INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Series Q

Supplement 30
(12/2000)

SERIES Q: SWITCHING AND SIGNALLING

Supplement to ITU-T Recommendation Q.1701 – Roadmap to IMT-2000 Recommendations, Standards and Technical Specifications

ITU-T Q-series Recommendations – Supplement 30

(Formerly CCITT Recommendations)

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For further details, please refer to the list of ITU-T Recommendations.

Supplement 30 to ITU-T Q-series Recommendations

Supplement to ITU-T Recommendation Q.1701 – Roadmap to IMT-2000 Recommendations, Standards and Technical Specifications

Summary

This Supplement is an "information" document and is intended as a roadmap and a source of references for documents related to IMT-2000 specifications from ITU-T as well as from sources outside the ITU (e.g. 3GPPs and SDOs.) The list of documents contained in this Supplement should therefore be treated as "bibliographic" references. The scope includes any relevant standards that are targeted toward the specification of IMT-2000 systems.

NOTE – This version of this Supplement (Issue 2) includes information up to November, 2000 whereas the previous version (Issue 1) included information up to February, 2000. Clause 7 has been substantially extended and Clauses 8 and 9 have been revised and updated. Updates will be reflected in future versions.

Source

Supplement 30 to ITU-T Q-series Recommendations was revised by ITU-T Study Group 11 (2001-2004) and approved under the WTSA Resolution 5 procedure on 6 December 2000.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this publication, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this publication, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this publication. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Supplement to ITU-T Recommendation Q.1701 – Roadmap to IMT-2000 Recommendations, Standards and Technical Specifications

1 Scope

ITU-T Q.1701 provides the framework for IMT-2000 networks and defines the IMT-2000 Family of Systems concept. This Supplement to ITU-T Q.1701 identifies the IMT-2000 standards and specifications being developed by various standards organisations in order to provide a 'roadmap' or 'guide' that may be used by network operators and service providers who may be planning to implement IMT-2000 systems.

2 References

Excerpts from the following ITU-T and ITU-R Recommendations were used in this Supplement. The references below contain provisions which, through reference in this text, constitute provisions of this Supplement. Numerous bibliographic references are included in sections 8 and 9. At the time of publication, the editions indicated were valid. All Recommendations and the bibliographic references are subject to revision; all users of this Supplement are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below and throughout the document. Lists of the currently valid ITU-T and ITU-R Recommendations are regularly published by the ITU.

[1] ITU-T Q.1701 (1999), *Framework for IMT-2000 Networks*.

[2] ITU-T Q.1711 (1999), *Network functional model for IMT-2000.*

[3] ITU-T Q.1721 (2000), *Information flows for IMT-2000 capability set 1.*

[4] ITU-T Q.1751 (2000), *Internetwork signalling requirements for IMT-2000 capability set 1*.

[5] ITU-R M.1457 (2000), *Detailed specifications of the radio interfaces of international mobile telecommunications-2000 (IMT-2000).*

3 Definitions

There are no definitions specific to this Supplement.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations:

2G	Second Generation Wireless Systems
3G	Third Generation Wireless Systems
3GPP	Third Generation Partnership Project
3GPP2	Third Generation Partnership Project 2
ANSI	American National Standards Institute
ARIB	Association of Radio Industries and Businesses
cdma2000	Code Division Multiple Access 2000
CN	Core Network
CS-1	Capability Set 1

CWTS	China Wireless Telecommunications Standards Group
DECT	Digital Enhanced Cordless Telecommunications
EIA	Electronics Industries Alliance (part of ANSI)
ETSI	European Telecommunications Standards Institute
GPRS	General Packet Radio Services
GSM	Global Systems Mobile
IMT-2000	International Mobile Telecommunications-2000
IP	Internet Protocol
ITU-R	International Telecommunications Union-Radiocommunication Sector
IWF	Inter Working Function
MT	Mobile Terminal
NNI	Network-to-Network Interface
RAN	Radio Access Network
RTT	Radio Transmission Technology
SDO	Standards Development Organisation
T1	T1 Standardisation Committee (part of ANSI)
TIA	Telecommunication Industry Association (part of ANSI)
TTA	Telecommunication Technology Association (Korea)
TTC	The Telecommunication Technology Committee (Japan)
UIM	User Identity Module
UMTS	Universal Mobile Telecommunication System
UTRAN	UMTS Terrestrial Radio Access Network
UWC-136	Universal Wireless Communication-136

5 Introduction

IMT-2000 Family Members are third generation mobile systems that are scheduled to start service around the year 2000 subject to market considerations. They will provide access, by means of one or more radio links, to a wide range of telecommunications services supported by the fixed telecommunication networks, and to other services that are specific to mobile users. A range of mobile terminal types is encompassed, linking to terrestrial and satellite-based networks, and the terminals may be designed for mobile or fixed use.

Key features of IMT-2000 are:

– high degree of commonality of design world wide;
– compatibility of services within IMT-2000 and with the fixed networks;
– high quality;
– small terminal for world wide use;
– world wide roaming capability;
– capability for multimedia applications, and a wide range of services and terminals.

The evolution from a mixture of 2G Mobile Networks and Fixed Networks towards 3G Networks will not be a single process. IMT-2000 is an important step in providing a mixture of new emerging wireless mobile access technologies alongside existing wireless and fixed access technologies for both the developed and developing regions of the world to enable a wide range of voice, data and Internet services to be delivered cost effectively.

With the introduction and acceptance of the IMT-2000 Family of Systems concept, the development of IMT-2000 standards and specifications is now distributed over a number of international as well as regional and national standards forums. Whereas ITU-R and ITU-T are addressing the overall framework of IMT-2000 radio and network interface specifications, primarily to facilitate interoperability between IMT-2000 Family Member systems, the 3GPPs and SDOs are addressing the specifications for individual Family Members.

Given these partnership environments, a 'roadmap' or 'guide' to these standards and specifications is needed, especially by network operators and service providers who may wish to implement IMT-2000 systems. This roadmap provides a guide to the key relevant IMT-2000 standards and specifications. This is intended to help service providers and network operators around the world to better understand IMT-2000 as they make critical third generation deployment decisions, and plan their third generation networks. It will also be very valuable for those who have not been directly involved in the development of the IMT-2000 family of standards, especially the developing countries.

This Supplement does not reproduce any technical material from the referenced bibliographic specifications.

6 Overview of the IMT-2000 Family of Systems concept

UIT-T Q.1701 defines the framework for IMT-2000 networks based on the IMT-2000 Family of Systems concept. The following extracts from UIT-T Q.1701 provide background information on the IMT-2000 Family of Systems concept.

6.1 Description of IMT-2000 Family of Systems concept

The following text is extracted from UIT-T Q.1701 [1]:

The IMT-2000 Family concept is used to realise a global service offering among IMT-2000 systems.

…

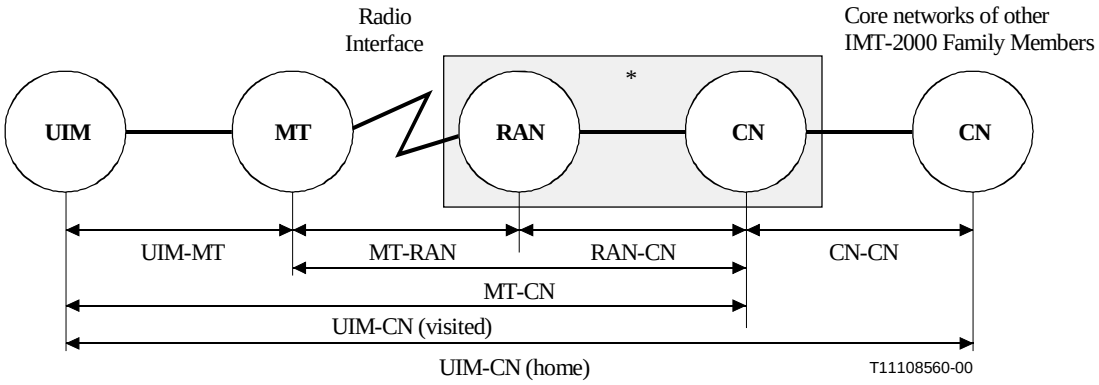
The IMT-2000 Family is a federation of IMT-2000 Systems providing IMT-2000 capabilities to its users as identified in IMT-2000 Capability Sets. The family is characterised by the ability of its member systems to provide service to the subscribers of other family members in a roaming service offering. However, individual family members may have different intra-system specifications (e.g. functionalities in physical entities, signalling protocols, etc.)

…

An IMT-2000 Family Member is an IMT-2000 System. A Family Member integrates and incorporates the IMT-2000 functions into physical entities and associated interfaces as necessary to provide IMT-2000 capabilities. The UIM, MT, RAN, and CN functional subsystems may be specific to each Family Member along with the associated internal processes, internal interactions, and internal communication between functional entities. Support for IMT-2000 capabilities and interfaces will facilitate roaming between family members. The family members' networks interoperate as necessary to accomplish the roaming objectives.

6.2 Application of IMT-2000 Family of Systems Concept

Figure 6.2-1 is based on Figure 4/Q.1701 and identifies the functional subsystems and the associated signalling relationships (or interfaces) for standardisation in CS-1.



* Not specified by ITU-T in CS-1.

Figure 6.2-1 – IMT-2000 Functional Subsystems

The following inter-subsystem signalling relationships (or interfaces) will be standardised by ITU-T to facilitate global roaming between different IMT-2000 family members:

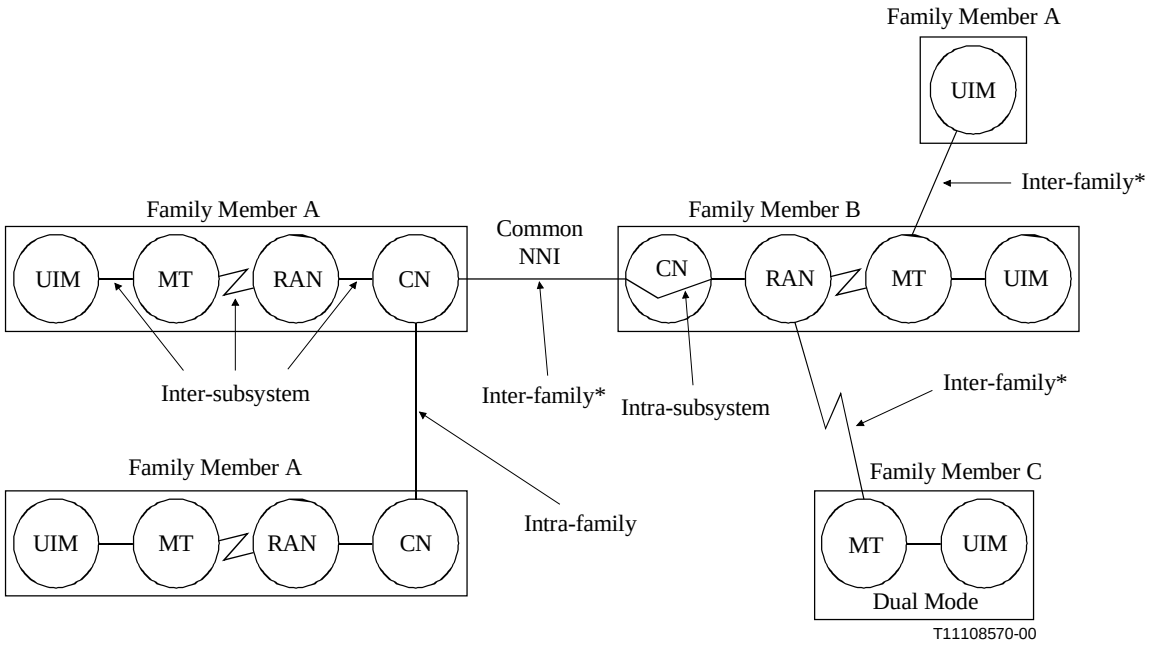
– UIM-MT
– MT-RAN (radio interface Layers 2 and 3)
– MT-CN (radio interface Layer 3)
– CN-CN (NNI)

The relationships between the UIM and the CN (both visited and home) are logical interactions.

In order to apply the Family of Systems concept to Figure 6.2-1, it is necessary to define four essential terms that are used in IMT-2000 3G systems. These are:

– intra-subsystem
– inter-subsystem
– intra-family
– inter-family

It is important to establish a common understanding on how to apply these terms to various signalling relationships as shown in Figure 6.2-1. This makes it easier to identify the focus of ITU-T and other IMT-2000 Family Member standardisation bodies.



* Within ITU-T domain.

Figure 6.2-2 – Global Roaming Possibilities

By examining Figure 6.2-2, the terms "intra-subsystem," "inter-subsystem," "intra-family," and "inter-family" are easily identifiable. These terms, if used independently, are subject to interpretation. Therefore, it is necessary that these terms be used in combination to avoid ambiguity.

Table 6.2-1 – Key Terminology

Term	Description	Responsible Bodies
Intra-subsystem	Signalling relationship contained within a specific subsystem, e.g. within CN of one Family Member system. An intra-subsystem signalling relationship is outside the scope of ITU-T standardisation.	• Family member
Inter-subsystem	Signalling relationship between two subsystems, either contained in the same or different IMT-2000 Family Member systems, e.g. MT-RAN, etc.	• Within the same Family: Family Member • Between Family members: ITU-T
Intra-family	Signalling relationship contained within the same IMT-2000 family member system.	• Within the same Family: Family Member • ITU-T to provide framework for commonality
Inter-family	Signalling relationship between two subsystems contained in different IMT-2000 family member systems, e.g. CN-CN.	• ITU-T (to facilitate commonality and global roaming)

6.3 Core Network to Core Network Interface (NNI)[1]

It is generally recognised that there is a need for the Common NNI in a multi-network environment in order to derive benefit from existing (fixed and mobile) investments, and to support global roaming and seamless service provisioning.

Figure 6.3-1 is based on Figure 6-1/Q.1751 and it shows a schematic view of IWFs and a common NNI in an IMT-2000 Family of Systems environment. The use of a common NNI for global roaming provides a unique open interface developed by ITU-T. It provides an efficient solution for interworking between IMT-2000 core networks, since only one IWF per Family Member is needed to inter-work with all other IMT-2000 Family Members. It provides transparency: changes in one Family Member do not affect other Family Members. It is future-proof by easily accommodating new Family Members.

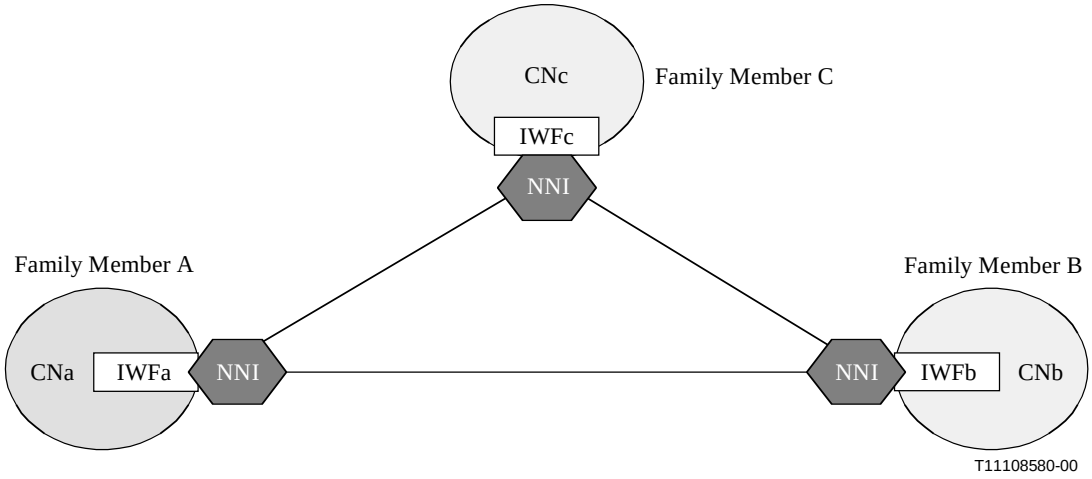


Figure 6.3-1 – Common NNI in the IMT-2000 Family Member interconnection model

[1] This clause reflects views discussed and agreed on the Common NNI during the Global Standards Collaboration 5 and Radio Standards Meeting 8 (GSC-5/RAST-8, Williamsburg, USA, 26 August 1999.)

Figure 6.3-2 illustrates how the concept indicated by Figure 6.3-1 is applied. It should be noted that each Core Network (e.g. evolved GSM MAP) may contain its own IWF for interworking with the common NNI.

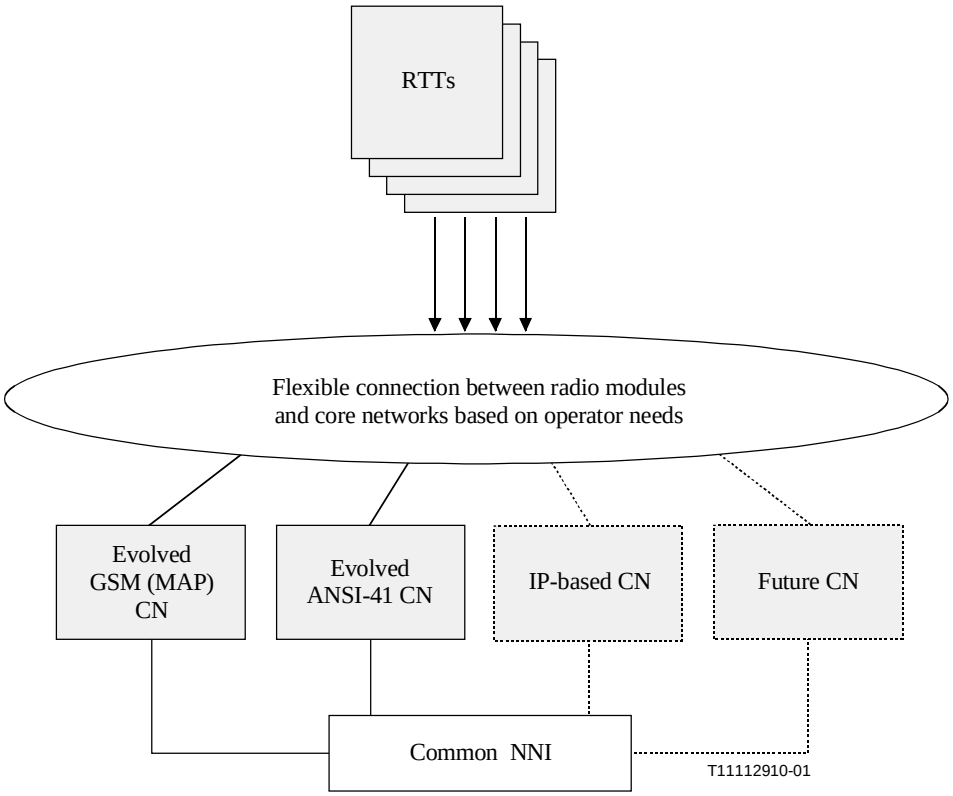


Figure 6.3-2 – Application of IMT-2000 Family Member concept

6.4 Roles of ITU-T and Regional SDOs in defining IMT-2000 Family Member interfaces

The IMT-2000 Family of Systems concept and functional architecture are a valuable framework for planning and organising regional SDOs' work on defining relevant standards for IMT-2000 Family Members and supporting ITU-T standardisation activities. The interfaces and functional relationships identified in ITU-T Q.1701 are recognised as the interfaces to be covered by ITU-T Recommendations. Because of their extensive knowledge of 2G mobile systems and the specific needs of individual IMT-2000 Family Member markets, regional SDOs are best equipped to handle intra-Family Member standards matters. They also have the expertise on how to evolve 2G systems toward IMT-2000 and how to inter-work between 2G systems and IMT-2000.

The long-term goal is to evolve toward a common ITU-T standard for IMT-2000.

7 ITU-T Recommendations[2]

ITU Recommendations and other documents may be obtained through the following web page:

http://www.itu.int

[2] Specifications related to radio specific matters are described in ITU-R M.1457 (2000), *Detailed specifications of the radio interfaces of international mobile telecommunications-2000 (IMT-2000)*.

The first subclause in this clause provides a tabular summary of ITU-T Recommendations related to IMT-2000. The next several subclauses provide additional information in the form of the summary for each of these Recommendations. The last clause provides additional information on the relationship of a number of closely related specifications to assist the reader in better understanding the scope and application of these.

7.1 Overview of ITU-T Recommendations on IMT-2000

ITU-T has developed several IMT-2000 CS-1 framework Recommendations that are applicable to all Family Members and are designed to provide a common framework and to facilitate global roaming.

The Table 7.1-1 provides the list of ITU-T Study Group 11 IMT-2000 CS-1 Recommendations and related documents pertaining to signalling and protocol requirements.

Table 7.1-1 – ITU-T Study Group 11 "Signalling requirements and protocols" specifications

Title	Document No.	Status
Framework for IMT-2000 Networks	Q.1701	Approved
Network Functional Model for IMT-2000	Q.1711	Approved
Information Flows for IMT-2000 Capability Set 1	Q.1721	Approved
Radio Technology Independent Requirements for IMT-2000 Layer 2 Radio Interface	Q.1731	Approved
Internetwork Signalling Requirements for IMT-2000 Capability Set 1	Q.1751	Approved
Supplement to ITU-T Recommendation Q.1701 Roadmap to IMT-2000 Recommendations, Standards and Technical Specifications, Issue 2.	This supplement	Approved

The remaining tables in this clause he specifications relevant to IMT-2000 developed by related Study Groups within ITU-T, specifically SGs 2, 3, 4, 7, 12, 13 and 16.

