

**List of standards and/or specifications for electronic
communications networks, services
and associated facilities and services;
in accordance with Article 17 of Directive 2002/21/EC**



Reference

DSR/OCG-00011

Keywords

3G, Access, Addressing, Analogue, Broadcasting, Cable, DAB, Digital, DVB, Emergency, GSM, Interconnection, Interoperability, Leased Line, Local Loop, Mobile, Network, NGN, Number, Portability, Powerline, PSTN, Regulation, Radio, Satellite, Security, Supplementary Service, Unbundling, TV, Voice, M/328

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Foreword

This draft text has been produced by STF254 for and on behalf of OCG ECN&S in response to EC/EFTA mandate M/328.

Introduction

M/238 invited the ESOs to analyse the existing list of standards/specifications published in the OJEC at the end of 2002 in support of Article 17 of the Framework Directive (2002/21/EC). Propose revision to the list where necessary taking account of the technology neutral definitions of electronic communications services and network that determine the scope of the new regulatory framework.

1 Scope

The present document is the result of analysis of the existing list of standards/specifications published in the OJEC at the end of 2002 in support of Article 17 of the Framework Directive (2002/21/EC). The present document proposes how the Article 17 list of standards should be adapted to encourage the harmonised provision of networks and services, to the extent strictly necessary to ensure interoperability of services and to improve freedom of choice for users under the new regulatory framework for electronic communications services and networks and associated facilities and services.

Note: The Commission Services provided guidelines to OCG ECN&S regarding the initial scope of the work. Explain the reason for the current restructuring. Include Commission guidance as an annex!

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 and/or edition number or version number) or non-specific.

?? For a specific reference, subsequent revisions do not apply.

?? For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] Directive 2002/19/EC [Access Directive] of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and services and associated facilities. [OJ L 108, 24.4.2002]

- [2] Directive 2002/20/EC [Authorisation Directive] of the European Parliament and of the Council on the authorisation of electronic communications networks and services. [OJ L 108, 24.4.2002].
- [3] Directive 2002/21/EC [Framework Directive] of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services. [OJ L 108, 24.4.2002]
- [4] Directive 2002/22/EC [Universal Service Directive] of the European Parliament and of the Council on Universal service and users' rights relating to electronic communications networks and services. [OJ L 108, 24.4.2002]
- [5] Directive 2002/58/EC [Directive on privacy and electronic communications] of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector. [OJ L 201, 31.7.2002].
- [6] Recommendation 2000/417/EC of the Commission on unbundled access to the local loop [OJ L 156, 29.6.2000].
- [7] Regulation EC/2887/2000 of the European Parliament and of the Council on unbundled access to the local loop [OJ L 336, 30.12.2000]
- [8] Directive 95/47/EC (Television standards Directive) of the European Parliament and of the Council on the use of standards for the transmission of television signals [OJ L 281, 23.11.1995]
- [9] Directive 1999/5/EC Radio and Telecommunications Terminal Equipment (R&TTE) Directive [OJ]
- [10] Directive 2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services. [OJ L 249 dated 17 September 2002]
- [11] Decision 676/2002/EC (Radio Spectrum Decision) of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community. [OJ L108 dated 24 April 2002]
- [12] Commission Recommendation (2003/311/EC) On Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services. [C(2003)497, OJ L 114]
- [13] Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, [2002/C 165/03, 11.7.2002]
- [14] Commission Recommendation (2003/203/EC) of 20 March 2003 on the harmonization of the provision of public R-LAN access to public electronic communications networks and services in the Community [OJ]
- [15] Commission Decision (2003/548/EC) of 24 July 2003 on the minimum set of leased lines with harmonised characteristics and associated standards referred to in Article 18 of the Universal Service Directive [OJ]
- [16] Commission Directive of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC) [OJ]
- [17] Council Directive of 28 June 1990 on the establishment of the internal market for telecommunications services through the implementation of open network provision (90/387/EEC) [OJ]
- [18] Directive 95/51/EC of October 1995 on Cable TV Networks [OJ L 256/49, 26.10.95]
- [19] Commission Directive 96/2/EC of 16 January 1996 amending Directive 90/388/EEC with regard to mobile and personal communications [OJ L 20/59, 26.01.96]
- [20] Commission Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets [OJ 174/13, 22.03.96]

- [21] Commission Recommendation (2003/558/EC) of 25 July 2003 on the processing of caller location information in electronic communication networks for the purpose of location-enhanced emergency call services [OJ]
- [22] List of Standards and/or specifications ...

3 Definitions, symbols and abbreviations

*Definitions and abbreviations extracted from ETSI deliverables can be useful to draft your own and can be consulted via the **Terms and Definitions Interactive Database (TEDDI)** (<http://webapp.etsi.org/Teddi/>).*

3.1 Definitions

Editor's Note: Definitions list will evolve as the list of standards evolves.

