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**Upravljanje evropskega telefonskega številskega prostora (ETNS)**

Management of the European Telephony Numbering Space (ETNS)

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*European Standard (Telecommunications series)*

## Management of the European Telephony Numbering Space (ETNS)

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Network Aspects (NA).

National transposition dates	
Date of adoption of this EN:	9 October 1998
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## Introduction

ETSI, under a mandate from the CEU, has been requested to produce a standard for the number structure, possible evolution of European numbers (Ens) towards a global scheme, and framework of functions regarding ETNS numbering conventions. ETO has, on behalf of ECTRA for the CEU, produced proposals for the management of the ETNS, and developed ETNS numbering conventions to be agreed by ECTRA. The studies made in ETSI and the standards produced are a prerequisite to the necessary commercial agreements between the parties willing to participate in the ETNS.

The present document is based on the results of the ETSI studies on the topic, based on the prime requirement of the ETNS which is the ability to introduce services in an open competitive environment.

ECTRA having decided in November 1996 to base the ETNS on Country Code (CC) 388 (see note), this numbering scheme is therefore the only one covered within the present document.

NOTE: The country code has currently only been reserved for trial purposes until the beginning of 1999.

The present document has been designed for an early implementation of the ETNS. Improvements of the ETNS architecture may occur later and result in revisions of the present document. In particular, the present document contains some architectural alternatives which will be assessed during the trial period.

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# 1 Scope

The present document specifies the methods for routeing a call from the calling party to the called party and the management methods to be used for controlling such procedures. It also describes the number structure, including the allocation of codes to the service described, number length and evolution from National numbers to pan-European to global numbers.

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## 2 References

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case the latest version applies.

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

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### 2.1 Normative references

- [1] ITU-T Recommendation E.164 : "The international public telecommunication numbering plan".  
[SIST EN 301 161 V1.1.1:2005](https://standards.iteh.ai/catalog/standards/sist/en-301-161-v1-1-1-2005)
- [2] EN 301 160 (V1.1): "Routeing of calls to the European Telephony Numbering Space (ETNS) services".  
[2eb349e88309/sist-en-301-161-v1-1-1-2005](https://standards.iteh.ai/catalog/standards/sist/en-301-161-v1-1-1-2005)

### 2.2 Informative references

- [3] TR 101 073 (V1.1): "Number portability for pan-European services".
- [4] TR 101 079 (V1.1): "Network Aspects (NA); Routeing of calls to pan-European services using European Telephony Numbering Space (ETNS)".
- [5] ES 201 104 (V1.1): "Human Factors (HF); Human factors requirements for a European Telephony Numbering Space (ETNS)".
- [6] ETO Report: "Management, Routeing and Portability aspects of the European Telephony Numbering Space (ETNS)".
- [7] NPTF WP0 Document.
- [8] NPTF WP1 Document.

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## 3 Definitions and abbreviations

### 3.1 Definitions

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

**administrator:** The administrator has the responsibility for the high level management of the ETNS.

**assisted network:** A network which routes a call to an European number towards a serving network it has agreement with in order to complete the call.

**called party:** An entity that terminates a call to an European number. The called party may be the ETNS subscriber to the European number, an entity delegated by the ETNS subscriber, or a terminating equipment of the service network (e.g. a recorded announcement equipment).

**calling party:** An entity that dials a European number.

**ETNS country:** A CEPT member country participating in the ETNS.

**ETNS Registrar database:** The database maintained by the Registrar where all data, both administrative and operational, for each European number are registered.

**ETNS routeing number:** An ITU-T E.164 [1] number used to route to the service exchange. It can also identify the called party, the ETNS service provider, and / or the originating network for routeing purposes.

**ETNS service provider:** An entity that provides one or more ETNS service(s) to its ETNS subscribers on a contractual basis.

**ETNS service:** A service that has been assigned an ESI.

**ETNS subscriber:** An entity that requests a European number from a ETNS service provider in order to offer access from a calling party to a ETNS service.

