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**ETSI**

European Telecommunications Standards Institute

**ETSI Secretariat**

**Postal address:** F-06921 Sophia Antipolis CEDEX - FRANCE

**Office address:** 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

**X.400:** c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

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## **Foreword**

This Technical Committee Reference Technical Report (TCR-TR) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI). This TCR-TR has been endorsed by the 21st TC Chairmen's' Co-ordination (TCC 21) meeting, and approved by the 23rd Technical Assembly (TA 23).

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This document is the basis of an agreed use of terms and abbreviations for the definition of the UPT service within ETSI. Where stated, it is aligned with the ITU-T Study Group 11 service description (draft ITU-T Recommendation F.851 version 6).

## **Introduction**

The purpose of this TCR-TR is to list the definitions used by the ETSI STC NA7 "UPT Co-ordination group" for the standardization of the UPT service. This document should be read in conjunction with the service aspects and network aspects reference documents on UPT.

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## 1 Scope

This Technical Committee Reference Technical Report (TCR-TR) complements the detailed description of the service aspects and network aspects reference documents on the use of the UPT service.

Where the UPT service is offered in conjunction with other IN services, interactions and optional service restrictions are not described in this document.

Notes are entered to clarify the use of the definitions, the relationship with definitions in other reference documents or submissions to other bodies.

## 2 UPT general terminology

### 2.1 Basic terminology

#### 2.1.1 Universal Personal Telecommunication (UPT)

Universal Personal Telecommunication (UPT) enables access to telecommunications services while allowing personal mobility. It enables each UPT user to participate in a user defined set of subscribed services and to initiate and receive calls on the basis of a personal, network transparent UPT number across multiple networks on any fixed or mobile terminal, irrespective of geographical location, limited only by terminal and network capabilities and restrictions imposed by the network operator.

Calls to UPT users may also be made by non-UPT users.

NOTE: Mobile terminal meaning a terminal using any type of radio access.

#### 2.1.2 Personal Mobility (PM)

Personal mobility is the ability of a user to access telecommunication services at any network and terminal on the basis of a unique personal identifier, and the capability of the network to provide those services according to the user's service profile.

NOTE: In this definition is idealistic, clearly personal mobility will be limited by terminal and network capabilities. This is an alignment with the concept in ITU-T Study Group 11, vocabulary of terms for UPT (ITU-T Recommendation I.114)

#### 2.1.3 Terminal Mobility (TM)

Terminal mobility involves the capability of the network to keep track of the user's terminal, allowing the user to be in continuous motion whilst accessing and using telecommunication services. This requires the telecommunication services to be available throughout a spatial volume and ideally at all times.

NOTE: This term is used in the document ITU-T Recommendation F.851.

#### 2.1.4 Regulator

The regulator is the national or international authority who is responsible to ensure that those bodies (e.g. service providers, network operators, etc.) who have been given special or exclusive rights, comply with these requirements (e.g. licensing) set out in international or national law. (e.g. CEC, ITU, etc.)

### 2.2 Subscriber terminology

#### 2.2.1 UPT subscriber

A UPT subscriber is a person or legal entity with a contractual relationship with a UPT service provider, on behalf of one or more UPT users, and is responsible for the payment of charges due to that service provider.

NOTE: This corresponds to the term UPT Customer in used in ITU-T Recommendation I.114.

### **2.2.2 UPT user**

A UPT user is a person who has been authorized to use UPT Facilities by a UPT subscriber. The UPT user will be associated with a unique UPT number.

NOTE: This is a special case of the definition of user ETSI/TMN Vocabulary & ITU-T Recommendation I.112.

Normally, the UPT user is identical to the UPT subscriber. However, the UPT subscriber may be a legal body mapped into many UPT users (e.g. UPT users belonging to a company where the subscription is with the company).

### **2.2.3 UPT Number (UPTN)**

A Universal Personal Telecommunication (UPT) number uniquely and unambiguously identifies each UPT user. It is used by a calling party to reach the UPT user. This number is independent of terminal, network or service used and must conform to CCITT Recommendation E.164.

NOTE: Portability of UPT numbers may not be possible in the Initial phase.