For the purposes of the present document, the following terms and definitions are taken from the Regulatory Framework Directives (see specific Directive) and apply:

Access: means the making available of facilities and/or services, to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis, for the purpose of providing electronic communications services. It covers inter alia: access to network elements and associated facilities, which may involve the connection of equipment, by fixed or non-fixed means (in particular this includes access to the local loop and to facilities and services necessary to provide services over the local loop), access to physical infrastructure including buildings, ducts and masts; access to relevant software systems including operational support systems, access to number translation or systems offering equivalent functionality, access to fixed and mobile networks, in particular for roaming, access to conditional access systems for digital television services; access to virtual network services (Access Directive 2002/19/EC)

Note: according art.1, §2 of the Access Directive 2002/19/EC, "*Access in this Directive does not refer to access by end-users.*" Therefore this definition does not necessarily apply to the complete set of e-communications Directives, i.e. the Framework Directive 2002/21/EC and the associated "specific Directives" as defined in art.2, §(1) of the Framework Directive 2002/21/EC.

Associated facilities: means those facilities associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service. It includes conditional access systems and electronic programme guides (Framework Directive 2002/21/EC)

Application program interface (API): means the software interfaces between applications, made available by broadcasters or service providers, and the resources in the enhanced digital television equipment for digital television and radio services (Framework Directive 2002/21/EC)

Call: means a connection established by means of a publicly available telephone service allowing two-way communication in real time (Directive on privacy and electronic communications 2002/58/EC)

Communication: means any information exchanged or conveyed between a finite number of parties by means of a publicly available electronic communications service. This does not include any information conveyed as part of a broadcasting service to the public over an electronic communications network except to the extent that the information can be related to the identifiable subscriber or user receiving the information (Directive on privacy and electronic communications 2002/58/EC)

Conditional access system: means any technical measure and/or arrangement whereby access to a protected radio or television broadcasting service in intelligible form is made conditional upon subscription or other form of prior individual authorisation (Framework Directive 2002/21/EC)

Consent: by a user or subscriber corresponds to the data subject's consent in Directive 95/46/EC (Directive on privacy and electronic communications 2002/58/EC)

Electronic mail: means any text, voice, sound or image message sent over a public communications network which can be stored in the network or in the recipient's terminal equipment until it is collected by the recipient (Directive on privacy and electronic communications 2002/58/EC)

Electronic communications network: means transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed (Framework Directive 2002/21/EC)

Electronic communications service: means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks (Framework Directive 2002/21/EC)

End-user: means a user not providing public communications networks or publicly available electronic communications services (Framework Directive 2002/21/EC)

Enhanced digital television equipment: means set-top boxes intended for connection to television sets or integrated digital television sets, able to receive digital interactive television services (Framework Directive 2002/21/EC)

General authorization: means a legal framework established by the Member State ensuring rights for the provision of electronic communications networks or services and laying down sector specific obligations that may apply to all or to specific types of electronic communications networks and services, in accordance with this [Authorisation] Directive (Authorisation Directive 2002/20/EC)

Geographic number: means a number from the national numbering plan where part of its digit structure contains geographic significance used for routing calls to the physical location of the network termination point (NTP) (Universal Service Directive 2002/22/EC)

Harmful interference: means interference which endangers the functioning of a radionavigation service or of other safety services or which otherwise seriously degrades, obstructs or repeatedly interrupts a radiocommunications service operating in accordance with the applicable Community or national regulations (Authorisation Directive 2002/20/EC)

Interconnection: means the physical and logical linking of public communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking, or to access services provided by another undertaking. Services may be provided by the parties involved or other parties who have access to the network. Interconnection is a specific type of access implemented between public network operators (Access Directive 2002/19/EC)

Location data: means any data processed in an electronic communications network, indicating the geographic position of the terminal equipment of a user of a publicly available electronic communications service (Directive on privacy and electronic communications 2002/58/EC)

National regulatory authority: means the body or bodies charged by a Member State with any of the regulatory tasks assigned in this Directive and the Specific Directives (Framework Directive 2002/21/EC)

Network termination point (NTP): means the physical point at which a subscriber is provided with access to a public communications network; in the case of networks involving switching or routing, the NTP is identified by means of a specific network address, which may be linked to a subscriber number or name (Universal Service Directive 2002/22/EC)

Non-geographic numbers: means a number from the national numbering plan that is not a geographic number. It includes inter alia mobile, freephone and premium rate numbers (Universal Service Directive 2002/22/EC)

Provision of an electronic communications network: means the establishment, operation, control or making available of such a network (Framework Directive 2002/21/EC)

Public communications network: means an electronic communications network used wholly or mainly for the provision of publicly available electronic communications services (Framework Directive 2002/21/EC)

Public pay telephone: means a telephone available to the general public, for the use of which the means of payment may include coins and/or credit/debit cards and/or pre-payment cards, including cards for use with dialing codes (Universal Service Directive 2002/22/EC)

Public telephone network: means an electronic communications network which is used to provide publicly available telephone services; it supports the transfer between network termination points of speech communications, and also other forms of communication, such as facsimile and data (Universal Service Directive 2002/22/EC)

Publicly available telephone service: means a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services (Universal Service Directive 2002/22/EC)

