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**LTE;**  
**Telecommunication management;**  
**Performance Management (PM) for mobile networks**  
**that include virtualized network functions;**  
**Stage 2**  
**(3GPP TS 28.522 version 15.0.0 Release 15)**



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Reference

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Keywords

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# Foreword

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- x the first digit:
  - 1 presented to TSG for information;
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- 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.

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# Introduction

The present document is part of a TS-family covering the 3<sup>rd</sup> 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.

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# 1 Scope

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

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## 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)"

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## 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].

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## 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.

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## 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

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## 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.

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## Annex A (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-06	SA#76					Upgrade to change control version	14.0.0
2017-06	SA#80	SP-180417	0001	1	B	Scope extension to cover RAN	15.0.0



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# History

<b>Document history</b>		
V15.0.0	June 2018	Publication