### **2.2.4 Personal User Identity (PUI)**

A Personal User Identity (PUI) is the identity by which a user is known to the UPT service providers and networks supporting UPT. The PUI is used for flexibility and security purposes. It identifies a UPT user unambiguously. It shall not be known to third parties.

### **2.2.5 Subscriber profile**

A subscriber profile is a personalized data record, for each subscriber, detailing the services and listing the UPT users, set up between the UPT subscriber and a UPT service provider. This data is used for billing the UPT subscriber and is used by the UPT service provider.

NOTE: Normally, the UPT service profile has a one to one correspondence with the subscriber profile. However, one subscriber profile may relate to many UPT service profiles.

### **2.2.6 UPT service profile**

A UPT service profile is a personalized data record, for each UPT user, set up between the UPT subscriber and a UPT service provider. The UPT service profile contains a list of the services/service features and facilities subscribed to, and a wide range of options. It is used to provide the UPT user with the UPT service.

NOTE: UPT service profiles may be added or amended, when required, by agreement between the UPT subscriber and the UPT service provider. Both parties may make use of the data during the subscription.

### **2.2.7 UPT service provider**

The UPT service provider has overall responsibility on service operation and on database management. The UPT service provider will commercially manage the service.

Specifically, the UPT service provider will distribute to UPT subscribers UPT numbers and make arrangements for provision of the UPT service to the UPT user. They also manage the billing arrangements.

NOTE: This is a specific case of a service provider or operator, see reference ETSI/IN Vocabulary. The service provider identity is proposed to be contained in the PUI.



### **2.2.8 UPT access device**

A UPT access device is used as an aid for the user to perform (manually or automatically) actions that have to be carried out to use the UPT service, e.g. the authentication procedure. It is possible to use different types of hand-held devices.

### **2.2.9 Personal Identity Module (PIM)**

Data, functions and procedures residing in an IC Card needed to gain access to UPT. It may be implemented as part of a multiapplication card or as a dedicated card.

## **2.3 Security terminology**

### **2.3.1 Variable authentication code**

The Variable Authentication Code (VAC) is used to perform the authentication of the UPT user to the Authenticating entity. It is calculated by a cryptographic function using a secret key and a sequence number.

### **2.3.2 Authentication algorithm**

An authentication algorithm is used in the service providers authenticating entity and in the advanced DTMF device, to calculate the AC from a secret key and some variable data (strong authentication). Examples of authentication algorithms are: the specific UPT algorithm (to be produced by SAGE) and the TE 9 algorithm (to be used in IC cards).

### **2.3.3 Authenticating entity**

The Authenticating Entity (AE) is the physical entity associated with the SDF, that shall perform the authentication mechanism. The AE shall be protected against analysing or changing of its content. The AE may support weak or strong authentication or both.

### **2.3.4 Personal Identity Number (PIN) code**

A Personal Identification Number (PIN) is a personal code used to perform weak authentication, of the UPT user to the authenticating entity.

NOTE: Weak authentication is used only in UPT phase 1. Due to its insecurity, it shall be accompanied by additional security measures and service limitations.

### **2.3.5 Remaining authentication attempts**

This term Remaining Authentication Attempts (RAA) is used to indicate the number of authentication attempts allowed before a PUI will be blocked due to consecutive wrong PIN entries (relevant for weak authentication only). It is also used to indicate the number of DHV allowed before an advanced DTMF device will be blocked (relevant for strong authentication only).

### **2.3.6 Special personal identification number**

The SPIN is used to unblock a PUI that has been blocked due to consecutive wrong PIN entries (relevant for weak authentication only).

### **2.3.7 Device holder verification**

The DHV is the authentication of the user to his advanced DTMF device. An example of a method for device holder verification is the use of an LPIN.

### **2.3.8 Local personal identification number**

The LPIN is a personal code used to perform the DHV, i.e. the authentication of the UPT user to his advanced DTMF device.

### **2.3.9 Special local personal identification number**

The SLPIN is used to unblock an advanced DTMF device that has been blocked due to consecutive wrong LPIN entries.