Specific Directives: means Directive 2002/20/EC (Authorisation Directive), Directive 2002/19/EC (Access Directive), Directive 2002/22/EC (Universal Service Directive) and Directive 97/66/EC (Framework Directive 2002/21/EC)

Subscriber: means any natural person or legal entity who or which is party to a contract with the provider of publicly available electronic communications services for the supply of such services (Framework Directive 2002/21/EC)

Traffic data: means any data processed for the purpose of the conveyance of a communication on an electronic communications network or for the billing thereof (Directive on privacy and electronic communications 2002/58/EC)

Transnational markets: means markets identified in accordance with Article 15(4) covering the Community or a substantial part thereof (Framework Directive 2002/21/EC)

User (in general): means a legal entity or natural person using or requesting a publicly available electronic communications service (Framework Directive 2002/21/EC)

User (in the context of privacy): means any natural person using a publicly available electronic communications service, for private or business purposes, without necessarily having subscribed to this service (Directive on privacy and electronic communications 2002/58/EC)

Value added service: means any service which requires the processing of traffic data or location data other than traffic data beyond what is necessary for the transmission of a communication or the billing thereof (Directive on privacy and electronic communications 2002/58/EC)

3.2 Abbreviations

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

ACR	Anonymous Call Rejection
ADSL	Asymmetrical Digital Subscriber Line
AoC	Advice of Charge
API	Application Program Interface
ATM	Asynchronous Transfer Mode
BPSK	Binary Phase Shift Keying
CATV	CABLE TeleVision
CB	Call Barring
CEN	European Committee for Standardisation
CENELEC	European Committee for Electrotechnical Standardisation
CEPT	European Conference of Postal and Telecommunications Administrations
CLI	Calling Line Identification
CLIP	Calling Location Information Presentation
CLIR	Calling Location Information Restriction
CN	Core Network
DAB	Digital Audio Broadcasting
DCE	Data circuit-terminating equipment
DTMF	Dual Tone Multi-Frequency
DVB	Digital Video Broadcasting
DVB-C	Digital Video Broadcasting - Cable
DVB-CI	Digital Video Broadcasting - Common Interface
DVB-CS	Digital Video Broadcasting baseline system for SMATV distribution systems
DVB-MC	Digital Video Broadcasting - specification for MVDS (Microwave Multipoint Distribution Systems) in the frequency range below 10 GHz
DVB-MS	Digital Multipoint Video Distribution System / MVDS

DVB-MT	Digital Video Broadcasting – OFDM modulation for microwave digital terrestrial television
DVB-S	Digital Video Broadcasting – Satellite
DVB-SI	Digital Video Broadcasting – Service Information System
DVB-SIM	Digital Video Broadcasting - Simulcrypt group
DVB-T	Digital Video Broadcasting - Terrestrial
EEC	European Economic Community
EC	European Commission
ECN&S	Electronic Communication Network(s) and Service(s)
ECN	Electronic Communication Network
ECS	Electronic Communication Service
ECP	Electronic Communication Provider
EG	ETSI Guide
EN	European Standard (Telecommunication Series)
EPG	Electronic Programming Guide
ES	ETSI Standard
ETNO	European Telecommunications Network Operators' Association
ETNS	European Telephony Numbering Space
ETP	European Telecommunication Platform
ETR	ETSI Technical Report
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
EU	European Union
FTTH	Fibre To The Home
FWA	Fixed Wireless Access
GSM	Global System for Mobile communications
HDSL	High bit rate Digital Subscriber Line
LCS	Location Services
ICT	Information&Communication Technologies
IN	Intelligent Network
INAP	Intelligent Network Application Part
ISDN	Integrated Services Digital Network
ISDN-BRA	Integrated Services Digital Network Basic Rate Access
ISUP	ISDN User Part
ITU-T	International Telecommunication Union – Telecommunication Standardisation Sector
LIF	Location Interoperability Forum
MAP	Mobile Application Part
MHP	Multimedia Home Platform
MMI	Man-machine Interface
MMS	Multimedia Message Service
MNP	Mobile Number Portability
MOT	Multimedia Object Transfer protocol
MPEG	Motion Picture Experts Group
MS	Mobile Station
MTP	Message Transfer Part
MVNO	Mobile Virtual Network Operator
NIS	Network Information Security
NRA	National Regulatory Authority
NTP	Network Termination Point
OFDM	Orthogonal Frequency Division Multiplexing
OJEC	Official Journal of the European Communities
ONP	Open Network Provision
PAMR	Public Access Mobile Radio
PATS	Publicly Available Telephony Service
PLMN	Public Land Mobile Network
PLT	PowerLine Telecommunication
PSTN	Public Switched Telephone Network
QoS	Quality of Service
R-LAN	Radio Local Area Network
R&TTE	Radio and Telecommunications Terminal Equipment
SCCP	Signalling Connection Control Part
SDH	Synchronous Digital Hierarchy
SDSL	Symmetrical single -pair high bit rate Digital Subscriber Line

SMP	Significant Market Power
SMS	Short Message Service
SP	Service Provider
SS7	Signalling System No.7
STM	Synchronous Transport Module
TBR	ETSI Technical Basis for Regulation
TR	ETSI Technical Report
TS	ETSI Technical Specification
TCAP	Transaction Capability Application Part
TDC	Transparent Data Channel
TE	Terminal Equipment
UE	User Equipment
USD	Universal Service Directive
USO	Universal Service Obligations
VASP	Value Added Service Provider
VC	Virtual Container
VDSL	Very high speed Digital Subscriber Line

Editor's Note: The previous list of standards and structure has been moved into a series of Annexes, with the main section now covering the rationale, justifications and interpretations that will be used as the guidance for preparing the revised list of standards.