Table 7.1-2 – ITU-T Study Group 2 "Operational aspects of service provision, networks and performance" specifications

Title	Document No.	Status
The international public telecommunication numbering plan	E.164/I.331	Approved
Criteria and procedures for the reservation, assignment, and reclamation of E.164 country codes and associated Identification Codes (ICs)	E.164.1	Approved
Reference recommendation for mobile services	E.201	Approved
Network operational principles for future public mobile systems and services	E.202	Approved
The international identification plan for mobile terminals and mobile users	E.212	Approved
Telephone and ISDN numbering plan for land mobile stations in public land mobile networks (PLMN)	E.213	Approved
Structure of the land mobile global title for the signalling connection control part (SCCP)	E.214	Approved

Table 7.1-2 – ITU-T Study Group 2 "Operational aspects of service provision, networks and performance" specifications *(continued)*

Title	Document No.	Status
Interconnection of public land mobile networks (PLMN)	E.220	Approved
Reference connections for traffic engineering of land mobile networks	E.751	Approved
Land mobile and fixed network interconnection traffic grade of service concept	E.770	Approved
Network grade of service parameters and target values for circuit-switched land mobile services	E.771	Approved
Principles of service for mobile systems	F.111	Approved
Service objectives and principles for future public land mobile telecommunication systems	F.115	Approved
Service features and operational provisions in IMT-2000	F.116	Approved

Table 7.1-3 – ITU-T Study Group 3 "Tariff and accounting principles including related telecommunication economic and policy issues" specifications

Title	Document No.	Status
Charging, billing, accounting and settlement principles for Global Mobile Personal Communications by Satellite (GMPCS) for the international telephone service	D.96	Approved
Principles for charging and billing, accounting and reimbursements for universal personal telecommunication	D.280	Approved
Guiding principles for charging and accounting for intelligent network supported services	D.285	Approved

Table 7.1-4 – ITU-T Study Group 4 "Telecommunication management, including TMN" specifications

Title	Document No.	Status
TMN security overview	M.3016	Approved
TMN management services and telecommunications managed areas: overview	M.3200	Approved
TMN management services for IMT-2000 security management	M.3210.1	Approved
TMN Management Services for IMT-2000 Accounting Management	M.3210.x	Target for Determination: Jan 2001
TMN Management Services for IMT-2000 Configuration Management	M.3210.y	Drafting
Specification of a security module for whole message protection	Q.815	Approved
Information technology – Open Systems Interconnection – Systems management: Security audit trail function	X.740	Approved

Table 7.1-5 – ITU-T Study Group 7 "Data networks and open system communications" specifications

Title	Document No.	Status
International numbering plan for public data networks	X.121	Approved
Security architecture for Open Systems Interconnection for CCITT applications	X.800	Approved
Security architecture for Open systems Layer Two Security Service and Mechanisms for LANs	Amendment 1 to X.800	Approved
Information technology – Open Systems Interconnection – Lower layers security model	X.802	Approved
Information technology – Open Systems Interconnection – Upper layers security model	X.803	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Overview	X.810	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Authentication framework	X.811	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Access control framework	X.812	Approved
Information technology – Open Systems Interconnection – Security frameworks in open systems: Non-repudiation framework	X.813	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Confidentiality framework	X.814	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Integrity frameworks	X.815	Approved
Information technology – Open Systems Interconnection – Security frameworks for open systems: Security audit and alarms framework	X.816	Approved
Information technology – Open Systems Interconnection – Generic upper layers security: Overview, models and notation	X.830	Approved
Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) service definition	X.831	Approved
Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) protocol specification	X.832	Approved
Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax specification	X.833	Approved

Table 7.1-6 – ITU-T Study Group 12 "End-to-end transmission performance of networks and terminals" specifications

Title	Document No.	Status
Placeholder for future issues of this Supplement.		

Table 7.1-7 – ITU-T Study Group 13 "Multi-protocol and IP-based networks and their internetworking" specifications

Title	Document No.	Status
Placeholder for future issues of this Supplement.		

Table 7.1-8 – ITU-T Study Group 16 "Multimedia services, systems and terminals" specifications

Title	Document No.	Status
Coding of speech at 8 kbit/s using conjugate–structure, algebraic-code-excited linear prediction (CS-ACELP)	G.729	Approved
Reduced complexity 8 kbit/s CS-ACELP speech codec	Annex A/G.729	Approved
A silence compression scheme for G.729 optimized for terminals conforming to Recommendation V.70	Annex B/G.729	Approved
Reference floating-point implementation for G.729 CS-ACELP 8 kbit/s speech coding	Annex C/G.729	Approved
6.4 kbit/s CS-ACELP speech coding algorithm	Annex D/G.729	Approved
11.8 kbit/s CS-ACELP speech coding algorithm	Annex E/G.729	Approved
Reference implementation of G.729 Annex B DTX functionality for Annex D	Annex F/G.729	Approved
Reference implementation of switching procedure between G.729 Annexes D and E	Annex H/G.729	Approved
Reference fixed point implementation for integrating G.729 CS-ACELP speech coding main body with Annexes B, D and E	Annex I/G.729	Approved
Security and encryption for H-series (H.323 and H.245-based) multimedia terminals	H.235	Approved
ISDN User Part Function – H.225.0 Interworking	Annex C/H.246	Approved
Packet-based multimedia communication systems	H.323	Approved
H.323 extended for loosely coupled conferences	H.332	Approved
Generic functional protocol for the support of supplementary services in H.323	H.450.1	Approved
Call transfer supplementary service for H.323	H.450.2	Approved
Call diversion supplementary service for H.323	H.450.3	Approved
Call hold supplementary service for H.323	H.450.4	Approved
Call park and call pickup supplementary services for H.323	H.450.5	Approved
Call waiting supplementary service for H.323	H.450.6	Approved
Message waiting indication supplementary service for H.323	H.450.7	Approved
Name identification supplementary service for H.323	H.450.8	Approved

7.2 Study Group 11 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

7.2.1 ITU-T Q.1701 – Framework for IMT-2000 networks

This Recommendation sets out the family of systems concept which provides the basis for the development of IMT-2000 standards including the set of signalling requirements for IMT-2000. It also contains a description of the interfaces in the system which may need to be standardised by the ITU. It has been agreed that the development of IMT-2000 requirements will be performed in Capability Sets and this Recommendation sets out the contents of Capability Set 1 and the vision for subsequent Capability Sets.

7.2.2 ITU-T Q.1711 – Network functional model for IMT-2000

This Recommendation identifies network and terminal functions that are specific for the support of IMT-2000 services, as specified in the Recommendation on the Framework for IMT-2000 Networks (ITU-T Q.1701). These functions together with other, more conventional network functions are then grouped into functional entities in a generic functional model. In the functional model, the relationships among functional entities and groups are shown. The functional model is mapped onto a generic network reference model to illustrate possible groupings of functional entities into physical collections of entities. Based on the functional model, global roaming requirements and network interconnection scenarios are described. This Recommendation forms the basis for the development of information flows and the definition of functional entity actions and the development of signalling requirements for the various interfaces identified in ITU-T Q.1701.

7.2.3 ITU-T Q.1721 – Information flows for IMT-2000 capability set-1

This recommendation specifies Stage 2 information flow procedures for the support of end-to-end inter-family and inter-system IMT-2000 Capability Set 1 (CS-1) services and network capabilities. The areas covered are mobility management, call and bearer control, services control, and over-the-air authorisation services.

7.2.4 ITU-T Q.1731 – Radio-technology independent requirements for IMT-2000 layer 2 radio interface

This Recommendation defines requirements for common services, functions and primitives for the radio technology independent parts of the Layer 2 of the IMT-2000 radio interface, to ensure maximum commonalty between IMT-2000 family members.

7.2.5 ITU-T Q.1751 – Internetwork signalling requirements for IMT-2000 capability set 1

This Recommendation contains signalling requirements for the Network to Network Interface (NNI) protocol. The requirements are to support the capabilities that are recommended in the IMT-2000 Framework document and specified as Capability Set 1 (CS-1). This Recommendation covers requirements for five communication groups of the NNI: Call and Bearer Control; Mobility Management; Virtual Home Environment (VHE) and Intelligent Network (IN) Services Control; Packet Data Services and Internet Access Control; and Inter-network Security. The requirements specified in this Recommendation are non-information flow related, and they should be viewed as complementary to the information flows of ITU-T-T Q.1721. They include general NNI protocol requirements, NNI functional models, NNI reference points, state models for selective functional entities, and the choice of various protocol suites.

7.2.6 Supplement to ITU-T Q.1701 – Roadmap to IMT-2000 Recommendations, Standards and Technical Specifications

This Supplement is an "information" document and is intended as a roadmap and a source of references for documents related to IMT-2000 specifications from ITU-T as well as from sources outside the ITU (e.g. 3GPPs and SDOs.) The list of documents contained in this Supplement should therefore be treated as "bibliographic" references. The scope includes any relevant standards that are targeted toward the specification of IMT-2000 systems.

7.3 Study Group 2 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

7.3.1 ITU-T E.164/I.331 – The international public telecommunication numbering plan

This Recommendation provides the number structure and functionality for the three categories of numbers used for international public telecommunication – they are geographic areas, global services, and Networks. For each of the categories, it details the components of the numbering structure and the digit analysis required to successfully route the calls. Annex A provides additional information on the structure and function of E.164 numbers. Annex B provides information on network identification, service parameters, calling/connected line identity, dialling procedures and addressing for geographic-based ISDN calls. Specific E.164-based applications which differ in usage are defined in separate Recommendations, e.g. ITU-T E.168 – Application of E.164 numbering plan for UPT.

7.3.2 ITU-T E.164.1 – Criteria and procedures for the reservation, assignment, and reclamation of E.164 country codes and associated Identification Codes (ICs)

ITU-T E.164 describes the international public telecommunication numbering plan. ITU-T E.190 describes the general principles to be utilized in the assignment of ITU-T E series international numbering resources. This Recommendation describes the procedures and criteria for the reservation, assignment, and reclamation of E.164 country codes and associated Identification Code (IC) assignments. The criteria and procedures are provided as a basis for the effective and efficient utilization of the available E.164 numbering resources. Such assignments require a collaborative effort between the TSB and the appropriate ITU-T Study Group to endeavour to ensure that the assignments meet the needs of the telecommunication community. The development of these criteria and procedures are in accordance with the principles contained in ITU-T E.190 and the numbering plan formats detailed in ITU-T E.164.

7.3.3 ITU-T E.201 – Reference recommendation for mobile services

1) This Recommendation provides a reference point in 3 to 5 below for ITU-T Recommendations related to mobile services. Its purpose is to identify and group together all mobile related ITU-T Recommendations, in a clear and logical manner for easy reference.

2) This Recommendation also provides a reference point in section 6 below for ITU-R Recommendations related to mobile services. Other international standards organizations, e.g. International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO) also publish texts (e.g. ICAO Annex 10 to the convention on International Civil Aviation Aeronautical Telecommunications) on mobile services. These documents as well as ITU-R reports on mobile services are not listed in this Recommendation.

3) This Recommendation will be useful as a guide to Administrations or other bodies which are new to the mobile arena. It is also recommended as a reference document when considering the introduction of new mobile systems or services.

4) This Recommendation will be kept up to date by the ITU-T. Representatives of the ITU-R will inform the ITU-T Secretariat of any changes or additions to the ITU-R documents referenced.

7.3.4 ITU-T E.202: Network operational principles for future public mobile systems and services

The active research and interest in future public mobile radio systems and personal communications has meant that mobile systems will have a significant role in the provision of telecommunication services. The anticipated demand for personal mobility has caused the need for guidelines for interconnecting and integrating future public mobile systems with the current and future fixed networks (including PSTN, ISDN and B-ISDN).

This Recommendation sets out principles, from the network operational point of view, which should be taken into account during the design of new public mobile systems and networks. The objective is to ensure that such future systems can be interconnected to the fixed network with minimal adverse effect on overall Quality of Service and without the need for enhanced functionality in the fixed network.

7.3.5 ITU-T E.212 – The international identification plan for mobile terminals and mobile users

A plan for unique international identification of mobile terminals and mobile users is required in order to enable these terminals and users to roam among public networks which offer mobility services. International Mobile Subscriber Identity (IMSI) is required so that a visited network can identify a roaming mobile terminal or mobile user, e.g. in order to query a subscriber's home network for subscription and billing information.

ITU-T E.190 describes the general principles to be utilized in the assignment of ITU-T E series international numbering resources. The procedures in this Recommendation, E.212, were developed in accordance with the principles contained in ITU-T E.190, and the statements contained in ITU-T E.190 take precedence over ITU-T E.212.

7.3.6 ITU-T E.213 – Telephone and ISDN numbering plan for land mobile stations in public land mobile networks (PLMN)

(No summary is available for this Blue Book Recommendation.)

7.3.7 ITU-T E.214 – Structure of the land mobile global title for the signalling connection control part (SCCP)

In order to permit land mobile stations to roam, there is a need to transfer information, e.g. the mobile station roaming number between Public Land Mobile Networks (PLMNs). This transfer of information can be accomplished by the use of Transaction Capabilities (TC) and the SCCP of Signalling System No. 7.

When a land mobile station roams to a foreign PLMN, it registers with a Visited Location Register (VLR) within that PLMN. The only information available to the VLR to address the mobile's Home Location Register (HLR) is its International Mobile Station Identity (IMSI).

The purpose of this Recommendation therefore is to define the structure of the mobile global title used in SCCP addressing to the public land mobile service, and to establish the relationship between the mobile global title and the international mobile station identity as defined in ITU-T E.212.

7.3.8 ITU-T E.220 – Interconnection of public land mobile networks (PLMN)

This Recommendation identifies the principles to be adopted for interconnection of PLMNs with fixed networks. Various interconnection scenarios are developed and some issues relevant to mobile networks, and their impact on the fixed networks are addressed.

7.3.9 ITU-T E.751 – Reference connections for traffic engineering of land mobile networks

This Recommendation provides some reference architectures for existing and future public land mobile telecommunication networks (PLMN) and also provides a high level reference connection for Future Public Land Mobile Telecommunication Systems (FPLMTS) call/connection setup. The primary purpose of the reference connection is to provide a basis for developing traffic Grade of Service (GOS) Recommendations for networks supporting mobile services. The underlying FPLMTS call flow model in the reference connection should be used as a basis for more implementation-specific configurations for detailed performance analysis and GOS target setting.

7.3.10 ITU-T E.770 – Land mobile and fixed network interconnection traffic grade of service concept

This Recommendation outlines the general considerations for land mobile and fixed network interconnection trafficability performance concept and provides guidelines for selecting GOS (Grade of Service) parameters. In this series of Recommendations, the term GOS always refers to traffic Grade of Service parameters as defined in Recommendation E.600.

7.3.11 ITU-T E.771 – Network grade of service parameters and target values for circuit-switched public land mobile services

This Recommendation proposes network Grade of Service (GOS) parameters for current and evolving land mobile services. These parameters are defined, and their target values specified, assuming that the network and the network components are operating in their normal mode (i.e. are fully operational). Further, the parameters and their target values assume normal (as opposed to distress or emergency) traffic.

7.3.12 ITU-T F.111 – Principles of service for mobile systems

This Recommendation defines the principles applicable to international public correspondence service provided by mobile systems connected to the international telecommunication (fixed) networks. This Recommendation applies to aeronautical, land and maritime mobile-satellite and terrestrial systems.

7.3.13 ITU-T F.115 – Service objectives and principles for future public land mobile telecommunication systems

The introduction of third generation digital mobile systems known as FPLMTS, which are scheduled to start service around the year 2000 subject to market considerations, will result in mobile communication becoming available to mass markets for the purpose of global communication. This Recommendation defines the service objectives and principles for FPLMTS which will enable the development of FPLMTS into the future. These objectives and principles are produced to aid the intercommunication of services provided over both FPLMTS and the fixed telecommunication network and to provide guidance for further development of FPLMTS.

7.3.14 ITU-T F.116 – Service features and operational provisions in IMT-2000

IMT-2000 systems are third generation mobile systems, which may be terrestrial, or satellite-based and may be characterized as networks in terms of service provision. This Recommendation describes service features and operational provisions that apply to IMT-2000 systems. It defines a set of service features and capabilities to standardize service presentation and to facilitate global mobility for users across network boundaries. Some of these services features and capabilities are essential whilst others are optional.

7.4 Study Group 3 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated Recommendations.

7.4.1 ITU-T D.96 – Charging, billing, accounting and settlement principles for Global Mobile Personal Communications by Satellite (GMPCS) for the international telephone service

This Recommendation deals with the charging, billing, accounting and settlement issues and the relevant relationships that arise from the provision of access to their international telephone service by GMPCS Systems. The purpose of this Recommendation is to give guidance on those issues. Relations between different entities involved in the provision of service over the same GMPCS system should be determined through negotiations among the concerned parties in consideration of the provisions detailed in ITU-T D.96.

7.4.2 ITU-T D.280: Principles for charging and billing, accounting and reimbursements for universal personal telecommunication

This Recommendation covers the principles for charging and the associated billing, as well as the accounting and reimbursements for Universal Personal Telecommunication service (UPT), which is described in the F.850-series Recommendations. Included in this Recommendation is guidance on:

1) the charging principles and options;
2) the traffic accounting principles;
3) the principles for the billing of UPT calls; and
4) the requirements for reimbursements among service providers, which are applicable to the various call types which may be encountered in UPT.

Charging principles related to UPT service profile management functions are also provided.

7.4.3 ITU-T D.285 – Guiding principles for charging and accounting for intelligent network supported services

This Recommendation outlines general considerations and guiding principles for charging and international accounting for traffic and facilities used to support services that utilize Intelligent Networking (IN) capabilities.

7.5 Study Group 4 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

7.5.1 ITU-T M.3016 – TMN security overview

This Recommendation provides an overview and framework that identifies security threats to a TMN and outlines how available security services can be applied within the context of the TMN functional architecture.

7.5.2 ITU-T M.3200 – TMN management services and telecommunications managed areas: overview

This Recommendation is intended to provide an overview of Telecommunications Management Network (TMN) Management Services and Telecommunications Managed Areas. It provides the framework for the specification of protocols, messages, management information, etc. for TMN interfaces. The TMN Management Services are described from the TMN users' perspective and are independent of the protocols, messages and information models chosen. They will therefore assist in the smooth transition from a non-TMN to a TMN environment.

It should be noted that flexibility will be required in the definition of TMN Management Services to enable additional requirements to be accommodated as they are identified.

To avoid discrepancies and duplications, this Recommendation establishes the structuring principles (e.g. numbering, naming, etc.) for the M.3200-series of Recommendations.

7.5.3 ITU-T M.3200 – TMN management services and telecommunications managed areas: Overview

This Recommendation provides an overview of the M.3200-series. It describes the structuring principles of the M.3200-series and lists the currently agreed Recommendations.

The concepts of "Telecommunications Managed Area" and "Telecommunications Management" are introduced. A summary description of each is provided, as well as a matrix defining their relationships. These Recommendations are intended as the basis for the corresponding modelling and protocol work on the TMN interfaces. They also provide a basis from which an Administration might plan the evolution of its Telecommunications Management as defined in 3.2/M.3200.

The Recommendation is completed through a summary of a hypothetical example of the management context of a matrix crosspoint, i.e. Maintenance Management of Switched Telephone Network.

7.5.4 ITU-T M.3210. 1 – TMN management service for IMT-2000 security management

This Recommendation is one of the series of M.3200 TMN Management Service Recommendations that provide description of management services, goals and context for management aspects of IMT-2000 networks. This Recommendation provides a profile for fraud management in a IMT-2000 mobile network. This is done by existing and defining new function sets, functions and parameters and adding additional semantics and restrictions.

7.5.5 ITU-T M.3210.x – TMN Management Services for IMT-2000 Accounting Management

Summary not available.

7.5.6 ITU-T M.3210.imtsp: IMT-2000 Configuration Management – Service Provisioning[3]

This Recommendation is one of the M.3200-series TMN management service Recommendations that provide descriptions of management services, goals and context for IMT-2000.

7.5.7 ITU-T Q.815 – Specification of a security module for whole message protection

This Recommendation specifies an optional security module to be used with ITU-T Q.814, *Specification of an electronic data interchange interactive agent*, that provides security services for whole Protocol Data Units (PDUs). In particular, the security module supports non-repudiation of origin and of receipt, as well as whole message integrity.

7.5.8 ITU-T X.740 – Information technology – Open System Interconnection – Systems management: Security audit trail function

This Recommendation defines the security audit trail function. The security audit trail function is a systems management function which may be used by an application process in a centralized or decentralized management environment to exchange information and commands for the purpose of systems management, as defined by ITU-T Rec. X.700 | ISO 7498-4. This Recommendation is positioned in the application layer of ITU-T Rec. X.200 | ISO 7498 and is defined according to the model provided by ISO/IEC 9545. The role of systems management functions is described by ITU-T Rec. X.701 | ISO/IEC 10040. This Recommendation:

- establishes user requirements for the service definition needed to support the security audit trail reporting function;
- defines the service provided by the security audit trail reporting function;
- specifies the protocol that is necessary in order to provide the service;
- defines the relationship between the service and management notifications;

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[3] Extracted from TD 102 (GEN), SG 4 meeting 24 Jan-4 Feb, 2000

- defines relationships with other systems management functions;
- specifies conformance requirements.

This Recommendation does not define:

- a security audit, nor how to perform one. A security audit may be used to assist in assessing the effectiveness of a security policy. The security policy identifies the categories of security-related events that require auditing, and the location of the security audit trail log in which they are to be recorded;
- the nature of any implementation intended to provide the security audit trail function;
- the occasions where the use of the security audit trail function is appropriate;
- the services necessary for the establishment, normal and abnormal release of a management association;
- any other notifications defined by other Recommendations | International Standards which may be of interest to a security administrator.

7.6 Study Group 7 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

7.6.1 ITU-T X.121 – International numbering plan for public data networks

ITU-T X.121 defines the design, the characteristics and the application of the Numbering Plan for Public Data Networks. The International Numbering Plan for Public Data Networks has been developed in order to facilitate the operation of public data networks and provide for their interworking on a worldwide basis. The numbering plan allows for the identification of a country as well as a specific public data network in that country by means of Data Country Codes and Data Network Identification Codes. Additionally the numbering plan also allows for the identification of Global public data networks by means of a Global Data Network Identification Code. Interworking with other numbering plans can be achieved by use of an escape code mechanism.

In order to conserve the valuable numbering resource, guidance is provided on the efficient use of Data Country codes for the creation of Data Network Identification Codes, and on the use of variable length Private Network Identification Codes for the numbering of private data networks in harmony with the Public Network Numbering Plan. Procedures for the allocation of Data Country Codes are defined. The eligibility criteria and procedures for the allocation of Data Network Identification Codes to Global public data networks are also defined.

7.6.2 ITU-T X.800 – Security architecture for Open Systems Interconnection for CCITT applications

ITU-T X.200 describes the Reference Model for open systems interconnection (OSI). It establishes a framework for coordinating the development of existing and future Recommendations for the interconnection of systems.

The objective of OSI is to permit the interconnection of heterogeneous computer systems so that useful communication between application processes may be achieved. At various times, security controls must be established in order to protect the information exchanged between the application processes. Such controls should make the cost of improperly obtaining or modifying data greater than the potential value of so doing, or make the time required to obtain the data improperly so great that the value of the data is lost.

This Recommendation defines the general security-related architectural elements which can be applied appropriately in the circumstances for which protection of communication between open systems is required. It establishes, within the framework of the Reference Model, guidelines and constraints to improve existing Recommendations or to develop new Recommendations in the

context of OSI in order to allow secure communications and thus provide a consistent approach to security in OSI.

A background in security will be helpful in understanding this Recommendation. The reader who is not well versed in security is advised to read Annex A first.

