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**Univerzalni mobilni telekomunikacijski sistem (UMTS) - Upravljanje mobilnosti za razvita fiksna omrežja - 1. del: Faza 1**

Universal Mobile Telecommunications System (UMTS) - Mobility Management for evolved fixed networks - Part 1: Phase 1

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# ETSI EG 201 718-1 V1.1.2 (1999-11)

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*ETSI Guide*

## **Universal Mobile Telecommunication Service (UMTS); Mobility Management for evolved fixed networks; Part 1: Phase 1**

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# Contents

Intellectual Property Rights .....	4
Foreword.....	4
Introduction .....	4
1 Scope .....	5
2 References .....	5
3 Definitions and abbreviations .....	6
3.1 Definitions .....	6
3.2 Abbreviations .....	6
4 Architecture principles .....	7
5 Parameters relevant for mobility management.....	8
6 Description of mobility procedures.....	8
6.1 List of needed mobility management procedures .....	8
6.2 Roaming and interworking requirements.....	8
6.2.1 Roaming within a public network using public access systems .....	8
6.2.2 Roaming between public networks using public access systems.....	10
6.2.3 Other roaming scenarios .....	11
6.2.4 Conclusions on protocol requirements.....	12
6.3 Classification of mobility management procedures.....	13
Bibliography .....	14
History .....	15

[SIST-V ETSI/EG 201 718-1 V1.1.2:2003](https://standards.iteh.ai/catalog/standards/sist/89534ca7-3adc-4019-9982-001ae2f99644/sist-v-etsi-eg-201-718-1-v1-1-2-2003)  
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## Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 1 of a multi-part EG covering the Universal Mobile Telecommunication Service (UMTS); Mobility Management for evolved fixed networks, as identified below:

**Part 1: "Phase 1";**

Part 2: "Phase 2".

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## Introduction

UMTS is the European standard within the IMT2000 framework. UMTS will specify an IMT2000 system which will be compatible with and use the IMT2000 standards to support the evolving services. It is therefore essential that the features and the requirements identified for UMTS are related to the IMT2000 requirements.

Backward compatibility is a prerequisite of UMTS phase 1. It is expected that the transition from existing networks to UMTS phase 1 will be as soft as possible. As a consequence, the protocol requirements work specified in the present document, as well as the definition of protocols derived from it, should carefully consider the evolution from existing mobility management protocols.

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## 1 Scope

The present document defines the protocol requirements needed to provide third generation mobility management capabilities in evolved fixed networks.

The present document focuses on the protocol requirements for the first phase of UMTS as defined by 3GPP.

3GPP defines G-UMTS based on GSM evolution. The present document studies how these 3GPP requirements can be applied to the evolution from fixed networks towards UMTS.

In particular, the present document will address the case of cordless and fixed access to UMTS, including access from private networks.

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## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

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- [1] TS 23.101: "General UMTS Architecture 3.0.1".
- [2] TR 23.930: "ITU Principles 3.0.0".  
<https://standards.iteh.ai/catalog/standards/sist/89534ca7-3adc-4019-9982-001aa2f99644/etsi-tr-23-930-v1-1-2003>
- [3] ITU-T Recommendation E.164 (1997): "The international public telecommunication numbering plan".
- [4] ETS 300 557: "Digital cellular telecommunications system (Phase 2); Mobile radio interface; Layer 3 specification (GSM 04.08 version 4.22.1)".
- [5] ETS 300 359: "Digital cellular telecommunications system (Phase 2); Mobile-services Switching Centre - Base Station System (MSC - BSS) interface; Layer 3 specification (GSM 08.08 version 4.12.1)".
- [6] ETS 300 974: "Digital cellular telecommunications system (Phase 2+); Mobile Application Part (MAP) specification (GSM 09.02 version 5.12.1 Release 1996)".
- [7] ETS 300 605: "Digital cellular telecommunications system (Phase 2); 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); (GSM 09.10 version 4.4.1)".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**Private access system:** access system owned and operated by customer, located within the customer's premises and connected to a public network

**Private network:** self-contained network owned and operated by customer, located within the customer's premises, possibly may interworking with other private or public core networks