The list of standards currently included within the Annexes will be subject to revision based upon agreement to the interpretations provided in the main text.

4 Interpretation of requirements within EU Regulatory Framework Directives – Justification and rationale for standards listed under Article 17 of the Framework Directive (2002/21/EC)

4.1 Introduction

The purpose of this document is to provide a common interpretation of the articles and therefore the requirements that have been defined within the specific Directives and the associated Commission Decisions and Recommendations that have been published in the Official Journal of the European Community. Whilst the present document also provides general guidance to show the rationale used to identify specific standards according to Article 17 (Directive 2002/21/EC [3]) and the justifications given within the specific Directives. It should be noted that the interpretations have been taken from the viewpoint of the impact upon standardisation and do not replace any official interpretation issued by either Commission Services or COCOM. It is intended that the interpretations provided with the present document will be updated to reflect clarifications provided by Commission Services and the list of standards updated accordingly. It should also be appreciated that the present document is the first step and as standards evolve, typically the adoption of standards within ECNs also lag behind the publication of standards. The list of standards as reflected within the present document will therefore require periodic review to ensure it is aligned with the current evolution.

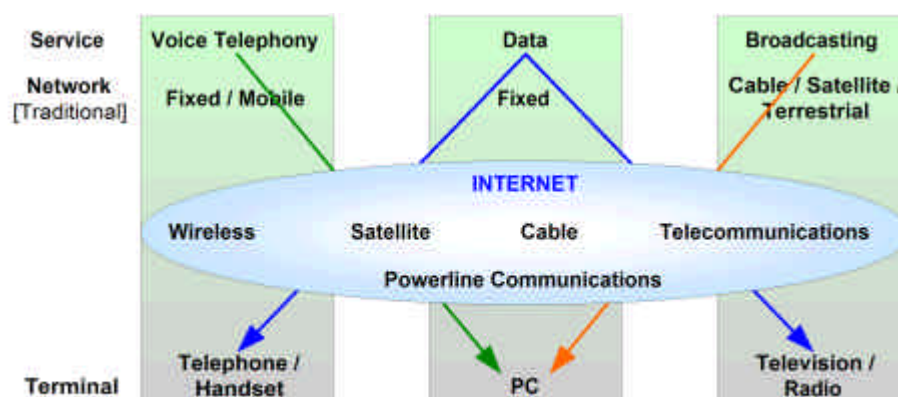
4.1.1 Convergence and the new regulatory framework

The driver for the new regulatory framework has been the growing convergence of telecommunications, broadcasting and IT sectors (i.e., the trend for similar services to be delivered over different types of networks), in particular the convergence of fixed, mobile, terrestrial and satellite communications. Since all content can be delivered now over all network types, it no longer makes sense to have separate rules for different forms of communication. All these spheres are gathered together in the new regulatory concept of electronic communications, which embraces the conveyance of signals by any form of electrical, magnetic or electro-magnetic energy.

The new regulatory framework applies to all transmission infrastructures, irrespective of the types of services carried over them (a ‘horizontal’ approach). It therefore covers all electronic communications networks (including those used to carry broadcasting content such as cable television networks, terrestrial broadcasting networks, and satellite broadcasting networks), associated facilities and electronic communications services.

This means that services such as interactive television, electronic programme guides, e-mail, SMS as well as traditional telephony are all brought under the same regulatory umbrella. It should be noted that content services (e.g., broadcast content, e-commerce services) are outside the scope of the framework. Thus the regulation of content broadcast over electronic communications networks (e.g. radio and television programmes or TV bouquets) remains outside the scope of the framework.

The new framework is intended to be technology-neutral and more able to adapt to what will continue to be a technologically dynamic sector.



Source: Based upon presentations provided by the European Commission

Figure 1: Convergence is a reality

4.1.2 New EU Regulatory Framework

4.1.2.1 Basic principles

In the consultation on the new regulatory framework, the European Commission identified five basic principles:

?? **Regulation should be kept to a minimum;**

This means that regulation should be maintained when competition is not effective, and should be withdrawn when competition is effective. Emerging markets are in general not regulated (providing there is no leverage of market power from adjacent markets) but if effective competition does not emerge regulation can be imposed.

?? **Regulation should be based on clearly defined policy objectives;**

Objectives to be followed by NRAs are made explicit in the Article 8 of the Framework Directive

?? **Regulation should strike the right balance between flexibility and legal certainty;**

The new package addresses this by having clear and transparent procedures for NRAs to follow.

