ETSI TS 132 426 V14.0.0 (2017-04)

LTE;
Telecommunication management;
Performance Management (PM);
Performance measurements Evolved Packet Core (EPC) network
(3GPP TS 32.426 version 14.0.0 Release 14)

Reference
RTS/TSGS-0532426ve00

Keywords
LTE

ETSI

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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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:

32.401 Performance Management (PM); Concept and requirements

52.402 Performance Management (PM); Performance measurements - GSM

32.404 Performance Management (PM); Performance measurements - Definitions and template

32.405 Performance Management (PM); Performance measurements Universal Terrestrial Radio Access Network (UTRAN)

32.406 Performance Management (PM); Performance measurements Core Network (CN) Packet Switched (PS) domain

32.407 Performance Management (PM); Performance measurements Core Network (CN) Circuit Switched (CS) domain

32.408 Performance Management (PM); Performance measurements Teleservice

32.409 Performance Management (PM); Performance measurements IP Multimedia Subsystem (IMS)

32.425 Performance Management (PM); Performance measurements Evolved Universal Terrestrial Radio Access Network (E-UTRAN)

32.426 Performance Management (PM); Performance measurements Evolved Packet Core network (EPC)

The present document is part of a set of specifications, which describe the requirements and information model necessary for the standardised Operation, Administration and Maintenance (OA&M) of a multi-vendor LTE SAE-system.

During the lifetime of a LTE SAE network, its logical and physical configuration will undergo changes of varying degrees and frequencies in order to optimise the utilisation of the network resources. These changes will be executed through network configuration management activities and/or network engineering, see TS 32.600 [2].

Many of the activities involved in the daily operation and future network planning of a LTE SAE network require data on which to base decisions. This data refers to the load carried by the network and the grade of service offered. In order

to produce this data performance measurements are executed in the NEs, which comprise the network. The data can then be transferred to an external system, e.g. an Operations System (OS) in TMN terminology, for further evaluation. The purpose of the present document is to describe the mechanisms involved in the collection of the data and the definition of the data itself.

Annex B of TS 32.404 helps in the definition of new performance measurements that can be submitted to 3GPP for potential adoption and inclusion in the present document. Annex B of TS 32.404 discusses a top-down performance measurement definition methodology that focuses on how the end-user of performance measurements can use the measurements.

1 Scope

The present document describes the measurements for EPC and combined EPC/UMTS/GSM.
TS 32.401 [1] describes Performance Management concepts and requirements.
The present document is valid for all measurement types provided by an implementation of an EPC network and combined EPC/UMTS/GSM network. Only measurement types that are specific to EPC or combined EPC/UMTS/GSM networks are defined within the present documents.

Vendor specific measurement types used in EPC and combined EPC/UMTS/GSM networks are not covered. Instead, these could be applied according to manufacturer's documentation.

Measurements related to "external" technologies (such as IP) as described by "external" standards bodies (e.g. IETF) shall only be referenced within this specification, wherever there is a need identified for the existence of such a reference.

The definition of the standard measurements is intended to result in comparability of measurement data produced in a multi-vendor network, for those measurement types that can be standardised across all vendors' implementations.

The structure of the present document is as follows:

- Header 1: Network Element (e.g. MME related measurements);
- Header 2: Measurement function;
- Header 3: Measurements.

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 and/or edition number or version number) 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 TS 32.401: "Telecommunication management; Performance Management (PM); Concept and requirements".

[2] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[3] 3GPP TS 24.301: " Technical Specification Group Core Network and Terminals; Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3".

[4] 3GPP TS 29.274: "Evolved General Packet Radio Service (GPRS); Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

[5] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access (Release 8)".

[6] 3GPP TS 29.274: " Tunnelling Protocol for Control plane (GTPv2-C)".

[7] 3GPP TS 29.281: "GPRS Tunnelling Protocol User Plane (GTPv1-U)".

[8] 3GPP TS 36.414: "Evolved Universal Terrestrial Access Network (E-UTRAN); S1 data transport".

[9] 3GPP TS 29.272: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol".