Technical Specification Group Services and System Aspects *TSGS#5(99)366*
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Title: GSM Specification 01.01 version 0.4.0

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Agenda Item:

The attached GSM 01.01 has been made available to the TSGs for information purposes only.

The support team have produced a draft specification GSM 0101 identifying the basic content and the specifications of GSM R99. Note that an equivalent specification for 3G R99, 3G TS 21.101 is also available.

GSM 01.01 V0.4.0 (1999-10)

Technical Specification

Digital cellular telecommunications system (Phase 2+);
GSM Release 1999 Specifications
(GSM 01.01 version 0.4.0 Release 1999)

Reference
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Foreword

This ETSI Technical Specification (TS) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).

This TS identifies the GSM system specifications for GSM Release 1999.

The contents of this TS are subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of this TS it will then be republished by ETSI with an identifying change of release date and an increase in version number as follows:

Version 8.x.y

where:

8 indicates release 1999 of GSM Phase 2+;

x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

y the third digit is incremented when editorial only changes have been incorporated in the specification.

Ed Note: This draft Specification has been produced following the SMG#29, ETSI Board#20 and PCG approval of SMG#29 TD P-99-546.

TD P-99-546 states "The provisional list given in annex A should be further elaborated and reviewed by SMG STCs and TSG WGs". This is an ongoing process, which it is hoped will be completed by SMG#30. It is anticipated that this Specification will then be presented to SMG#30 as V1.0.0 (to meet the approval time scale of V8.0.0 at SMG#31).

The content of Clause 5 should be considered unstable and is included only for completeness at this time. The R99 "Roadmap" style content requires further work (SMG 12 in conjunction with MCC?).

The equivalent 3G Specification (21.101) is being developed in a similar manner within 3GPP and aligned with this document.

1 Scope

The present document identifies the GSM system specifications for GSM Release 1999.

2 References

This TS contains no references.

3 Abbreviations

For the purposes of the present document, the terms and definitions apply.

TBC

4 General

GSM Release 1999 consist of GSM only specifications and the GSM Core Network specifications developed for both GSM Release 1999 and Release 1999 of the 3rd Generation mobile system.

GSM Release 1999 also consist of many enhanced features developed within the 3rd Generation Partnership Project.

The present document identifies the GSM system set of specifications required to implement GSM Release 1999.

4.1 Specification and report numbering

Specifications for GSM Release 1999 only can be identified by the "**ab.de"** numbering scheme.

Specifications for both GSM Release 1999 and Release 1999 of the 3rd Generation mobile system are identified by the "**ab.cde"** numbering scheme.

NOTE: A "**c**" digit equal to zero indicates a GSM heritage of a Specification.

4.2 Specification series

In general the Specification series is identified as follows:

4.2.1 01 and 21-series

Requirements specifications

These specifications are often transient and contain requirements towards other specifications. They may become obsolete when technical solutions have been fully specified; they could then, e.g., be replaced by reports describing the performance of the system, they could be deleted without replacement or be kept for historical reasons but turned into background material. When found necessary and appropriate, the transient or permanent nature of a requirement specification may be expressed in its scope.

4.2.2 02 and 22-series

Service aspects

Specifications in this series specify services, service features, building blocks or platforms for services (a service feature or service building block may provide certain generic functionality's for the composition of a service, including the control by the user; a platform may comprise a single or more network elements, e.g. UIM, mobile terminal, auxiliary system to the core network etc.); stage 1 specifications that are felt appropriate belong into this series; reports defining services which can be realised by generic building blocks etc. also belong into this series.

4.2.3 03 and 23-series

Technical realisation

This series mainly contains stage 2 specifications (or specifications of a similar nature describing interworking over several interfaces, the behaviour in non-exceptional cases, etc.).

4.2.4 04 and 24-series

Signalling protocols (UE - CN network)

This series contains the detailed and bit exact stage 3 specifications of protocols between MS/UE and the Core network.

4.2.5 05 series

GSM Radio aspects

4.2.6 06 series

Codecs

This series defines speech codecs and other codecs for GSM.

4.2.7 07 and 27-series

Data

This series defines the functions necessary to support data applications at the user equipment side.

4.2.8 08 and 28-series

Signalling protocols (RSS - network part)

This series contains the detailed and bit exact stage 3 specifications of protocols relevant for interfaces internal to the Radio Access Network and between this and the Core Network.

4.2.9 09 and 29-series

Signalling protocols (NSS)

This series contains the detailed and bit exact stage 3 specifications of protocols within the Core Network.

