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**LTE;
Telecommunication management;
Life Cycle Management (LCM) for mobile networks that include
virtualized network functions;
Stage 2
(3GPP TS 28.527 version 14.0.0 Release 14)**



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Foreword

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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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Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
Introduction	4
1 Scope	5
2 References	5
3 Definitions and abbreviations.....	5
3.1 Definitions	5
3.2 Abbreviations	5
4 Information model definition	5
4.1 Os-Ma-nfvo	5
4.2 Ve-Vnfm-em	6
5 Interface definitions.....	6
5.1 Os-Ma-nfvo	6
5.2 Ve-Vnfm-em	6
Annex A (informative): Change history	7
History	8

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 28.525: Telecommunication management; Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Requirements.

TS 28.526: Telecommunication management; Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Procedures.

TS 28.527: Telecommunication management; Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Stage 2.

TS 28.528: Telecommunication management; Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Stage 3.

1 Scope

The present document is the Life Cycle Management (LCM) stage 2 specification for mobile networks that include virtualized network functions, which can be part of EPC or IMS.

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 28.500: "Telecommunication management; Concept, architecture and requirements for mobile networks that include virtualized network functions".
- [3] ETSI GS NFV-IFA 008 (V2.1.1): "Network Functions Virtualisation (NFV); Management and Orchestration; Ve-Vnfm reference point – Interface and Information Model Specification".
- [4] ETSI GS NFV-IFA 013 (V2.1.1): "Network Functions Virtualisation (NFV); Management and Orchestration; Os-Ma-nfvo reference point – Interface and Information Model Specification".

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], 3GPP TS 28.500 [2] 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 [2].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1], 3GPP TS 28.500 [2] 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 [2].

4 Information model definition

4.1 Os-Ma-nfvo

For Os-Ma-nfvo NS lifecycle management (LCM) and VNF lifecycle as part of NS LCM, the information elements and notifications related to NS lifecycle management which are specified in clause 8.3 of ETSI GS NFV-IFA 013 [4] shall be used.

4.2 Ve-Vnfm-em

For Ve-Vnfm-em VNF lifecycle management, the following shall be used:

- the information elements related to VNF lifecycle management which are specified in clause 9.4 of ETSI GS NFV-IFA 008 [3],
- the information elements and notifications related to VNF lifecycle changes which are specified in clause 9.5 of ETSI GS NFV-IFA 008 [3], and
- the information elements and notifications related to multiple interfaces which are specified in clause 9.8 of ETSI GS NFV-IFA 008 [3].

5 Interface definitions

5.1 Os-Ma-nfvo

For NS lifecycle management the operations of the NS Lifecycle Management interface specified in clause 7.3 of ETSI GS NFV-IFA 013 [4] shall be used.

For NS lifecycle change notifications and notification subscription management, the operations of the NS Lifecycle Change Notification interface specified in clause 7.4 of ETSI GS NFV-IFA 013 [4] shall be used.

5.2 Ve-Vnfm-em

For VNF lifecycle management the operations of the VNF Lifecycle Management interface specified in clause 7.2 of ETSI GS NFV-IFA 008 [3] shall be used.

For VNF lifecycle change notifications and notification subscription management, the operations of the VNF Lifecycle Change Notification interface specified in clause 7.3 of ETSI GS NFV-IFA 008 [3] shall be used.

Annex A (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-03	SA#75	SP-170122				Presented for information and approval	1.0.0
2017-03	SA#75					Upgrade to change control version	14.0.0

History

Document history		
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