?? **Regulation should evolve towards technological neutrality;**

The new framework moves away from network-specific regulation to an approach whereby NRAs analyse markets using competition law methodology, irrespective of the underlying infrastructure. Nevertheless there remains some technologically specific regulation for the time being (e.g., unbundling is limited to metallic local loops).

?? **Regulation may be agreed globally, regionally or nationally,**

but should be enforced as closely as is practicable to the activities being regulated.

4.1.2.2 New regulatory framework package

The basis for the new regulatory framework is through five major new EU Communications Directives that are intended to converge and harmonise communication regulation throughout the community. The five directives are:

Directive 2002/21/EC [3] on a common regulatory framework for electronic communications networks and services (the Framework Directive);

Directive 2002/20/EC [2] on the authorisation of electronic communications networks and services (the Authorisation Directive);

Directive 2002/19/EC [1] on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive);

Directive 2002/22/EC [4] on universal service and users' rights relating to electronic communications networks and services (the Universal Service Directive);

Directive 2002/58/EC [5] concerning the processing of personal data and the protection of privacy in the electronic communications sector (the Privacy Directive).

In addition, there is a further Directive (Art. 86) [10] consolidating the existing 'liberalisation' directives applicable to telecommunications.

Finally, there is also a Commission Decision on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) [11], which establish a policy and legal framework in the Community in order to achieve the harmonization of the use of the radio spectrum.

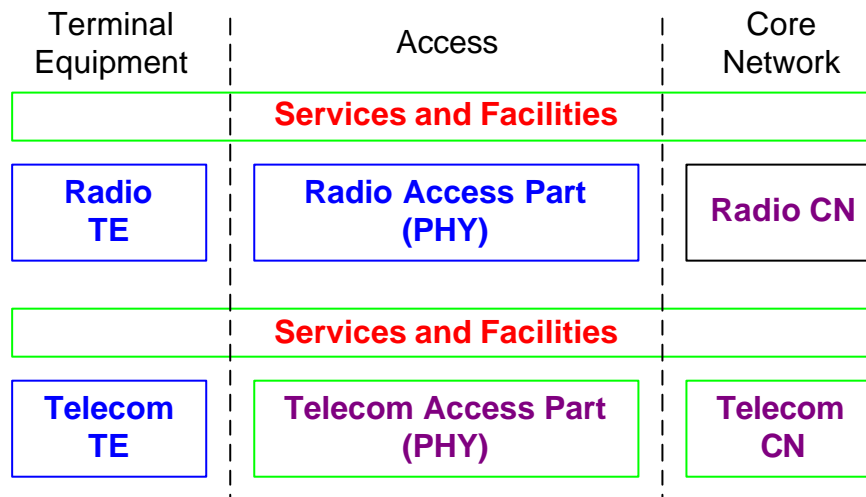
4.1.2.3 Relationship to Radio and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC

The R&TTE Directive [9] entered into force throughout the European Community on 7 April 1999 and was an enhancement from the earlier legislative measures covering Telecommunications and Satellite Terminals.

In simplistic terms, the R&TTE Directive [9] specifies the mechanisms for:

1. placing terminal equipment on the market based upon manufacturers' declaration of conformity; and
2. network operators to declare the network interface technical characteristics in sufficient detail to enable manufacturers to design terminals to inter-work with the network, this applies to both radio (including mobile and satellite), fixed and cable networks.

Figure 2 demonstrates that whilst the Radio air-interface physical (PHY) access, as well as the Radio and Telecommunications Terminal Equipment are within the scope of the R&TTE Directive [9] the services and facilities provided to them are not. The figure illustrates that the Telecommunication physical (PHY) access presented to end-user terminal equipment together with core network of both Radio and Telecommunication public networks are covered within the scope of the new EU Regulatory Framework.



Key to areas covered by EU Directives:

R&TTE Directive

New EU Regulatory Framework Directives

Electronic Communication Networks & Services

Source: European Technology Services (telecomlaw.info)

Figure 2: R&TTE Directive versus ECN&S Directives

4.1.2.4 Directives repealed by the new Regulatory Framework

Editor's Note: Text to be written covering those legislative measures that have been repealed

4.1.3 Main changes from the previous EU regulatory regime

4.1.3.1 General authorisation regime

A key change of the new framework is that the telecommunications licensing regime disappears – communications providers are no longer required to obtain a licence in advance of operating a telecommunication system or providing telecommunications services. The licensing regime has been replaced by a general authorisation to provide electronic communications networks or services under which communications providers may be subject to a number of general conditions specified in the Authorisation Directive. In addition to the general conditions, communications providers may also be subject to specific conditions. Such conditions can only be imposed on individual communication providers as a result of:

- ?? a Significant Market Power (SMP) designation;
- ?? a Universal Service designation;
- ?? the provision of conditional access services, or;
- ?? the provider's control of access to end-users.

4.1.3.2 Procedures to determine effective competition

The approach underlying the new regulatory framework is to regulate where there is not effective competition. In that case, specific obligations will fall on those operators, which have:

- ?? SMP; and
- ?? are operating on particular markets where competition is not effective.

