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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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1 Scope

The present document defines the Stage 2 system architecture for the 5G System. The 5G System provides data connectivity and services.

This specification covers both roaming and non-roaming scenarios in all aspects, including interworking between 5GS and EPS, mobility within 5GS, QoS, policy control and charging, authentication and in general 5G System wide features e.g. SMS, Location Services, Emergency Services.

ITU-T Recommendation I.130 [11] describes a three-stage method for characterisation of telecommunication services, and ITU-T Recommendation Q.65 [12] defines Stage 2 of the method.

TS 23.502 [3] contains the stage 2 procedures and flows for 5G System and it is a companion specification to this specification.

TS 23.503 [45] contains the stage 2 Policy Control and Charging architecture for 5G System and it is a companion specification to this specification.

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*.

- ETSI TS 123 501 V15.13.0 (2022-03)
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- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 22.261: "Service requirements for next generation new services and markets; Stage 1".
- [3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".
- [4] 3GPP TS 23.203: "Policies and Charging control architecture; Stage 2".
- [5] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS); Stage 2".
- [6] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface: Stage 3".
- [7] IETF RFC 7157: "IPv6 Multihoming without Network Address Translation".
- [8] IETF RFC 4191: "Default Router Preferences and More-Specific Routes".
- [9] IETF RFC 2131: "Dynamic Host Configuration Protocol".
- [10] IETF RFC 4862: "IPv6 Stateless Address Autoconfiguration".
- [11] ITU-T Recommendation I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [12] ITU-T Recommendation Q.65: "The unified functional methodology for the characterization of services and network capabilities".
- [13] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS): Stage 3".
- [14] IETF RFC 3736: "Stateless DHCP Service for IPv6".

- [15] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [16] 3GPP TS 22.173: "IMS Multimedia Telephony Service and supplementary services; Stage 1".
- [17] 3GPP TS 23.122: "Non-Access-Stratum (NAS) functions related to Mobile Station in idle mode".
- [18] 3GPP TS 23.167: "3rd Generation Partnership Project; Technical Specification Group Services and Systems Aspects; IP Multimedia Subsystem (IMS) emergency sessions".
- [19] 3GPP TS 23.003: "Numbering, Addressing and Identification".
- [20] IETF RFC 7542: "The Network Access Identifier".
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- [23] 3GPP TS 23.221: "Architectural requirements".
- [24] 3GPP TS 22.153: "Multimedia priority service".
- [25] 3GPP TS 22.011: "Service Accessibility".
- [26] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".
- [27] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description".
- [28] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol Specification".
- [29] 3GPP TS 33.501: "Security architecture and procedures for 5G system".
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- [31] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Multi-connectivity; Stage 2".
- [32] 3GPP TS 23.214: "Architecture enhancements for control and user plane separation of EPC nodes; Stage 2".
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- [35] 3GPP TS 33.126: "Lawful Interception Requirements".
- [36] 3GPP TS 23.682: "Architecture enhancements to facilitate communications with packet data networks and applications".
- [37] 3GPP TS 22.280: "Mission Critical Services Common Requirements (MCCoRe); Stage 1".
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- [41] 3GPP TS 32.240: "Charging management; Charging architecture and principles".
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- [43] 3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".