INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION STANDARDIZATION SECTOR

STUDY PERIOD 2001 - 2004

ITU-T Special Study Group on "IMT-2000 and Beyond"

CHAIRMAN'S LETTER TO EXTERNAL ORGANIZATIONS

TITLE: **REQUEST FOR INFORMATION FOR PROPOSED ITU-T RECOMMENDATIONS BEING DEVELOPED BY THE SPECIAL STUDY GROUP ON "IMT-2000 AND BEYOND"**

TO: **3GPP, 3GPP2, ETSI, Committee T1 (T1P1), TIA (TR45.2, TR45.3, TR45.5, TR45.6) and UWCC**

COPY: **ITU-R WP 8F, OHG**

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26 February 2001

Dear Colleagues:

During the 11-15 December 2000 Meeting of the ITU-T Special Study Group on "IMT-2000 and Beyond," the text for Question 3/SSG was agreed (see Enclosure 1.) The task objectives for Q.3/SSG include the development of three new ITU-T Recommendations:

- GSM evolved UMTS core network with UTRAN access network;
- ANSI-41 Evolved core network with cdma2000 access network; and
- ANSI-41/GPRS evolved core network with UWC-136 access network.

The initial set of these recommendations will address network aspects of IMT-2000, while later recommendations will address network enhancements to the IMT-2000 Family. The initial set of these ITU-T recommendations, coupled with the ITU-R Recommendation M.1457, "Detailed

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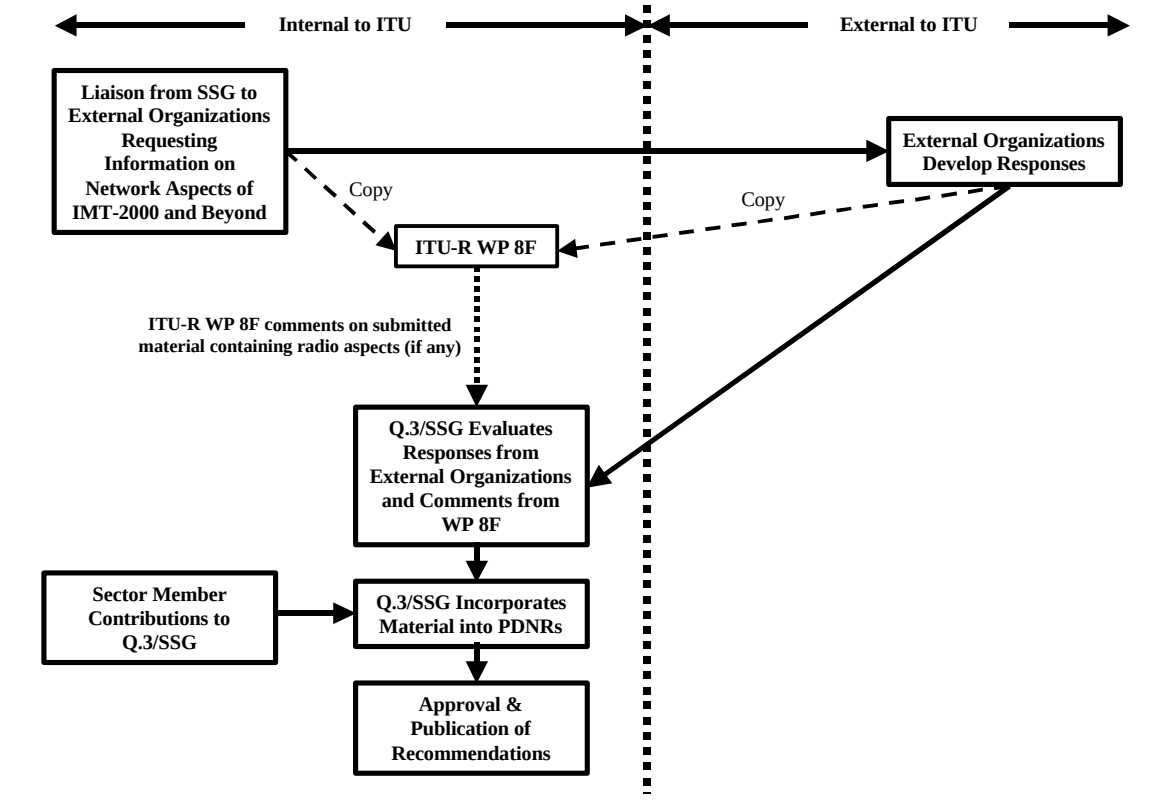
specifications of the radio interfaces of IMT-2000," is intended to form a complete set of IMT-2000 Recommendations.