Thus the first step for regulators is to identify those markets where competition is not effective, and secondly to designate which operator(s) have significant market power on those markets.

4.1.3.3 Markets defined according to competition law principles

Under the new framework, the market to be regulated is identified in a Commission Recommendation on Relevant Product and Service Markets [12]. It identifies those product and service markets within the sector, which have characteristics, which justify the imposition of regulatory obligations. Based on the analysis of the relevant markets in their country, NRA's can decide whether these markets are effectively competitive or not – and impose, or amend, or withdraw regulatory obligations accordingly.

The Commission has produced Guidelines [13] to assist NRAs with market analysis and the assessment of SMP, which must be in accordance with the principles of competition law.

4.1.3.4 Ex-ante regulation

Following a review of the relevant market, NRA's may impose ex-ante controls on individual operators having SMP. The purpose of imposing ex-ante obligations on Electronic Communication Providers designated as having SMP is to ensure that Electronic Communication Providers cannot use their market power either to restrict or distort competition on the relevant market, or to leverage such market power onto adjacent markets.

4.1.3.5 Definition of SMP

The definition of SMP is explicitly linked to the competition law concept of dominance. The threshold for imposing ex-ante obligations – new SMP - is now aligned to the competition law concept of dominance (i.e., the power of an undertaking, either alone or jointly with others, to behave to an appreciable extent independently of competitors, consumers and ultimately consumers).

4.1.3.6 Harmonization goals

There is an explicit goal of harmonization in the new framework (NRA's – Commission).

The primary responsibility for implementing the new framework relies, as in the previous ONP framework, on the national regulatory authorities (NRAs) in the EU Member States. The new framework establishes a more flexible set of rules at Community level, and gives NRAs a large degree of flexibility to choose the tools most appropriate to deal with regulatory concerns as they arise. As a counterweight to this increased flexibility, the new framework seeks to improve co-operation between NRAs, and between the European Commission and the NRAs, in a transparent manner, to ensure the consistent application throughout the EU of the provisions of the legislation.

4.1.3.7 Recognition of only two fundamental types of providers

The new framework takes account of a convergence of provision, in parallel with technological convergence. It no longer makes sense to create further distinction between categories of providers, such as operators, internet service providers, system-less service providers, etc. The new framework aims at simplicity by recognising only two fundamental types of providers: providers of electronic communications networks (ECNs) and providers of electronic communications services (ECSs). Additionally, the new framework also recognises providers of associated facilities, such as servers, data bases, etc.

Some providers will provide both networks and services; others will either provide a network or a service but not both. However, for the purposes of the new regulatory framework they will all be known as (electronic) communication providers (ECPs).