### **2.3.10 Simple DTMF device**

The simple DTMF device is used to send DTMF signals to the microphone of a telephone. It is necessary if the telephone does not have DTMF signalling. The device need not be personalized and can not be used for strong authentication. (The requirements for DTMF signalling are given in DE/TE-04025; the functional requirements for DTMF devices are described in NA-TR 009.)

### **2.3.11 Advanced DTMF device**

The advanced DTMF device has, along with DTMF signalling, also an internal security module, where data can be protected and the authentication algorithm can be performed. This device is used for strong authentication.

### **2.3.12 Card reading DTMF device**

The card reading DTMF device is an advanced DTMF device with a microprocessor card as a security module. The card may be inserted temporarily in a slot or permanently installed in the device. Strong authentication is used also in this type of device.

### **2.3.13 Security module**

The SM is the part of the advanced DTMF device where data can be protected and the authentication algorithm can be performed. An example of the SM can be a card. As a special case the device itself can be a security module.

### **2.3.14 General part**

The GP is the advanced DTMF device without the Security Module.

## **2.4 Network terminology**

Use is also made of terms defined in the ETSI/TMN Vocabulary for TMN definitions and the ETSI/IN Vocabulary for IN definitions and other related terms.

### **2.4.1 Networks and the UPT environment**

A UPT service environment is the environment within which the UPT service is offered. It may consist of a number of networks and UPT service control facilities, which combined, gives the UPT subscriber the possibility to make use of the telecommunication services offered by these networks.

For the UPT subscriber, the UPT service environment is one global network which provides the possibility of mobility. However, when making use of telecommunication services the UPT user will be limited by the capabilities of the terminals and networks used.

NOTE: This term is used in the document ITU-T Recommendation F.851.

### **2.4.2 UPT network operator**

The UPT network operator is a network operator who provides the network capabilities required for the UPT service. UPT network operators will acquire revenue from the UPT service providers and other network operators for the service they offer.

NOTE: In many cases the UPT service provider is the same as the UPT network operator.

### **2.4.3 Provider of terminal equipment**

The terminal provider is the provider of the terminal equipment and the interface to the network. This may be part of a CPN, a public terminal or provided by a independent party.

### **2.4.4 Network access point**

The network access point is an access interface to the serving network through which a user communicates via terminals.

Normally, one terminal access is connected to a network access point. However, there are cases in which there can be more than one terminal access on a network access point (e.g. a passive bus at the S-interface of ISDN).

NOTE: The term network access point is used in CCITT 11 reference documents, and ITU-T Recommendation X.1 uses the term "user-network access". Also, the ETSI ISDN standard uses the term "access point" in a different meaning and have a more specific use of the S-interface.

### **2.4.5 UPT service entity**

The UPT service entity is a logical entity with which the UPT user communicates during the UPT procedures. The UPT service entity may, however, comprise several physical or functional network entities.

### **2.4.6 Service Access Point (AP)**

An access point is a functional entity which provides telecommunication services to the user, for example, telephone switches, packet switching nodes and message store-and-forward units. This may require an access point identity and a service identity to execute its functionality.

NOTE: The term network access point is used in CCITT Study Group 11 reference documents, and ITU-T Recommendation X.1 uses the term "user-network access". Also, the ETSI ISDN standard uses the term "access point" in a different meaning and have a more specific use of the S-interface.

### **2.4.7 Registration Point (RP)**

A Registration Point is a functional entity where relevant static and dynamic information related to the personal subscription is stored. Typically a database could support the registration point functionality.

### **2.4.8 Routeing Address (RA)**

A Routeing Address is a number used by the network to direct a call according to the user's UPT service profile.

NOTE: A Routeing Address may be an ISDN (CCITT Recommendation E.164) number. This is a translated number used in a similar way to that of the mobile station roaming number within GSM (c.f. CCITT Recommendation E.213) to complete a call to the terminal where the UPT user is currently located. This is aligned with ITU-T Recommendation I.114.

### **2.4.9 Access Registration Address (ARA)**

An Access Registration Address is the address of a network access point or terminal access for which the UPT user has registered in order obtain service at a terminal access.

NOTE: The ARA will normally be determined by the network. In the case of registration for incoming calls (Incall) this is also the address of the current location and is identical to the roaming number. The term terminal address is currently being used in the ITU Study Group 13.