4.2.10 11 series

SIM and conformance test

This series specifies the Subscriber Identity Module (SIM) and the interfaces between SIM and other entities. and the conformance test specifications for GSM.

4.2.11 12 series

Operation and maintenance

This series defines the application of TMN for GSM and other functions for operation, administration and maintenance of a GSM network.

4.2.12 13 series

Access requirements

This series contains Access requirement specifications for GSM.

5 Content of GSM Release 1999

5.1 GSM only Work Areas

Title
Enhanced Data rates for GSM Evolution (EDGE) - BSS Part
Enhanced Data rates for GSM Evolution (EDGE) - NSS Part[1]
General Packet Radio Service Phase 2 (GPRS) – radio part[2]
GSM on 450 MHz Frequency Band
BSS co-ordination of Radio Resource allocation for class A GPRS services - GSM Radio Access (R99)
BSS co-ordination of Core Network Resource allocation for class A GPRS services -GSM-3G Core Network (R99)[3]

[1] As EDGE will not be used by 3G network, this WI has been classified as a GSM only WI, even if it impacts the common R99 GSM/3G CN. However, this WI should study that the proposed changes are not incompatible with the use of the UTRAN by the R99 GSM/3G CN.

[2] Comprises some related sub-work items.

[3] Same remark as for note 1.

5.2 Common GSM/3G Work Areas

Title
Access to ISPs and Intranets in GPRS Phase 2 – Wireless/Remote Access to LANs (R99)
Access to ISPs and Intranets in GPRS Phase 2; Separation of General Packet Radio Service (GPRS) bearer establishment and ISP service environment setup (R99)
Advanced Addressing
Architecture of the GSM-UMTS Platform
Architecture overview of the GSM-UMTS System
Automatic Establishment of Roaming Relations
Call Forwarding Enhancements (CFE)
Calling Name Presentation – Euro (CNAP-EU)
CAMEL Phase 3
Charging and Billing for GPRS – Advice of Charge
Charging and Billing for GPRS – Hot Billing
Charging and Billing for GPRS – Pre-Paid
Enhanced QoS Support in GPRS
Follow Me
Fraud Information Gathering System applied to GPRS
General Packet Radio Service Phase 2 (GPRS) – network part[2]
Generic signalling mechanism for service support
GPRS - Point-To-Multipoint Services
GPRS Mobile IP Interworking
Idle mode classmark[4]
Immediate Service Termination (IST) : CAMEL free solution
Impact of Telecommunications Data Protection Directive on GSM Standards[5]
Interworking with Mobile Satellite Systems
LAPDm performance enhancement
MexE Release 99
MS and Network-Resident Execution Environments (MS/N-RExE)
MS Antenna Test Method[6]
Multiple Subscriber Profile (MSP) based on CAMEL ph. 3
Noise Suppression for AMR speech codec
Provision of text telephony service in GSM and UMTS
Service Continuity and Provision of VHE via GSM/UMTS
Service to GSM Handportables in trains[7]
Specification of a bearer independent protocol for SAT applications to exchange data over the GSM network
SS7 Security
Study on Combined GSM and Mobile IP Mobility Handling in UMTS IP CN
Study on provision of facsimile services in GSM and UMTS
Support for real time services in the Packet domain for GSM/GPRS/UMTS R99
Tandem Free Operation of speech codecs in Mobile-to-Mobile Calls (MMCs) : out-band
Tandem free aspects for UMTS and between UMTS and 2G systems
USSD Enhancements
Virtual Home Environment
Codec for Low Bitrate Multimedia Telephony Service
Support of non-realtime Multimedia Messaging Service
Mandatory Speech Codec for Narrowband Telephony Service
WAP WAE User Agent / SIM toolkit interworking
Generic Logical and Physical specification for IC card and terminal interface
Specification of administrative commands and functions for IC cards
Codec(s) for Wide band Telephony Services[8]

[4] According to a working assumption made by N1, two MS Classmarks should be maintained both for UMTS and GSM, selectively used depending on the indication given by the CN. The WIs on MS classmark should be re-organised as to reflect such working assumption.

[5] This WI should be renamed as "Impact of Telecommunications Data Protection Directive on GSM/3G Standards"

[6] This WI might be split into "MS antenna test methods for GSM BSS" and "MS antenna test methods for UTRAN".

[7] The applicability of this WI to 3G should be checked. If relevant to 3G, the WI should be renamed.

[8] This WI was previously classified in SP-99331 as "3G only WI". However, it should be applicable also to GSM using e.g. EDGE BSS, as stated in some comments received in the meantime: this is the reason why it has now been moved to this category.

