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LTE;**

5G;

Service aspects;

Service principles

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ETSI

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 - APE 7112B
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Foreword

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1 Scope

This Technical Specification (TS) describes the Service Principles for PLMNs specified by 3GPP. Principles and requirements for interworking with WLAN are covered in TS 22.234 [35].

3GPP specifications provide integrated personal communications services. The system will support different applications ranging from narrow-band to wide-band communications capability with integrated personal and terminal mobility to meet the user and service requirements of the 21st century.

3GPP specifications allow the realisation of a new generation of mobile communications technology for a world in which personal communications services should allow person-to-person calling, independent of location, the terminal used, the means of transmission (wired or wireless) and the choice of technology. Personal communication services should be based on a combination of fixed and wireless/mobile services to form a seamless end-to-end service for the user.

3GPP specifications should be in compliance with the following objectives:

- a) to provide a single integrated system in which the user can access services in an easy to use and uniform way in all environments;
- b) to allow differentiation between service offerings of various serving networks and home environments;
- c) to provide a wide range of telecommunications services including those provided by fixed networks and requiring user bit rates of up to 100 Mbit/s as well as services special to mobile communications. These services should be supported in residential, public and office environments and in areas of diverse population densities. These services are provided with a quality comparable with that provided by fixed networks such as ISDN and fixed broadband Internet access;
- d) to provide services via hand held, portable, vehicular mounted, movable and fixed terminals (including those which normally operate connected to fixed networks), in all environments (in different service environments - residential, private domestic and different radio environments) provided that the terminal has the necessary capabilities;
- e) to provide support of roaming users by enabling users to access services provided by their home environment in the same way even when roaming.
- f) to provide audio, data, video and particularly multimedia services;
- g) to provide for the flexible introduction of telecommunication services;
- h) to provide within the residential environment the capability to enable a pedestrian user to access all services normally provided by fixed networks;
- i) to provide within the office environment the capability to enable a pedestrian user to access all services normally provided by PBXs and LANs;
- j) to provide a substitute for fixed networks in areas of diverse population densities, under conditions approved by the appropriate national or regional regulatory authority.
- k) to provide support for interfaces which allow the use of terminals normally connected to fixed networks.

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*.

2.1 Normative references

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- [2] Void
- [3] 3GPP TS 22.038: "(U)SIM Application Toolkit (USAT); Service description; Stage 1".
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- [5] 3GPP TS 22.004: "General on supplementary services"
- [6] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)"
- [7] 3GPP TS 22.066: "Support of Mobile Number Portability (MNP); Service description; Stage 1"
- [8] 3GPP TS 22.079: "Support of Optimal Routeing (SOR); Service definition; Stage 1".
- [9] 3GPP TS 22.129: "Handover Requirements between UTRAN and GERAN or other Radio Systems".
- [10] Void
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- [13] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 Specification".
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- [15] 3GPP TS 21.133: "Security Threats and Requirements".
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- [30] 3GPP TS 26.233: "Packet Switched Streaming Service (PSS); General Description".
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- [32] Void
- [33] Void
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- [41] 3GPP TS 22.082: "Call Forwarding (CF) supplementary services - Stage 1".
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- [45] 3GPP TR 22.985: "Service requirement for the 3GPP User Data Convergence (UDC), Release 9".
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3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [29] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [29].

3GPP SSO Authentication: Authentication performed between an SSO-capable UE and 3GPP SSO Identity Provider using Operator-controlled credentials and without requiring user involvement.

3GPP SSO Identity Provider: An entity that maintains Operator-controlled identity and credential information for a user, performs 3GPP SSO Authentication, and asserts the user's identity to a Data Application Provider.

3rd Party SSO Identity Provider: An entity that maintains identity and credential information (that is not Operator-controlled) for a user, performs authentication, and asserts the user's identity to a Data Application Provider.

Attended Data Traffic: Data traffic of which the user is aware he/she initiated, e.g. based on the screen/keypad lock being deactivated, length of time since the UE last received any input from the user, known type of application (e.g. an application monitoring a user's health – "mHealth" – which may need its data always treated as Attended Data Traffic.)

eCall: A manually or automatically initiated emergency call (TS12 or IMS emergency call), from a vehicle, supplemented with a minimum set of emergency related data (MSD).

Data Application Provider: An entity that offers data application services to users (e.g., over the public Internet). The data applications can be browser or non-browser based services.

Free-to-air (FTA) TV: A TV service characterised by no content encryption and being made available at no additional cost to the end user.

Free-to-view (FTV) TV: A TV service characterised by optional content encryption and being made available at no additional cost to the end user.

Gateway UE: a UE, which acts as a gateway providing access to and from the 3GPP network for one or more non-3GPP devices that are connected to the gateway UE.

GERAN or UTRAN Sharing: The sharing of GERAN or UTRAN among a number of operators.

Hosting E-UTRAN/NG-RAN Operator: The Operator that has operational control of a Shared E-UTRAN and/or NG-RAN. With regard to management of the Shared E-UTRAN the Hosting E-UTRAN/NG-RAN Operator is a Master Operator [64].

Hosting RAN: The Shared RAN that is owned or controlled by the Hosting RAN Operator.

Hosting RAN Operator: The Operator that has operational control of a Shared NG-RAN, Shared E-UTRAN, Shared GERAN or UTRAN.

IMS Centralized Services: The provision of communication services wherein services and service control are based on IMS mechanisms and enablers, and support is provided for a diversity of access networks (including CS domain and IP based, wireless and wireline), and for service continuity between access networks.

MSD: The Minimum Set of Data [46] forming the data component of an eCall sent from a vehicle to a Public Safety Answering Point or other designated emergency call centre. The MSD has a maximum size of 140 bytes and includes, for example, vehicle identity, location information and time-stamp.

NG-RAN: A radio access network connecting to the 5G core network which uses NR, E-UTRA, or both.

Participating Operator: Authorized operator that is using Shared NG-RAN, Shared E-UTRAN, Shared GERAN or UTRAN resources provided by a Hosting RAN Operator.

RAN user plane congestion: The situation where the demand for RAN resources to transfer user data exceeds the available RAN capacity to deliver the user data for a significant period of time in the order of few seconds or longer.