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Modal verbs terminology

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

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:

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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.

In the present document, modal verbs have the following meanings:

shall indicates a mandatory requirement to do something

shall not indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

should indicates a recommendation to do something

should not indicates a recommendation not to do something

may indicates permission to do something

need not indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

can indicates that something is possible

cannot indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

will indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

will not indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

might indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

might not indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

is (or any other verb in the indicative mood) indicates a statement of fact

is not (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

Introduction

This document presents the possible architectures of the 3GPP System covering both UTRAN and GERAN radio access technologies. In addition, this document also includes the Evolved Packet System providing support for E-UTRAN radio access technology in addition to UTRAN and GERAN radio access technologies. As well as providing support for E-UTRAN, UTRAN and GERAN radio access technologies, the Evolved Packet System also provides support for non-3GPP access technologies making it possible for these technologies to interwork with the 3GPP specified Evolved Packet Core network. The configuration of non-3GPP access networks using EPS is not within the scope of 3GPP specification.

This document also presents the architecture for the IP Multimedia Subsystem common to 3GPP and other access systems such as Fixed Broadband and those specified by 3GPP2 and provide architecture for interworking and session continuity between IMS and Circuit Switched systems.

Clause 3 of the document contains the definition of the PLMN entities.

Clause 4 of the document contains the description of the basic entities of the PLMN, and clause 4a contains the description of the specific entities of the PLMN.

Clause 5 of the document contains the configuration of the PLMN.

Clauses 6, 6a and 7 of the document contain the PLMN's basic and specific interfaces and reference points and the PLMN's interfaces towards other networks.

1 Scope

This document offers an overview of the 3GPP PLMN and its architectures and configuration. The configuration and the functional entities of the PLMN and the interfaces between them are described on a general level in order to cope with possible implementations. These descriptions include interfaces between and within the core networks, the access networks, the user equipment, different service platforms, different domains and subsystems, and functional entities within domains and subsystems.

This document covers different architectural aspects with varying level of detail. In general, other specifications shall be referred to for further details; these specifications enable the reader to acquire the full understanding of a system or service feature.

Note that this document does not cover, or even list, all features of PLMNs.

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] Void.

[1a] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.016: "International Mobile station Equipment Identities (IMEI)".

[2a] 3GPP TS 22.060: "General Packet radio Service (GPRS); Service description; Stage 1".

[2b] 3GPP TS 22.071: "Location Services (LCS); Service description; Stage 1".

[2c] 3GPP TS 22.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL); Service description, Stage 1".

[3] 3GPP TS 23.003: " Numbering, addressing and identification".

[4] 3GPP TS 22.127: "Open Service Access (OSA)".

[5] 3GPP TS 23.008: "Organization of subscriber data".

[6] 3GPP TS 23.009: "Handover procedures".

[7] 3GPP TS 23.012: "Location Management Procedures".

[8] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[9] Void.

[9a] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[10] Void.

[10a] 3GPP TS 43.064: "Digital cellular telecommunication system (Phase 2+); General Packet Radio service (GPRS); Overall description of the GPRS radio interface; Stage 2".

[10b] 3GPP TS 25.305: "Stage 2 Functional Specification of UE Positioning in UTRAN".