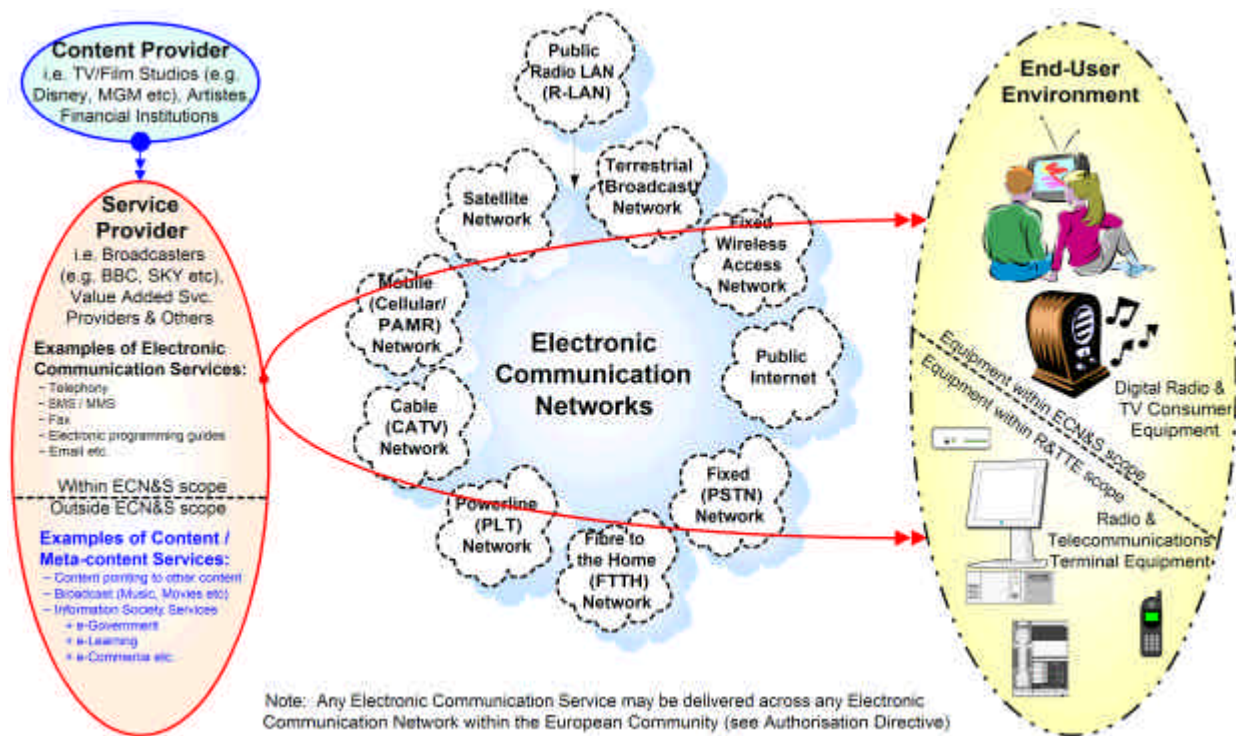


Figure 3: Principles of Electronic Communication Service provision across any Electronic Communication Network

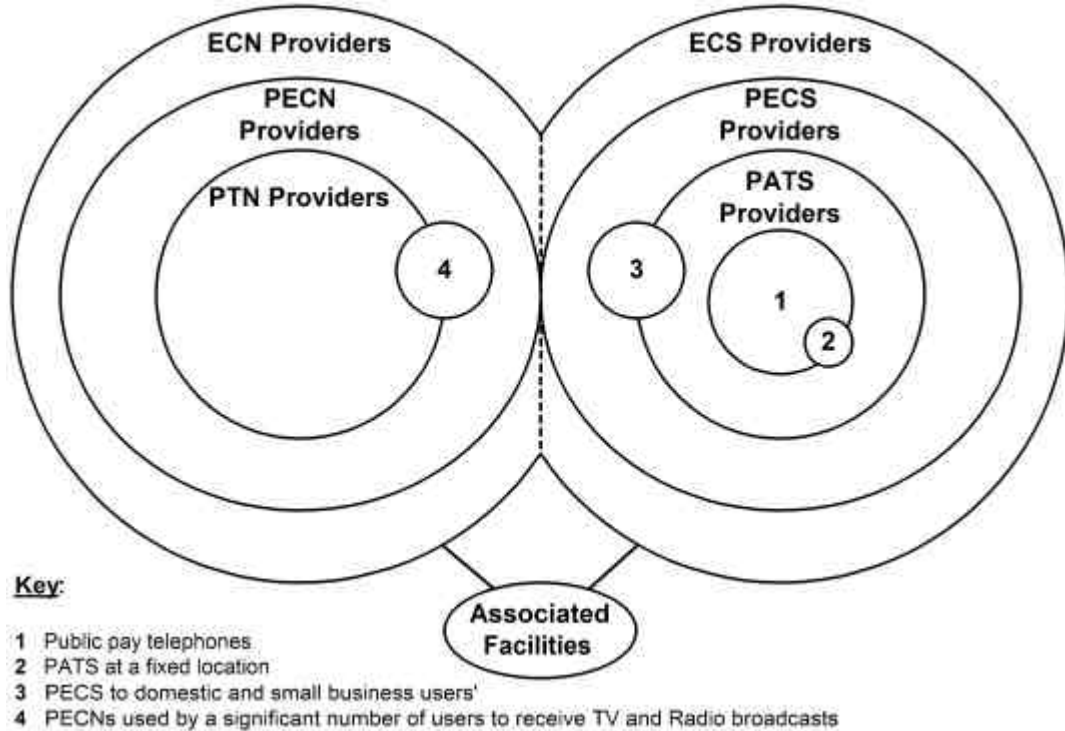
4.1.3.8 Electronic communications networks (ECNs) and providers of electronic communications services (ECSs)

?? ECN is a transmission system for the conveyance of signals

?? ECS is a service consisting in the conveyance of signals

The definitions of ECN and ECS are interlocking: the signals conveyed by an ECS are conveyed by means of an ECN; an ECN is the platform by which an ECS is provided. The provision of an ECS does not extend to the provision of

content services or most Information Society services, although providing the underlying transmission over which such a service is conveyed may well involve the provision of an ECS. Information Society services are defined in EU legislation as “any services normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services”. In other words these are the services the key characteristics of which lies more in the provision of information than in the conveyance of signals, and which are provided over ECNs at individual request, e.g., Internet banking, on-line internet services, etc.)



Source: Figure based upon diagram provided by Ofcom (UK)