This Recommendation extends the Reference Model (ITU-T X.200) to cover security aspects which are general architectural elements of communications protocols, but which are not discussed in the Reference Model.

7.6.3 Amendment 1 to ITU-T X.800 – Layer Two Security Service and Mechanisms for LANs

ITU-T X.800 provides an overview of security services allocated to the seven layers of the OSI Reference Model. Amendment 1, which is to be published as Annex D, extends the security services of the Data Link Layer to accommodate LAN security.

7.6.4 ITU-T X.802 – Information technology – Open Systems Interconnection – Lower layers security model

This Recommendation describes the cross layer aspects of the revision of security services in the lower layers of the OSI Reference Model (Transport, Network, Data Link, Physical). It describes the architectural concepts common to these layers, the basis for interactions relating to security between layers and the placement of security protocols in the lower layers.

7.6.5 ITU-T X.803 – Information technology – Open Systems Interconnection – Upper layers security model

This Recommendation describes the selection, placement and use of security services and mechanisms in the upper layers (applications, presentation and session layers) of the OSI Reference Model.

7.6.6 ITU-T X.810 – Information technology – Open Systems Interconnection – Security frameworks for open systems: Overview

This Recommendation defines the framework within which security services for open systems are specified. This part of the Security Frameworks describes the organization of the security framework, defines security concepts which are required in more than one part of the security framework, and describes the interrelationship of the services and mechanisms identified in other parts of the framework.

7.6.7 ITU-T X.811 – Information technology – Open Systems Interconnection – Security frameworks for open systems: Authentication framework

Many applications have requirements for security to protect against threats to the communication of information. Some commonly known threats, together with the security services and mechanisms that can be used to protect against them, are described in ITU-T Rec. X.800 | ISO/IEC 7498-2.

Many Open Systems applications have security requirements which depend upon correctly identifying the principals involved. Such requirements may include the protection of assets and resources against unauthorized access, for which an identity based access control mechanism might be used, and/or the enforcement of accountability by the maintenance of audit logs of relevant events, as well as for accounting and charging purposes. The process of corroborating an identity is called authentication. This Recommendation defines a general framework for the provision of authentication services.

7.6.8 ITU-T X.812: Information technology – Open Systems Interconnection – Security frameworks for open systems: Access control framework

This Recommendation defines a general framework for the provision of access control. The primary goal of access control is to counter the threat of unauthorized operations involving a computer or communications system; these threats are frequently subdivided into classes known as unauthorized use, disclosure, modification, destruction and denial of service.

7.6.9 ITU-T X.813 – Information technology – Open Systems Interconnection – Security frameworks in open systems: Non-repudiation framework

This Recommendation defines a general framework for the provision of non-repudiation services. The goal of the non-repudiation service is to collect, maintain, make available, and validate irrefutable evidence regarding identification of originators and recipients involved in data transfers.

7.6.10 ITU-T X.814 – Information technology – Open Systems Interconnection – Security frameworks for open systems: Confidentiality framework

This Recommendation defines a general framework for the provision of confidentiality services. Confidentiality is the property that information is not made available or disclosed to unauthorized individuals, entities or processes.

7.6.11 ITU-T X.815 – Information technology – Open Systems Interconnection – Security frameworks for open systems: Integrity framework

This Recommendation defines a general framework for the provision of integrity services. The property that data has not been altered or destroyed in an unauthorized manner is called integrity.

7.6.12 ITU-T X.816 – Information technology – Open Systems Interconnection – Security frameworks for open systems: Security audit and alarms framework

This Recommendation describes a basic model for handling security alarms and for conducting a security audit for open systems. A security audit is an independent review and examination of system records and activities. The security audit service provides an audit authority with the ability to specify, select and manage the events which need to be recorded within a security audit trail.

7.6.13 ITU-T X.830 – Information technology – Open Systems Interconnection – Generic upper layers security: Overview, models and notation

This Recommendation belongs to a series of Recommendations which provide a set of facilities to aid the construction of OSI Upper Layer protocols which support the provision of security services. This Recommendation defines the following:

- general models of security exchange protocol functions and security transformations;
- a set of notational tools to support the specification of selective field protection requirements in an abstract syntax specification, and to support the specification of security exchanges and security transformations;
- a set of informative guidelines as to the application of the generic upper layer security facilities covered by this series of Recommendations.

7.6.14 ITU-T X.831 – Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) service definition

This Recommendation belongs to a series of Recommendations which provide a set of facilities to aid the construction of OSI Upper Layer protocols which support the provision of security services. This Recommendation defines the service provided by the Security Exchange Service Element (SESE). The SESE is an application-service-element (ASE) which facilitates the communication of

security information to support the provision of security services within the Application Layer of OSI.

7.6.15 ITU-T X.832: Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) protocol specification

This Recommendation belongs to a series of Recommendations which provide a set of facilities to aid the construction of OSI Upper Layer protocols which support the provision of security services. This Recommendation specifies the protocol provided by the Security Exchange Service Element (SESE). The SESE is an application-service-element (ASE) which facilitates the communication of security information to support the provision of security services within the Application Layer of OSI.

7.6.16 ITU-T X.833: Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax specification

This Recommendation belongs to a series of Recommendations which provide a set of facilities to aid the construction of OSI Upper Layer protocols which support the provision of security services. This Recommendation defines the protecting transfer syntax, associated with Presentation Layer support for security services in the Application Layer.

7.7 Study Group 12 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

Placeholder for future issues of this Supplement.

7.8 Study Group 13 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

Placeholder for future issues of this Supplement.

7.9 Study Group 16 Recommendations relevant to IMT-2000

The following subclauses provide the summaries of the indicated documents.

7.9.1 ITU-T G.729: Coding of speech at 8 kbit/s using conjugate-structure, algebraic-code-excited liner prediction CS-ACELP

This Recommendation contains the description of an algorithm for the coding of speech signals at 8 kbit/s using Conjugate-Structure Algebraic-Code-Excited Linear-Prediction (CS-ACELP). This coder is designed to operate with a digital signal obtained by first performing telephone bandwidth filtering (ITU-T G.712) of the analogue input signal, then sampling it at 8000 Hz, followed by conversion to 16-bit linear PCM for the input to the encoder. The output of the decoder should be converted back to an analogue signal by similar means.

7.9.2 Annex A to ITU-T G.729 – Reduced complexity 8 kbit/s CS-ACELP speech coder

Annex A/G.729 provides the high level description of a reduced complexity version of the G.729 speech codec. This version is bit stream interoperable with the full version, i.e. a reduced complexity encoder may be used with a full implementation of the decoder, and vice versa. However, implementers of the codec defined in this Annex should be aware that the performance of this codec may not be as good as the full implementation of ITU-T G.729 in certain circumstances.

The reduced complexity version of the codec has been developed for multimedia simultaneous voice and data applications, although the use of the codec is not limited to these applications.

The description of the codec is similar to that of the full implementation of ITU-T G.729. This annex describes the changes to the full implementation which have been made in order to reduce the codec algorithmic complexity. For those parts of the algorithm which have not been changed, this annex refers to the appropriate section of the main Recommendation.

7.9.3 Annex B to ITU-T G.729: A silence compression scheme for G.729 optimized for terminals conforming to Recommendation V.70

Annex B/G.729 defines a voice activity detector and comfort noise generator for use with ITU-T G.729 or Annex A optimized for V.70 DSVD applications.

7.9.4 Annex C to ITU-T G.729 – Reference floating-point implementation for G.729 CS-ACELP 8 kbit/s speech coding

Annex C/G.729 describes an alternative implementation of Annex A/G.729 based on floating-point arithmetic. Subjective quality tests have been performed by NTT (Japan) and CNET (France) to assess the quality of these floating-point versions under various conditions (input level, error, background noise, tandeming). Different interoperability configurations with the fixed-point version of the algorithm have also been tested. These tests proved full interoperability of this floating-point implementation to both ITU-T G.729 and its Annex A. The design of a set of test vectors remains for further study.

7.9.5 Annex D to ITU-T G.729 – 6.4 kbit/s CS-ACELP speech coding algorithm

Annex D/G.729 provides the lower bit-rate extension designed to achieve a quality somewhat below the one achieved with Recommendation G.729.

7.9.6 Annex E to ITU-T G.729 – 11.8 kbit/s CS-ACELP speech coding algorithm

Annex E/G.729 provides the high level description of the higher bit-rate extensions of ITU-T G.729 designed to accommodate wide range of input signals, such as speech, with background noise and even music.

7.9.7 Annex F to ITU-T G.729 – Reference implementation of G.729 Annex B DTX functionality for Annex D

Annex F/G.729 provides the DTX functionality for the 6.4 kbit/s CS-ACELP algorithm of Annex D/G.729 using the basic algorithm in Annex B/G.729.

This annex includes an electronic attachment containing version 1.1 of reference C code and test vectors for fixed-point implementation of CS-ACELP at 6.4 kbit/s and 8 kbit/s with DTX functionality.

7.9.8 Annex H to ITU-T G.729 – Reference implementation of switching procedure between G.729 Annexes D and E

Annex H/G.729 defines the necessary mechanisms for switching operation between 6.4 kbit/s Annex D/G.729 and 11.8 kbit/s Annex E/G.729. Previously, only one switching from 8 kbit/s G.729 was specified.

This annex includes an electronic attachment containing version 1.1. of reference C code and test vectors for fixed-point implementation of CS-ACELP at 6.4 kbit/s, 8 kbit/s and 11.8 kbit/s without DTX functionality.

7.9.9 Annex I to ITU-T G.729 – Reference fixed-point implementation for integrating G.729 CS-ACELP speech coding main body with Annex B, D and E

This annex I describes the integration of ITU-T G.729 main body with Annexes B, D and E.

This annex includes an electronic attachment containing version 1.1 of reference C code and test vectors for fixed-point implementation of CS-ACELP at 6.4 kbit/s, 8 kbit/s and 11.8 kbit/s with DTX functionality.

7.9.10 ITU-T H.235: Security and encryption for H-series (H.323 and H.245-based) multimedia terminals

The purpose of this Recommendation is to provide for authentication, privacy, and integrity within the current H-Series protocol framework.

7.9.11 Annex C to ITU-T H.246: ISDN User Part Function – H.225.0 Interworking

This annex describes the interworking between ISUP (ISDN User Parts of Signalling System number 7) and H.225.0 Multimedia Call Control protocol. It specifies the necessary mapping an Interworking Function would utilise to achieve connectivity and functionality between an H.323 network and an ISDN User Part network.

This annex describes an interworking function when it is in a H.323 to PSTN gateway. The interworking function could reside in other elements of a H.323 network; this is for further study. The mapping described in this document relates to a H.323 call to Circuit Switched Network Phone.

This annex does NOT attempt to define functionality in ISUP or Q.931 networks but seeks to show how the ISUP services and functions would interwork with H.225.0. H.225.0 messages contain Q.931 information elements and as such parts of this document have been derived from ITU-T Q.699.

This annex does NOT show the mapping between H.320 and H.323.

7.9.12 ITU-T H.323 – Packet-based multimedia communication systems

This Recommendation describes terminals and other entities that provide multimedia communications services over Packet Based Networks (PBNs) which may not provide a guaranteed Quality of Service. H.323 entities may provide real-time audio, video and/or data communications. Support for audio is mandatory, while data and video are optional, but if supported, the ability to use a specified common mode of operation is required, so that all terminals supporting that media type can interwork.

The packet based network over which H.323 entities communicate may be a point-to-point connection, a single network segment, or an internetwork having multiple segments with complex topologies. H.323 entities may be used in point-to-point, multipoint, or broadcast (as described in ITU-T H.332) configurations. They may interwork with H.310 terminals on B-ISDN, H.320 terminals on N-ISDN, H.321 terminals on B-ISDN, H.322 terminals on Guaranteed Quality of Service LANs, H.324 terminals on GSTN and wireless networks, V.70 terminals on GSTN, and voice terminals on GSTN or ISDN through the use of Gateways. H.323 entities may be integrated into personal computers or implemented in stand-alone devices such as videotelephones.

Note that the title of ITU-T H.323 (1996) was "Visual telephone systems and equipment for local area networks which provide a non-guaranteed quality of service". The title changed in Version 2 to be consistent with its expanded scope.

7.9.13 ITU-T H.332: H.323 extended for loosely coupled conferences

This Recommendation covers highly scalable conferencing on packet-based networks involving hundreds and thousands of participants. This type of conference is defined in ITU-T H.323 as broadcast and broadcast-panel conferences.

7.9.14 ITU-T H.450.1: Generic functional protocol for the support of supplementary services in H.323

This Recommendation describes the procedures and the signalling protocol between H.323 entities (Packet-based multimedia communications systems) for the control of supplementary services. The signalling protocol which is defined within this Recommendation is common to all H.323 supplementary services. Detailed procedures applicable to individual supplementary services are specified by other Recommendations of the H.450.x series and by individual manufacturers for proprietary services using the capabilities defined in this Recommendation.

The procedures of this Recommendation are derived from the generic functional protocol specified in ISO/IEC 11582 for Private Integrated Services Networks (PISN)

7.9.l5 ITU-T H.450.2: Call transfer supplementary service for H.323

This Recommendation describes the procedures and the signalling protocol for the Call Transfer supplementary service (SS-CT) in H.323 (Packet-based multimedia communications systems) networks.

SS-CT is a supplementary service which enables the served user A to transform an existing call (user A-user B) into a new call between user B and a user C selected by user A. User A may or may not have a call established with user C prior to Call Transfer. This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1.

The procedures and the signalling protocol of this Recommendation are derived from the Call Transfer supplementary service specified in ISO/IEC 13865 and ISO/IEC 13869.

7.9.16 ITU-T H.450.3: Call diversion supplementary service for H.323

This Recommendation describes the procedures and the signalling protocol for the Call diversion supplementary service (SS-DIV) in H.323 (Packet based multimedia communications systems) networks. This Recommendation comprises the services Call Forwarding Unconditional (SS-CFU), Call Forwarding Busy (SS-CFB), Call Forwarding No Reply (SS-CFNR) and Call Deflection (SS-CD).

SS-CFU, SS-CFB, SS-CFNR and SS-CD are supplementary services which apply during call establishment providing a diversion of an incoming call to another destination endpoint. This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1

The procedures and the signalling protocol of this Recommendation are derived from the Call diversion supplementary service specified in ISO/IEC 13872 and ISO/IEC 13873.

7.9.17 ITU-T H.450.4: Call hold supplementary service for H.323

This Supplementary Service describes the procedures and the signalling protocol for the Call Hold supplementary service in H.323 (Packet Based Multimedia Communications Systems) networks.

SS-HOLD enables the Served (Holding) User A to put User B (with whom User A has an active call) into a hold condition (Held User) and subsequently to retrieve that User again.

During this hold condition, User B may be provided with music and/or video on hold. The Served (Holding) User A may perform other actions while User B is being held, e.g. consulting with another User C.

The call between User A and User B has to be in the active state before SS-HOLD may be invoked.

This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1.

7.9.18 ITU-T H.450.5: Call park and call pickup supplementary services for H.323

This Recommendation describes the procedures and the signalling protocol scenarios for the Call Park and Call Pickup supplementary services in ITU-T H.323.

Call Park (SS-PARK) is a supplementary service that enables the Parking User A to place an existing call with user B (Parked User) to a Parking Position. The call can later be picked-up by retrieving the parked party from the same terminal where the park took place or from another terminal.

Call Pickup (SS-PICKUP) is a supplementary service that enables the Picking-up User to either pick up a parked call or to pick up an alerting call. Upon successful invocation of SS-PICKUP, the Picking-up User is connected with the Parked User respectively with the calling User.

This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1.

7.9.19 ITU-T H.450.6: Call waiting supplementary service for H.323

This Supplementary Service describes the procedures and the signalling protocol for the Call Waiting supplementary service (SS-CW) in H.323 (Packet based multimedia communications systems) networks.

SS-CW permits a served user while being busy to be informed of an incoming call with an indication. The user then has the choice of accepting, rejecting or ignoring the waiting call. The user calling the busy party is informed about the call waiting condition.

This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1.

7.9.20 ITU-T H.450.7 – Message waiting indication supplementary service for H.323

This Recommendation proposes the procedures and signalling protocol for the Message Waiting Indication supplementary service (SS-MWI) in H.323 (Packet Based Multimedia Communications Systems) networks.

SS-MWI is a supplementary service that enables a Served User A to be sent a Message Waiting Indication and also enables this Message Waiting Indication to be cancelled. The Served User may also be permitted to interrogate a Message Centre for any Message Waiting Indications.

The procedures and the signalling protocol of this Recommendation are derived from the Message Waiting Indication supplementary service as specified in ISO/IEC 15505 and ISO/IEC 15506.

This Recommendation makes use of the "Generic functional protocol for the support of supplementary services in H.323" as defined in ITU-T H.450.1.

7.9.21 ITU-T H.450.8: Name identification supplementary service for H.323

This Recommendation describes Name Identification features for H.323 systems. These features are:

- Calling Party Name Presentation and Restriction.
- Connected Party Name Presentation and Restriction.
- Alerting Party Name Presentation and Restriction.
- Busy Party Name Presentation and Restriction.

Calling party name information may be provided by the calling endpoint or by the gatekeeper using the gatekeeper routed call model. Connected party name information, alerting party name information, or busy party name information may be provided by the answering (connected) party, alerting party, or busy party, respectively, or by the gatekeeper using the gatekeeper routed call model.

8 Family member standards and specifications

This clause provides a non-exhaustive list of IMT-2000 Family Members standards and specifications. This list is strictly informative and IMT-2000 Family Members are not restricted to implementing the following systems. This list does not prevent inclusion of new Family Members specifications and standards in the future.

Specifications may be found at the following SDO web pages:

3GPP http://www.3gpp.org

3GPP2 http://www.3gpp2.org

ARIB http://www.arib.or.jp

CWTS http://www.cwts.org

ETSI http://www.etsi.org

T1 http://www.t1.org

TIA http://www.tiaonline.org

TTA http://www.tta.or.kr

TTC http://www.ttc.or.jp

8.1 Family member: GSM evolved UMTS Core Network with UTRAN Access Network

This clause provides an overview of the specifications for this IMT-2000 Family member. Details for these specifications may be found in 9.1.

The following text describes the numbering scheme for the specifications and reports for the 3GPP 3rd Generation Mobile System.

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

Where existing GSM Specifications are enhanced or modified by the TSGs for the 3rd Generation Mobile System, the specification title and version should change (title reflecting 3rd Generation Mobile System). The GSM number (ab) should be increased by 20 and a "c" digit equal to zero added (e.g. GSM 07.07 becomes 3GTS 27.007) indicating the GSM heritage of the Specification.

For newly created 3GPP Specifications the "c" digit should not be equal to zero.

Existing 3rd Generation specifications transferred from ETSI SMG should have a "c" digit equal to one, e.g. SMG UMTS TS 22.00 becomes 3G TS 22.100.

For newly created 3GPP Technical reports, the "c" digit should normally be equal to nine, e.g. A report in the 23 series will have a number 23.9de. The "c" digit equal to eight may be used for overflow of the ab.9de range, or allocated to reports not intended for external circulation.

Specification numbers will be allocated on request by a centralised point within the 3GPP support group (see 4.1 of TR 21.900). A particular series will not necessarily remain within, or be the sole responsibility of a particular TSG or WG.

The following series titles and descriptions should be used for guidance only and may be further developed with experience.

The specification series are:

21-series Requirements specifications

22-series Service aspects

23-series Technical realisation

24-series Signalling protocols (UE – CN network)

25-series UTRA aspects

26-series Codecs (speech, video, etc.)