AMR – Wideband[9]
Gateway Location Register (GLR)
Turbo-Charger: Feasibility Study
Pre-paging

The following WIs state in their title that they apply only for 3G system. However, it is proposed that these WIs also apply to GSM, as they impact the core network, which is common to GSM and UMTS. In case such proposal is accepted, they should be renamed and classified as common GSM/3G WIs.

UMTS Charging & Billing[10]
UMTS Numbering, Addressing and Identities[11]
UMTS Open Service Architecture
UMTS Core based on ATM Transport
IP-in-IP tunnelling in GPRS backbone for UMTS, phase 1
End to End UMTS QoS Management[12]
QoS for Speech and Multimedia Codec[13]
Multimedia in UMTS[14]
3G Audio-Visual Terminal Characteristics
3G charging management[15]
3G system fault management
3G system configuration management
3G system performance management

5.3 Release 99 Work Areas impacting other systems

Title
GPRS phase 2 for PCS1900
EDGE Compact and support for EGPRS in ANSI-136 networks

6 Specifications and Reports

6.1 GSM Only

Number	Title
01.02	General Description of a GSM Public Land Mobile Network (PLMN)
01.04	Abbreviations and Acronyms
01.31	Fraud Information Gathering System (FIGS); Service requirements - Stage 0

9 The merging of this WI with the WI entitled "Codec(s) for Wide band Telephony Services" should be studied.

10 If applicable to GSM, either the differences with the WI "Charging and billing for GPRS" should be stressed or these two WIs should be merged.

11 If applicable to GSM, then the WI "Advanced Addressing" should be merged to it.

12 If applicable to GSM, either the differences with the WI "Enhanced QoS Support in GPRS" should be stressed or these two WIs should be merged.

13 The differences with previous WI should be stressed.

14 Even if it can be surprising to move this WI to the 'common 3G/GSM WI' category, it should be stressed why the mechanisms developed for 3G are not applicable to e.g. GPRS CN and EGDE BSS.

15 The difference with the WI entitled "UMTS Charging & Billing" is that the latter specifies the requirements whereas "3G charging management" intends to specify the actual mechanisms. This should be clarified in the WI titles.

01.33	Lawful Interception requirements for GSM
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02.32	Immediate Service Termination (IST); Service description - Stage 1
02.33	Lawful intercept Stage 1
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02.69	Voice Broadcast Service (VBS); Stage 1(ASCI spec)
02.76	Noise Suppression for the AMR
02.94	Follow Me Stage 1
02.95	Digital cellular telecommunications system (Phase 2+); Support of Private Numbering Plan (SPNP); Service description, Stage 1
03.01	Network Functions
03.05	Technical Performance Objectives
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03.13	Discontinuous Reception (DRX) in the GSM System
03.19	GSM API for SIM toolkit stage 2
03.20	Security-related Network Functions
03.26	Multiband operation of GSM/DCS 1800 by a single operator
03.30	Radio Network Planning Aspects
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03.33	Lawful Interception - stage 2

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03.48	Tool Kit Security Stage 2
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03.52	Lower layers of the GSM Cordless Telephony System (CTS) radio interface - Stage 2
03.56	GSM Cordless Telephony System (CTS), Phase 1; CTS Architecture Description; Stage 2
03.58	Characterisation, test methods and quality assessment for handsfree Mobile Stations (MSs)
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03.69	Voice Broadcast service (VBS) - Stage 2
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04.02	GSM Public Land Mobile Network (PLMN) Access Reference Configuration
04.03	Mobile Station - Base Station System (MS - BSS) Interface Channel Structures and Access Capabilities
04.04	Layer 1 - General Requirements
04.05	Data Link (DL) Layer General Aspects
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04.08	Mobile Radio Interface Layer 3 specification Core Network Protocols stage 2 (structured procedures)
04.13	Performance Requirements on Mobile Radio Interface
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Annex A (informative): Document change history

Status of GSM 01.01		
Date	**Version**	**Information about changes**
August 1999	version 0.0.0	1st draft created by MCC
August 1999	version 0.0.1	Comment from SMG6/S5 and N1 included. New LCS specs
September 1999	version 0.0.2	Transfer of 04.12 to 24.012 included, 22.121, 22.115, 22.129 included (SA1 comment)
September 1999	version 0.0.3	Joint SMG11/S4 Meeting decisions on AMR and TFO
September 1999	version 0.1.0	Joint SMG11/S4, S2 and WOME comments included
September 1999	version 0.2.0	03.41 transferred T2/SMG4
October 1999	version 0.3.0	Editorial changes
October 1999	version 0.4.0	Updated to align with 21.101

History

Document history		