions".

[6] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP); Information Service (IS)"

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1], in 3GPP TS 28.500 [3] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1] or in 3GPP TS 28.500 [3].

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1], in 3GPP TS 28.500 [3] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1] or in 3GPP TS 28.500 [3].

# 4 General descriptions

For the stage 2 solution of Performance Management for mobile networks that include virtualized network functions over Itf-N, the PM IRP IS (TS 32.412 [2]) is applicable. For the purpose of notification, Notification IRP [6] is needed.

# 5 Information Model Definition

## 5.1 Itf-N

For Performance Management for 3GPP Network Function over Itf-N, the IOCs defined by PM IRP specified in clause 6 of 3GPP TS 32.412 [2] are reused.

## 5.2 Os-Ma-nfvo

None.

## 5.3 Ve-Vnfm-em

For Ve-Vnfm-em Performance Management, the information elements and notifications which are specified in subclause 9.7 of ETSI GS NFV-IFA 008 [4] for VNF Performance Management shall be used.

## 5.4 Ve-Vnfm-vnf

None

# 6 Interface Definition

## 6.1 Itf-N

For the stage 2 solution of Performance Management for mobile networks that include virtualized network functions over Itf-N, the operations and notifications defined by PM IRP specified in 3GPP TS 32.412 [2] are reused.

## 6.2 Os-Ma-nfvo

None.

## 6.3 Ve-Vnfm-em

For Ve-Vnfm-em performance management, the operations defined in clause 7.4 of ETSI GS NFV-IFA 008 [4] for VNF Performance Management interface shall be used, and the information elements and notifications which are specified in subclause 9.7 of ETSI GS NFV-IFA 008 [4] for VNF performance management shall be used.

## 6.4 Ve-Vnfm-vnf

None.

Annex A (informative):  
Change history

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | | **Subject/Comment** | **New version** |
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| 2017-06 | SA#80 | SP-180417 | 0001 | 1 | B | Scope extension to cover RAN | | 15.0.0 |
| 2020-07 | - | - | - | - | - | Update to Rel-16 version (MCC) | | **16.0.0** |