**ETNS translation database:** A database which, in the call process, translates the European number into a routeing number.

**ETNS:** The numbering resource identified by E.164 [1] country code 388, used for the provisioning of the ETNS services.

**European number:** A number out of the ETNS.

**originating network:** A network, either assisted or serving, to which the calling party is connected.

**Registrar:** The registrar is responsible for the day-to-day management of the ESNs behind each ESI.

**service exchange:** An exchange of the service network that triggers the provision of the service on reception of the routeing number, and then forwards the call.

**service network:** A network that operates one or more service exchange(s).

**serving exchange:** An exchange, in the serving network, that can interrogate directly or indirectly an ETNS translation database to obtain a routeing number related to the European number, and then forward the call.

**serving network:** A network, with one or more serving exchange(s).



## 3.2 Abbreviations

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

CC	E.164 [1] Country Code
CEPT	Conférence Européenne des Postes et Télécommunications
CEU	Commission of the European Union
ECC	European Country Code
ECTRA	European Committee for Telecommunications Regulatory Affairs
En	European number
ENTF	European Numbering Task Force
ESC	European Service Code
ESI	European Service Identity
ESN	European Subscriber Number
ETNS	European Telephony Numbering Space
ETO	European Telecommunications Office
GSN	Global Subscriber Number
IN-CS1	Intelligent Network Capability Set 1
ISUP	International Signalling User Part
NDC	National Destination Code
NRA	National Regulatory Authority
SgN	Serving Network
SN	Subscriber Number
SP	ETNS Service Provider
Rn	Routeing number

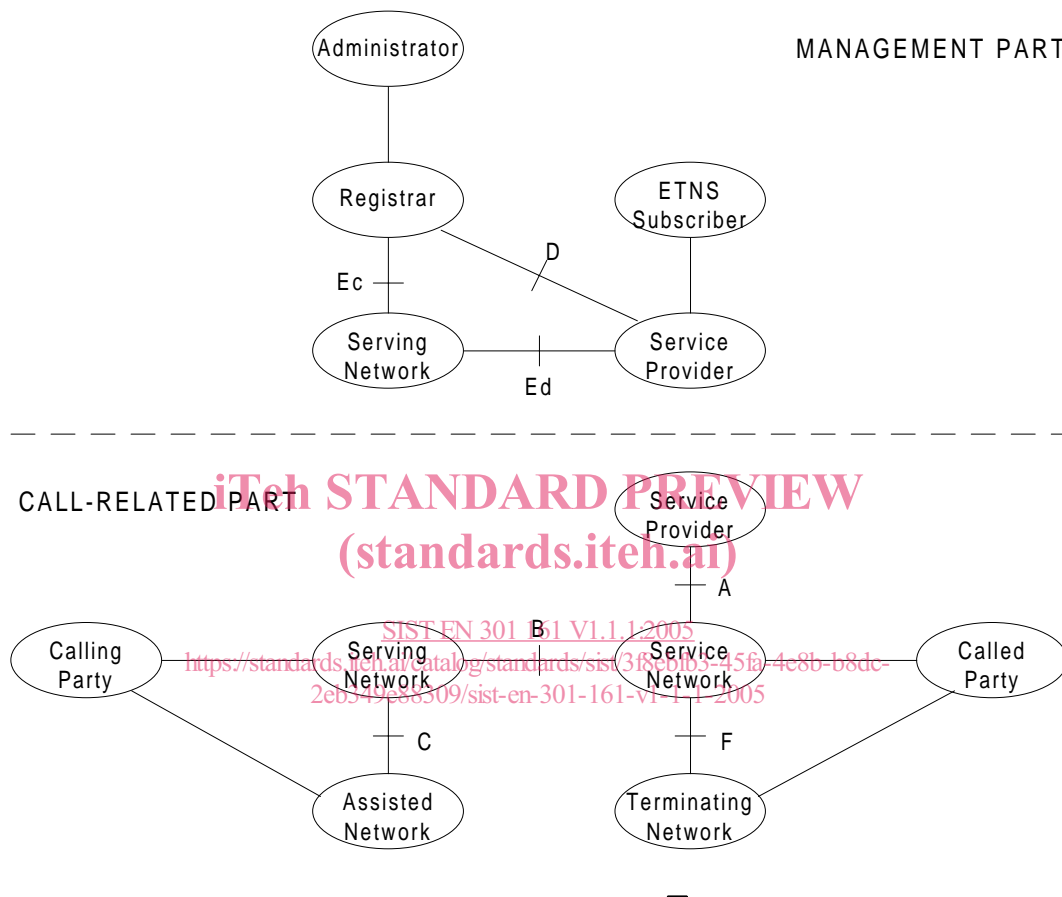
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## 4 Reference model for the ETNS