#### **2.4.10 UPT network management**

UPT network management is the ability to maintain and control the various elements of the networks capabilities to support the UPT service. This involves UPT service profile databases. This database may be controlled by the UPT network operators.

NOTE: In many cases the UPT service provider is the same as the UPT network operator.

#### **2.4.11 UPT assisting network**

An assisting network provides UPT capabilities that allow queries to other UPT capable networks, for example to the home network of the UPT user. An assisting network may be used for calls originating from a non-UPT capable network. An assisting network may also be used in calls from a UPT capable network when the capabilities of the originating network are not used.

### **2.5 Terminal terminology**

#### **2.5.1 Terminal**

See ETSI/TMN Vocabulary & ITU-T Recommendations I.112 & X.1.

#### **2.5.2 Terminal access**

Part of a network access point uniquely identifying a single terminal.

#### **2.5.3 UPT terminal**

A UPT terminal is one which has special features which aid the UPT user when accessing the UPT service, providing at least the minimum UPT terminal functionality.

NOTE: A UPT terminal may also consist of a standard terminal and a UPT terminal adapter.

#### **2.5.4 UPT Terminal Adapter (UPT-TA)**

A UPT terminal adapter is a functional unit that adds UPT functionality to a standard terminal, if needed.

NOTE: A UPT terminal adapter must support at least the Minimum UPT terminal functionality.

#### **2.5.5 UPT terminal functionality**

UPT terminal functionality is the ability of a terminal to support the UPT procedures, with the aid of a UPT access device, if applicable.

#### **2.5.6 Minimum UPT terminal functionality**

The Minimum UPT terminal functionality is the ability to support the personal mobility and UPT call handling procedures.

NOTE: All UPT access devices must support Minimum UPT terminal functionality. However, UPT access devices need not be necessary to use UPT terminals with Minimum UPT terminal functionality.

#### **2.5.7 Full UPT terminal functionality**

The full UPT terminal functionality is the ability to support all UPT procedures.

NOTE: Access to full UPT terminal functionality will require UPT access devices.

## **2.6 Terms related to UPT features**

### **2.6.1 Personal numbering**

Personal numbering is the use of a numbering scheme that identifies users rather than terminals or network access point locations.

### **2.6.2 Network independence**

Network independence is the ability of the UPT user to use the service across multiple networks (e.g. PSTN, ISDN, PSPDN, PLMN) using the same UPT number.

### **2.6.3 Terminal independence**

Terminal independence is the ability of the UPT user to use any terminal access for incoming and outgoing calls.

### **2.6.4 Service independence**

Service independence is the fact that the UPT service is not, in principle, limited in application to any basic telecommunication service.

NOTE: The basic UPT features may be applied to any basic telecommunication service provided the UPT user has the relevant details in the UPT service profile.

### **2.6.5 Core UPT features**

The core UPT features are those features which are fundamental for the UPT service concept, and are considered essential for UPT provision.

### **2.6.6 Additional UPT features**

The additional UPT features are those features which are additional to the fundamental UPT service concept. Additional UPT features may be considered essential or optional for UPT provision.

### **2.6.7 UPT Access Code (UPTAC)**

A UPT Access Code is the service access code by which access to the UPT procedures is invoked at a terminal access by any user, in a network supporting such access codes for direct access into the UPT service. A dialogue may follow between the user and the UPT service entity.

### **2.6.8 UPT Access Number (UPTAN)**

A UPT access number is an CCITT Recommendation E.164 number which allows a UPT user to access a specific UPT service entity in a specific network supporting the UPT service. Hence the UPT user may invoke the UPT service as provided by a specific UPT service provider.

NOTE: This may allow a UPT user to access the UPT service from within networks which cannot support UPT access codes.

### **2.6.9 UPT Access Address (UPTAA)**

A UPT Access Address is for further study. It may be an CCITT Recommendation E.164 address which includes sub-addressing; It may relate to the use of an ITU-T Recommendation X.121 number or address.

NOTE: This may allow a UPT user to access UPT procedures from within networks which cannot support UPT access codes.

## **2.7 Terms related to the UPT users mobility**

### **2.7.1 UPT area**

The UPT area is a geographical area covered by a UPT service provider.