27-series Data

28-series Reserved for future use

29-series Signalling protocols (NSS)

30-series Programme management

31-series User Identity Module UIM

32-series Operation and maintenance

33-series Security aspects

34-series Test specifications

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network

Title	Document No.	Status
3rd Generation mobile system Release 1999 Specifications	TS 21.101	Approved
USIM and IC card requirements	TS 21.111	Approved
Security Threats and Requirements	TS 21.133	Approved
Principles of Circuit Telecommunication Services Supported by a Public Land Mobile Network (PLMN)	TS 22.201	Approved
Circuit Bearer Services Supported by a PLMN	TS 22.002	Approved
Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	TS 22.003	Approved
General on supplementary services	TS 22.004	Approved
Service accessibility	TS 22.011	Approved
International Mobile Equipment Identities (IMEI)	TS 22.016	Approved
Personalisation of GSM ME Mobile functionality specification – Stage 1	TS 22.022	Approved
Description of Charge Advice Information (CAI)	TS 22.024	Approved
Man-Machine Interface (MMI) of the Mobile Station (MS)	TS 22.030	Approved
High Speed Circuit Switched Data (HSCSD) – Stage 1	TS 22.034	Approved
SIM application toolkit (SAT) – Stage 1	TS 22.038	Approved
Operator Determined Call Barring (ODB)	TS 22.041	Approved
Network Identity and Time Zone (NITZ); Service description – Stage 1	TS 22.042	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Support of Localised Service Area (SoLSA); Service description – Stage 1	TS 22.043	Approved
Mobile Station Application Execution Environment (MExE); Service description – Stage 1	TS 22.057	Approved
General Packet Radio Service (GPRS); Service description – Stage 1	TS 22.060	Approved
Support of Mobile Number Portability (MNP); Service description – Stage 1	TS 22.066	Approved
enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – Stage 1	TS 22.067	Approved
Location Services (LCS); Service description – Stage 1	TS 22.071	Approved
Call Deflection Service description – Stage 1	TS 22.072	Approved
Customised Applications for Mobile network Enhanced Logic CAMEL)	TS 22.078	Approved
Support of Optimal Routing (SOR); Service definition – Stage 1	TS 22.079	Approved
Line identification Supplementary Services – Stage 1	TS 22.081	Approved
Call Forwarding (CF) Supplementary Services – Stage 1	TS 22.082	Approved
Call Waiting (CW) and Call Holding (HOLD); Supplementary Services – Stage 1	TS 22.083	Approved
MultiParty (MPTY) Supplementary Services – Stage 1	TS 22.084	Approved
Closed User Group (CUG) Supplementary Services – Stage 1	TS 22.085	Approved
Advice of Charge (AoC) Supplementary Services; Stage 1	TS 22.086	Approved
User-to-User Signalling (UUS); Service description – Stage 1	TS 22.087	Approved
Call Barring (CB) Supplementary Services – Stage 1	TS 22.088	Approved
Unstructured Supplementary Service Data (USSD) – Stage 1	TS 22.090	Approved
Explicit Call Transfer (ECT)	TS 22.091	Approved
Completion of Calls to Busy Subscriber (CCBS); Service description – Stage 1	TS 22.093	Approved
Follow Me Stage 1	TS 22.094	Approved
Calling Name Presentation (CNAP) – Stage 1 (T1P1)	TS 22.096	Approved
Multiple Subscriber Profile (MSP) Phase 1; Service description – Stage 1	TS 22.097	Approved
UMTS phase 1 Release 99	TS 22.100	Approved
UMTS Service principles	TS 22.101	Approved
Service aspects; Services and Service Capabilities	TS 22.105	Approved
Service aspects; Charging and Billing	TS 22.115	Approved
Service aspects; The Virtual Home Environment	TS 22.121	Approved
Service aspects; Handover Requirements between UMTS and GSM or other Radio Systems	TS 22.129	Approved
Multicall Service description – Stage 1	TS 22.135	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Multimedia Messaging Service – Stage 1	TS 22.140	Approved
Network architecture	TS 23.002	Approved
Numbering, addressing and identification	TS 23.003	Approved
Restoration procedures	TS 23.007	Approved
Organization of subscriber data	TS 23.008	Approved
Handover procedures	TS 23.009	Approved
Technical realization of Supplementary Services – General Aspects	TS 23.011	Approved
Location registration procedures	TS 23.012	Approved
Support of Dual Tone Multi-Frequency (DTMF) signalling	TS 23.014	Approved
Technical realization of Operator Determined Barring (ODB)	TS 23.015	Approved
Subscriber data management – Stage 2	TS 23.016	Approved
Basic Call Handling – Technical realisation	TS 23.018	Approved
Universal Geographical Area Description (GAD)	TS 23.032	Approved
High Speed Circuit Switched Data (HSCSD) – Stage 2	TS 23.034	Approved
Alphabets and language-specific information	TS 23.038	Approved
Interface protocols for the connection of Short Message Service Centres (SMSCs) to Short Message Entities (SMEs)	TS 23.039	Approved
Technical realization of the Short Message Service (SMS); Point-to-Point (PP)	TS 23.040	Approved
Technical realization of Cell Broadcast Service (CBS)	TS 23.041	Approved
Compression algorithm for text messaging services	TS 23.042	Approved
Description for the use of a Shared Inter-Working Function (SIWF) in a GSM PLMN – Stage 2	TS 23.054	Approved
Mobile Station Application Execution Environment (MExE); Functional description – Stage 2	TS 23.057	Approved
General Packet Radio Service (GPRS); Service description – Stage 2	TS 23.060	Approved
Support of Mobile Number Portability (MNP); Technical Realisation – Stage 2	TS 23.066	Approved
enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – Stage 2	TS 23.067	Approved
Call Deflection (CD) Supplementary Service – Stage 2	TS 23.072	Approved
Support of Localised Service Area (SoLSA) – Stage 2	TS 23.073	Approved
(CAMEL) Phase 3 – Stage 2	TS 23.078	Approved
Support of Optimal Routeing – Phase 1 – Stage 2	TS 23.079	Approved
Line identification supplementary services – Stage 2	TS 23.081	Approved
082 Call Forwarding (CF) supplementary services – Stage 2	TS 23.082	Approved
Call Waiting (CW) and Call Hold (HOLD) supplementary services – Stage 2	TS 23.083	Approved
Multi Party (MPTY) supplementary service – Stage 2	TS 23.084	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Closed User Group (CUG) supplementary service – Stage 2	TS 23.085	Approved
Advice of Charge (AoC) supplementary services – Stage 2	TS 23.086	Approved
087 User-to-User Signalling (UUS) Supplementary Service – Stage 2	TS 23.087	Approved
Call Barring (CB) Supplementary Services – Stage 2	TS 23.088	Approved
090 Unstructured Supplementary Service Data (USSD) – Stage 2	TS 23.090	Approved
Explicit Call Transfer (ECT) Supplementary Service – Stage 2	TS 23.091	Approved
Completion of Calls to Busy Subscriber (CCBS) – Stage 2	TS 23.093	Approved
Follow Me – Stage 2	TS 23.094	Approved
Name Identification Supplementary Service – Stage 2	TS 23.096	Approved
Multiple Subscriber Profile (MSP) – Stage 2	TS 23.097	Approved
General UMTS Architecture	TS 23.101	Approved
Quality of Service, Concept and Architecture	TS 23.107	Approved
Mobile Radio Interface Layer 3 specification Core Network Protocols – stage 2 (structured procedures)	TS 23.108	Approved
UMTS Access Stratum; Services and Functions	TS 23.110	Approved
Super Charger – Stage 2	TS 23.116	Approved
Gateway Location Register (GLR) – Stage2	TS 23.119	Approved
Architectural Requirements for Release 1999	TS 23.121	Approved
Non Access Stratum functions related to Mobile Station (MS) in idle mode	TS 23.122	Approved
Virtual Home Environment / Open Service Architecture	TS 23.127	Approved
Multicall – Stage 2	TS 23.135	Approved
Multimedia Messaging Service (MMS); Functional description – Stage 2	TS 23.140	Approved
Out of Band Transcoder Control – Stage 2	TS 23.153	Approved
Functional Stage 2 description of location services in UMTS	TS 23.171	Approved
Public Land Mobile Network (PLMN) Access Reference Configuration	TS 24.002	Approved
Mobile Radio Interface Signalling Layer 3 General Aspects	TS 24.007	Approved
Mobile Radio Interface Layer 3 specification; Core Network Protocols – Stage 3	TS 24.008	Approved
Mobile Radio Interface Layer 3 Supplementary Services Specification – General Aspects	TS 24.010	Approved
Point-to-Point (pp) Short Message Service (SMS); Support on Mobile Radio Interface	TS 24.011	Approved
Short Message Cell Broadcast; Support on Mobile Radio Interface	TS 24.012	Approved
Radio Link Protocol (RLP) for Data and Telematic Services on the (MS-BSS) Interface and the Base Station System Mobile-services Switching Centre (BSS-MSC) Interface	TS 24.022	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Location Services LCS Stage 3 SS (MO-LR)	TS 24.030	Approved
Enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – Stage 3	TS 24.067	Approved
Call Deflection (CD) Supplementary Service – Stage 3	TS 24.072	Approved
Mobile radio Layer 3 Supplementary Service specification – Formats and coding	TS 24.080	Approved
Line Identification Supplementary Services – Stage 3	TS 24.081	Approved
Call Forwarding (CF) Supplementary Services – Stage 3	TS 24.082	Approved
Call Waiting (CW) and Call Hold (HOLD) Supplementary Services – Stage 3	TS 24.083	Approved
Multi Party (MPTY) Supplementary Service – Stage 3	TS 24.084	Approved
Closed User Group (CUG) Supplementary Service – Stage 3	TS 24.085	Approved
Advice of Charge (AoC) Supplementary Services – Stage 3	TS 24.086	Approved
User-to-User Signalling (UUS) Supplementary Service – Stage 3	TS 24.087	Approved
Call Barring (CB) Supplementary Service – Stage 3	TS 24.088	Approved
Unstructured Supplementary Service Data (USSD) – Stage 3	TS 24.090	Approved
Explicit Call Transfer (ECT) supplementary service – Stage 3	TS 24.091	Approved
Completion of Calls to Busy Subscriber (CCBS) – Stage 3	TS 24.093	Approved
Name identification Supplementary Services – Stage 3	TS 24.096	Approved
Multicall – Stage 3	TS 24.135	Approved
AMR Speech Codec; General Description	TS 26.071	Approved
AMR Speech Codec; C-source	TS 26.073	Approved
AMR Speech Codec; Test Sequence	TS 26.074	Approved
AMR Speech Codec; Transcoding functions	TS 26.090	Approved
AMR Speech Codec; Error concealment of lost frames	TS 26.091	Approved
AMR Speech Codec; Comfort noise for AMR Speech Traffic Channels	TS 26.092	Approved
AMR Speech Codec; Source Controlled Rate operation	TS 26.093	Approved
Mandatory Speech Codec speech processing functions AMR speech codec; Voice Activity Detector for AMR Speech Traffic Channels	TS 26.094	Approved
AMR Speech Codec; Frame Structure	TS 26.101	Approved
AMR Speech Codec; Interface to Iu and Uu.	TS 26.102	Approved
Codec lists	TS 26.103	Approved
AMR Speech Codec; Floating point C-Code	TS 26.104	Approved
Codec for Circuit Switched Multimedia Telephony Service; General Description	TS 26.110	Approved
Codec for Circuit Switched Multimedia Telephony Service; Modifications to H.324	TS 26.111	Approved
Narrow Band (3,1kHz) Speech & Video Telephony Terminal Acoustic Characteristics	TS 26.131	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Narrow Band (3,1kHz) Speech & Video Telephony Terminal Acoustic Test Specification	TS 26.132	Approved
General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)	TS 27.001	Approved
Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities	TS 27.002	Approved
Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities	TS 27.003	Approved
Use of Data Terminal Equipment – Data Circuit terminating; Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)	TS 27.005	Approved
AT command set for 3GPP User Equipment (UE)	TS 27.007	Approved
Terminal Equipment to User Equipment (TE-UE) multiplexer protocol User Equipment (UE)	TS 27.010	Approved
GPRS Mobile Stations supporting GPRS	TS 27.060	Approved
Wide Area Network Synchronisation Standard	TS 27.103	Approved
Mobile Application Part (MAP)	TS 29.002	Approved
General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)	TS 29.007	Approved
Information element mapping between Mobile Station – Base Station System (MS-BSS) and Base Station System – Mobile-services Switching Centre (BSS-MSC); Signalling procedures and the Mobile Application Part (MAP)	TS 29.010	Approved
Signalling interworking for supplementary services	TS 29.011	Approved
Signalling interworking between ISDN supplementary services; Application Service Element (ASE) and Mobile Application Part (MAP) protocols	TS 29.013	Approved
Serving GPRS Support Node (SGSN) – Visitors Location Register (VLR) Gs Interface Network Service Specification	TS 29.016	Approved
General Packet Radio Service (GPRS); Serving GPRS Support Node (SGSN) – Visitors Location Register (VLR; Gs Interface Layer 3 Specification	TS 29.018	Approved
GPRS Tunnelling Protocol (GTP) across the Gn and Gp interface	TS 29.060	Approved
GPRS Tunnelling protocol (GTP); Interworking between the Public Land Mobile Network (PLMN) supporting GPRS and Packet Data Networks (PDN)	TS 29.061	Approved
CAMEL – Stage 3	TS 29.078	Approved
Application of the Radio Access Network Application Part (RANAP) on the E-interface	TS 29.108	Approved
GPRS Tunnelling Protocol (GTP) specification for Gateway Location Register (GLR)	TS 29.119	Approved
Mobile Application Part (MAP) specification for Gateway Location	TS 29.120	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(continued)*

Title	Document No.	Status
Register (GLR) – Stage 3	TS 31.101	Approved
UICC-Terminal Interface; Physical and Logical Characteristics	TS 31.101	Approved
Characteristics of the USIM Application	TS 31.102	Approved
Numbering system for telecommunication IC card applications	TS 31.110	Approved
USIM Application Toolkit (USAT)	TS 31.111	Approved
Terminal tests for the UICC Interface	TS 31.120	Approved
UICC Test Specification	TS 31.121	Approved
GSM call and event data for the Circuit Switched (CS) domain	TS 32.005	Approved
GSM call and event data for the Packet Switched (PS) domain	TS 32.015	Approved
3G Telecom Management principles and high level requirements	TS 32.101	Approved
3G Telecom Management architecture	TS 32.102	Approved
3G Performance Management	TS 32.104	Approved
3G Charging call event data	TS 32.105	Approved
3G Configuration Management; Concepts and requirements	TS 32.106-1	Approved
3G Configuration Management; Notification IRP Information Service	TS 32.106-2	Approved
3G Configuration Management; Notification IRP CORBA Solution Set	TS 32.106-3	Approved
3G Configuration Management; Notification IRP CMIP Solution Set	TS 32.106-4	Approved
3G Configuration Management; Basic Configuration Management IRP Information Model (including NRM)	TS 32.106-5	Approved
3G Configuration Management; Basic Configuration Management IRP CORBA Solution Set	TS 32.106-6	Approved
3G Configuration Management; Basic Configuration Management IRP CMIP Solution Set	TS 32.106-7	Approved
3G Configuration Management; Name Convention for Managed Objects	TS 32.106-8	Approved
3G Fault Management; Part 1: Requirements	TS 32.111-1	Approved
3G Fault Management; Part 2: Alarm Integration Reference Point: Information Service	TS 32.111-2	Approved
3G Fault Management; Part 3: Alarm Integration Reference Point: CORBA Solution Set	TS 32.111-3	Approved
3G Fault Management; Part 4: Alarm Integration Reference Point: CMIP Solution Set	TS 32.111-4	Approved
Security Architecture	TS 33.102	Approved
Security Integration Guidelines	TS 33.103	Approved
Cryptographic Algorithm Requirements	TS 33.105	Approved
Lawful Interception Requirements	TS 33.106	Approved
Lawful interception architecture and functions	TS 33.107	Approved
Security Principles and Objectives	TS 33.120	Approved

Table 8.1-1 – Specifications for GSM-evolved UMTS Core Network with UTRAN Access Network *(concluded)*

Title	Document No.	Status
Common Test Environments for User Equipment (UE) Conformance Testing	TS 34.108	Approved
UE Conformance Specification, Part 1 – Conformance specification	TS 34.123-1	Approved
UE Conformance Specification, Part 2 – ICS	TS 34.123-2	Approved
UE Conformance Specification, Part 3 – Abstract Test suites	TS 34.123-3	Approved
Specification of the 3GPP confidentiality and integrity algorithms; Document 1: f8 and f9 specifications	TS 35.201	Approved
Specification of the 3GPP confidentiality and integrity algorithms; Document 2: Kasumi algorithm specification	TS 35.202	Approved
Specification of the 3GPP confidentiality and integrity algorithms; Document 3: Implementers' test data	TS 35.203	Approved
Specification of the 3GPP confidentiality and integrity algorithms; Document 4: Design conformance test data	TS 35.204	Approved

8.2 Family member: ANSI-41 evolved Core Network with cdma2000 Access Network

This clause provides an overview of the specifications for this IMT-2000 Family member. Details for these specification may be found in 9.2.

The following numbering scheme is used for identifying 3GPP2 Specifications, Reports and Projects:

A.Bxxxx[-1]-C[-2]

where:

A the identifying letter of the TSG who developed the document;

B the document type designator (S = Specification, R = Report, P = Project);

xxxx the 4 digit number of the project and/or document;

[-1] the volume number (optional);

-C the revision level where the first version is the number '0' with subsequent revisions indicated by A,B,C, etc.;

[-2] used to designate an addendum (optional).

Example: S.R0002-1-A-1: first Addendum to the System Capabilities Description, Revision A.

The 3GPP2 TSGs are:

- TSG-A A Interface
- TSG-C cdma2000
- TSG-N Network
- TSG-P Packet Data
- TSG-S Services and Systems Aspects

Table 8.2-1 – Family Member: ANSI-41 evolved Core Network with cdma2000

Title	Document No.	Status
Radio Access Interface		
3G-IOS	A.S0001	Approved
A *bis* interface specification	A.S0003	Approved
Tandem Free Operation	A.S0004	Approved
Speech Service Option Standard for Wideband Spread Spectrum Systems	A.S0005	Approved
Recommended Minimum Performance Standard for Base Stations Supporting Dual-Mode Spread Spectrum Cellular Mobile Stations	A.S0006	Approved
Recommended Minimum Performance Standards for Dual-Mode Spread Spectrum Cellular Mobile Stations	A.S0007	Approved
Recommended Minimum Performance Standard for Digital Cellular Wideband Spread Spectrum Speech Service Option 1	A.S0008	Approved
Mobile Station Loopback Service Options Standard	A.S0009	Approved
Short Message Service for Spread Spectrum Systems	A.S0010	Approved
Data Services Option Standard for Wideband Spread Spectrum Digital Cellular System	A.S0011	Approved
Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems	A.S0012	Approved
Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems – Addendum 1	A.S0013	Approved
Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems – Addendum 2	A.S0014	Approved
Over-the-Air Service Provisioning of Mobile Stations in Spread Spectrum Systems	A.S0015	Approved
Data Service Options for Wideband Spread Spectrum Systems	A.S0016	Approved
Data Service Options for Wideband Spread Spectrum Systems – Addendum 1	A.S0017	Approved
Minimum Performance Standard for the Enhanced Variable Rate Codec, Speech Service Option 3 for Spread Spectrum Digital Systems	A.S0018	Approved
High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems	A.S0019	Approved
High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems – Addendum 1	A.S0020	Approved
Recommended Minimum Performance Standard for the High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems	A.S0021	Approved
Position Determination Service Standard for Dual-Mode Spread Spectrum Systems	A.S0022	Approved
Removable User Identity Module (R-UIM) for TIA/EIA Spread Spectrum Systems	A.S0023	Approved
Administration of Parameter Value Assignments for TIA/EIA Wideband Spread Spectrum Systems	A.S0024	Approved
Capabilities Requirements Mapping for cdma2000 Standards	A.S0025	Approved

Table 8.2-1 – Family Member: ANSI-41 evolved Core Network with cdma2000 *(continued)*

Title	Document No.	Status
cdma2000		
Removable User Identity Module	C.S0023	Approved
SMV (Selectable Mode Vocoder)	C.P9001	Approved
Administration of Parameter Value Assignments for cdma2000 Spread Spectrum Systems-Release A	C.R1001-A	Approved
Medium Access Control (MAC) Standard for cdma2000 Spread Spectrum Systems-Release A	C.S0003-A-1	Approved
Signaling Link Access Control (LAC) Specifications for cdma2000 Spread Spectrum Systems-Release A	C.S0004-A-1	Approved
Upper Layer (Layer 3) Signaling Specifications for cdma2000 Spread Spectrum Systems-Release A	C.S0004-A-1	Approved
Intersystem Interface		
User Selective Call Forwarding	N.S0001	Approved
Answer Hold	N.S0002	Approved
User Identity Module	N.S0003	Approved
WIN Phase 2	N.S0004	Approved
Cellular Radiotelecommunications Intersystem Operations	N.S0005	Approved
PCS Multi-band-Based on IS-41-C	N.S0006	Approved
DCCH Based on IS-41-C	N.S0007	Approved
Circuit Modes Services-Data-Based on IS-41-C	N.S0008	Approved
IMSI	N.S0009	Approved
Advanced Features in Wideband Spread Spectrum Systems	N.S0010	Approved
OTASP and OTAPA	N.S0011	Approved
CNAP/CNAR	N.S0012	Approved
WIN	N.S0013	Approved
Authentication Enhancements	N.S0014	Approved
ANSI-41-D Miscellaneous Enhancements	N.S0015	Approved
TIA/EIA-41-D Enhancements for Internationalization	N.S0016	Approved
International Implementation of Wireless Telecommunication Systems Compliant with TIA/EIA-41	N.S0017	Approved
TIA/EIA-41-D Prepaid Charging	N.S0018	Approved
Intersystem Link Protocol	N.S0019	Approved
Segmentation and Reassembly	N.S0020	Approved
User Selective Call Forwarding	N.S0021	Approved
Answer Hold	N.S0022	Approved
Automatic Code Gapping	N.S0023	Approved
Network Support for MDN-Based Message Centers	N.S002	Approved

Table 8.2-1 – Family Member: ANSI-41 evolved Core Network with cdma2000 *(concluded)*

Title	Document No.	Status
Packet Data Services		
Wireless IP Network Architecture based on IETF Protocols	P.R0001	Approved
Wireless IP Network Standard	P.S0001-A	Approved
Services and Systems Aspects		
System Capability Guide	S.R0003	Approved
System Implementation Guide	S.R0004	Approved
3GPP2 Network Reference Model	S.R0005-A	Approved
Cellular Features Description	S.R0006	Approved
User Selective Call Forwarding	S.R0007	Approved
Answer Hold	S.R0008	Approved
User Identity Module	S.R0009	Approved
Preferred Language Enhancement	S.R0010	Approved
Advice of Charge	S.R0011	Approved
Rejection of Undesired Annoying Calls	S.R0012	Approved
Global Emergency Call Origination	S.R0013	Approved
Tandem Free Operation	S.R0014	Approved
ISDN Interworking	S.R0015	Approved
Automatic Code Gapping	S.R0016	Approved
3G Wireless Network Management System High Level Requirements	S.R0017	Approved
Prepaid Charging	S.R0018	Approved
Location-Based Services System (LBSS) – Stage 1 Description	S.R0019	Approved
Video Streaming Services	S.R0021	Approved
Video Conferencing Services	S.R0022	Approved
High Speed Data Enhancements for cdma2000 1x-Data Only	S.R0023	Approved
Wireless Local Loop – Stage 1 Description	S.R0024	Approved
Wireless Pay Phone – Stage 1 Description	S.R0025	Approved
High-Speed Data Enhancements for cdma2000 1x-Integrated Data and Voice	S.R0026	Approved
Access Control Based on Call Type – Stage 1 Description	S.R0029	Approved

8.3 Family member: ANSI-41/GPRS evolved Core Network with UWC-136 Access Network

The following standards apply to this family member. A road map and all specifications and standards that apply to this family member are available via the following URL:

http://www.tiaonline.org

Table 8.3-1 – Family Member: ANSI-41/GPRS evolved Core Network with UWC-136 Access Network

Title	Document No. TIA/EIA…	Status
List of Parts	-136-000B	Balloting
Introduction, Identification and Semi-permanent Memory	-136-005A	Balloting
Optional Mobile Station Facilities	-136-010B	Balloting
SOC, BSMC, and Other Code Assignment	-136-020B	Balloting
Introduction to Channels	-136-100B	Balloting
Digital Control Channel Layer 1	-136-121A	Approved
Digital Control Channel Layer 2	-136-122B	Balloting
Digital Control Channel Layer 3	-136-123B	Balloting
Digital Traffic Channel Layer 2	-136-132	Approved
Digital Traffic Channel Layer 3	-136-133B	Balloting
Analog Control Channel	-136-140B	Balloting
Analog Voice Channel	-136-150B	Balloting
Packet-data Service – Overview	-136-330	Balloting
Packet-Data Service – Logical-Link Control	-136-333	Balloting
Packet-Data Service – Subnetwork Dependent Convergence Protocol	-136-334	Balloting
Packet-Data Service – Mobility Management	-136-336	Balloting
Packet-Data Service – Tunneling of Signalling Messages	-136-337	Balloting
Packet-Data Service – 136HS Outdoor Overview	-136-340	Balloting
Data-Service Control	-136-350A	Balloting
Packet Data Service – 136HS Indoor Overview	-136-360	Balloting
Authentication, Encryption of Signalling Information/User Data, and Privacy	-136-510B	Balloting
Messages Subject to Encryption	-136-511A	Balloting
R-DATA/SMDPP Transport	-136-610	Balloting
Teleservice Segmentation and Reassembly (TSAR)	-136-620	Approved
Broadcast Teleservice Transport Broadcast Air-Interface Transport Service	-136-630	Approved
Introduction to Teleservices	-136-700B	Balloting
Short Message Service Cellular Messaging Teleservice	-136-710B	Balloting
Over-the-Air Activation Teleservice (OATS)	-136-720B	Balloting
Over-the Air Programming Teleservice (OPTS)	-136-730	Approved
General UDP Transport Service (GUTS)	-136-750	Approved
Charge Indication Teleservice (CIT)	-136-760	Balloting
Introduction to Annexes and Appendices	-136-900	Balloting
Normative Information	-136-905	Balloting
Informative Information	-136-910B	Balloting
Packet-Data Service – Stage 2 Description	-136-932	Balloting
Packet-Data Service – Fixed Coding Mode MAC	-136-933	Balloting
Capacity and Performance Characteristics of UWC-136	-136-940	Balloting

8.4 Family Member: DECT – Digital Enhanced Cordless Telecommunications

DECT specifications are related to radio matters. These are under the responsibility of ITU-R and are available as ITU-R M.1457, *Detailed specifications of the radio interfaces of international mobile telecommunications-2000 (IMT-2000).*

9 Detailed description of family member standards and specifications

This clause provides details for the set of standards and specifications identified in clause 8. A brief description is provided for each standard or specification listed. When a recognized external organization has completed its standardization and publication process, appropriate information is provided via a table as illustrated below with entries as applicable. Future versions of this supplement will contain additional entries in these tables as standards are ratified.

