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Inteligentno omrežje (IN) - Zahteve dostopa ponudnika storitve - Izboljšane telefonske storitve

Intelligent Network (IN) - Service provider access requirements - Enhanced telephony services

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**Intelligent Network (IN);
Service provider access requirements;
Enhanced telephony services**

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Foreword

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

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1 Scope

The present document lists the first set of access requirements that service providers (SPs) have in delivering services over one or more public telecommunications networks (PTNs), primarily fixed PTNs, e.g. public switched telecommunications networks (PSTNs) and Integrated Services Digital Networks (ISDNs). These requirements are intended to facilitate a non-discriminatory access to the PTNs. The present document does not fully take into account the network integrity, security, charging, and other related aspects from a PTNO's perspective. These aspects are defined in DEG/SPAN-061603. The present document and DEG/SPAN-061603, should not be considered separately for implementation.

The scope of the present document is to present generic functional requirements regarding the service provider access (SPA). The priority of each requirement is based on the need perceived from the service provider's viewpoint. Service interaction aspects are outside the scope of the present document.

To fulfil these requirements, appropriate protocols may have to be enhanced or developed based on information flows and taking into account network integrity considerations expressed in the present document.

Clause 4 contains introductory text describing the background and motivations of the requirements of a SPA. Clause 5 contains a summary of requirements regarding the service provider access interface (SPAI) and a framework that helps the reader to get an overview. Clause 6 contains a description of the requirements concerning the circuit-related (CR) aspects of the SPAI, and clause 7 contains the requirements regarding the non-circuit-related (NCR) aspects. Clause 8 contains information on the architectural view of the service provider access.

The present document relates to the role of the SP and the role of the public telecommunications network operator (PTNO), with the realization that market players may act in multiple roles. This is in alignment with the current European legislation, which specifies that all capabilities utilized by a significant market power (SMP) network operator's internal service provision body, shall also be offered on equal terms to external entities.

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2 References

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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.

- [1] ETSI ETR 322: "Intelligent network (IN); Vocabulary of terms and abbreviations for CS-1 and CS-2".
- [2] ETSI ETS 300 089 (1992): "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Service description".
- [3] ETSI ETR 339 (1997): "Intelligent Network (IN); IN interconnect business requirements".
- [4] ETSI ES 201 158: "Telecommunications Security; Lawful Interception (LI); Requirements for network functions".
- [5] ETSI TR 101 365: "Intelligent Network (IN); IN interconnect threat analysis".
- [6] ETSI TR 101 664: "Intelligent Network (IN); IN interconnect security features".
- [7] ETSI ETS 300 128 (1992): "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Service description".

- [8] ETSI ETS 300 200 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding Unconditional (CFU) supplementary service; Service description".
- [9] Directive 98/10/EC of the European Parliament and Council of 26 February 1998 on the application of Open Network Provisions to voice telephony and on universal service for telecommunications in a competitive environment.
- [10] Directive 97/33/EC of the European Parliament and Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through the application of Open Network Provisions.
- [11] CEPT/ECTRA Recommendation on a Set of Guidelines on Responsibilities for ensuring maintenance of Network Integrity (NI) in an interconnected environment, Rec(98)01, 12th of March 1998.
- [12] CEPT/ECTRA Recommendation on the use of Special Network Access, Rec(99)01, 3rd of March 1999.
- [13] Directive 97/66/EC of the European Parliament and Council on the processing of personal data and the protection of privacy in the telecommunications sector.
- [14] ETSI ETS 300 090 (1992): "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Service description".
- [15] ETSI ETS 300 335: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 1; Test specification".
- [16] ITU-T Recommendation Q.1200: "General series Intelligent Network Recommendation structure".

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3 Definitions and abbreviations

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3.1 Definitions

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For the purpose of the present document, the following terms and definitions apply.

calling line identity: number that uniquely identifies a subscriber line that is used for a call.

circuit-related interface: signalling connection between a public telecommunications network operator and a service provider, with the extension of the call connection from the public telecommunications network to the service provider's equipment.

end user: see "service user" definition.

network-network interface: interface at a network node which is used to interconnect the node with another network node.

network-provided calling line identity: that is provided by the originating public telecommunications network to a call setup request, if the calling party has not provided any calling line identity or the user-provided calling line identity has not passed a verification in the network [15].

non-call-related: call-unrelated.