### **2.7.2 Home location**

The home location of a UPT user is used when a user stays for a long period of time at a given location and decides to amend the UPT service profile. It is a geographical area of arbitrary size in which the UPT user has a home base.

### **2.7.3 Current location**

The current location of a UPT user is location where the UPT user is registered for incoming calls. This location is required to route calls to the UPT user.

## **3 UPT procedural terminology**

The UPT procedures are the UPT-specific procedures needed to use the UPT service. These are related to UPT service management, personal mobility and UPT call handling.

NOTE: All UPT procedures may require UPT user identity authentication.

### **3.1 UPT service management**

UPT service management is the ability to update, maintain and control the UPT service profile data to provide and withdraw UPT service features.

#### **3.1.1 Provision**

Provision is the act of a UPT service provider setting up and amending the subscriber profile and UPT service profile to give service to each UPT user.

#### **3.1.2 Withdrawal**

The UPT subscriber may request the withdrawal of the UPT service. The UPT service provider may also withdraw the UPT service for its own reasons.

#### **3.1.3 UPT service profile interrogation**

UPT service profile Interrogation is the ability of the UPT user to access information relating to their UPT service profile.

#### **3.1.4 UPT service profile modification**

UPT service profile modification is the ability of the UPT user to access and change selected information relating to their UPT service profile.

### **3.2 UPT service management (registration) procedures**

UPT call handling (registration) procedures allow the UPT user to control the terminals where UPT calls may be made and received.

#### **3.2.1 Incall registration (registration for incoming calls)**

Incall registration is a means for a UPT user to indicate where incoming calls shall be presented.

### **3.2.2 Incall de-registration (de-registration for incoming calls)**

An Incall registration can be "de-registered" (undone) using this procedure to remove the routing of incoming calls to a terminal access.

### **3.2.3 Outcall registration (registration for outgoing calls)**

Outcall registration is a procedure which is used to initiate a session from a particular network access. During the session, the terminal access is personalized for the UPT user and all outgoing calls from the terminal access are charged to the appropriate UPT subscriber using the UPT number.

### **3.2.4 Outcall de-registration (de-registration for outgoing calls)**

An Outcall registration may be terminated using this procedure.

### **3.2.5 Allcall registration**

This is a procedure for coupling Incall registration and Outcall registration to a terminal access to make and receive calls at that terminal access without involving further UPT procedures.

NOTE: This registration may be overridden by the use of an Incall registration at another terminal access.

### **3.2.6 Linked registration**

This is a procedure for coupling Incall registration and Outcall registration to a terminal access to make and receive calls at that terminal access without involving further UPT procedures and must be explicitly de-registered.

NOTE: This registration may not be overridden by the use of an Incall registration at an other terminal access.

## **3.3 UPT call handling procedures**

The UPT call handling procedures are the UPT procedures relating to the actual making or receiving of UPT calls.

### **3.3.1 UPT call**

A UPT call is an outgoing or incoming call involving the use of the UPT procedures.

### **3.3.2 Direct outgoing UPT call**

If the UPT user wishes to make an outgoing UPT call from a particular terminal access, without changing the current registration, they can use the outgoing UPT call set-up procedure rather than the Outcall registration procedure. During the call, the terminal access in use is personalized for the UPT user and the call is charged to the appropriate UPT subscriber using the UPT number.

### **3.3.3 Global follow-on**

A UPT user may, when terminating a UPT procedure for which he has carried out a successful authentication, indicate a follow-on activity, thus allowing further UPT procedures without further authentication.

### **3.3.4 Call announcement**

Call announcement is a UPT procedure used by the UPT service entity to alert UPT users of the presence of incoming UPT calls.

### **3.3.5 Call answer**

Call answer is a UPT procedure used by a UPT user to answer incoming calls.

### **3.3.6 Called party specified secure answering of incoming UPT calls**

As a user option, it may be specified (at registration) that incoming UPT calls cannot be answered unless the answering party is first successfully authenticated as the called UPT user.

### **3.3.7 Intended recipient identity presentation**

This procedure is used within the call announcement procedure to present the identity of the intended recipient (UPT number or name etc.) on the alerting terminal.

