
Source: **Rapporteur of 22.100**

Title: **Relationship between UMTS 22.100 and other 22.xxx document serie**

Document for: **Approval**

Agenda item: **6.1.8**

CHANGE REQUEST No :		*Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification / Report UMTS | 22.100 | Version: 3.3.0

Submitted to TSG_SA	#4	for approval	X	without presentation ("non-strategic")	X
list TSG plenary meeting no. here ↑		for information		with presentation ("strategic")	

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: *(at least one should be marked with an X)*

USIM		TE		Network	X

Work item: UMTS phase 1 Release 99

Source: Rapporteur of 22.100 **Date:** May 12, 1999

Subject: Modifications to 3G TS 22.100 to reflect clearly the status of the specification and its relationship with other 22.xxx series of document.

Category: *(one category and one release only shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			UMTS 99	X

Reason for change: It is commonly understood within the SMG group the reasons for UMTS 22.100 and its relationship with other 22.xxx series of document (e.g. 22.101, 22.105). With the new partnership group the common understanding maybe lost as it has not been clearly stated in UMTS 22.100 or any of the other 22.xxx series. This CR proposes to explicitly clarify the purpose of this specification and its relationship to other 22.xxx specifications.

Clauses affected: title and section 2.1

Other specs affected:

Other releases of same spec		→ List of CRs:	
Other core specifications		→ List of CRs:	
MS test specifications / TBRs		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:	


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<---------- double-click here for help and instructions on how to create a CR.

draft 3G TS 22.100 3.3.0 (1999-04)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects
UMTS phase 1 RELEASE 99

(3G TS 22.100 version 3.3.0)

Reference

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Keywords

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Contents

Foreword

This Technical Specification has been produced by the 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 this TS, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version 3.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 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 specification;

1 Scope

The UMTS system will be defined in a phased approach. This document specifies the content of the first phase of requirements for UMTS. Some requirements affecting phase 1 to ensure a smooth transition to later releases are also indicated.

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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

2.1 Normative references

This document is the starting point of the set of specifications that define the UMTS Service Requirements for UMTS Phase 1 RELEASE 99. The detailed UMTS Service requirements for ~~UMTS phase 1~~ RELEASE 99 are defined in the following normative specifications. Since these specifications may also address some requirements for later Releases of UMTS Phase 1, they explicitly state when a requirement does not apply to Release 99.

[1] 3G TS~~UMTS~~ 22.101: "Universal Mobile Telecommunications System (UMTS): Service aspects; Service principles".

[2] 3G TS~~UMTS~~ 22.105: "Universal Mobile Telecommunications System (UMTS); Services and Service Capabilities".

[3] 3G TS~~UMTS~~ 22.115: "Universal Mobile Telecommunications System (UMTS); Service Aspects: Charging and Billing".

[4] 3G TS~~UMTS~~ 22.12~~0~~: "Universal Mobile Telecommunications System (UMTS); VHE Stage 1".

[5] ~~[~~3G TS~~UMTS TS~~ 22.129~~??.??~~, Handover requirements between UMTS and GSM or other Radio System~~]~~".

These specifications may refer (directly or indirectly) to further specifications which provide detailed descriptions of service requirements incorporated in UMTS. In particular the service requirements of any GSM component of a UMTS system are specified by reference to GSM service requirements specifications.

3 Definitions, and abbreviations

3.1 Definitions

Definitions applicable to current document :
CAC (Connection Admission Control) : is a set of measures taken by the network to balance between the QoS requirements of new connections request and the current network utilisation without affecting the grade of service of existing/already established connections.
Capability Class : is a piece of information which indicates general UMTS mobile station characteristics (e.g. supported radio interfaces,...) for the interest of the network.
Connection mode : characterizes the type of association between two endpoints as required by the bearer service for the transfer of information. A bearer service is either connection-oriented or connectionless. In a connection oriented mode, a logical association called *connection* needs to be established between the source and the destination entities before information can be exchanged between them. Within the connection, information is delivered to the destination entity in the same order as it was provided by the source entity. Connection oriented bearer services lifetime is the period of time between the establishment and the release of the connection.
In a connectionless mode, no connection is established beforehand between the source and the destination entities ; the source and destination network addresses need to be specified in each message. Transferred information cannot be guaranteed of ordered delivery. Connectionless bearer services lifetime is reduced to the transport of one message.
FC (Flow Control) : is a set of mechanisms used to prevent the network from becoming overloaded by regulating the input rate transmissions.
GSM BSS : refers in this specification to the GSM/GPRS access network.
GSM core network : refers in this specification to the GSM NSS and GPRS backbone infrastructure.
Home environment : enables a user to obtain UMTS services in a consistent manner regardless of the user's location or terminal used (within the limitations of the serving network and current terminal).
Performance : is concerned with the ability to track service and resource usage levels and provides feedback on the responsiveness and reliability of the network.
Serving network : provides the user with access to the services of home environment.
UMTS core network : refers in this specification to an evolved GSM core network infrastructure or any new UMTS core network infrastructures, integrating circuit and packet switched traffic..
UMTS mobile termination : part of the UMTS Mobile Station which provides functions specific to the management of the radio interface (Um).
UMTS network: refers to a network operated by a single network operator and consisting of :
UTRAN access networks (WCDMA and/or TD-CDMA),
optionally GSM BSS access networks,
an UMTS core network.