As noted in the text for Q.3/SSG, the development of these recommendations requires close coordination with external organizations including the SDOs involved in the 3GPPs, and UWCC. Q.3/SSG has now begun its work in developing these recommendations. It is appropriate to begin the coordination process and to request your assistance in the development of these recommendations.

The process for developing these three recommendations was agreed at the Q.3/SSG Rapporteurs Meeting which took place 12-13 February 2001 in Stockholm. The process is depicted in the figure below. The three recommendations indicated above will be based on input contributions received from SSG participants and from input information received from relevant external Standards Development Organisations, or their participants, that are addressees of this correspondence. Please note that the process provides an opportunity for ITU-R Working Party 8F to review and comment on the material and references received to permit an assessment by the radio experts of ITU-R as to whether or not any of the submitted material contains radio aspects of IMT-2000. The intent of the ITU-T SSG is that none of the three proposed ITU-T recommendations will contain material, or will reference material, that contain radio aspects of IMT-2000.

ITU/External Organization Partnership Process for Developing Q.3/SSG Recommendations



An initial draft outline of the first of these recommendations is provided as Enclosure 2. This outline is for the proposed draft new recommendation (PDNR) "GSM evolved UMTS core network with

UTRAN access network." This preliminary draft outline was developed at the 12-13 February 2001 meeting of Q.3/SSG based on input contributions to this meeting.

Because no contributions were received against the other two recommendations, equivalent skeleton outlines are not provided herein. Enclosure 2 is provided as an illustrative example of the type of information to be included in each of these three recommendations, either by direct incorporation of material or by reference to documents produced by the relevant, ITU-T-recognised[1], external organisations. The intent is to provide brief explanatory text in each of the sections followed by references to standards produced by the SDOs. The format planned to be used for these references is shown in the following table.

	Document No.	**Version**	**Status**	**Issue date**	**Location**
ETSI					
T1					
TIA					
TTC					

The ITU-T Special Study Group has aggressive plans for the completion and approval of these three recommendations by the end of 2001. Specifically the work plan for Q.3/SSG is:

Milestone	**Date**	**Event**
Outline and skeleton	02/01	Q.3/SSG Rapporteurs meeting
First draft	04/01	Q.3/SSG Conference Call
Second draft (to SDOs)	05/01	SSG Meeting
Third draft (incorporate input from SDOs)	09/01	SSG Meeting
Fourth Draft	10/01	Q.3/SSG Conference Call
Recommendation	12/01	Begin formal approval

I would appreciate very much if you would assist ITU-T Q.3/SSG by providing necessary information on standards/specifications from your organization in order that the proposed draft new recommendations may reflect the latest IMT-2000 standards and specifications from all relevant standards organizations. Please note that your submission of initial material to help us structure the second and third recommendations indicated above is needed by the end of April for use at our May meeting, and specific content to fill in the structure is needed by the beginning of July 2001 to enable us to develop the recommendations, conduct the necessary reviews, and meet our December 2001 target for completion of the work and initiation of the approval process, per the above plan.

We believe that it is desirable that each of the three recommendations described above be published at the same time. This is dependent on timely receipt of material from the involved SDOs and the UWCC. Each recommendation will be submitted for final approval and publication when it is completed and ready, regardless of the status of the other recommendations. In order to ensure equitable treatment for all the systems, your attention to this request for input is kindly solicited.

Our next SSG meeting is scheduled for 9-13 May 2001 in Geneva. Hence, your initial response by approximately 30 April 2001 would be very helpful to us in progressing our work. The next SSG meeting is being planned for late August / early September 2001. A more complete response by early

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[1] Per list in Section 2.2 of Recommendation A.5, plus ETSI and ICANN per MoUs.

July in time for proposed conference calls and for this SSG meeting is very important towards helping us meet our objectives..

If you need additional information, please do not hesitate to contact me.

With best regards,

John Visser
Chairman, ITU-T Special Study Group on “IMT-2000 and Beyond”

Enclosure 1

Question 3 - Identification of existing and evolving IMT-2000 systems

Reasons for the question

The desire to perform interworking and establish a migration from existing IMT-2000 family members towards systems beyond IMT-2000, will require the identification of the architecture of these systems (IMT 2000 family members).