### 3.2 Abbreviations

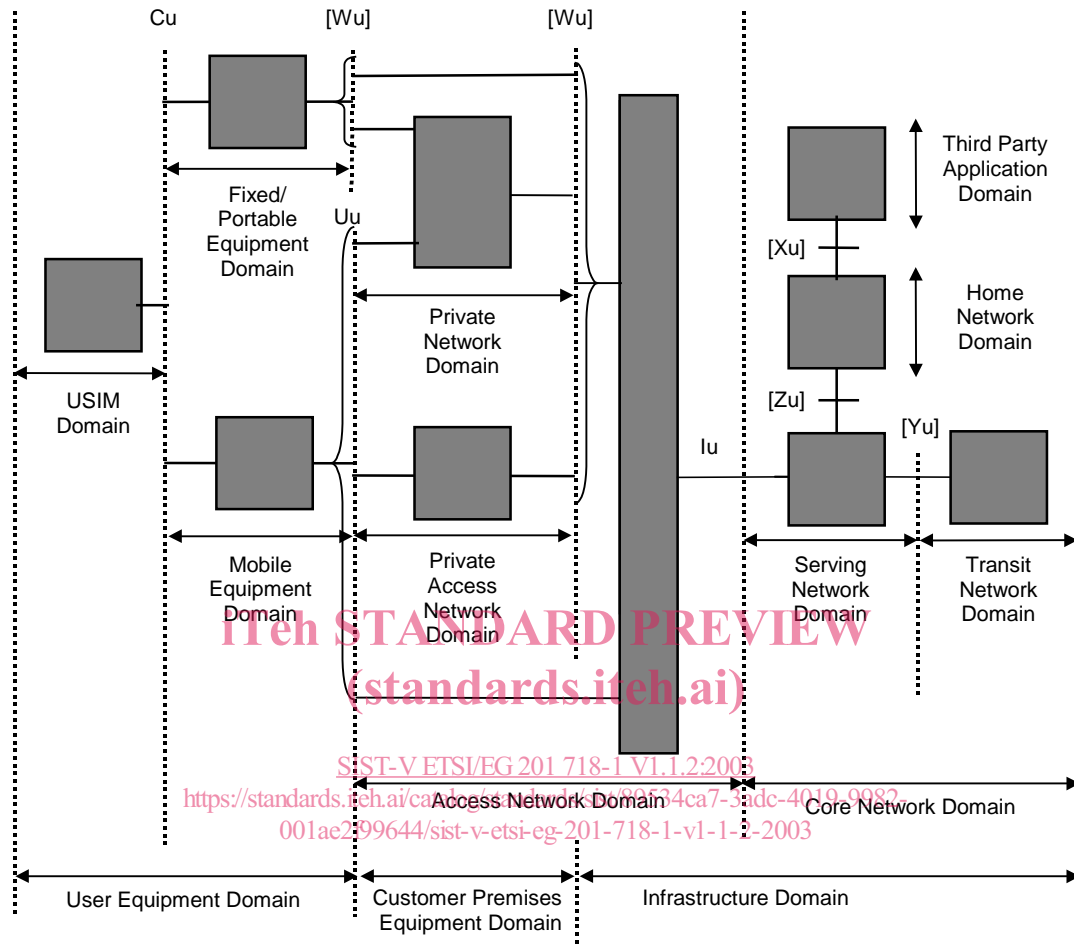
For the purposes of the present document, the following abbreviations apply:

GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HLR	Home Location Register
IMEI	International Mobile station Equipment Identity
IMT-2000	International Mobile Telecommunications for year 2000
IMUI	International Mobile User Identity
MAP	Mobile Application Part
MSISDN	Mobile Station International ISDN Number
TMUI	Temporary Mobile User Identity
UMTS	Universal Mobile Telecommunication System
UNI	User to Network Interface
USIM	User Services Identity Module
VHE	Virtual Home Environment
VLR	Visited Location Register



## 4 Architecture principles

Uu and Iu reference points are defined in documents TS 23.101 [1] "General UMTS Architecture 3.0.1" and [2], TR 23.930 [2] "Iu Principles 3.0.0".



**Figure 1: Additional Reference Points for Fixed and Cordless Access to Public and Private Networks**

**Table 1**

	User - Local Mobility Server Interface	Inter Mobility Server Interface
Cellular Scenario	Uu Iu	Zu
Private Access System (Wireless)	Uu Iu	Zu
Private Network (Wireless)	Uu	Zu Iu
Private Network (Wired)	Wu Wu <sup>+</sup>	Zu Iu
Public Access System (Wired)	Wu Iu	Zu

The definition of the Wu interface is needed in order to provide access to UMTS services from wired access, private networks as private access networks. The Wu standardization is not addressed in the current work of 3GPP. As a consequence, work on the Wu reference point should be started within ETSI.

The introduction of the Private access and wired access also have impact on the Iu interface. These impacts should be taken into account in the definition of the Iu.