

ETSI TS 128 518 V16.0.0 (2020-08)



**LTE;  
Telecommunication management;  
Fault Management (FM)  
for mobile networks that include virtualized network functions;  
Stage 3  
(3GPP TS 28.518 version 16.0.0 Release 16)**



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# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> 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:

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- x the first digit:
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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 28.515 "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
2018-01	SA#78	SP-170964	0001	-	F	Update the reference to ETSI GS NFV-SOL 002	14.1.0
2018-06	SA#80	SP-180417	0002	1	B	Scope extension to cover RAN	15.0.0
2020-07	-	-	-	-	-	Update to Rel-16 version (MCC)	<b>16.0.0</b>



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# History

<b>Document history</b>		
V16.0.0	August 2020	Publication