SDO	Document No.	Status
ARIB/TTC		
CWTS		
ETSI		
TTA		
TIA		

9.1 Family member: GSM evolved UMTS Core Network with UTRAN Access Network

The standards and specifications listed in this clause apply to Release 99.

9.1.1 TS 21.101 3rd Generation mobile system Release 1999 Specifications

This document identifies the 3rd generation mobile system specifications for Release 1999.

Release 1999 Technical Specifications and Technical Reports were functionally frozen at the 6th Technical Specification Group meetings (TSG#6) in December 1999.

SDO	Document No.	Status
ETSI	TS 121 101	Approved

9.1.2 TS 21.111 USIM and IC card requirements

This document defines the requirements of the USIM (Universal Subscriber Identity Module) and the IC card for 3GPP (UICC).

SDO	Document No.	Status
ETSI	TS 121 111	Approved

9.1.3 TS 21.133 Security Threats and Requirements

This document describes the Security Principles and Objectives. It contains an evaluation of perceived threats and produces subsequently a list of security requirements to address these threats.

SDO	Document No.	Status
ETSI	TS 121 133	Approved

9.1.4 TS 22.002 Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)

This document defines a set of Bearer Services to be provided to PLMN subscribers by a PLMN itself and in connection with other networks. This document should also be used as a reference for defining the corresponding required mobile network capabilities.

SDO	Document No.	Status
ETSI	TS 122 002	Approved

9.1.5 TS22.003 Circuit Teleservices supported by a Public Land Mobile Network (PLMN)

This document defines a set of Circuit teleservices to be provided to PLMN subscribers by a PLMN.

SDO	Document No.	Status
ETSI	TS 122 003	Approved

9.1.6 TS 22.004 General on supplementary services

The purpose of this document is to define a recommended set of supplementary services to the Teleservices and Bearer services which will be supported by a PLMN in connection with other networks as a basis for the definition of the network capabilities required.

SDO	Document No.	Status
ETSI	TS 122.004	Approved
TTC	JP-3GA-22.004(R99)	Approved

9.1.7 TS 22.011 Service accessibility

The purpose of this document is to describe the service access procedures as presented to the user.

SDO	Document No.	Status
ETSI	TS 122.011	Approved
TTC	JP-3GA-22.011(R99)	Approved

9.1.8 TS 22.016 International Mobile station Equipment Identities (IMEI)

This document defines the principal purpose and use of International Mobile station Equipment Identities (IMEI).

SDO	Document No.	Status
ETSI	TS 122.016	Approved

9.1.9 TS 22.022 Personalisation of GSM ME Mobile functionality specification

This document provides functional specifications of five features to personalise Mobile Equipment (ME).

SDO	Document No.	Status
ETSI	TS 122.022	Approved

9.1.10 TS 22.024 Description of Charge Advice Information (CAI)

This document describes charging supplementary service that are designed to supply to a mobile user sufficient information to allow a real-time estimate to be made of the bill which will eventually be levied in the home PLMN on the Mobile Station (MS) subscriber.

SDO	Document No.	Status
ETSI	TS 122.024	Approved
TTC	JP-3GA-22.024(R99)	Approved

9.1.11 TS 22.030 Man-Machine Interface (MMI) of the Mobile Station (MS)

This document defines the requirements for and gives guidelines on the MMI for calls on the Mobile Station (MS).

SDO	Document No.	Status
ETSI	TS 122.030	Approved

9.1.12 TS 22.034 High Speed Circuit Switched Data (HSCSD)

This document specifies the Stage 1 description of High Speed Circuit Switched Data (HSCSD).

SDO	Document No.	Status
ETSI	TS 122.034	Approved

9.1.13 TS 22.038 SIM application toolkit (SAT)-Stage 1

This document describes Stage 1 description of SIM application Toolkit SAT.

SDO	Document No.	Status
ETSI	TS 122.038	Approved

9.1.14 TS 22.041 Operator Determined Call Barring (ODB)

This document describes the network feature Operator Determined Call Barring (ODB).

SDO	Document No.	Status
ETSI	TS 122.041	Approved
TTC	JP-3GA-22.041(R99)	Approved

9.1.15 TS 22.042 Network Identity and Time Zone (NITZ) Service description

This document describes the feature Network Identity and Time Zone (NITZ).

SDO	Document No.	Status
ETSI	TS 122.042	Approved
TTC	JP-3GA-22.042(R99)	Approved

9.1.16 TS 22.043 Support of Localised Service Area (SoLSA) Service description

This document specifies a mechanism which can be used as a platform for providing special tariffs and/or special set of service features for certain subscribers within a regionally restricted area or areas.

SDO	Document No.	Status
ETSI	TS 122.043	Approved
TTC	JP-3GA-22.043(R99)	Approved

9.1.17 TS 22.057 Mobile Station Application Execution Environment (MExE) Service description

This document defines the Stage 1 description of the Mobile Station Application Execution Environment (MExE).

SDO	Document No.	Status
ETSI	TS 122.057	Approved

9.1.18 TS 22.060 General Packet Radio Service (GPRS) Service description

This document defines the Stage 1 description of the General Packet Radio Service (GPRS).

SDO	Document No.	Status
ETSI	TS 122.060	Approved
TTC	JP-3GA-22.060(R99)	Approved

9.1.19 TS 22.066 Support of Mobile Number Portability (MNP) Service description

This document defines the Stage 1 description of the Support of Mobile Number Portability between networks in the same country.

SDO	Document No.	Status
ETSI	TS 122.066	Approved
TTC	JP-3GA-22.066(R99)	Approved

9.1.20 TS 22.067 enhanced Multi-Level Precedence and Pre-emption service (eMLPP)

This document specifies the Stage 1 description of the enhanced Multi-Level Precedence and Pre-emption Service (eMLPP). This service has two parts: precedence and pre-emption.

SDO	Document No.	Status
ETSI	TS 122.067	Approved

9.1.21 TS 22.071 Location Services (LCS); Service description

This document provides the Stage 1 description of Location Services (LCS) networks.

SDO	Document No.	Status
ETSI	TS 122.071	Approved

9.1.22 TS 22.072 Call Deflection Service description

This document describes the Stage 1 description of Call Deflection (CD) that enables the served mobile subscriber to respond to an incoming call offered by the network by requesting redirection of this call to another number specified in the response.

SDO	Document No.	Status
ETSI	TS 122.072	Approved
TTC	JP-3GA-22.072(R99)	Approved

9.1.23 TS 22.078 Customised Applications for Mobile network Enhanced Logic (CAMEL)

This document specifies the Stage 1 description for CAMEL feature (Customised Applications for Mobile network Enhanced Logic) which provides the mechanisms to support services consistently independently of the serving networks.

SDO	Document No.	Status
ETSI	TS 122.078	Approved
TTC	JP-3GA-22.078(R99)	Approved

9.1.24 TS 22.079 Support of Optimal Routing (SOR) Service definition

This document describes Stage 1 description of the first phase of Support of Optimal Routing (SOR).

SDO	Document No.	Status
ETSI	TS 122.079	Approved
TTC	JP-3GA-22.079(R99)	Approved

9.1.25 TS 22.081 Line identification Supplementary Services

This document describes the Supplementary Services belonging to the group Line Identification Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.081	Approved
TTC	JP-3GA-22.081(R99)	Approved

9.1.26 TS 22.082 Call Forwarding (CF) Supplementary Services

This document describes the Supplementary Services belonging to the group Call Offering Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.082	Approved
TTC	JP-3GA-22.082(R99)	Approved

9.1.27 TS 22.083 Call Waiting (CW) and Call Holding (HOLD) Supplementary Services

This document describes the Supplementary Services belonging to the group Call Completion Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.083	Approved
TTC	JP-3GA-22.083(R99)	Approved

9.1.28 TS 22.084 MultiParty (MPTY) Supplementary Services

This document describes the Supplementary Services belonging to the group MultiParty Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.084	Approved
TTC	JP-3GA-22.084(R99)	Approved

9.1.29 TS 22.085 Closed User Group (CUG) Supplementary Services

This document describes the Supplementary Services belonging to the group Community Of Interest Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.085	Approved
TTC	JP-3GA-22.085(R99)	Approved

9.1.30 TS 22.086 Advice of Charge (AoC) Supplementary Services

This document describes the Supplementary Services belonging to the group Charging Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.086	Approved
TTC	JP-3GA-22.086(R99)	Approved

9.1.31 TS 22.087 User-to-User Signalling (UUS) Service description

This document describes the User-to-User Signalling (UUS) supplementary service that allows a mobile subscriber to send/receive a limited amount of information to/from another PLMN or ISDN subscriber over the signalling channel in association with a call to the other subscriber.

SDO	Document No.	Status
ETSI	TS 122.087	Approved
TTC	JP-3GA-22.087(R99)	Approved

9.1.32 TS 22.088 Call Barring (CB) Supplementary Services

This document describes the supplementary services belonging to the group Call Restriction Supplementary Services.

SDO	Document No.	Status
ETSI	TS 122.088	Approved
TTC	JP-3GA-22.088(R99)	Approved

9.1.33 TS 22.090 Unstructured Supplementary Service Data (USSD)

This document defines the Stage 1 description of Unstructured Supplementary Service Data (USSD) for use in one or a number of Public Land Mobile Networks (PLMNs).

SDO	Document No.	Status
ETSI	TS 122.090	Approved
TTC	JP-3GA-22.090(R99)	Approved

9.1.34 TS 22.091 Explicit Call Transfer (ECT)

This document specifies the Stage 1 description of Explicit Call Transfer (ECT) from the service subscriber's and user's points of view.

SDO	Document No.	Status
ETSI	TS 122.091	Approved
TTC	JP-3GA-22.091(R99)	Approved

9.1.35 TS 22.093 Completion of Calls to Busy Subscriber (CCBS) Service description

This document specifies the Stage 1 description of Completion of Calls to Busy Subscriber (CCBS) from the subscriber's and user's points of view.

SDO	Document No.	Status
ETSI	TS 122.093	Approved
TTC	JP-3GA-22.093(R99)	Approved

9.1.36 TS 22.094 Follow Me Stage 1

The document specifies the Stage 1 description for the Follow Me feature.

The Follow Me feature enables a mobile subscriber A to manipulate the Follow Me data of a party B in such a way that, under certain conditions, subsequent calls directed to party B will be forwarded to subscriber A.

SDO	Document No.	Status
ETSI	TS 122.094	Approved

9.1.37 TS 22.096 Name identification supplementary services

This document describes the supplementary services belonging to the group Name Identification.

SDO	Document No.	Status
ETSI	TS 122.096	Approved
TTC	JP-3GA-22.096(R99)	Approved

9.1.38 TS 22.097 Multiple Subscriber Profile (MSP) Phase 1 Service description

This document gives an overall view of how this service shall operate both in the PLMN and within the Mobile Station (MS).

SDO	Document No.	Status
ETSI	TS 122.097	Approved
TTC	JP-3GA-22.097(R99)	Approved

9.1.39 TS 22.100 UMTS phase 1 Release 99

The UMTS system will be defined in a phased approach. This document specifies the requirements for Release 99 of UMTS. Some requirements which are necessary to ensure a smooth transition to later releases are also indicated. This document should, however, be read in conjunction with the other 22.000 series documents which provide a complete description of the requirements for UMTS Release 99.

SDO	Document No.	Status
ETSI	TS 122.100	Approved

9.1.40 TS 22.101 Service aspects; Service principles

This Technical Specification (TS) describes the Service Principles of the Universal Mobile Telecommunications System (UMTS).

NOTE – The European initiative to develop UMTS should be seen as part of the policy to provide more advanced capabilities than can be anticipated for pre-UMTS systems. UMTS provides integrated personal communications services. UMTS operates in parallel with pre-UMTS technologies (e.g. GSM, DCS 1800, DECT, TETRA etc.) which must be allowed to achieve their full potential. UMTS is a system that 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.

SDO	Document No.	Status
ETSI	TS 122.101	Approved

9.1.41 TS 22.105 Service aspects; Services and Service Capabilities

Pre-UMTS systems have largely standardised the complete sets of bearer services, teleservices and supplementary services which they provide. One major difference between UMTS and pre-UMTS systems is that service capabilities rather than services are standardised for UMTS, allowing service differentiation and system continuity. This Technical Specification (TS) describes how and what kind of services the UMTS user has access to.

SDO	Document No.	Status
ETSI	TS 122.105	Approved

9.1.42 TS 22.115 Service aspects; Charging and Billing

This document describes the Service Aspects of charging and billing of the Universal Mobile Telecommunications System (UMTS).

SDO	Document No.	Status
ETSI	TS 122.115	Approved
TTC	JP-3GA-22.115(R99)	Approved

9.1.43 TS 22.121 Service aspects; The Virtual Home Environment

This document specifies the content of the Stage 1 requirement for realisation of VHE.

Virtual Home Environment (VHE) is defined as a concept for personal service environment (PSE) portability across network boundaries and between terminals. The concept of the VHE is such that users are consistently presented with the same personalised features, user interface customisation and services in whatever network and whatever terminal (within the capabilities of the terminal and the network), wherever the user may be located.

SDO	Document No.	Status
ETSI	TS 122.121	Approved
TTC	JP-3GA-22.121(R99)	Approved

9.1.44 TS 22.129 Service aspects; Handover Requirements between UMTS and other Radio Systems

The scope of this document includes service requirements for handover within UMTS systems and between UMTS, other IMT-2000 family members and 2nd second generation systems. Particular emphasis has been placed on the description of requirements for handover between UMTS and GSM but requirements specific to other systems are incorporated as required.

SDO	Document No.	Status
ETSI	TS 122.129	Approved
TTC	JP-3GA-22.129(R99)	Approved

9.1.45 TS 22.135 Multicall Service description

This document describes multicall scenarios and requirements for UMTS release 99.

SDO	Document No.	Status
ETSI	TS 122.135	Approved
TTC	JP-3GA-22.135(R99)	Approved

9.1.46 TS 22.140 Multimedia Messaging Service – Stage 1

This Technical Specification defines the stage one description of the non real-time Multimedia Messaging Service, MMS. Stage one is the set of requirements which shall be supported for the provision of non real-time multimedia messaging service, seen primarily from the subscriber's and service providers' points of view.

SDO	Document No.	Status
ETSI	TS 122.140	Approved

9.1.47 TS 23.002 Network architecture

The purpose of this Technical Specification is to present the possible architectures of the mobile system. Clause 3 of this specification contains a definition of the different functional entities needed to support the mobile service. In clause 4, the configuration of a PLMN is described as well as the organisation of the functional entities; the configuration presented is the most general in order to cope with all the possible implementations which can be imagined in the different countries. To illustrate that purpose, some examples of possible configurations are presented. Clause 5 of this specification contains a brief description of the interfaces involved which shows the principle of the organisation considered.

SDO	Document No.	Status
ETSI	TS 123.002	Approved
TTC	JP-3GA-23.002(R99)	Approved

9.1.48 TS 23.003 Numbering, addressing and identification

This document describes numbering, addressing and identification for UMTS.

SDO	Document No.	Status
ETSI	TS 123.003	Approved
TTC	JP-3GA-23.003(R99)	Approved

9.1.49 TS 23.007 Restoration procedures

The data stored in location registers are automatically updated in normal operation; the main information stored in a location register defines the location of each mobile station and the subscriber data required to handle traffic for each mobile subscriber. The loss or corruption of these data will seriously degrade the service offered to mobile subscribers; it is therefore necessary to define procedures to limit the effects of failure of a location register, and to restore the location register data automatically.

SDO	Document No.	Status
ETSI	TS 123.007	Approved

9.1.50 TS 23.008 Organization of subscriber data

The scope of this specification is to provide details concerning information to be stored in home location registers, visitor location registers and GPRS Support Nodes concerning mobile subscriber.

SDO	Document No.	Status
ETSI	TS 123.008	Approved
TTC	JP-3GA-23.008(R99)	Approved

9.1.51 TS 23.009 Handover procedures

This document describes handover procedures.

SDO	Document No.	Status
ETSI	TS 123.009	Approved
TTC	JP-3GA-23.009(R99)	Approved

9.1.52 TS 23.011 Technical realization of Supplementary Services

This document describes technical realization of supplementary services.

SDO	Document No.	Status
ETSI	TS 123.011	Approved
TTC	JP-3GA-23.011(R99)	Approved

9.1.53 TS 23.012 Location registration procedures

This document describes the procedures in the network related to location registration. They include: location updating; location cancellation; periodic location updating; IMSI attach/detach.

SDO	Document No.	Status
ETSI	TS 123.012	Approved
TTC	JP-3GA-23.012(R99)	Approved

9.1.54 TS 23.014 Support of Dual Tone Multi-Frequency (DTMF) signalling

This document describes how Dual Tone Multi Frequency (DTMF) signals are supported.

SDO	Document No.	Status
ETSI	TS 123.014	Approved
TTC	JP-3GA-23.014(R99)	Approved

9.1.55 TS 23.015 Technical realization of Operator Determined Barring (ODB)

The network feature Operator Determined Barring (ODB) allows a network operator or service provider to regulate access by subscribers to services, by the barring of certain categories of incoming or outgoing traffic or of roaming. Operator Determined Barring applies to all bearer services and teleservices except the Emergency Call teleservice; the teleservice Short Message Point-to-Point is therefore subject to Operator Determined Barring in the same way as circuit-switched calls.

SDO	Document No.	Status
ETSI	TS 123.015	Approved
TTC	JP-3GA-23.015(R99)	Approved

9.1.56 TS 23.016 Subscriber data management

This document gives the Stage 2 description of the subscriber data management handling.

SDO	Document No.	Status
ETSI	TS 123.016	Approved
TTC	JP-3GA-23.016(R99)	Approved

9.1.57 TSA 23.018 Basic Call Handling – Technical realisation

This Technical Specification (TS) specifies the technical realisation of the handling of calls originated by a UMTS or GSM mobile subscriber and calls directed to a UMTS or GSM mobile subscriber, up to the point where the call is established. Normal release of the call after establishment is also specified.

SDO	Document No.	Status
ETSI	TS 123.018	Approved

9.1.58 TS 23.032 Universal Geographical Area Description (GAD)

This document defines an intermediate universal Geographical Area Description which subscriber applications or services can use and the network can convert into an equivalent radio coverage map.

SDO	Document No.	Status
ETSI	TS 123.032	Approved
TTC	JP-3GA-23.032(R99)	Approved

9.1.59 TS 23.034 High Speed Circuit Switched Data (HSCSD) – Stage 2

This document contains the stage 2 service description for a High Speed Circuit Switched Data (HSCSD).

SDO	Document No.	Status
ETSI	TS 123.034	Approved
TTC	JP-3GA-23.034(R99)	Approved

9.1.60 TS 23.038 Alphabets and language-specific information

This document defines the language-specific requirements.

SDO	Document No.	Status
ETSI	TS 123.038	Approved

9.1.61 TS 23.039 Interface protocols for the connection of Short Message Service Centres (SMSCs) to Short Message Entities (SMEs)

This document describes a range of alternative interfaces which may be utilised by Short Message Service Centre (SMSC), and Short Message Entity (SME), developers for the connection of SMEs to SMSCs.

SDO	Document No.	Status
ETSI	TS 123.039	Approved

9.1.62 TS 23.040 Technical realization of the Short Message Service (SMS); Point-to-Point (PP)

This document describes the point-to-point Short Message Service (SMS).

SDO	Document No.	Status
ETSI	TS 123.040	Approved

9.1.63 TS 23.041 Technical realization of Cell Broadcast Service (CBS)

This document describes the Cell Broadcast short message service (CBS).

SDO	Document No.	Status
ETSI	TS 123.041	Approved

9.1.64 TS 23.042 Compression algorithm for text messaging services

This document introduces the concepts and mechanisms involved in the compression and decompression of a stream of data.

SDO	Document No.	Status
ETSI	TS 123.042	Approved

9.1.65 TS 23.054 Description for the use of a Shared Inter-Working Function (SIWF) in a GSM PLMN

This document defines the Stage 2 description of the Shared Inter-Working Function (SIWF.

SDO	Document No.	Status
ETSI	TS 123.054	Approved
TTC	JP-3GA-23.054(R99)	Approved

9.1.66 TS 23.057 Mobile Station Application Execution Environment (MExE) Functional description

This document defines the Stage 2 and Stage 3 description of the Mobile Station Application Execution Environment (MExE). Stage 2 identifies the functional capabilities and information flows needed to support the service described in Stage 1.

SDO	Document No.	Status
ETSI	TS 123.057	Approved

9.1.67 TS 23.060 General Packet Radio Service (GPRS) Service description

This document defines the Stage 2 service description for the packet domain, which includes the General Packet Radio Service (GPRS) in GSM, and the packet side of UMTS.

SDO	Document No.	Status
ETSI	TS 123.060	Approved
TTC	JP-3GA-23.060(R99)	Approved

9.1.68 TS 23.066 Support of Mobile Number Portability (MNP) Technical Realisation

This document describes several alternatives for the realisation of Mobile Number Portability.

This document includes information applicable to network operators, service providers, switch and database manufacturers and national regulators.