### **3.3.8 Outcall follow-on**

A UPT user may, when terminating a UPT call for which he has carried out a successful authentication, indicate a follow-on call request, thus allowing further UPT call without further authentication.

## **4 UPT charging terminology**

### **4.1 General charging related terms**

#### **4.1.1 Charging**

Charging is a function, whereby information is gathered, recorded or transferred in order to make it possible to determine and collate usage for which the UPT subscriber may be billed.

This charge may relate to information included in the following categories:

- subscription related charges;
- subscription management related charges;
- call related signalling charges;
- location related charges (connection/data).

#### **4.1.2 Accounting**

Accounting is the function which divides revenue, derived from the billing function, between network operators.

#### **4.1.3 Billing**

Billing is a function whereby charging information generated by the charging function is transformed into bills requiring payment. Billing also includes collecting payments from the UPT subscribers (customers).

### **4.2 UPT specific charging terms**

#### **4.2.1 Home UPT service provider**

A home UPT service provider is a UPT service provider, with which a UPT subscriber has a subscription. The home UPT service provider is responsible for billing the UPT subscriber for all incurred charges.

#### **4.2.2 Charging reference location**

The charging reference location is the geographical reference area that may be used by the UPT service providers to determine the connection-related charges applying to the calling party and/or called UPT user.

NOTE: People calling the UPT user should be able to infer the cost related to the charging reference location area of the UPT user from the UPT number, or via some "advice of charge" indication.



### **4.2.3 Types of network operators for UPT**

#### **4.2.3.1 The UPT originating network**

The UPT originating network is a network where the UPT call originates.

#### **4.2.3.2 The UPT transit network**

The UPT transit network is a network(s) through which the UPT call is routed.

#### **4.2.3.3 The UPT terminating network**

The UPT terminating network is the network where the UPT call terminates.

#### **4.2.3.4 The originating UPT network operator**

The originating UPT network operator is the operator of a UPT originating network.

#### **4.2.3.5 The transit UPT network operator**

The transit UPT network operator is the operator of a UPT transit network.

#### **4.2.3.6 The terminating UPT network operator**

The terminating UPT network operator is the operator of a UPT terminating network.

#### **4.2.3.7 The calling users home network**

The calling users home network is the service provider which operates the home network/database of the calling user.

#### **4.2.3.8 The called users home network**

The called users home network is the service provider which operates the home network/database of the called user.

## **5 General abbreviations**

AC	Application Contexts	CCITT, ETSI
AC	variable Authentication Code	ETSI
ACT	Access Threat	ETSI
AE	Authenticating Entity	ETSI
API	Access Point Identity	ETSI
BS	Base Station	ETSI
CAI	Common Air Interface	U.K. DTI
CCAF	Call Control Access Function	CCITT, ETSI
CCITT	International Telegraph and Telephone Consultative Committee	ITU
CCF	Call Control Function	CCITT, ETSI
CPN	Customer Premises Network	ETSI
CS1	Capability Set 1, Intelligent Network CCITT Recommendations Q.121x	CCITT
DECT	Digital European Cordless Telecommunications	ETSI
DHV	Device Holder Verification	ETSI
DPT	Data Protection Threat	ETSI
DTMF	Dual Tone Multiple Frequency	CCITT, ETSI
ECMA	European Computer Manufacturers Association	ETSI
ECT	External Communications Threat	ETSI
EIA	Electronics Industries Association (USA)	