Since the existing IMT-2000 systems have been specified by a number of SDO's, the reason for this question, is to identify which specifications as approved by the SDO's (recognized by ITU-T according to A series recommendations) are necessary to relies an IMT-2000 system, and where they apply to the overall architecture of the IMT-2000 family member.

As the SDO's continue to develop various releases of their systems, new recommendation will need to be produced to reflect the releases of these systems.
The identification of the architecture and detailed specifications (as produced by the SDO's) of the existing IMT-2000 family members is essential to be able to specify those functions required to facilitate interworking between family members.

Question

What architectures, detailed specifications and releases have been and will be produced by recognized SDO's which make up existing and evolving IMT-2000 systems?

Task objectives

The major focus of this question is to develop recommendations, which identify the existing and evolving IMT-2000 family member systems. The task objectives for the question are to develop recommendations identifying the architecture and detailed specifications of each release (version) of each IMT-2000 family member making reference to relevant specifications produced by the ITU-T recognised SDO's.

Recommendations shall be produced for the following existing and evolving IMT-2000 family members:

- GSM evolved UMTS core network with UTRAN access network,
- ANSI-41 evolved core network with cdma2000 access network,
- ANSI-41/GPRS evolved core network with UWC-136 access network.

  Expected Completion: Initial recommendations consented end 2001, subsequent recommendations 6 – 12 months after systems are approved by SDOs.

Relationships

The development of these recommendations will require close coordination activities with:

- External organizations, particularly UWCC, SDOs.
- ITU-T Study Group 11.
- ITU-R Working Party 8F.

Enclosure 2

Draft outline of Q.REF-1: GSM evolved UMTS core network with UTRAN access network

1 Scope

2 References

[Editor's Note: This section will contain references to existing ITU ITM-2000 recommendations.]

3 Definitions

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations:

5 Introduction

6 Technical specifications structure

[Editor's Note: This section will contain information about the structure of the technical specifications.]

7 Basic architecture for the UMTS IMT-2000 family member

[Editor's Note: This section will contain a figure over the Basic configuration of a PLMN supporting CS and PS services and interfaces.]

8 Nodes

8.1 GMSC

[Editor's Note: A description of the node GMSC will be inserted in this section.]

8.2 MSC/VLR

[Editor's Note: A description of the node MSC/VLR will be inserted in this section.]

8.3 HLR

[Editor's Note: A description of the node HLR will be inserted below.]

8.4 AuC

[Editor's Note: A description of the node AuC will be inserted below.]

8.5 EIR

[Editor's Note: A description of the node EIR will be inserted bellow.]

8.6 GGSN

[Editor's Note: A description of the node GGSN will be inserted bellow.]

8.7 SGSN

[Editor's Note: A description of the node SGSN will be inserted bellow.]

8.8 GMLC

[Editor's Note: A description of the node GMLC will be inserted bellow.]

8.9 GLR

[Editor's Note: A description of the node GLR will be inserted here.]

8.10 IM-GSN

[Editor's Note: A description of the node IM-GSN will be inserted here.]

8.11 IM-MSC

[Editor's Note: A description of the node IM-MSC will be inserted here.]