SDO	Document No.	Status
ETSI	TS 123.066	Approved
TTC	JP-3GA-23.066(R99)	Approved

9.1.69 TS 23.067 enhanced Multi-Level Precedence and Pre-emption service (eMLPP)

This document specifies the stage 2 description of the enhanced Multi-Level Precedence and Pre-emption Service (eMLPP) which provides different call priorities in combination with fast call set-up and pre-emption for different applications.

SDO	Document No.	Status
ETSI	TS 123.067	Approved
TTC	JP-3GA-23.067(R99)	Approved

9.1.70 TS 23.072 Call Deflection (CD) Supplementary Service

This document gives the Stage 2 description of the Call Deflection supplementary service.

SDO	Document No.	Status
ETSI	TS 123.072	Approved
TTC	JP-3GA-23.072(R99)	Approved

9.1.71 TS 23.073 Support of Localised Service Area (SoLSA)

This document specifies the Stage 2 description of the SoLSA service, which gives the network operator the basis to offer subscribers or group of subscribers different services, different tariffs and different access rights depending on the geographical location of the subscriber.

SDO	Document No.	Status
ETSI	TS 123.073	Approved
TTC	JP-3GA-23.073(R99)	Approved

9.1.72 TS 23.078 (CAMEL) Phase 3

This document specifies the Stage 2 description for the second phase of the Customized Applications for Mobile network Enhanced Logic (CAMEL) feature.

SDO	Document No.	Status
ETSI	TS 123.078	Approved
TTC	JP-3GA-23.078(R99)	Approved

9.1.73 TS 23.079 Support of Optimal Routing – Phase 1 – Stage 2

The present document specifies the technical realization of the first phase of the network feature Support of Optimal Routing (SOR).

SDO	Document No.	Status
ETSI	TS 123.079	Approved

9.1.74 TS 23.081 Line identification supplementary services

This document gives the Stage 2 description of the call identification supplementary services.

SDO	Document No.	Status
ETSI	TS 123.081	Approved
TTC	JP-3GA-23.081(R99)	Approved

9.1.75 TS 23.082 Call Forwarding (CF) supplementary services

This document gives the Stage 2 description of the call forwarding supplementary services.

SDO	Document No.	Status
ETSI	TS 123.082	Approved
TTC	JP-3GA-23.082(R99)	Approved

9.1.76 TS 23.083 Call Waiting (CW) and Call Hold (HOLD) supplementary services

This document gives the stage 2 description of the call completion supplementary services.

SDO	Document No.	Status
ETSI	TS 123.083	Approved
TTC	JP-3GA-23.083(R99)	Approved

9.1.77 TS 23.084 Multi Party (MPTY) supplementary service

This document gives the stage 2 description of the multi party supplementary services.

SDO	Document No.	Status
ETSI	TS 123.084	Approved
TTC	JP-3GA-23.084(R99)	Approved

9.1.78 TS 23.085 Closed User Group (CUG) supplementary service

This document gives the Stage 2 description of the closed user group supplementary service.

SDO	Document No.	Status
ETSI	TS 123.085	Approved
TTC	JP-3GA-23.085(R99)	Approved

9.1.79 TS 23.086 Advice of Charge (AoC) supplementary services

This document gives the Stage 2 description of the Advice of Charge (AoC) supplementary services.

SDO	Document No.	Status
ETSI	TS 123.086	Approved
TTC	JP-3GA-23.086(R99)	Approved

9.1.80 TS 23.087 User-to-User Signalling (UUS) Supplementary Service

This document gives the Stage 2 description of the User-to-User signalling supplementary services.

SDO	Document No.	Status
ETSI	TS 123.087	Approved
TTC	JP-3GA-23.087(R99)	Approved

9.1.81 TS 23.088 Call Barring (CB) Supplementary Services

This document gives the Stage 2 description of the call barring services.

SDO	Document No.	Status
ETSI	TS 123.088	Approved
TTC	JP-3GA-23.088(R99)	Approved

9.1.82 TS 23.090 Unstructured Supplementary Service Data (USSD)

This document defines the Stage 2 description of Unstructured Supplementary Service Data (USSD).

SDO	Document No.	Status
ETSI	TS 123.090	Approved
TTC	JP-3GA-23.090(R99)	Approved

9.1.83 TS 23.091 Explicit Call Transfer (ECT) supplementary service

This document gives the Stage 2 description of the call transfer supplementary services.

SDO	Document No.	Status
ETSI	TS 123.091	Approved
TTC	JP-3GA-23.091(R99)	Approved

9.1.84 TS 23.093 Completion of Calls to Busy Subscriber (CCBS)

This document gives the Stage 2 description of the Completion of Calls to Busy Subscriber (CCBS) supplementary service.

SDO	Document No.	Status
ETSI	TS 123.093	Approved
TTC	JP-3GA-23.093(R99)	Approved

9.1.85 TS 23.094 Follow Me Stage 2

The present document specifies the Stage 2 description for the Follow Me feature. The Follow Me feature enables a mobile subscriber A to manipulate the Follow Me data of a remote party B in such a way that subsequent calls directed to remote party B will be forwarded to subscriber A.

SDO	Document No.	Status
ETSI	TS 123.094	Approved

9.1.86 TS 23.096 Name identification supplementary services

This document gives the Stage 2 description of the Name Identification Supplementary Services.

SDO	Document No.	Status
ETSI	TS 123.096	Approved
TTC	JP-3GA-23.096(R99)	Approved

9.1.87 TS 23.097 Multiple Subscriber Profile (MSP) – (Phase 1)

This document specifies the Stage 2 description of the Multiple Subscriber Profile (MSP) Supplementary Service Phase 1. MSP Phase 1 is implemented using CAMEL Phase 2. MSP Phase 2 will be implemented using CAMEL Phase 3.

SDO	Document No.	Status
ETSI	TS 123.097	Approved
TTC	JP-3GA-23.097(R99)	Approved

9.1.88 TS 23.101 General UMTS Architecture

This document defines the basic physical and functional separation of UMTS. The content of this specification is limited to those features that are common to all UMTS networks independent of their origin. It identifies and names the reference points and functional groupings appearing at this level.

SDO	Document No.	Status
ETSI	TS 123.101	Approved
TTC	JP-3GA-23.101(R99)	Approved

9.1.89 TS 23.107 QoS Concept and Architecture

This document provides the framework for Quality of Service in UMTS. The document shall be used as a living document which will cover all issues related Quality of Service in UMTS.

SDO	Document No.	Status
ETSI	TS 123.107	Approved

9.1.90 TS 23.108 Core Network Protocols

This document specifies the procedures used at the radio interface Control (CC), Mobility Management (MM), and Session Management (SM).

SDO	Document No.	Status
ETSI	TS 123.108	Approved
TTC	JP-3GA-23.108(R99)	Approved

9.1.91 TS 23.110 UMTS Access Stratum; Services and Functions

This document describes UMTS access stratum; its services and functions.

SDO	Document No.	Status
ETSI	TS 123.110	Approved
TTC	JP-3GA-23.110(R99)	Approved

9.1.92 TS 23.116 Super Charger – Stage 2

The present document specifies the Stage 2 description of the Super-Charger that provides a mechanism to reduce the signalling traffic associated with mobility.

SDO	Document No.	Status
ETSI	TS 123.116	Approved

9.1.93 TS 23.119 Gateway Location Register (GLR) – Stage 2

The present document gives the Stage 2 description of the Gateway Location Register (GLR) within the UMTS Core Network as a means of reducing the amount of MAP signalling traffic associated with location management carried over inter-PLMN links for roaming users.

The present document will be restricted of the case where the GLR supports one VPLMN only.

SDO	Document No.	Status
ETSI	TS 123.119	Approved

9.1.94 TS 23.121 Architectural Requirements for Release 1999

This document covers issues related to the evolution of the GSM platform towards UMTS with the overall goal of fulfilling the UMTS service requirements, the support of the UMTS role model, support of roaming and support of new functionality, signalling systems and interfaces.

SDO	Document No.	Status
ETSI	TS 123.121	Approved
TTC	JP-3GA-23.121(R99)	Approved

9.1.95 TS 23.122 Non Access Stratum functions related to Mobile Station (MS) in idle mode

This TS gives an overview of the tasks undertaken by the Core network protocols of a Mobile Station (MS) when in idle mode, that is, switched on but not having a dedicated channel allocated. It also describes the corresponding network functions. The idle mode functions are also performed by a GPRS MS as long as no dedicated channel is allocated to the MS.

SDO	Document No.	Status
ETSI	TS 123.122	Approved

9.1.96 TS 23.127 Virtual Home Environment / Open Service Architecture

The present document specifies the Stage 2 of the Virtual Home Environment (VHE) and Open Service Architecture. VHE is defined as a concept for personal service environment (PSE) portability across network boundaries and between terminals. The concept of the VHE is such that users are consistently presented with the same personalised features, User Interface customisation and services in whatever network and whatever terminal (within the capabilities of the terminal and the network), wherever the user may be located. For Release 1999, e.g. CAMEL, MExE and SAT are considered the mechanisms supporting the VHE concept.

SDO	Document No.	Status
ETSI	TS 123.127	Approved

9.1.97 TS 23.135 Multicall – Stage 2

The present document gives the Stage 2 description of the Multicall supplementary service.

SDO	Document No.	Status
ETSI	TS 123.135	Approved

9.1.98 TS 23.140 Multimedia Messaging Service (MMS); Functional description

This document defines the Stage 2 and Stage 3 description of the non real time Multimedia Messaging Service, MMS. Stage 2 identifies the functional capabilities and information flows needed to support the service described in Stage 1.

SDO	Document No.	Status
ETSI	TS 123.140	Approved

9.1.99 TS 23.153 Out of Band Transcoder control

No summary available.

SDO	Document No.	Status
ETSI	TS 123.140	Approved

9.1.100 TS 23.171 Functional Stage 2 description of location services in UMTS

The document specifies the Stage 2 of the LoCation Services (LCS) feature in UMTS, which provides the mechanisms to support mobile location services for operators, subscribers and third party service providers.

SDO	Document No.	Status
ETSI	TS 123.171	Approved

9.1.101 TS 24.002 Public Land Mobile Network (PLMN) Access Reference Configuration

The document describes the reference configuration for access to a GSM PLMN. A user accesses a GSM PLMN via a number of interfaces, including the MS-BS interface. The purpose of this Technical Specification is to indicate the possible access arrangements that may be used in conjunction with the MS-BS interface.

SDO	Document No.	Status
ETSI	TS 124.002	Approved

9.1.102 TS 24.007 Mobile Radio Interface Signalling Layer 3 General Aspects

This document defines the principal architecture of Layer 3 and its sublayers on the GSM Um interface, i.e. the interface between Mobile Station (MS) and network; for the CM sublayer, the description is restricted to paradigmatic examples, call control, supplementary services, and short message services for non-GPRS services.

SDO	Document No.	Status
ETSI	TS 124.007	Approved
TTC	JP-3GA-24.007(R99)	Approved

9.1.103 TS 24.008 Mobile Radio Interface Layer 3 specification; Core Network Protocols

This document specifies the procedures used at the radio interface for Call Control (CC), Mobility Management (MM) and Session Management (SM).

SDO	Document No.	Status
ETSI	TS 124.008	Approved
TTC	JP-3GA-24.008(R99)	Approved

9.1.104 TS 24.010 Mobile Radio Interface Layer 3 Supplementary Services Specification: General Aspects

This document gives specification the general aspects of the specification of supplementary services at the Layer 3 radio interface.

SDO	Document No.	Status
ETSI	TS 124.010	Approved
TTC	JP-3GA-24.010(R99)	Approved

9.1.105 TS 24.011 Point-to-Point (pp) Short Message Service (SMS); Support on Mobile Radio Interface

This document specifies the procedures used across the mobile radio interface by the signalling Layer 3 function Short Message Control (SMC) and Short Message Relay function (SM-RL) for both circuit switched GSM and GPRS.

SDO	Document No.	Status
ETSI	TS 124.011	Approved

9.1.106 TS 24.012 Short Message Cell Broadcast; Support on Mobile Radio Interface

This document describes how the Short Message Service Cell Broadcast (SMSCB) is supported over the mobile radio interface.

SDO	Document No.	Status
ETSI	TS 124.012	Approved

9.1.107 TS 24.022 Radio Link Protocol (RLP) for Data and Telematic Services on the (MS-BSS) Interface and the Base Station System Mobile-services Switching Centre (BSS-MSC) Interface

This document specifies the Radio Link Protocol (RLP) for data transmission over the 3GPP UMTS PLMN.

SDO	Document No.	Status
ETSI	TS 124.022	Approved

9.1.108 TS 24.030 Location Services LCS Stage 3 SS (MO-LR)

No summary available.

SDO	Document No.	Status
ETSI	TS 124.030	Approved

9.1.109 TS 24.067 enhanced Multi-Level Precedence and Pre-emption service (eMLPP)

This document specifies the procedures used at the radio interface for normal operation, invocation, registration and interrogation of the enhanced Multi-Level Precedence and Pre-emption Service (eMLPP) supplementary service. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.067	Approved
TTC	JP-3GA-24.067(R99)	Approved

9.1.110 TS 24.072 Call Deflection (CD) Supplementary Service

This document specifies the procedures used at the radio interface for normal operation of Call Deflection (CD) supplementary service. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.072	Approved
TTC	JP-3GA-24.072(R99)	Approved

9.1.111 TS 24.080 Mobile radio Layer 3 Supplementary Service specification – Formats and coding

This document contains the coding of information necessary for support of supplementary service operation on the mobile radio interface Layer 3.

SDO	Document No.	Status
ETSI	TS 124.080	Approved
TTC	JP-3GA-24.080(R99)	Approved

9.1.112 TS 24.081 Line identification supplementary services

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of line identification supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.081	Approved
TTC	JP-3GA-24.081(R99)	Approved

9.1.113 TS 24.082 Call Forwarding (CF) supplementary services

This European Standard (EN) specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, interrogation and network invocation of call offering supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.082	Approved
TTC	JP-3GA-24.082(R99)	Approved

9.1.114 TS 24.083 Call Waiting (CW) and Call Hold (HOLD) supplementary services

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of call completion supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.083	Approved
TTC	JP-3GA-24.083(R99)	Approved

9.1.115 TS 24.084 MultiParty (MPTY) supplementary service

This document specifies the procedures used at the radio for normal operation and invocation of MultiParty supplementary services.

SDO	Document No.	Status
ETSI	TS 124.084	Approved
TTC	JP-3GA-24.084(R99)	Approved

9.1.116 TS 24.085 Closed User Group (CUG) supplementary service

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of community of interest supplementary services. The provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and causes no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.085	Approved
TTC	JP-3GA-24.085(R99)	Approved

9.1.117 TS 24.086 Advice of Charge (AoC) supplementary services

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of charging supplementary services. The provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and causes no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.086	Approved
TTC	JP-3GA-24.086(R99)	Approved

9.1.118 TS 24.087 User-to-User Signalling (UUS) Supplementary Service

This document gives the Stage 3 description of the User-to-User signalling supplementary services.

SDO	Document No.	Status
ETSI	TS 124.087	Approved
TTC	JP-3GA-24.087(R99)	Approved

9.1.119 TS 24.088 Call Barring (CB) Supplementary Service

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of call barring supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.088	Approved
TTC	JP-3GA-24.088(R99)	Approved

9.1.120 TS 24.090 Unstructured Supplementary Service Data (USSD)

This document gives the Stage 3 description of the Unstructured Supplementary Service Data (USSD) operations.

SDO	Document No.	Status
ETSI	TS 124.090	Approved
TTC	JP-3GA-24.090(R99)	Approved

9.1.121 TS 24.091 Explicit Call Transfer (ECT) supplementary service

The document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of call transfer supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.091	Approved
TTC	JP-3GA-24.091(R99)	Approved

9.1.122 TS 24.093 Completion of Calls to Busy Subscriber (CCBS)

This document gives the Stage 3 description of the Completion of Calls to Busy Subscriber (CCBS) supplementary service. The document specifies the procedures used at the radio interface for normal operation, activation, deactivation, invocation and interrogation of the completion of calls to busy subscriber supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.093	Approved
TTC	JP-3GA-24.093(R99)	Approved

9.1.123 TS 24.096 Name identification supplementary services

This document specifies the procedures used at the radio interface for normal operation, registration, erasure, activation, deactivation, invocation and interrogation of name identification supplementary services. Provision and withdrawal of supplementary services is an administrative matter between the mobile subscriber and the service provider and cause no signalling on the radio interface.

SDO	Document No.	Status
ETSI	TS 124.096	Approved
TTC	JP-3GA-24.096(R99)	Approved

9.1.124 TS 24.135 Multicall – Stage 3

The document gives the Stage 3 description of the Multicall (MC) supplementary service. The document specifies the procedures used by the radio interface for normal operation, registration and interrogation of the Multicall supplementary service.

SDO	Document No.	Status
ETSI	TS 124.135	Approved

9.1.125 TS 26.071 AMR Speech Codec; General Description

This document is an introduction to the speech processing parts of the narrowband telephony speech service employing the Adaptive Multi-Rate (AMR) speech coder. A general overview of the speech processing functions is given, with reference to the documents where each function is specified in detail.

SDO	Document No.	Status
ETSI	TS 126.071	Approved

9.1.126 TS 26.073 ANSI-C – Source code

This document contains an electronic copy of the ANSI-C code for the Adaptive Multi-Rate codec. The ANSI-C code is necessary for a bit exact implementation of the Adaptive Multi Rate speech transcoder (TS 26.090 [2]), Voice Activity Detection (TS 26.094 [6]), comfort noise (TS 26.092 [4]), source controlled rate operation (TS 26.093 [5]) and example solutions for substituting and muting of lost frames (TS 26.091 [3]).

SDO	Document No.	Status
ETSI	TS 126.073	Approved

9.1.127 TS 26.074 AMR Speech Codec; Test Sequences

This document specifies the digital test sequences for the adaptive multi-rate (AMR) speech codec. These sequences test for a bit exact implementation of the adaptive multi-rate speech transcoder, voice activity detection, comfort noise, and source controlled rate operation.

SDO	Document No.	Status
ETSI	TS 126.074	Approved

9.1.128 TS 26.090 AMR speech codec; Transcoding functions

This document describes the detailed mapping from input blocks of 160 speech samples in 13-bit uniform PCM format to encoded blocks.

SDO	Document No.	Status
ETSI	TS 126.090	Approved

9.1.129 TS 26.091 AMR speech codec; Error concealment of lost frames

This document defines an error concealment procedure, also termed frame substitution and muting procedure, which shall be used by the AMR speech codec receiving end when one or more lost speech or lost Silence Descriptor (SID) frames are received.

SDO	Document No.	Status
ETSI	TS 126.091	Approved

9.1.130 TS 26.092 AMR Speech Codec; Comfort noise for AMR Speech Traffic Channels

This document gives the detailed requirements for the correct operation of the background acoustic noise evaluation, noise parameter encoding/decoding and comfort noise generation for the AMR speech codec during Source Controlled Rate (SCR) operation.

The requirements described in this document are mandatory for implementation in all UEs capable of supporting the AMR speech codec.

SDO	Document No.	Status
ETSI	TS 126.092	Approved

9.1.131 TS 26.093 AMR Speech Codec; Source Controlled Rate operation

This specifications describes mandatory speech codec speech processing functions for the AMR speech codec; source controlled rate operation.

SDO	Document No.	Status
ETSI	TS 126.093	Approved

9.1.132 TS 26.094 AMR speech codec; Voice Activity Detector (VAD) for AMR Speech Traffic Channels

This document specifies two alternatives for the Voice Activity Detector (VAD) to be used in the Discontinuous Transmission (DTX) as described in [3]. Implementers of mobile station and infrastructure equipment conforming to the AMR specifications can choose which of the two VAD options to implement. There are no interoperability factors associated with this choice.

The requirements are mandatory on any VAD to be used either in User Equipment (UE) or Base Station Systems (BSS)s that utilize the AMR speech codec.

SDO	Document No.	Status
ETSI	TS 126.094	Approved

9.1.133 TS 26.101 AMR Speech Codec; Frame Structure

This document outlines the frame format for all codec modes of the mandatory Adaptive Multi-Rate (AMR) speech coder.

SDO	Document No.	Status
ETSI	TS 126.101	Approved

9.1.134 TS 26.102 AMR speech codec; Interface to Iu and Uu

This document is a description of the interfaces of the AMR speech codec and the Iu within the PLMN and Uu within the UE.

SDO	Document No.	Status
ETSI	TS 126.102	Approved

9.1.135 TS 26.103 Codec lists

The Technical Specification outlines the Codec List in 3GPP including both systems, GSM and UMTS, to be used by the Bearer Independent Call Control (BICC) protocol to set up a call or modify a call in Transcoder Free Operation (TrFO).

SDO	Document No.	Status
ETSI	TS 126.103	Approved

9.1.136 TS 26.104 AMR speech Codec; Floating point C-Code

This Technical Specification contains an electronic copy of the ANSI-C code for a floating-point implementation of the Adaptive Multi-Rate codec. This floating-point codec specification is mainly targeted to be used in multimedia applications such as the 3G-324M terminal specified in 3G TS 26.110, or in packet-based (e.g., H.323) applications.

SDO	Document No.	Status
ETSI	TS 126.104	Approved

9.1.137 TS 26.110 Codec for Circuit Switched Multimedia Telephony Service; General Description

This document introduces the set of specifications which applies to 3G multimedia terminals.

SDO	Document No.	Status
ETSI	TS 126.110	Approved

9.1.138 TS 26.111 Codec for Circuit Switched Multimedia Telephony Service; Modifications to H.324

In ITU-T H.324, Annex C describes a generic multimedia codec for use in error-prone, wireless networks. The scope of this document includes the changes, deletions, and additions to those texts necessary to fully specify a multimedia codec for use in 3GPP networks. Note that this implicitly excludes the network interface and call set up procedures. Also excluded are any general introductions to the system components.

SDO	Document No.	Status
ETSI	TS 126.111	Approved

9.1.139 TS 26.131 Narrow Band (3,1 kHz) Speech & Video Telephony Terminal Acoustic Characteristics

The document is applicable to any terminal capable of supporting narrow-band or wideband telephony, either as a stand-alone service or as the telephony component of a multimedia service. The document specifies minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band or wideband telephony.

SDO	Document No.	Status
ETSI	TS 126.131	Approved

9.1.140 TS 26.132 Narrow Band (3,1 kHz) Speech & Video Telephony Terminal Acoustic test Specifications

The document is applicable to any terminal capable of supporting narrow-band or wideband telephony, either as a stand-alone service or as the telephony component of a multimedia service. The document specifies test methods to allow the minimum performance requirements for the acoustic characteristics of 3G terminals when used to provide narrow-band or wideband telephony to be assessed.