non-circuit-related interface: control connection between a public telecommunications network operator and a service provider, without the extension of the call connection from the public telecommunications network to the service provider's equipment

presentation-restricted calling line identity: calling line identity that is associated with a marking informing the terminating local exchange not to display this calling line identity to the called party [14].

public telecommunications network: telecommunications network which provides telecommunications services to the general public [1].

public telecommunications network operator: entity which is responsible for the development, provisioning and maintenance of telecommunications services to the general public and for operating the corresponding networks [1].

public telecommunications network originating: PTN to which either the originating line is directly connected or in which an incoming call initiates a service.

public telecommunications network terminating: PTN to which either the terminating line is directly connected or in which the terminating line's user profile is stored.

service: that which is offered by an administration or recognized private operating agency (i.e. a public or private service provider) to its customers in order to satisfy a telecommunication requirement [1].

service provider: entity which provides services to its service subscribers on a contractual basis and who is responsible for the services offered. The same organization may act as a public telecommunications network operator and a service provider [1].

service provider access: access facility that enables a service provider to access specific functionality of a public telecommunications network.

service provider access interface: interface between a public telecommunications network and a service provider's equipment for enabling the service provider to access specific functionality of a public telecommunications network.

service provider access requirement: requirement for access by a service provider to specific functionality of a public telecommunications network.

service provider originating: service provider that provides either services relating to the originating line (or to the originating profile), or services acting on the information coming from the originating or incoming call.

service provider terminating: service provider that provides either services relating to the terminating line (or to the terminating profile), or services acting on the call-related information coming from the terminating party's line.

service subscriber: entity that contracts for services offered by service providers [1].

service user: entity external to the network that uses the services offered by the PTNO or SP.

significant market power network operator: See [9].

special network access: access at network termination points other than the more commonly provided network termination points, such as the conventional user-network interfaces. See Article 16 of [9].

user-network interface: interface between the terminal equipment and a network termination point at which the access protocols apply.

user-provided calling line identity: network number that has been provided by the calling party [15].

user-provided, not screened calling line identity: network number that has been provided by the calling party and has been passed forward by the originating public telecommunications network without performing any screening function for verification purposes [15].

user-provided, verified and passed calling line identity: network number that has been provided by the calling party and has been successfully verified in the originating public telecommunications network [15].

3.2 Abbreviations

CAMEL	Customized Applications for Mobile Networks Enhanced Logic
CdPy	Called Party
CFU	Call Forwarding Unconditional
CgPy	Calling Party
CLI	Calling Line Identity
CLIP	Calling Line Identification Presentation

CLIR	Calling Line Identification Restriction
CP	Control Plane
CPE	Customer Premises Equipment
CR	Circuit-Related
CS-n	Capability Set n
DSS1	Digital Signalling System 1
EC	European Community
IN	Intelligent Network
INAP	Intelligent Network Application Part
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
ITU-T	International Telecommunications Union - Telecommunication standardization sector
IVR	Interactive Voice Response
LI	Lawful Interception
MAP	Mobile Application Part
MCID	Malicious Call IDentification
MP	Management Plane
NCR	Non-Circuit-Related
NNI	Network-Network Interface
NRA	National Regulatory Authority
NTP	Network Termination Point
PSTN	Public Switched Telephone Network
PTN	Public Telecommunications Network
PTNO	Public Telecommunications Network Operator
PTNorig	originating Public Telecommunications Network
PTNterm	terminating Public Telecommunications Network
PTNtran	transit Public Telecommunications Network
SCP	Service Control Point
SMP	Significant Market Power
SNA	Special Network Access
SP	Service Provider
SPA	Service Provider Access
SPAI	Service Provider Access Interface
SPorig	Service Provider originating
SPterm	Service Provider terminating
SSP	Service Switching Point
TCP	Transmission Control Protocol
UNI	User-Network Interface

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4 Introduction

4.1 Current situation

Different types of network control (or signalling) interfaces exist within a public telecommunications network (PTN), between PTNs and for those accessing the PTNs.

There are provisions in two of the open network provisions directives of the European Commission [9] and [10] that provide a regulatory framework for organizations delivering publicly available telecommunications services to request a non-discriminatory access to the networks of those public telecommunications network operator (PTNOs) which have been determined as having "significant market power" (SMP).

Therefore, in order to enable service providers (SPs) to deliver services by utilizing the network functionality of one or more PTNs, a specific service provider access interface (SPAI) may become necessary.