This clause provides a conceptual description of the implementation of the European Telephony Numbering Space (ETNS). Figure 1 shows the actors involved in the ETNS, and their relationship with each other. Also shown in figure 1 are the relevant reference points for the ETNS that are described in subclauses 4.2 and 4.3. Figure 1 is divided into call-related and non call-related parts in order to clearly show the distinction between the routing functions and the management functions.



**Figure 1: Actors and reference points**

The reference points in the management (non call-related) part of the figure 1 are used in the present document, while the reference points in the call-related part are used in TR 101 079 [4].

The ETNS Service Provider (SP) is the entity that is relevant in the process of number assignment. The service network is the entity that is relevant in call processing. One single entity may be both the ETNS SP and the service network, or they may be different entities; in the latter, the entity that assumes the function of ETNS SP may or may not participate in the call process. Such a distinction leads to recognize two concepts under the word "service provision": the function of the first is to sell a service to a ETNS subscriber, and to be the sole interface with this ETNS subscriber, this is the role of the ETNS SP; the function of the second is to operate the call, this is the role of the service network.

The Serving Network (SgN) is responsible for routing a call from the calling party to the service network. The service network (and potentially the SP) is (are) responsible for providing the service itself.

European numbers (En) are managed by independent authorities which are identified as the registrar and the administrator in figure 1.

## 4.1 Call-related part

This subclause describes the principles for routing a call from the calling party to the called party. This is studied in detail in TR 101 079 [4] and EN 301 160 [2]. A call to a European number (En) can be divided in two parts.

### 4.1.1 First leg: getting the routing number

The calling party shall dial the En in its international format.

Based on the European Service Identifier (ESI), clause 5, the call is routed to the serving exchange in the SgN. Potentially, this exchange may not be located in the calling party's network. The originating network is then called an assisted network, interconnected to the SgN through reference point C. An assisted network can be connected to different SgNs, e.g. for routing differently depending on the ESI, or it can redirect all ETNS calls to one SgN.

The serving exchange, analysing the ESI, triggers the ETNS translation database to translate the incoming En into an outgoing Routing number (Rn). The ETNS translation database can be inside or outside the SgN, e.g. when several SgNs share the same ETNS translation database. The Rns can vary from a SgN to another.

Whether the area from where a single En is accessible relies on a subscription or not, is service dependent.

This ends the first leg of the call which consists of routing the call to the service exchange.

### 4.1.2 Second leg: providing the ETNS service

The proceeding of the call set up in the service network and beyond depends on the nature of the service on the one side, and on the relationship between the ETNS SP and the service network on the other side.

The nature of the service will determine the path of the call, whether it terminates to the subscriber or to a recorded announcement, whether it needs a second number translation or not, etc. These features are service dependent and are outside the scope of the present document.

The relationship between the ETNS SP and the service network will determine the responsibilities of each actor as regards service provision. The two actors can be the same entity which operates the service, or the ETNS SP can rely upon the telecommunication infrastructure of a different service network and only operate e.g. a database when a double translation is required. The implementation of reference point A between the service network and the SP depends on the technical constraints related to the service, and on the regulatory environment.

### 4.1.3 Service provision by the Serving network

Where the SgN and the service network are the same, the serving exchange and the service exchange can also be the same, and reference point B is then internal.