SDO	Document No.	Status
ETSI	TS 126.132	Approved

9.1.141 TS 27.001 General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)

This document is based on the principles of terminal adapter functions presented in the ITU-T I series of Recommendations (ITU-T I.460-I.463).

SDO	Document No.	Status
ETSI	TS 127.001	Approved
TTC	JP-3GA-27.001(R99)	Approved

9.1.142 TS 27.002 Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities

This document defines the interfaces and Terminal Adaptation Functions (TAF) integral to a Mobile Termination (MT) which enables the attachment of asynchronous terminals to a MT.

SDO	Document No.	Status
ETSI	TS 127.002	Approved
TTC	JP-3GA-27.002(R99)	Approved

9.1.143 TS 27.003 Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities

This document defines Terminal Adaptation Functions (TAF) which are integrated in a Mobile Termination (MT) and which enable the attachment of Synchronous Terminals to an MT.

SDO	Document No.	Status
ETSI	TS 127.003	Approved
TTC	JP-3GA-27.003(R99)	Approved

9.1.144 TS 27.005 Use of Data Terminal Equipment – Data Circuit terminating; Equipment (DTE – DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)

This document defines three interface protocols for control of SMS functions within a GSM mobile telephone from a remote terminal via an asynchronous interface.

SDO	Document No.	Status
ETSI	TS 127.005	Approved

9.1.145 TS 27.007 AT command set for 3GPP User Equipment (UE)

This document a profile of AT commands and recommends that this profile be used for controlling Mobile Equipment (ME) functions and network services.

SDO	Document No.	Status
ETSI	TS 127.007	Approved

9.1.146 TS 27.010 Terminal Equipment to Mobile Station (TE-MS) multiplexer protocol

The scope of this document is to define a multiplexing protocol between a mobile station and a terminal. The multiplexing protocol can be used to send any data, for instance voice, SMS, USSD, fax etc. This document describes the protocol, but not the commands or data transported with it.

SDO	Document No.	Status
ETSI	TS 127.010	Approved

9.1.147 TS 27.060 GPRS Mobile Stations supporting GPRS

The UMTS/GSM PLMN supports a wide range of voice and non-voice services in the same network. In order to enable non-voice traffic in the PLMN there is a need to connect various kinds of terminal equipments to the Mobile Station (MS). The document defines the requirements for TE-MT interworking over the R-reference point for the Packet Domain , including the protocols and signalling needed to support Packet Switched services.

SDO	Document No.	Status
ETSI	TS 127.060	Approved

9.1.148 TS 27.103 Wide Area Network Synchronisation Standard

This specification provides a definition of a Wide Area Synchronisation protocol. The synchronization protocol is based upon IrMC level 4.

This document covers Wide Area Network Synchronisation between current and future mobile communication end-user devices, desktop applications and server-based information servers. This is a living document and, as such, it will evaluate new technologies (e.g. XML) for inclusion as they become readily available.

SDO	Document No.	Status
ETSI	TS 127.103	Approved

9.1.149 TS 29.002 Mobile Application Part (MAP)

The document describes the requirements for the signalling system and the procedures needed at the application level in order to fulfil these signalling needs. It is necessary to transfer between entities of a Public Land Mobile Network (PLMN) information specific to the PLMN in order to deal with the specific behaviour of roaming Mobile Stations (MS)s. The Signalling System No. 7 specified by ITU-T is used to transfer this information.

SDO	Document No.	Status
ETSI	TS 129.002	Approved
TTC	JP-3GA-29.002(R99)	Approved

9.1.150 TS 29.007 General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)

This document identifies the Mobile-services Switching Centre/Interworking Functions (MSC/IWFs).

SDO	Document No.	Status
ETSI	TS 129.007	Approved
TTC	JP-3GA-29.007(R99)	Approved

9.1.151 TS 29.010 Information element mapping between Mobile Station-Base Station System (MS-BSS) and Base Station System-Mobile-services Switching Centre (BSS-MSC); Signalling procedures and the Mobile Application Part (MAP)

This document describes information element mapping between Mobile Station-Base Station System (MS-BSS) and Base Station System-Mobile-services Switching Centre (BSS-MSC); Signalling procedures and the Mobile Application Part (MAP).

SDO	Document No.	Status
ETSI	TS 129.010	Approved
TTC	JP-3GA-29.010(R99)	Approved

9.1.152 TS 29.011 Signalling interworking for supplementary services

The scope of this document is to provide a detailed specification for interworking between the A interface protocol and the Mobile Application Part for handling of supplementary services. The MAP interfaces of interest are the B-, C-, D- and E-interfaces.

SDO	Document No.	Status
ETSI	TS 129.011	Approved
TTC	JP-3GA-29.011(R99)	Approved

9.1.153 TS 29.013 Signalling interworking between ISDN supplementary services; Application Service Element (ASE) and Mobile Application Part (MAP) protocols

The scope of This document provides a specification for interworking between the ISDN Application Service Element (ASE) protocol for supplementary services and the Mobile Application Part (MAP) protocol on MAP D-interface protocol for handling of supplementary services. This version of the specification includes the interworking for the Call Completion to Busy Subscriber (CCBS) service between the ISDN CCBS-ASE and MAP.

SDO	Document No.	Status
ETSI	TS 129.013	Approved
TTC	JP-3GA-29.013(R99)	Approved

9.1.154 TS 29.016 General Packet Radio Service (GPRS); Serving GPRS Support Node (SGSN) – Visitors Location Register (VLR); Gs Interface Network Service Specification

This specification defines the interaction between the SGSN and the VLR.

SDO	Document No.	Status
ETSI	TS 129.016	Approved
TTC	JP-3GA-29.016(R99)	Approved

9.1.155 TS 29.018 General Packet Radio Service (GPRS); Serving GPRS Support Node (SGSN) – Visitors Location Register (VLR); Gs Interface Layer 3 Specification

This document specifies or references procedures used on the Serving GPRS Support Node (SGSN) to Visitors Location Register (VLR) interface for interoperability between circuit switched services and packet data services.

SDO	Document No.	Status
ETSI	TS 129.018	Approved
TTC	JP-3GA-29.018(R99)	Approved

9.1.156 TS 29.060 General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP)

The document defines the second version of GTP used on the Gn and Gp interfaces of the General Packet Radio Service (GPRS) and the Iu, Gn and Gp interfaces of the UMTS system.

SDO	Document No.	Status
ETSI	TS 129.060	Approved
TTC	JP-3GA-29.060(R99)	Approved

9.1.157 TS 29.061 Interworking between the Public Land Mobile Network (PLMN) supporting GPRS and Packet Data Networks (PDN)

The document defines the requirements for Packet Domain interworking between:

a) PLMN and PDN;

b) PLMN and PLMN.

SDO	Document No.	Status
ETSI	TS 129.061	Approved
TTC	JP-3GA-29.061(R99)	Approved

9.1.158 TS 29.078 CAMEL – Stage 3

The document specifies the CAMEL Application Part (CAP) supporting the third phase of the network feature Customized Applications for Mobile network Enhanced Logic. CAP is based on a sub-set of the ETSI Core INAP CS-2 as specified by EN 301 140-1 [39]. Descriptions and definitions provided by EN 301 140-1 [39] are directly referenced by this standard in case no additions or clarifications are needed for the use in the CAP.

SDO	Document No.	Status
ETSI	TS 129.078	Approved

9.1.159 TS 29.108 Application of the Radio Access Network Application Part (RANAP) on the E-interface

The document describes the subset of Radio Access Network Application Part (RANAP) messages and procedures, which are used on the E-interface. For the initiation and execution of relocation of SRNS (relocation for short, throughout the whole document) between MSCs a subset of RANAP procedures are used. For the subsequent control of resources allocated to the User Equipment (UE) RANAP procedures are used. The Direct Transfer Elementary Procedure (EP) of RANAP, is used for the transfer of connection management and mobility management messages between the UE and the controlling 3G_MSC.

SDO	Document No.	Status
ETSI	TS 129.108	Approved

9.1.160 TS 29.119 GPRS Tunnelling Protocol (GTP) specification for Gateway Location Register (GLR)

The document describes the signalling requirements and procedures used at network elements related to the GLR for GTP within the 3GPP system at the application level. The document gives the description of the systems needed only in the network utilising GLR.

SDO	Document No.	Status
ETSI	TS 129.119	Approved

9.1.161 TS 29.120 Mobile Application Part (MAP) specification for Gateway Location Register (GLR) – Stage 3

The document describes the signalling requirements and procedures used at network elements related to the GLR for MAP within the 3GPP system at the application level. The document gives the description of the systems needed only in the network utilising GLR.

SDO	Document No.	Status
ETSI	TS 129.120	Approved

9.1.162 TS 31.101 UICC-Terminal Interface; Physical and Logical Characteristics

This document specifies the interface between the UMTS Integrated Circuit Card (UICC) and the Terminal for 3GPP telecom network operation.

SDO	Document No.	Status
ETSI	TS 130.101	Approved

9.1.163 TS 31.102 Characteristics of USIM Application

The document defines the USIM application for 3G telecom network operation. The document specifies, specific command parameters, file structures, contents of EFs (Elementary Files), security functions and application protocol to be used on the interface between UICC (USIM) and ME.

SDO	Document No.	Status
ETSI	TS 131.102	Approved

9.1.164 TS 31.110 Numbering system for telecommunication IC card applications

The document describes the numbering system for Application IDentifiers (AID) for 3G telecommunication Integrated Circuits (IC) card applications. The numbering system described in the document provides a means for an application and related services offered by a provider to identify if a given card contains the elements required by its application and related services.

SDO	Document No.	Status
ETSI	TS 131.110	Approved

9.1.165 TS 31.111 USIM Application Toolkit (USAT)

The document defines the interface between the Universal ICC (UICC) and the Mobile Equipment (ME), and mandatory ME procedures, specifically for "USIM Application Toolkit".

SDO	Document No.	Status
ETSI	TS 131.111	Approved

9.1.166 TS 31.120 Terminal tests for the UICC interface

No summary available.

SDO	Document No.	Status
ETSI	TS 131.120	Approved

9.1.167 TS 31.121 UICC Test Specification

No summary available.

SDO	Document No.	Status
ETSI	TS 131.121	Approved

9.1.168 TS 32.005 GSM call and event data for the Circuit Switched (CS) domain

The document is concerned with the administration of subscriber related event and call data. This includes both the collection of call data from, and the distribution of tariff data to, the network elements. The subscriber (IMSI) and mobile equipment (IMEI) related call and event data collected is employed by a number of management activities including billing and accounting, statistical analysis and customer care. The tariff data in the network elements is required to support the supplementary service "Advice of Charge".

SDO	Document No.	Status
ETSI	TS 132.005	Approved

9.1.169 TS 32.015 GSM call and event data for the Packet Switched (PS) domain

The GSM and UMTS PLMN support a range of packet based services in the same network. In order to enable operators the ability to provide a commercially viable service there is a need to provide charging functions. The document describes the functionality of charging, which includes the General Packet Radio Service (GPRS) in GSM and UMTS.

SDO	Document No.	Status
ETSI	TS 132.015	Approved

9.1.170 TS 32.101 3G Telecom Management principles and high level requirements

This document establishes and defines the management principles and high level requirements for the management of UMTS.

SDO	Document No.	Status
ETSI	TS 132.101	Approved
TTC	JP-3GA-32.101(R99)	Approved

9.1.171 TS 32.102 3G Telecom Management architecture

This document identifies and standardises the most important and strategic contexts in the physical architecture for the management of UMTS. It will serve as a framework to help define a telecom management physical architecture for a planned UMTS and to adopt standards and provide products that are easy to integrate.

This document is applicable to all further Technical Specifications regarding the Telecom Management of UMTS.

SDO	Document No.	Status
ETSI	TS 132.102	Approved
TTC	JP-3GA-32.102(R99)	Approved

9.1.172 TS 32.104 3G Performance Management

This document describes the requirements for the management of performance measurements and the collection of performance measurement data across a 3G network. It defines the administration of measurement schedules by the OMC, the generation of measurement results in the Network Elements (NEs) and the transfer of these results to one or more Operations Systems, i.e. OMC(s) and/or NMC(s).

SDO	Document No.	Status
ETSI	TS 132.104	Approved
TTC	JP-3GA-32.104(R99)	Approved

9.1.173 TS 32.105 3G Charging call event data

No summary available.

SDO	Document No.	Status
ETSI	TS 132.105	Approved

9.1.174 TS 32.106-1 3G Configuration Management; Concepts and requirements

The document defines a set of controls to be employed to effect set-up and changes to a 3G network in such a way that operational capability and Quality of Service (QoS), network integrity and system inter working are ensured. In this way, the present document describes the interface definition and behaviour for the management of relevant 3G NEs in the context of the described management environment. The context is described for both the management system (OS) and Network Element (NE) functionality.

SDO	Document No.	Status
ETSI	TS 132.106-1	Approved

9.1.175 TS 32.106-2 3G Configuration Management; Notification IRP Information Service

Network Elements (NEs) under management generate events to inform event receivers about occurrences within the network that may be of interest to event receivers. There are a number of categories of events.

SDO	Document No.	Status
ETSI	TS 132.106-2	Approved

9.1.176 TS 32.106-3 3G Configuration Management; Notification IRP CORBA Solution Set

The document specifies the Common Object Request Broker Architecture (CORBA) Solution Set (SS) for the IRP whose semantics is specified in Notification IRP: Information Service.

SDO	Document No.	Status
ETSI	TS 132.106-3	Approved

9.1.177 TS 32.106-4 3G Configuration Management; Notification IRP CMIP Solution Set

The document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the Notification Integration Reference Point (IRP): Information Service: clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces, clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces and clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

SDO	Document No.	Status
ETSI	TS 132.106-4	Approved

9.1.178 TS 32.106-5 3G Configuration Management; Basic Configuration Management IRP Information Model (including NRM)

No summary available.

SDO	Document No.	Status
ETSI	TS 132.106-5	Approved

9.1.179 TS 32.106-6 3G Configuration Management; Basic Configuration Management IRP CORBA Solution Set

No summary available.

SDO	Document No.	Status
ETSI	TS 132.106-6	Approved

9.1.180 TS 32.106-7 3G Configuration Management; Basic Configuration Management IRP CMIP Solution Set

No summary available.

SDO	Document No.	Status
ETSI	TS 132.106-7	Approved

9.1.181 TS 32.106-8 3G Configuration Management; Name Convention for Managed Objects

To perform network management tasks, co-operating applications require identical interpretation of names assigned to network resources under management. Such names are required to be unambiguous as well. The document recommends one name convention for network resources under management in the IRP context. To facilitate integration of network management information obtained via multiple IRPs of different technologies such as CMIP and CORBA, identical network resource name semantics must be conveyed in all IRPs. The document specifies one such name convention.

SDO	Document No.	Status
ETSI	TS 132.106-8	Approved

9.1.182 TS 32.111-1 3G Fault Management; Part 1: Requirements

This document specifies the overall requirements for 3G Fault Management.

SDO	Document No.	Status
ETSI	TS 132.111-1	Approved

9.1.183 TS 32.111-2 3G Fault Management; Part 2: Alarm Integration Reference Point: Information Service

This document specifies the overall requirements for 3G Fault Management.

SDO	Document No.	Status
ETSI	TS 132.111-2	Approved

9.1.184 TS 32.111-3 3G Fault Management; Part 3: Alarm Integration Reference Point: CORBA Solution Set

This document specifies the overall requirements for 3G Fault Management.

SDO	Document No.	Status
ETSI	TS 132.111-3	Approved

9.1.185 TS 32.111-4 3G Fault Management; Part 3: Alarm Integration Reference Point: CMIP Solution Set

The document defines the alarm integration reference point for the CMIP solution set: clause 4 contains an introduction to some basic concepts of the CMIP interfaces: clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces: clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

SDO	Document No.	Status
ETSI	TS 132.111-4	Approved

9.1.186 TS 33.102 Security Architecture

This document defines the security architecture i.e., the security features and the security mechanism, for the third generation mobile telecommunication system.

SDO	Document No.	Status
ETSI	TS 133.102	Approved

9.1.187 TS 33.103 Security Integration Guidelines

This document defines how elements of the 3G security architecture are to be integrated into the entities of the system architecture.

SDO	Document No.	Status
ETSI	TS 133.103	Approved

9.1.188 TS 33.105 Cryptographic Algorithm Requirements

This document constitutes a requirements specification for the security functions which may be used to provide the network access security features.

SDO	Document No.	Status
ETSI	TS 133.105	Approved

9.1.189 TS 33.106 Lawful Interception Requirements

This document provides basic interception requirements within a Third Generation Mobile Communication System.

SDO	Document No.	Status
ETSI	TS 133.106	Approved

9.1.190 TS 33.107 Lawful Interception architecture and functions

The document describes the architecture and functional requirements within a Third Generation Mobile Communication System (3GMS). The specification shows the service requirements from a Law Enforcement point of view only. The aim of this document is to define a 3GMS interception system that supports a number of regional interception regulations, but these regulations are not repeated here as they vary. Regional interception requirements shall be met in using specific (regional) mediation functions allowing only required information to be transported.

SDO	Document No.	Status
ETSI	TS 133.107	Approved

9.1.191 TS 33.120 Security Principles and Objectives

This document gives the objectives and principles of security. The principles state what is to be provided by 3G security as compared to the security of second generation systems. The principles will also ensure that 3G security can secure the new services and new service environments offered by 3G systems.

SDO	Document No.	Status
ETSI	TS 133.120	Approved

9.1.192 TS 34.108 Common Test Environments for User Equipment (UE) Conformance Testing

The document contains definitions of reference conditions and test signals, default parameters, reference Radio Bearer configurations, common requirements for test equipment and generic set-up procedures for use in UE conformance tests.

SDO	Document No.	Status
ETSI	TS 134.108	Approved

9.1.193 TS 34.123-1 UE Conformance Specification, Part 1 – Conformance Specification,

The document specifies the protocol conformance testing for the 3rd Generation User Equipment (UE).

SDO	Document No.	Status
ETSI	TS 134.123-1	Approved

9.1.194 TS 34.123-2 UE Conformance Specification, Part 2 – ICS

The document provides the Implementation Conformance Statement (ICS) proforma for 3rd Generation User Equipment (UE), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [2] and ETS 300 406 [3]. This document also specifies a recommended applicability statement for the test cases included in TS 34.123-1. These applicability statements are based on the features implemented in the UE.

SDO	Document No.	Status
ETSI	TS 134.123-2	Approved

9.1.195 TS 34.123-3 UE Conformance Specification, Part 3 – Abstract Test suites

No summary available.

SDO	Document No.	Status
ETSI	TS 134.123-3	Approved

9.1.196 TS 35.201 Specification of the 3GPP confidentiality and integrity algorithms; Document 1: f8 and f9 specifications

No Summary available.

SDO	Document No.	Status
ETSI	TS 135.201	Approved

9.1.197 TS 35.202 Specification of the 3GPP confidentiality and integrity algorithms; Document 2; Kasumi algorithm specification

No summary available.

SDO	Document No.	Status
ETSI	TS 135.202	Approved

9.1.198 TS 35.203 Specification of the 3GPP confidentiality and integrity algorithms; Document 3; Implementers' test data

No summary available.

SDO	Document No.	Status
ETSI	TS 135.203	Approved

9.1.199 TS 35.204 Specification of the 3GPP confidentiality and integrity algorithms; Document 4; Design conformance test data

No summary available.

SDO	Document No.	Status
ETSI	TS 135.204	Approved

9.2 Family member: ANSI-41 evolved Core Network with cdma-2000 Access Network

The standards and specifications listed in this section apply to Release A.

9.2.1 A.S0001 3G-Interoperability Specification (IOS)

This is the A interface specification covering reference points A1 through A11 as described in a reference model included in this document.

SDO	Document No.	Status
TIA	IS-2001	Approved

9.2.2 A.S0003 A*bis* interface specification

This document describes the interface between a Base Station Controller and a Base Station Transceiver System.

9.2.3 A.S0004 Tandem Free Operation

This specification describes the mechanisms used on the A interface in support of bypassing vocoders for mobile to mobile calls.

9.2.4 A.S0005 Speech Service Option Standard for Wideband Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-96-C	Approved

9.2.5 A.S0006 Recommended Minimum Performance Standard for Base Stations Supporting Dual-Mode Spread Spectrum Cellular Mobile Stations

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-97-C	Approved

9.2.6 A.S0007 Recommended Minimum Performance Standards for Dual-Mode Spread Spectrum Cellular Mobile Stations

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-98-C	Approved

9.2.7 A.S0008 Recommended Minimum Performance Standard for Digital Cellular Wideband Spread Spectrum Speech Service Option 1

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-125-A	Approved

9.2.8 A.S0009 Mobile Station Loopback Service Options Standard

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-126-B	Approved

9.2.9 A.S0010 Short Message Service for Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-637-A	Approved

9.2.10 A.S0011 Data Services Option Standard for Wideband Spread Spectrum Digital Cellular System

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-99-A	Approved

9.2.11 A.S0012 Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-127	Approved

9.2.12 A.S0013 Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems – Addendum 1

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-127-1	Approved

9.2.13 A.S0014 Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems – Addendum 2

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-127-2	Approved

9.2.14 A.S0015 Over-the-Air Service Provisioning of Mobile Stations in Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-683-A	Approved

9.2.15 A.S0016 Data Service Options for Wideband Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-707-A	Approved

9.2.16 A.S0017 Data Service Options for Wideband Spread Spectrum Systems – Addendum 1

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-707-A-1	Approved

9.2.17 A.S0018 Minimum Performance Standard for the Enhanced Variable Rate Codec, Speech Service Option 3 for Spread Spectrum Digital Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-718	Approved

9.2.18 A.S0019 High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-733	Approved

9.2.19 A.S0020 High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems – Addendum 1

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-733-1	Approved

9.2.20 A.S0021 Recommended Minimum Performance Standard for the High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-736	Approved

9.2.21 A.S0022 Position Determination Service Standard for Dual-Mode Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-801	Approved

9.2.22 A.S0023 Removable User Identity Module (R-UIM) for TIA/EIA Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-IS-820	Approved

9.2.23 A.S0024 Administration of Parameter Value Assignments for TIA/EIA Wideband Spread Spectrum Systems

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-TSB58-A	Approved

9.2.24 A.S0025 Capabilities Requirements Mapping for cdma2000 Standards

No summary available.

SDO	Document No.	Status
TIA	TIA/EIA-TSB2000	Approved

9.2.25 C.R1001-A Administration of Parameter Value Assignments for cdma2000 Spread Spectrum Systems-Release A.

No summary available.

9.2.26 C.S0003-A-1 Medium Access Control (MAC) Standard for cdma2000 Spread Spectrum Systems-Release A.

No summary available.