UPC (Usage Parameter Control) : is a set of actions taken by the network to monitor and control the offered traffic and the validity of the connection with respect to the traffic contract negotiated between the user and the network.
Further definitions [Tbd]

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

BSS	Base Station System
CDMA	Code Division Multiple Access
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications

NSS	Network Sub System
PC	Personal Computer
QoS	Quality of Service
SIM	GSM Subscriber Identity Module
TD-CDMA	Time Division-Code Division Multiple Access
UICC	UMTS IC Card
UMTS	Universal Mobile Telecommunications System
USIM	User Service Identity Module
UTRAN	UMTS Terrestrial Radio Access Network
VHE	Virtual Home Environment
WCDMA	Wideband Code Division Multiple Access

4 UMTS phasing and releases overview

The UMTS system will be defined in a phased approach. This specification addresses the UMTS phase 1 capabilities for RELEASE '99.

The UMTS phase 1 requirements can be met by the capabilities of GSM phase 2+ release 99 including specific enhancements for UMTS. Additional developments to fully meet the requirements for UMTS phase 1 standardisation are listed in this specification.

The fundamental difference between GSM and UMTS phase 1 resides in the support of high bit rate bearer services with the notion of negotiated traffic and QoS characteristics. UMTS phase 1 shall in particular support bursty and asymmetric traffic in an efficient way. This shall allow UMTS phase 1 to support single- and multi-media N-ISDN applications and single- and multi-media IP applications.

The phase 1 USIM is developed on the basis of the phase 2+ release 99 SIM. When UMTS specific requirements have not been stated in this specification it is assumed that the GSM phase 2+ release 99 specifications for the SIM is adopted for the UMTS phase 1 requirements.

No specific requirement is addressed for the mobile termination since it relates to the UMTS access stratum and to the UMTS core network (depending whether peer entities end either in the access or in the core).

Regarding the phase 1 standardisation of UMTS access network, only the UTRAN (including all UTRA modes if several modes are defined) is considered as being part of the UMTS access network. Other types of access networks are for further consideration. UTRAN is a new access network and as such all the UTRAN requirements are defined in this specification. This includes in particular the interoperability requirements put on the UTRAN and GSM BSS access networks to cater with UMTS networks operating the two types of access networks.

UMTS phase 1 shall be developed in such a way that it supports compatibility with an evolved GSM network from the point of view of roaming and handover. This could be achieved by evolving from a GSM phase 2+ network but does not exclude other developments. Therefore, phase 1 specifications shall allow operators to introduce new technologies (such as ATM, IP,...). An overall UMTS system approach is needed for UMTS phase 1 development as it is more than the addition of a UTRAN to a GSM Phase 2+ architecture. Requirements to the GSM phase 2+ core network for UMTS should be incorporated.

To enable operators to utilize the network resources efficiently, the optimization of the signalling load as well as the reduction of the required overall transmission capacity is a critical success factor. Therefor the standard should aim for an architecture with minimal signalling traffic and optimized transmission infrastructure. If advantageous common mobility management and common subscriber data management for CS and PS traffic should be implemented in all relevant network elements. Furthermore the standard should support an integrated node (MSC/SGSN) for PS and CS traffic as well as separated nodes as in GSM/GPRS.

From the viewpoint of the necessity of providing multi-vendor environments, interfaces within the UTRAN (such as Iub) shall be standardized. However, since operator dependent O&M requirements over these interfaces may exist, specifications should be able to be expanded flexibly according to operator specific requirements

It should be noted that the advanced bearer capabilities of the phase 1 UMTS access network may not be fully supported by the phase 1 UMTS core network. This however guarantees the viability of the UMTS access network to allow the scope within phase 1 to support broadband bearer services.
A standard default speech codec shall be standardised for UMTS phase 1. UMTS should support tandem free operation from day 1 to enable lower transmission and equipment costs and for higher speech quality.
Crossphase compatibility issues in transcoder location should be considered when moving from Phase 1 UTRAN to later releases.

4.1 Post UMTS Phase 1 operation

After phase 1, the new capabilities of UMTS shall be defined in annual releases where each release constitutes a coherent set of specifications covering UMTS mobile station, access network and core network .
UMTS phase 1 should facilitate evolution towards a single integrated core network infrastructure.
The introduction of Phase 1 UMTS shall not limit or restrict the evolution to later UMTS releases, however, the different starting points to introduce UMTS need to be taken into account.
Cross Phase compatibility shall be considered from day 1 and should include the following aspects:

1) Terminals (e.g. support of phase1 terminals in later releases of UMTS networks and vice-versa).

2) Signalling and protocols, including UTRAN to Core Network, inter network and terminal to network.

3) Security aspects (e.g. the relationship of GSM and UMTS security mechanisms).

Efficient mechanisms for communicating versions and managing cross phase issues shall be designed into the UMTS system from the very start. The mechanisms should be applicable to any components of the system that are planned to be, or might in the future be, phased. These principles might be applicable to : Hardware, Firmware, Software, APIs.