9 Interfaces

9.1 C-Interface (GMSC-HLR)

9.2 D Interface (VLR-HLR)

9.3 E Interface (MSC-MSC)

9.4 F Interface (VLR-EIR)

9.5 G Interface (VLR-VLR)

9.6 Gc Interface (HLR-GGSN)

9.7 Gf Interface (EIR-SGSN)

9.8 Gi Interface (GGSN-Public Network)

9.9 GLa Interface (GLR-HLR)

9.10 GLb Interface (GLR-MSC/VLR)

9.11 GLc Interface (GLR-SGSN)

9.12 GLd Interface (GLR—IM-MSC)

9.13 GLe Interface (GLR—IM-GSN)

9.14 GLf Interface (GLR—SMS-GMSC)

9.15 GLg Interface (IM-MSC—SMS-GMSC)

9.16 GLh Interface (IM-MSC—MSC/VLR)

9.17 GLi Interface (IM-MSC—GMLC)

9.18 GLj Interface (IM-GSN—GGSN)

9.19 GLk Interface (IM-GSN—SGSN)

9.20 Gn Interface (GGSN-SGSN)

9.21 Gp Interface (SGSN-Public Network)

9.22 Gr Interface (HLR-SGSN)

9.23 Gs Interface (MSC/VLR-SGSN)

9.24 H Interface (HLR-AuC)

9.25 IuBC Interface (CN-RNC)

9.26 IuCS Interface (MSC-RNC)

9.27 IuPS Interface (SGSN-RNC)

9.28 Lc Interface (GMLC-gsmSCF)

9.29 Le Interface (GMLC-External LCS client)

9.30 Lg Interface (MSC/VLR-MLC)

9.31 Lh Interface (HLR-GMLC)

9.32 PSTN Interface (MSC/VLR-PSTN)

10 Technical Specifications

10.1 21-Serie, Requirements Specifications

10.1.1 TS 21.101 3rd Generation mobile system Release 1999 Specifications

10.1.2 TS 21.111 USIM and IC card requirements

10.1.3 TS 21.133 Security Threats and Requirements

10.2 22-Serie, Service Aspects

10.2.1 TS 22.001 Principles of Circuit Telecommunication Services Supported by a Public Land Mobile Network (PLMN)

10.2.2 TS 22.002 Circuit Bearer Services Supported by a PLMN

10.2.3 TS 22.003 Circuit Teleservices supported by a Public Land Mobile Network (PLMN)

10.2.4 TS 22.004 General on Supplementary Services

10.2.5 TS 22.011 Service accessibility

10.2.6 TS 22.016 International Mobile Equipment Identities (IMEI)

10.2.7 TS 22.022 Personalisation of GSM ME Mobile functionality specification - Stage 1

10.2.8 TS 22.024 Description of Charge Advice Information (CAI)

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

10.2.10 TS 22.034 High Speed Circuit Switched Data (HSCSD) - Stage 1

10.2.11 TS 22.038 SIM application toolkit (SAT); Stage 1

10.2.12 TS 22.041 Operator Determined Call Barring

10.2.13 TS 22.042 Network Identity and Time Zone (NITZ), stage 1

10.2.14 TS 22.043 Support of Localised Service Area (SoLSA) - Stage 1

10.2.15 TS 22.057 Mobile Station Application Execution Environment (MExE); Stage 1

10.2.16 TS 22.060 General Packet Radio Service (GPRS); Stage 1

10.2.17 TS 22.066 Support of Mobile Number Portability (MNP); Stage 1

10.2.18 TS 22.067 Enhanced Multi-Level Precedence and Pre-emption service (eMLPP) - Stage 1

10.2.19 TS 22.071 Location Services (LCS); Stage 1 (T1P1)

10.2.20 TS 22.072 Call Deflection (CD); Stage 1

10.2.21 TS 22.078 CAMEL; Stage 1

10.2.22 TS 22.079 Support of Optimal Routing; Stage 1

10.2.23 TS 22.081 Line Identification Supplementary Services; Stage 1

10.2.24 TS 22.082 Call Forwarding (CF) Supplementary Services; Stage 1

10.2.25 TS 22.083 Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1

10.2.26 TS 22.084 MultiParty (MPTY) Supplementary Service; Stage 1

10.2.27 TS 22.085 Closed User Group (CUG) Supplementary Services; Stage 1

10.2.28 TS 22.086 Advice of Charge (AoC) Supplementary Services; Stage 1

10.2.29 TS 22.087 User-to-user signalling (UUS); Stage 1

10.2.30 TS 22.088 Call Barring (CB) Supplementary Services; Stage 1

10.2.31 TS 22.090 Unstructured Supplementary Service Data (USSD); Stage 1

10.2.32 TS 22.091 Explicit Call Transfer (ECT) Supplementary Service; Stage 1

10.2.33 TS 22.093 Call Completion to Busy Subscriber (CCBS); Stage 1

10.2.34 TS 22.094 Follow Me Stage 1

10.2.35 TS 22.096 Calling Name Presentation (CNAP); Stage 1 (T1P1)

10.2.36 TS 22.097 Multiple Subscriber Profile (MSP); Stage 1

10.2.37 TS 22.100 UMTS Phase 1

10.2.38 TS 22.101 UMTS Service principles

10.2.39 TS 22.105 Services & Service capabilities