ERMES	European Radio Message System	ETSI
ETR	ETSI Technical Report	ETSI
ETS	European Telecommunication Standard	ETSI
ETSI	European Telecommunications Standards Institute	
FE	Functional Entity (ETSI/TMN Vocabulary)	CCITT, ETSI
FPLMTS	Future Public Land Mobile Telecommunication System	CCIR
GP	General Part of the advanced DTMF device	ETSI
GSM	Global System for Mobile Communications (also: Groupe Special Mobile)	ETSI
HLR	Home Location Register	CCIR, ETSI
ICT	Internal Communications Threat	ETSI
ID	Identity	ETSI
I-ETS	Interim ETS	ETSI
IFRM	International Frequency Registration Board	ITU
IMEI	International Mobile Station Equipment Identity	CCITT, CCIR, ETSI
IMSI	International Mobile Subscriber Identity	CCITT, ETSI
IN	Intelligent Network	CCITT, ETSI
Int	Intruder	ETSI
ISDN	Integrated Services Digital Network	CCITT
IWP	Interim Working Party	CCIR
LPIN	Local Personal Identification Number	ETSI
Lsb	Line Subscriber	ETSI
MAC	Message Authentication Code	ISO
MAP	Mobile Application Part	CCITT, ETSI
MBS	Mobile Broadband Services	RACE
MES	Mobile (Satellite) Earth Station	CCIR
MNT	Management Threat	ETSI
MS	Mobile Station	CCIR
MSAP	Mobility Services Application Part	CCITT, ETSI
MSC	Mobile (Services) Switching Centre	CCIR, ETSI
NE	Network Element (ETSI/TMN Vocabulary)	CCITT, ETSI
NN	Network Number (CCITT Recommendation E.164)	CCITT
Nop	Network Operator	ETSI
OSI	Open Systems Interconnection	ISO
PAC	Privilege Attribute Certificate	ECMA
PCN	Personal Communications Network	U.K. DTI, ETSI, CCITT
PIN	Personal Identification Number	CCITT, CCIR
PIM	Personal Identity Module	ETSI
PLMN	Public Land Mobile Network	CCITT
PS	Personal Station	CCIR
PSTN	Public switched Telecommunications Network	CCITT
PT, PTS	Personal Telecommunication (Service)	CCITT, ETSI
PTI	Personal Telecommunication Identity	CCITT
PTN	Private Telecommunication Network	ECMA
PUI	Personal User Identity	ETSI
RAA	Remaining Authentication Attempts	
RACE	Research and Development in Advanced Communication Technologies in Europe	EEC
RARF	Radio Administration, Regulation and Frequency Management	CEPT

RP	Registration Point	CCITT
RR	Radio Regulations	ITU, CCIR
SAGE	Security Algorithm Group of Experts	ETSI
SCF	Service Control Function (ETSI/IN Vocabulary)	CCITT, ETSI
SCEF	Service Creation Environment Function (ETSI/IN Vocabulary)	CCITT, ETSI
SDF	Specialized Database Function (ETSI/IN Vocabulary)	CCITT, ETSI
SI	Service Identity	ETSI
SIT	System Integrity Threat	ETSI
SLPIN	Special Local Personal Identification Number	ETSI
SM	Security Module in the DTMF device	ETSI
SMF	Service Management Function (ETSI/IN Vocabulary)	CCITT, ETSI
SMAF	Service Management Agent Function (ETSI/IN Vocabulary)	CCITT, ETSI
SPIN	Special Personal Identification Number	ETSI
SRF	Specialized Resources Function (ETSI/IN Vocabulary)	CCITT, ETSI
SSF	Service Switching Function (ETSI/IN Vocabulary)	CCITT, ETSI
SSP	Service Switching Point (ITU/IN Vocabulary; ITU-T Recommendation Q.1290)	CCITT, ETSI
SIM	Subscriber Identity Module	ETSI, GSM
STC	Technical Subcommittee	ETSI
TAN	Transaction Number	ETSI
TC	Technical Committee	ETSI
TC-TR	Technical Committee Technical Report	ETSI
TFTS	Terrestrial Flight Telephone System	ETSI
TMN	Telecommunication Management Network (ITU-T Recommendation M.30 & ETSI/TMN vocabulary)	CCITT, ETSI
Tpy	Third party	ETSI
UMTS	Universal Mobile Telecommunication System	ETSI, RACE
Uop	UPT network operator	ETSI
UPTS, UPT	Universal Personal Telecommunication (Network, Service)	CCITT
UPTIM	Universal Personal Telecommunication Identity Module	CCITT
Usb	UPT subscriber	ETSI
Usp	UPT service provider	ETSI
UTC	Coordinated Universal Time	UN ITU
Uus	UPT user	ETSI
VLR	Visitor Location Register	CCIR, ETSI
WARC	World Administrative Radio Conference	ITU

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