

# ETSI TS 128 518 V14.1.0 (2018-01)



**LTE;  
Telecommunication management;  
Fault Management (FM)  
for mobile networks that include virtualized network functions;  
Stage 3  
(3GPP TS 28.518 version 14.1.0 Release 14)**



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**Reference**RTS/TSGS-0528518ve10

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# Foreword

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- 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.

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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 28.515 "Fault Management (FM) for mobile networks that include virtualized network functions; Requirements".

TS 28.516 "Fault Management (FM) for mobile networks that include virtualized network functions; Procedures".

TS 28.517 "Fault Management (FM) for mobile networks that include virtualized network functions; Stage 2".

**TS 28.518 "Fault Management (FM) for mobile networks that include virtualized network functions; Stage 3".**

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# 1 Scope

The present document is Fault Management stage 3 specification for mobile networks that include virtualized network functions which can be part of EPC or IMS.

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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 32.111-2 "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".
- [3] 3GPP TS 32.111-6 "Telecommunication management; Fault Management; Part 6: Alarm Integration Reference Point (IRP): Solution Set (SS) definitions".
- [4] 3GPP TS 28.500: "Telecommunication management; Management concept, architecture and requirements for mobile networks that include virtualized network functions".
- [5] 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".

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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] and in 3GPP TS 28.500 [4] 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 [4].

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and in 3GPP TS 28.500 [4] 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 [4].

IS	Information Service
SOAP	Simple Object Access Protocol
SS	Solution Set

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## 4 General descriptions

For VNF Fault Management Stage 3 solution over Itf-N, the Alarm IRP SS is applicable. The overall description of Alarm IRP SS is specified in TS 32.111-6 [3]. The semantics of Alarm IPR SS are specified in Alarm IRP Information Service TS 32.111-2 [2]. Three solution sets are contained in [3], which are the CORBA Solution Set, the XML definitions and the SOAP Solution Set.

For VNF Fault Management Stage 3 solution over Ve-Vnfm reference point, the corresponding RESTful solution of ETSI GS NFV-SOL 002 [5] shall be used as specified in clause 5.2.

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## 5 Solution Set Definitions

### 5.1 Itf-N

For Itf-N VNF alarm management, the following Solution Set Definitions defined by AlarmIRP which is specified in 3GPP TS 32.111-6 [3] shall be used:

Annex A of 3GPP TS 32.111-6 [3] provides the CORBA Solution Set.

Annex B of 3GPP TS 32.111-6 [3] provides the XML Definitions.

Annex C of 3GPP TS 32.111-6 [3] provides the SOAP Solution Set.

### 5.2 Ve-Vnfm-em

For Ve-Vnfm-em VNF alarm 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 [5], and
- the RESTful API common procedures specified in clause 4.3 of ETSI GS NFV-SOL 002 [5], and
- the RESTful API common data types specified in clause 4.4 of ETSI GS NFV-SOL 002 [5], and
- the VNF FM RESTful API resource structure, methods, resources, data model and handling of errors specified in clause 7 of ETSI GS NFV-SOL 002 [5].

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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	SP-170476				Presented for information and approval	1.0.0
2017-06	SA#76					Upgraded to change control version	14.0.0
2018-01	SA#78	SP-170964	0001	-	F	Update the reference to ETSI GS NFV-SOL 002	14.1.0



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# History

<b>Document history</b>		
V14.0.0	July 2017	Publication
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