10.2.40 TS 22.115 Service Aspects Charging and billing

10.2.41 TS 22.121 Provision of Services in UMTS - The Virtual Home Environment; Stage 1

10.2.42 TS 22.129 Handover Requirements between UMTS and GSM or other Radio Systems

10.2.43 TS 22.135 Multicall Stage 1

10.2.44 TS 22.140 Multimedia Messaging Service Stage 1

10.3 23-Serie, Technical Realisation

10.3.1 TS 23.002 Network Architecture

10.3.2 TS 23.003 Numbering, Addressing and Identification

10.3.3 TS 23.007 Restoration procedures

10.3.4 TS 23.008 Organisation of subscriber data

10.3.5 TS 23.009 Handover procedures

10.3.6 TS 23.011 Technical Realization of Supplementary Services - General Aspects

10.3.7 TS 23.012 Location management procedures

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

10.3.9 TS 23.015 Technical realisation of Operator Determined Barring (ODB)

10.3.10 TS 23.016 Subscriber data management - Stage 2

10.3.11 TS 23.018 Basic Call Handling - Technical realisation

10.3.12 TS 23.032 Universal Geographical Area Description (GAD)

10.3.13 TS 23.034 High Speed Circuit Switched Data (HSCSD) - Stage 2

10.3.14 TS 23.038 Alphabets & Language

10.3.15 TS 23.039 Interface Protocols for the Connection of Short Message Service Centers (SMSCs) to Short Message Entities (SMEs)

10.3.16 TS 23.040 Technical realisation of Short Message Service

10.3.17 TS 23.041 Technical Realization of Cell Broadcast Service

10.3.18 TS 23.042 Compression algorithm for SMS

10.3.19 TS 23.054 Shared Interworking Functions - Stage 2

10.3.20 TS 23.057 Mobile Station Application Execution Environment (MExE)

10.3.21 TS 23.060 General Packet Radio Service (GPRS) Service description; Stage 2

10.3.22 TS 23.066 Support of GSM Mobile Number Portability (MNP) stage 2

10.3.23 TS 23.067 Enhanced Multi-Level Precedence and Preemption Service (EMLPP) - Stage 2

10.3.24 TS 23.072 Call Deflection Supplementary Service - Stage 2

10.3.25 TS 23.073 Support of Localised Service Area (SoLSA) - Stage 2

10.3.26 TS 23.078 CAMEL Stage 2

10.3.27 TS 23.079 Support of Optical Routeing - Phase 1 - Stage 2

10.3.28 TS 23.081 Line Identification Supplementary Services - Stage 2

10.3.29 TS 23.082 Call Forwarding (CF) Supplementary Services - Stage 2

10.3.30 TS 23.083 Call Waiting (CW) and Call Hold (HOLD) Supplementary Service - Stage 2

10.3.31 TS 23.084 MultiParty (MPTY) Supplementary Service - Stage 2

10.3.32 TS 23.085 Closed User Group (CUG) Supplementary Service - Stage 2

10.3.33 TS 23.086 Advice of Charge (AoC) Supplementary Service - Stage 2

10.3.34 TS 23.087 User-to-User Signalling (UUS) - Stage 2

10.3.35 TS 23.088 Call Barring (CB) Supplementary Service - Stage 2

10.3.36 TS 23.090 Unstructured Supplementary Service Data (USSD) - Stage 2

10.3.37 TS 23.091 Explicit Call Transfer (ECT) Supplementary Service - Stage 2

10.3.38 TS 23.093 Call Completion to Busy Subscriber (CCBS) - Stage 2

10.3.39 TS 23.094 Follow Me Stage 2

10.3.40 TS 23.096 Name Identification Supplementary Service - Stage 2

10.3.41 TS 23.097 Multiple Subscriber Profile (MSP); Stage 2

10.3.42 TS 23.101 General UMTS Architecture

10.3.43 TS 23.107 Quality of Service, Concept and Architecture

10.3.44 TS 23.108 Mobile Radio Interface Layer 3 specification Core Network Protocols stage 2 (structured procedures)

10.3.45 TS 23.110 UMTS Access Stratum Services and Functions

10.3.46 TS 23.116 Super Charger - Stage 2

10.3.47 TS 23.119 Gateway Location Register (GLR) - Stage2

10.3.48 TS 23.121 Architecture Requirements for release 99

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

10.3.50 TS 23.127 Virtual Home Environment; Stage 2

10.3.51 TS 23.135 Multicall Stage 2

10.3.52 TS 23.140 Multimedia Messaging Service (MMS)

10.3.53 TS 23.153 Out of Band Transcoder Control - Stage 2

10.3.54 TS 23.171 Functional stage 2 description of location services in UMTS

10.4 24-Serie, Signalling protocols (User Equipment-Core Network)

