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**LTE;
Telecommunication management;
Life Cycle Management (LCM) for mobile networks
that include virtualized network functions;
Stage 3
(3GPP TS 28.528 version 15.0.0 Release 15)**



Reference

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650 Route des Lucioles
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 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
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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 3 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 28.500: "Telecommunication management; Concept, architecture and requirements for mobile networks that include virtualized network functions".
 - [3] ETSI GS NFV-SOL 002 (V2.3.1): "Network Function Virtualisation (NFV) Release 2; Protocols and Data Models; RESTful protocols specification for the Ve-Vnfm Reference Point".
 - [4] ETSI draft GS NFV-SOL 005 (V0.10.0): "Network Functions Virtualisation (NFV); Protocols and Data Models; RESTful protocols specification for the Os-Ma-Nfvo Reference Point".
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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], 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 Data model and interface definitions

4.1 Os-Ma-nfvo

For Os-Ma-nfvo NSD management, the following shall be used:

- the RESTful API URI structure and supported content formats specified in clause 4.2 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 005 [4], and

- the NSD management RESTful API resource structure, methods, resources and data model specified in clause 5 of ETSI GS NFV-SOL 005 [4].

For Os-Ma-nfvo NS lifecycle management, the following shall be used:

- the RESTful API URI structure and supported content formats specified in clause 4.2 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 005 [4], and
- the NS LCM RESTful API resource structure, methods, resources and data model specified in clause 6 of ETSI GS NFV-SOL 005 [4].

For Os-Ma-nfvo NS lifecycle change notification, the following shall be used:

- the RESTful API URI structure and supported content formats specified in clause 4.2 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 005 [4], and
- the NS lifecycle change notification RESTful API resource structure, methods, resources and data model specified in clause 7 of ETSI GS NFV-SOL 005 [4].

For Os-Ma-nfvo VNF package management, the following shall be used:

- the RESTful API URI structure and supported content formats specified in clause 4.2 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 005 [4], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 005 [4], and
- the VNF package management RESTful API resource structure, methods, resources and data model specified in clause 10 of ETSI GS NFV-SOL 005 [4].

4.2 Ve-Vnfm-em

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

- the RESTful API URI structure and supported content formats specified in clause 4.2 of ETSI GS NFV-SOL 002 [3], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 002 [3], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 002 [3], and
- the VNF LCM RESTful API resource structure, methods, resources, data model and handling of errors specified in clause 5 of ETSI GS NFV-SOL 002 [3].

Annex A (informative): Change history

| Change history | | | | | | | |
|----------------|---------|-----------|------|-----|-----|--|-------------|
| Date | Meeting | TDoc | CR | Rev | Cat | Subject/Comment | New version |
| 2018-01 | SA#78 | SP-170964 | 0001 | 1 | F | Update the references to ETSI NFV SOL specifications | 14.1.0 |
| 2018-06 | SA#80 | SP-180417 | 0002 | 1 | B | Scope extension to cover RAN | 15.0.0 |

History

| Document history | | |
|-------------------------|-----------|-------------|
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