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Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Switching Centre - Base Station system (MSC-BSS) interface; Layer 3 specification (3GPP TS 48.008 version 17.0.0 Release 17)

A GLOBAL INITIATIVE
GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS

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Contents

Foreword

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

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1 Scope

The present document specifies the layer 3 procedures used on the Base Station System (BSS) to Mobile-services Switching Centre (MSC) interface for control of GSM services.

For the purposes of call control and mobility management, messages are not interpreted at the Base Station System (BSS) which acts as a relay function. These messages and procedures are documented in 3GPP TS 24.008, the only relevant issues covering these messages in the present document are those concerned with error conditions at the interface, and the headers that are required for the correct addressing of the messages. This is specified in more detail in 3GPP TS 48.002.

The functional split between MSC and BSS is defined in 3GPP TS 48.002 and states that the BSS is responsible for local radio resource allocation and in order to support this the required procedures between BSS and MSC are defined in detail in the present document.

3GPP TS 48.002 also states that the BSS is responsible for the scheduling of all CCCH/BCCH messages and therefore some procedures for providing the BSS with the necessary information to be passed on these channels for individual calls (i.e. paging) are defined in the present document, but the scheduling is not discussed.

This interface and consequently these layer 3 procedures are designed to support BSSs providing one or more cells.

1.1 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 23.003: "Numbering, addressing and identification".

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

[3a] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[4] (void)

[5] 3GPP TS 43.059: "Functional stage 2 description of Location Services (LCS) in GERAN".

[6] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[7] (void).

[8] (void).

[9] (void).

[10] (void).

[11] (void).

[12] (void).

[13] (void).

[14] (void).

[15] (void).

[16] 3GPP TS 48.002: "Base Station System - Mobile-services Switching Centre (BSS-MSC) interface; Interface principles".

[17] 3GPP TS 48.006: "Signalling transport mechanism specification for the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18] 3GPP TS 48.020: "Rate adaption on the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18a] (void).

[19] 3GPP TS 48.071: "Location Services (LCS); Serving Mobile Location Center - Base Station System (SMLC-BSS) interface; Layer 3 specification".

[19a] 3GPP TS 49.031: "Location Services (LCS); Base Station System Application Part LCS Extension (BSSAP-LE)".

[20] (void).

[21] (void).

[22] (void).

[23] (void).

[24] (void).

[25] (void).

[26] (void).

[27] (void).

[28] 3GPP TS 52.021: "Network Management (NM) procedures and messages on the A-bis Interface".

[29] (void).

[30] (void).

[31] 3GPP TS 25.413: "UTRAN Iu Interface RANAP signalling".

[32] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".

[33] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[34] (void).

[35] (void).

[36] (void).

[37] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[38] ITU-T Recommendation X.25: "Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".

[39] 3GPP TS 43.020: "Security-related network functions".

[40] 3GPP TS 43.073: "Support of Localised Service Area (SoLSA); Stage 2".

[41] 3GPP TS 52.008: "Telecommunication management; GSM subscriber and equipment trace".

[42] (void).

[43] 3GPP TS 45.002: "Multiplexing and multiple access on the radio path".

[44] 3GPP TS 26.103: "Speech codec list for GSM and UMTS".

[45] 3GPP TS 43.051: "GSM/EDGE Radio Access Network (GERAN) overall description; Stage 2".

[46] 3GPP TS 23.172: " Technical realization of Circuit Switched (CS) multimedia service UDI/RDI fallback and service modification; Stage 2".

[47] 3GPP TS 43.068: "Voice Group Call Service (VGCS); Stage 2".

[48] 3GPP TS 23.236: "Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes".

[49] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

[50] 3GPP TS 22.220: "Service Requirements for Home NodeBs and Home eNodeBs".

[51] 3GPP TS 23.153: ”Out of band transcoder control; Stage 2”.

[52] 3GPP TS 23.251: "Network sharing - Architecture and functional description".

[53] 3GPP TS 29.280: "3GPP Sv interface (MME to MSC, and SGSN to MSC) for SRVCC ".

[54] 3GPP TS 23.284: "Local Call Local Switch; Stage 2".

[55] 3GPP TS 29.205: "Application of Q.1900 series to bearer independent Circuit Switched (CS) core network architecture; Stage 3".

[56] 3GPP TS 43.130: "Iur-g interface; Stage 2".

[57] 3GPP TS 36.413: "S1 Application Protocol (S1AP)".

[58] 3GPP TS 45.008: "Radio subsystem link control".

[59] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[60] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[61] 3GPP TS 24.237: "IP Multimedia (IM) Core Network (CN) subsystem IP Multimedia Subsystem (IMS) Service Continuity; Stage 3"

[62] 3GPP TS 33.102: "3G Security; Security architecture".

[63] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS)".

[64] 3GPP TS 28.062: "Inband Tandem Free Operation (TFO) of speech codecs; Service description; Stage 3"

1.2 Definitions and Abbreviations

For the purposes of the present document, the definitions and abbreviations given in 3GPP TR 21.905 and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905.

- **CS/PS coordination enhancements:** refers to an improved CS/PS domain registration coordination function when rerouting is performed in a MOCN or in a GWCN configuration for network sharing. The improved CS/PS domain registration coordination is achieved by extended signalling between the BSS and the CN nodes (see 3GPP TS 23.251 [52]).

- **Network sharing:** network sharing is an optional feature that allows different core network operators to connect to the same shared radio access network in a MOCN configuration, and to the same shared radio access network and core network nodes in a GWCN configuration (see 3GPP TS 23.251 [52]). When network sharing is in use within a given cell, the network broadcasts within system information the PLMN identities of the PLMNs