10.4.1 TS 24.002 GSM-UMTS Public Land Mobile Network (PLMN) Access Reference Configuration

10.4.2 TS 24.007 Mobile Radio Interface Signalling Layer 3 - General Aspects

10.4.3 TS 24.008 Mobile Radio Interface Layer 3 specification; Core Network Protocols - Stage 3

10.4.4 TS 24.010 Mobile Radio Interface Layer 3 - Supplementary Services Specification - General Aspects

10.4.5 TS 24.011 Point-to-Point (PP) Short Message Service (SMS) Support on Mobile Radio Interface

10.4.6 TS 24.012 Short Message Service Cell Broadcast (SMSCB) Support on the Mobile Radio Interface

10.4.7 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

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

10.4.9 TS 24.067 Enhanced Multi-Level Precedence and Pre-emption service (eMLPP) - Stage 3

10.4.10 TS 24.072 Call Deflection Supplementary Service - Stage 3

10.4.11 TS 24.080 Mobile radio Layer 3 Supplementary Service specification - Formats and coding

10.4.12 TS 24.081 Line Identification Supplementary Service - Stage 3

10.4.13 TS 24.082 Call Forwarding Supplementary Service - Stage 3

10.4.14 TS 24.083 Call Waiting (CW) and Call Hold (HOLD) Supplementary Service - Stage 3

10.4.15 TS 24.084 MultiParty (MPTY) Supplementary Service - Stage 3

10.4.16 TS 24.085 Closed User Group (CUG) Supplementary Service - Stage 3

10.4.17 TS 24.086 Advice of Charge (AoC) Supplementary Service - Stage 3

10.4.18 TS 24.087 User-to-User Signalling (UUS) - Stage 3

10.4.19 TS 24.088 Call Barring (CB) Supplementary Service - Stage 3

10.4.20 TS 24.090 Unstructured Supplementary Service Data (USSD) - Stage 3

10.4.21 TS 24.091 Explicit Call Transfer (ECT) Supplementary Service - Stage 3

10.4.22 TS 24.093 Call Completion to Busy Subscriber (CCBS) - Stage 3

10.4.23 TS 24.096 Name Identification Supplementary Service - Stage 3

10.4.24 TS 24.135 Multicall Stage 3

10.5 26-Serie, Codecs (speech, video, etc.)

10.5.1 TS 26.071 AMR speech Codec; General description

10.5.2 TS 26.073 AMR speech Codec; C-source code

10.5.3 TS 26.074 AMR speech Codec; Test sequences

10.5.4 TS 26.090 AMR speech Codec; Transcoding Functions

10.5.5 TS 26.091 AMR speech Codec; Error concealment of lost frames

10.5.6 TS 26.092 AMR speech Codec; comfort noise for AMR Speech Traffic Channels

10.5.7 TS 26.093 AMR speech Codec; Source Controlled Rate operation

10.5.8 TS 26.094 AMR Speech Codec; Voice Activity Detector for AMR Speech Traffic Channels

10.5.9 TS 26.101 AMR speech Codec; Frame Structure

10.5.10 TS 26.102 AMR speech Codec; Interface to Iu and Uu

10.5.11 TS 26.103 Codec lists

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

10.5.13 TS 26.110 Codec for Circuit switched Multimedia Telephony Service; General Description

10.5.14 TS 26.111 Codec for Circuit switched Multimedia Telephony Service; Modifications to H.324

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

10.5.16 TS 26.132 Narrow Band (3,1kHz) Speech & Video Telephony Terminal Acoustic Test Specification

10.6 27-Serie, Data

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

10.6.2 TS 27.002 Terminal Adaptation Functions (TAF) for services using Asynchronous bearer capabilities

10.6.3 TS 27.003 Terminal Adaptation Functions (TAF) for service using Synchronous bearer capabilities

10.6.4 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)

10.6.5 TS 27.007 AT command set for 3G User Equipment (UE)

10.6.6 TS 27.010 Terminal Equipment to User Equipment (TE-UE) multiplexer protocol User Equipment (UE)

10.6.7 TS 27.060 GPRS Mobile Stations supporting GPRS

10.6.8 TS 27.103 Wide Area Network Synchronisation

10.7 29-Serie, Signalling protocols (NSS)