9.2.27 C.S0004-A-1 Signaling Link Access Control (LAC) Specifications for cdma2000 Spread Spectrum Systems-Release A.

No summary available.

9.2.28 C.S0004-A-1 Upper Layer (Layer 3) Signaling Specifications for cdma2000 Spread Spectrum Systems-Release A.

No summary available.

9.2.29 C.S0023 Removable User Identity Module

This document provides the air interface aspects for support of a removable UIM.

SDO	Document No.	Status
TIA	IS-820	Approved

9.2.30 C.P9001 SMV (Selectable Mode Vocoder)

This document describes an enhanced Rate Set 1 variable rate vocoder.

9.2.31 N.S0001 User Selective Call Forwarding

This document provides Stage 3 for the core network aspects for this feature.

9.2.32 N.S0002 Answer Hold

This document provides Stage 3 for the core network aspects for this feature.

9.2.33 N.S0003 User Identity Module

This document provides Stage 3 for the core network aspects for this feature.

9.2.34 N.S0004 Wireless Intelligent Network (WIN) Phase 2

This document provides Stages 2 and 3 for the core network aspects for support of:

– Triggers for Preferred Language;
– Advice of Charge;
– Rejection of Undesired Annoying Calls;
– Premium Rate Charging;
– Freephone.

SDO	Document No.	Status
TIA	IS-848	Approved

9.2.35 N.S0005 Cellular Radiotelecommunications Intersystem Operations

This document provides the specifications for intersystem communications in support of roaming subscribers. It includes registration, authentication and routing procedures. Chapters include Stage 2 information flows, Stage 3 protocol, Stage 3 procedures, and abnormal condition handling.

SDO	Document No.	Status
TIA	ANSI-41-D	Approved

9.2.36 N.S0006 PCS Multi-band-Based on IS-41-C

This document specifies protocol and procedures for control of inter-system hand-off between different frequency bands.

SDO	Document No.	Status
TIA	TSB-76	Approved

9.2.37 N.S0007 Digital Control Channel (DCCH) Based on IS-41-C

This document provides support for several TDMA-specific features such as User Group and Non-Public Mode Service (PSID/TSID.)

SDO	Document No.	Status
TIA	IS-730	Approved

9.2.38 N.S0008 Circuit Modes Services Data-Based on IS-41-C

This document provides support for circuit data up to 64Kb/s for CDMA and TDMA systems.

SDO	Document No.	Status
TIA	IS-737	Approved

9.2.39 N.S0009 IMSI

This document provides the core network aspects for support of International Mobile Station Identifiers (IMSI.)

SDO	Document No.	Status
TIA	IS-751	Approved

9.2.40 N.S0010 Advanced Features in Wideband Spread Spectrum Systems

This document supports IS-95 specific features such as Network Directed System Selection (NDSS), Subscriber Confidentiality and TMSI.

SDO	Document No.	Status
TIA	IS-735	Approved

9.2.41 N.S0011 OTASP and OTAPA

This document provides the specification for supporting Over-the-Air Service provisioning and Over-the-Air Parameter Administration. These capabilities allow a subscriber to obtain or modify his basic and enhanced services without having to visit a system operator’s service center.

SDO	Document No.	Status
TIA	IS-725-A	Approved

9.2.42 N.S0012 CNAP/CNAR

This document provides for the control of Calling Name Presentation and Calling Name Restriction services. These allow a called user to receive this information on a display on the mobile terminal for incoming calls, and for calling subscribers to restrict this information for outgoing calls.

SDO	Document No.	Status
TIA	IS-764	Approved

9.2.43 N.S0014 Authentication Enhancements

This document provides a number of minor changes to ANSI-41 to enhance second generation authentication mechanisms and procedures.

SDO	Document No.	Status
TIA	IS-778	Approved

9.2.44 N.S0015 ANSI-41-D Miscellaneous Enhancements

This document provides a place to collect items pending release of ANSI-41-E. As such, this document is not formally published but its contents will be integrated into ANSI-41-E.

9.2.45 N.S0016 TIA/EIA-41-D Enhancements for Internationalization

This document describes a number of adjustments made to ANSI-41 to enable its application by service providers outside the original geographical area for which it was developed, namely the United States of America.

SDO	Document No.	Status
TIA	IS-807	Approved

9.2.46 N.S0017 International Implementation of Wireless Telecommunication Systems Compliant with TIA/EIA-41

This document contains recommendations related to achieving successful international roaming. There are no ANSI-41 text changes. It provides guidance to operators to aid in deploying ANSI-41 systems, and contains important information for operators such as system IDs, international roaming MINS, etc.

SDO	Document No.	Status
TIA	TSB-29-C	Approved

9.2.47 N.S0018 TIA/EIA-41-D Prepaid Charging

This specification specifies the core network procedures in support of service for which a subscriber prepays a certain amount, the monitoring of usage, and the eventual denial of service unless the account is replenished.

SDO	Document No.	Status
TIA	IS-826	Approved

9.2.48 N.S0019 Intersystem Link Protocol

This specification defines the link protocol for support of intersystem operations.

SDO	Document No.	Status
TIA	IS-728	Approved

9.2.49 N.S00020 Segmentation and Reassembly

No summary available.

9.2.50 N.S00021 User Selective Call Forwarding

No summary available.

SDO	Document No.	Status
TIA	IS-838	Approved

9.2.51 N.S00022 Answer Hold

No summary available.

SDO	Document No.	Status
TIA	IS-837	Approved

9.2.52 N.S00023 Automatic Code Gapping

Automatic Code Gapping (ACG) is used to reduce the rate at which a network entity (NE), typically an MSC, sends service request messages to a service control function (SCF). ACG may be initiated in response to an SCF Overload condition and adjusted based on SCF congestion level. ACG may also be initiated for Service Management independently of SCF overload. The SCF can specify that ACG controls be applied to query messages destined for a specific Point Code and Subsystem Number or for an SCCP Global Title.

SDO	Document No.	Status
TIA	IS-786	Approved

9.2.53 N.S00024 Network Support for MDN-Based Message Centers

No summary available.

SDO	Document No.	Status
TIA	IS-841	Approved

9.2.54 P.R0001 Wireless IP Network Architecture based on IETF Protocols

This document describes the architecture within which selected IETF IP protocols are to be applied in support of packet data services.

9.2.55 P.S0001-A Wireless IP Network Standard

This document describes how selected IETF IP protocols are to be applied in support of packet data services.

9.2.56 S.R0003 System Capability Guide

This document provides an overall description of this IMT-2000 Family member, including details within some of the documents making up these specifications down to major sections dealing with selected topics.

9.2.57 S.R0004 Service Implementation Guide

This document describes how a selected set of additional services may be realized through the combination and reuse of other capabilities:

– International Access/+ Code Dialing;

– Credit Card Calling Service;

– Closed User Group;

– Enhanced Routing;

– International Roaming;

– Special Service Dialing.

9.2.58 S.R0005-A 3GPP2 Network Reference Model (Rev. A)

This document provides a description of the Network Reference Model, including identification of interfaces among the entities within the model.

9.2.59 S.R0006 Cellular Features Description

This document provides Stage 1 descriptions and feature interactions, including authorization, activation, registration, and other service aspects.

SDO	Document No.	Status
TIA	TIA/EIA-664-A	Approved

9.2.60 S.R0007 User Selective Call Forwarding (Stage 1)

This document provides the Stage 1 specification for a service that enables a user to selectively forward a call while it is being offered and before it has been answered.

9.2.61 S.R0008 Answer Holding (Stage 1)

This document provides the Stage 1 specification for a service that enables a user to place an incoming call on hold prior to answering the call. This enables the user to, e.g. step out of a meeting room, drive to the side of the road and stop, etc.

9.2.62 S.R0009 User Identity Module (Stage 1)

This document provides the Stage 1 for the functionality and features associated with a removable UIM.

9.2.63 S.R0010 Preferred Language Enhancement (Stage 1)

This document provides additional language options for support of subscribers beyond those previously covered in this IMT-2000 Family member.

9.2.64 S.R0011 Advice of Charge (Stage 1)

This document provides the Stage 1 for advising the user of the charges for a given call or call and feature usage.

9.2.65 S.R0012 Rejection of Undesired Annoying Calls (Stage 1)

This document provides the Stage 1 for a service where a subscriber may control acceptance of incoming calls based on a screening list, as well as control of the list itself.

9.2.66 S.R0013 Global Emergency Call Origination (Stage 1)

This document provides the Stage 1 to enable a user to place an emergency call whereever he is roaming and have it recognized as an emergency call by the system currently serving the user.

9.2.67 S.R0014 Tandem Free Operation (Stage 1)

This document provides the stage 1 from a system perspective on how to minimize transcoding distortions by avoiding unnecessary use of vocoders in a mobile to mobile call.

9.2.68 S.R0015 ISDN Interworking (Stage 2)

This document provides the Stage 1 for interworking ISDN basic data services with mobile data services to realize 64 Kbit/s interworking.

9.2.69 S.R0016 Automatic Code Gapping (Stage 1)

This document provides the stage 1 from a system perspective on how a system may protect itself from focussed loads by throttling call events near the source of the calls. It is used by IN SCP network elements to control excessive service logic invocations on them, and provides a general mechanism that can be used independent of and according to the actual capacity of the realization of the network element.

9.2.70 S.R0017 3G Wireless Network Management System High Level Requirements (Stage 1)

This document provides the requirements for key aspects of the Operations, Administration, Management and Provisioning (OAM&P) of IMT-2000 Family member networks.

SDO	Document No.	Status
TIA	IS-410	Approved

9.2.71 S.R0018 Prepaid Charging

No summary available.

9.2.72 S.R0019 Location-Based Services System (LBSS)

No summary available.

9.2.73 S.R0021 Video Streaming Services

No summary available.

9.2.74 S.R0022 Video Conferencing Services

No summary available.

9.2.75 S.R0023 High Speed Data Enhancements for cdma2000 1x-Data Only

No summary available.

9.2.76 S.R0024 Wireless Local Loop – Stage 1 Description

No summary available.

9.2.77 S.R0025 Wireless Pay Phone – Stage 1 Description

No summary available.

9.2.78 S.R0026 High-Speed Data Enhancements for cdma2000 1x-Integrated Data and Voice

No summary available.

9.2.79 S.R0029 Access Control Based on Call Type

No summary available.

9.3 Family member: ANSI-41/GPRS evolved Core Network with UWC-136 Access Network

The following standards apply to this family member. All specifications and standards that apply to this family member are available via the following URL:

http://www.tiaonline.org

9.3.1 TIA/EIA-136-000B List of Parts

This part outlines the intended scope of the TIA/EIA-136 standard and details the list of parts comprising the current revision.

SDO	Document No.	Status
TIA	TIA/EIA-136-000B	Approved

9.3.2 TIA/EIA-136-005A Introduction, Identification and Semi-permanent Memory

This part contains explanations of terms along with identity definition and selection as used in all of the parts.

SDO	Document No.	Status
TIA	TIA/EIA-136-005A	Approved

9.3.3 TIA/EIA-136-010B Optional Mobile Station Facilities

This part outlines Optional Mobile Station Facilities.

SDO	Document No.	Status
TIA	TIA/EIA-136-010B	Approved

9.3.4 TIA/EIA-136-020B SOC, BSMC, and Other Code Assignments

This part provides a list of the System Operator Codes, Base Station Manufacturer Codes, Carrier Specific Higher Layer Protocol Identifiers, and Broadcast Air-Interface Transport Service Category assignments.

SDO	Document No.	Status
TIA	TIA/EIA-136-020B	Approved

9.3.5 TIA/EIA-136-100B Introduction to Channels

This part provides the protocol reference model, the logical channel definitions, and the Layer 3 message mapping through Layer 2 to the physical layer.

SDO	Document No.	Status
TIA	TIA/EIA-136-100B	Approved

9.3.6 TIA/EIA-136-121A Digital Control Channel Layer 1

This part provides the Digital Control Channel (DCCH) Layer 1 service access points, protocols, and ARQ procedures, as well as requirements on the monitoring of radio link quality.

SDO	Document No.	Status
TIA	TIA/EIA-136-121A	Approved

9.3.7 TIA/EIA-136-122B Digital Control Channel Layer 2

This part provides the Digital Control Channel (DCCH) Layer 2 service access points, protocols, and ARQ procedures, as well as requirements on the monitoring of radio link quality.

SDO	Document No.	Status
TIA	TIA/EIA-136-122B	Approved

9.3.8 TIA/EIA-136-123B Digital Control Channel Layer 3

This part provides the Digital Control Channel (DCCH) Layer 3 description, including the Mobile Station State Diagram, detailed procedures (e.g. intelligent roaming), the Layer 3 message set, Information Element Descriptions, and timer descriptions.

SDO	Document No.	Status
TIA	TIA/EIA-136-123B	Approved

9.3.9 TIA/EIA-136-132 Digital Traffic Channel Layer 2

This part describes Layer 2 for the Digital Control Channel (DTC) which consists primarily of Supervision information.

SDO	Document No.	Status
TIA	TIA/EIA-136-132	Approved

9.3.10 TIA/EIA-136-133B Digital Traffic Channel Layer 3

This part describes Digital Traffic Channel (DTC) Layer 3, including Discontinuous Transmission, Mobile Assisted Handoff, Charging rate and total charge indication, Mobile Station Control Signalling and Formats, smart antenna support, and per-slot power control.

SDO	Document No.	Status
TIA	TIA/EIA-136-133B	Approved

9.3.11 TIA/EIA-136-140B Analog Control Channel

This part describes the Identification, Call Processing, Signalling Formats, and Mobile/Base Station Requirements for the Analog Control Channel.

SDO	Document No.	Status
TIA	TIA/EIA-136-140B	Approved

9.3.12 TIA/EIA-136-150B Analog Voice Channel

This part includes descriptions of the Modulation Characteristics, Charging Indication, Mobile Station Control, and Signalling formats for the Analog Voice Channel.

SDO	Document No.	Status
TIA	TIA/EIA-136-150B	Approved

9.3.13 TIA/EIA-136-330 Packet-Data Service – Overview

This part provides an overview of the GPRS-136 packet data service. An overview of the network reference model, base station and mobile station protocols, channel types, and options are provided in addition.

SDO	Document No.	Status
TIA	TIA/EIA-136-330	Approved

9.3.14 TIA/EIA-136-333 Packet-Data Service – Logical-Link Control

This part defines the Logical Link Control (LLC) layer protocol to be used for packet data transfer between the Mobile Station (MS) and Serving GPRS Support Node (SGSN).

SDO	Document No.	Status
TIA	TIA/EIA-136-333	Approved

9.3.15 TIA/EIA-136-334 Packet-Data Service – Subnetwork Dependent Convergence Protocol

This part provides the description of the Subnetwork Dependent Convergence Protocol (SNDCP). The user of the services provided by SNDCP is a packet data protocol (PDP) at the mobile Station (MS) or the Relay at the Serving GPRS Support Node (SGSN).

SDO	Document No.	Status
TIA	TIA/EIA-136-334	Approved

9.3.16 TIA/EIA-136-336 Packet-Data Service – Mobility Management

This part describes GPRS-136 Mobility Management and functions such as location tracking and user-identity confidentiality. The GPRS-136 packet data network combines TIA/EIA-41 circuit switched network elements with GPRS network elements.

SDO	Document No.	Status
TIA	TIA/EIA-136-336	Approved

9.3.17 TIA/EIA-136-337 Packet-Data Service – Tunneling of Signalling Messages

This part specifies procedures to provide co-ordination between the TIA/EIA-136 circuit switched services controlled at the Mobile Switching Center (MSC)/Visitors Location Register (VLR) and the GPRS-136 packet switched services controlled at the Serving GPRS Support Node (SGSN).

SDO	Document No.	Status
TIA	TIA/EIA-136-337	Approved

9.3.18 TIA/EIA-136-340 Packet-Data Service – 136HS Outdoor Overview

This part provides an overview of the 200 kHz 136HS Outdoor bearer.

SDO	Document No.	Status
TIA	TIA/EIA-136-340	Approved

9.3.19 TIA/EIA-136-350A Data-Service Control

This part provides a description of the user-network commands and responses used to access asynchronous data service, fax data service, and other services running over Radio Link Protocol 1. The SDL is provided in a separate file that is available here.

SDO	Document No.	Status
TIA	TIA/EIA-136-350A	Approved

9.3.20 TIA/EIA-136-360 Packet Data Service – 136HS Indoor Overview

This part provides an overview of the 1.6 MHz 136HS Indoor bearer.

SDO	Document No.	Status
TIA	TIA/EIA-136-360	Approved

9.3.21 TIA/EIA-136-510B Authentication, Encryption of Signalling Information/User Data, and Privacy

This part provides information on Authentication for the Digital Control Channel, Analog Voice Channel, Analog Control Channel, and Digital Traffic Channel. It also provides a description of Signalling Message Encryption and Voice Privacy and Data Privacy for TIA/EIA-136 systems.

SDO	Document No.	Status
TIA	TIA/EIA-136-510B	Approved

9.3.22 TIA/EIA-136-511A Messages Subject to Encryption

This part describes the messages which are subject to the encryption techniques described in TIA/EIA-136-510.

SDO	Document No.	Status
TIA	TIA/EIA-136-511A	Approved

9.3.23 TIA/EIA-136-610 R-DATA/SMDPP Transport

This part describes the transport of TIA/EIA-136 Teleservice messages using a combination of the R-DATA Message air interface transport and the TIA/EIA-41 Short Message Delivery Point to Point (SMDPP) transport.

SDO	Document No.	Status
TIA	TIA/EIA-136-610	Approved

9.3.24 TIA/EIA-136-620 Teleservice Segmentation and Reassembly (TSAR)

This part describes Teleservice Segmentation and Reassembly (TSAR). TSAR provides a mechanism to deliver TIA/EIA-136 Teleservice Messages that are not constrained by any message length limitations imposed by the air interface, or network layers supporting the teleservice. The service consists of the application of segmentation and reassembly, and retransmission of errored segments.

SDO	Document No.	Status
TIA	TIA/EIA-136-620	Approved

9.3.25 TIA/EIA-136-630 Broadcast Teleservice Transport Broadcast Air-Interface Transport Service

This part describes a broadcast teleservice transport. The BATS teleservice transport operates between a Teleservice Server (TS) and mobile stations using both TIA/EIA-136 and TIA/EIA-41 based protocol stacks along with relay functions in the Base Station, Mobile Switching Center and interworking function. BATS is a general-purpose broadcast transport mechanism that can be used by existing teleservices as well as other future teleservices/applications requiring broadcast transport support.

SDO	Document No.	Status
TIA	TIA/EIA-136-630	Approved

9.3.26 TIA/EIA-136-700B Introduction to Teleservices

This part provides an introduction to TIA/EIA-136 based Teleservices including the teleservice protocol stack, transport, and Higher Layer Protocol Identifiers.

SDO	Document No.	Status
TIA	TIA/EIA-136-700B	Approved

9.3.27 TIA/EIA-136-710B Short Message Service Cellular Messaging Teleservice

This part describes the procedures, message set, and information elements necessary to provide Short Message Service in TIA/EIA-136 based systems.

SDO	Document No.	Status
TIA	TIA/EIA-136-710B	Approved

9.3.28 TIA/EIA-136-720B Over-the-Air Activation Teleservice (OATS)

This part describes a Teleservice that is designed to support Over-the-Air Activation (OTA). The Over-the-Air Activation Teleservice (OATS) supports data exchange between a mobile station and a Customer Service Center (CSC)/Over-the-Air Activation Function (OTAF) which enables downloading information to the mobile station's Number Assignment Module.

SDO	Document No.	Status
TIA	TIA/EIA-136-720B	Approved

9.3.29 TIA/EIA-136-730 Over-the Air Programming Teleservice (OPTS)

This part describes a teleservice that is designed to support downloading of non-NAM programming information (e.g., Intelligent roaming database or IRDB) to an MS. The Over-the-Air Programming Teleservice (OPTS) provides a sequence of messages exchanged between the Over-the-Air Service Provisioning Function (OTASP) and the MS for the delivery of information.

SDO	Document No.	Status
TIA	TIA/EIA-136-730	Approved

9.3.30 TIA/EIA-136-750 General UDP Transport Service (GUTS)

This part describes the General UDP Transport Service (GUTS) which is a teleservice to support the transport of User Datagram Protocol (UDP) PDUs between a teleservice server and an MS.

SDO	Document No.	Status
TIA	TIA/EIA-136-750	Approved

9.3.31 TIA/EIA-136-760 Charge Indication Teleservice (CIT)

This part describes a teleservice that is designed to provide the Mobile Station user with charge information for a call.

SDO	Document No.	Status
TIA	TIA/EIA-136-760	Approved

9.3.32 TIA/EIA-136-900 Introduction to Annexes and Appendices

This part contains information concerning the 900 series of parts which contain additional normative and informative information related to the TIA/EIA-136 standard.

SDO	Document No.	Status
TIA	TIA/EIA-136-900	Approved

9.3.33 TIA/EIA-136-905 Normative Information

This part contains additional normative information related to the TIA/EIA-136 standard.

SDO	Document No.	Status
TIA	TIA/EIA-136-905	Approved

9.3.34 TIA/EIA-136-910B Informative Information

This part provides additional informative information to aid the user to understand the use or application of the TIA/EIA-136 standard. Information such as Frame formats, Calculation of R-DATA Message lengths and Addressing is provided.

SDO	Document No.	Status
TIA	TIA/EIA-136-910B	Approved

9.3.35 TIA/EIA-136-932 Packet-Data Service – Stage 2 Description

This informative part of TIA/EIA-136 contains stage 2 descriptions for the GPRS-136 packet data service. It describes the main traffic scenarios and the message flows between different network elements.

SDO	Document No.	Status
TIA	TIA/EIA-136-932	Approved

9.3.36 TIA/EIA-136-933 Packet-Data Service – Fixed Coding Mode MAC

This part describes the fixed-coding mode of the 136+ Medium Access Control (MAC) function specified in TIA/EIA-136-332. Higher layers may use the MAC to transport data across a GPRS-136 radio interface using the 136+ bearer.

SDO	Document No.	Status
TIA	TIA/EIA-136-933	Approved

9.3.37 TIA/EIA-136-940 Capacity and Performance Characteristics of UWC-136

This informative part contains additional information concerning the voice capacity, spectrum efficiency, and throughput performance for the UWC-136 system.

SDO	Document No.	Status
TIA	TIA/EIA-136-940	Approved

9.4 Family Member: DECT – Digital Enhanced Cordless Telecommunications

DECT specifications are related to radio matters. These are under the responsibility of ITU-R and are available as ITU-R M.1457 05/2000, *Detailed specifications of the radio interfaces of International Mobile Telecommunications-2000 (IMT-2000).*

SERIES OF ITU-T RECOMMENDATIONS

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