10.7.1 TS 29.002 Mobile Application Part (MAP)

10.7.2 TS 29.007 General requirements on Interworking between the PLMN and the ISDN or PSTN

10.7.3 TS 29.010 Information Element Mapping between Mobile Station - Base Station System (MS - BSS) and Base Station System - Mobile-services Switching Centre (BSS - MCS) Signalling Procedures and the Mobile Application Part (MAP)

10.7.4 TS 29.011 Signalling Interworking for Supplementary Services

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

10.7.6 TS 29.016 Serving GPRS Support Mode SGSN - Visitors Location Register (VLR); Gs Interface Network Service Specification

10.7.7 TS 29.018 Serving GPRS Support Mode SGSN - Visitors Location Register (VLR); Gs Interface Layer 3 Specification

10.7.8 TS 29.060 GPRS Tunnelling protocol (GTP) across the Gn and Gp interface

10.7.9 TS 29.061 General Packet Radio Service (GPRS); Interworking between the Public Land Mobile Network (PLMN) supporting GPRS and Packet

10.7.10 TS 29.078 CAMEL; Stage 3

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

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

10.7.13 TS 29.120 Mobile Application Part (MAP) specification for Gateway Location Register (GLR); stage 3

10.7.14 TS 29.198 Open Services Architecture API part 1

10.8 31-Serie, UIM User Identity Module

10.8.1 TS 31.101 UICC-terminal interface; Physical and logical characteristics

10.8.2 TS 31.102 Characteristics of the USIM Application

10.8.3 TS 31.110 Numbering system for telecommunication IC card applications

10.8.4 TS 31.111 USIM Application Toolkit (USAT)

10.8.5 TS 31.120 Terminal tests for the UICC Interface; part 1

10.8.6 TS 31.121 Terminal tests for the UICC Interface; part 2

10.8.7 TS 31.122 UICC Test Specification

10.9 32-Serie, Operation and Maintenance

10.9.1 TS 32.005 Telecommunications Management; Charging and billing; 3G call and event data for the Circuit Switched (CS) domain

10.9.2 TS 32.015 Telecommunications Management; Charging and billing; 3G call and event data for the Packet Switched (PS) domain

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

10.9.4 TS 32.102 3G Telecom Management Architecture

10.9.5 TS 32.104 3G Performance Management

10.9.6 TS 32.105 Charging & Billing; GSM call and event data for the Circuit Switched (CS) domain

10.9.7 TS 32.106-1 Telecommunication Management; Configuration Management; Part 1: 3G configuration management; Concept and requirements

10.9.8 TS 32.106-2 Telecommunication Management; Configuration Management; Part 2: Notification Integration Reference Point; Information Service version 1

10.9.9 TS 32.106-3 Telecommunication Management; Configuration Management; Part 3: Notification Integration Reference Point; CORBA solution set version 1:1

10.9.10 TS 32.106-4 Telecommunication Management; Configuration Management; Part 4: Notification Integration Reference Point: CMIP Solution Set Version 1:1

10.9.11 TS 32.106-5 Telecommunication Management; Configuration Management; Part 5: Basic Configuration Management IRP information model (including NRM) version 1

10.9.12 TS 32.106-6 Telecommunication Management; Configuration Management; Part 6: Basic Configuration Management IRP CORBA solution set version 1:1

10.9.13 TS 32.106-7 Telecommunication Management; Configuration Management; Part 7: Basic Configuration Management IRP CMIP solution set version 1:1

10.9.14 TS 32.106-8 Telecommunication Management; Configuration Management; Part 8: Name convention for Managed Objects

10.9.15 TS 32.111-1 Telecommunication Management; Fault Management; Part 1: 3G fault management requirements

10.9.16 TS 32.111-2 Telecommunication Management; Fault Management; Part 2: Alarm Integration Reference Point: Information Service

10.9.17 TS 32.111-3 Telecommunication Management; Fault Management; Part 3: Alarm Integration Reference Point: CORBA solution set version 1:1

10.9.18 TS 32.111-4 Telecommunication Management; Fault Management; Part 4: Alarm Integration Reference Point: CMIP solution set

10.10 33-Serie, Security Aspects

10.10.1 TS 33.102 Security Architecture

10.10.2 TS 33.103 Security Integration Guidelines

10.10.3 TS 33.105 Cryptographic Algorithm requirements

10.10.4 TS 33.106 Lawful interception requirements

10.10.5 TS 33.107 Lawful interception architecture and functions

10.10.6 TS 33.120 Security Objectives and Principles