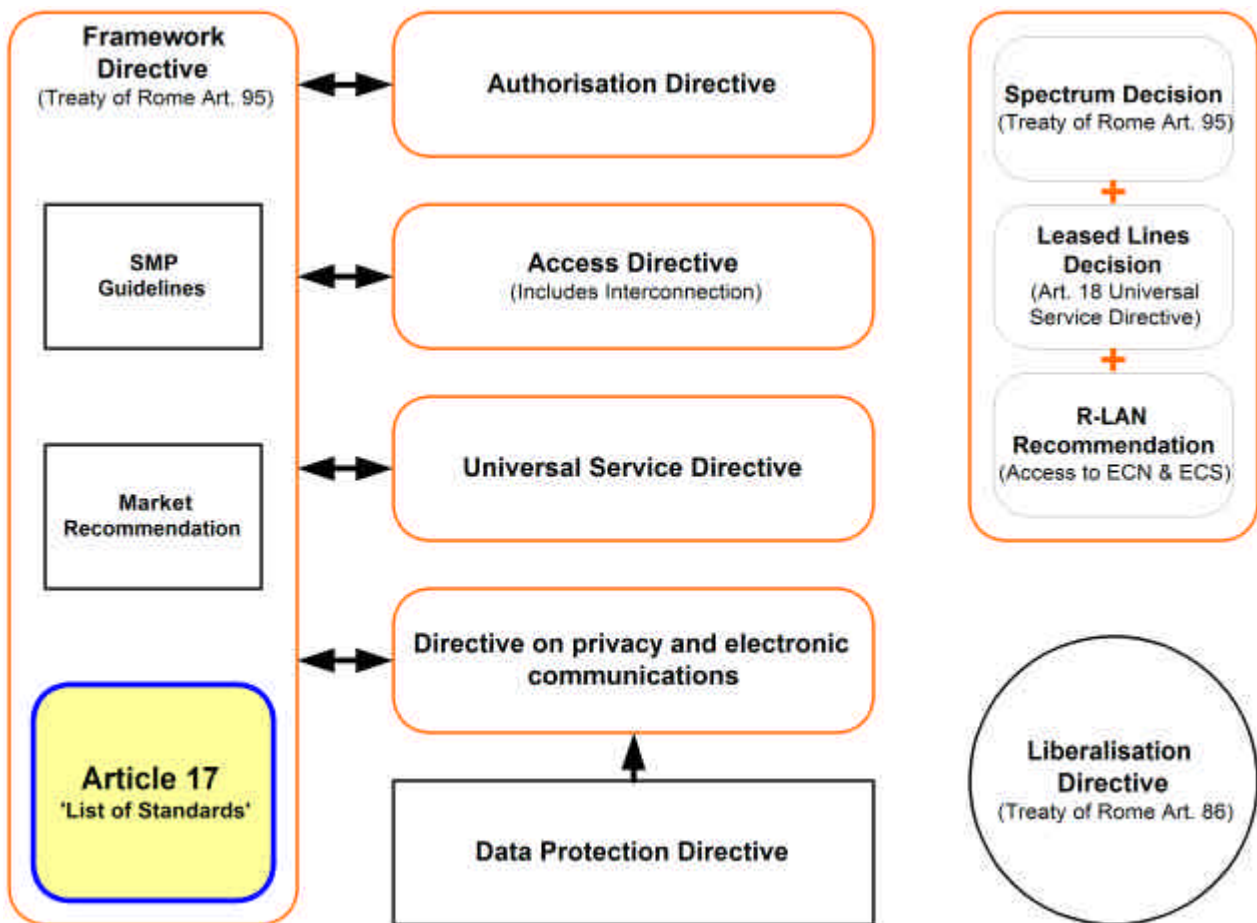
Figure 4: Examples of Electronic Communication Service provision across any Electronic Communication Network

4.2 Framework Directive (2002/21/EC)

4.2.1 Introduction

The Framework Directive provides the overall structure for the new regulatory regime and sets out the fundamental rules and objectives that read across all the new directives. It contains a series of provisions that underpin all the specific directives.

It seeks to respond to the convergence phenomenon by covering all electronic communications networks and services within its scope. It sets out a number of principles and objectives for regulators to follow, as well as a series of tasks in respect of management of scarce resources such as radio spectrum and numbering. Finally it contains a number of horizontal provisions common to more than one measure envisaged in the package of working documents.



Source: European Commission

Figure 5: Interaction of the Framework Directive to the new EU Regulatory Regime

Under the provisions provided for in Article 86 Treaty of Rome (Treaty establishing the European Community) the Liberalisation Directive consolidates the previous liberalisation directives:

- ?? Services Directive of June 1990 (90/388/EEC) [16]
- ?? Satellite Directive of October 1994 (94/46/EC) []
- ?? Cable TV Networks Directive of October 1995 (95/51/EC) [18]
- ?? Mobile Directive of January 1996 (96/2/EC) [19]
- ?? Full Competition Directive of March 1996 (96/19/EC) [20]

?? Cable ownership of ? 1999 (1999/64/EC) [].

The Liberalisation Directive clarifies the rules, makes them more functional and moves further towards the elimination of exclusive or special rights for the provision of telecommunications services:

?? It bans licences in favour of authorisations for the provision of electronic communications services and establishment and provision of electronic communications networks.

?? It reaffirms the principle of prohibition on exclusive and special rights, and clearly extends it to radio frequencies.

?? It maintains the obligation to ensure that dominant providers of electronic communications services operate their public electronic communications network and cable television network under separate legal entities.

4.2.2 Rationale

The following articles are considered to be relevant to the objectives of the present document:

Table 1: Relevant articles under Framework Directive

Article	Chapter	Title	Comments
1	Scope, aim and definition	Scope and aim	This is an introduction, which is further explained in Recitals
2	Scope, aim and definition	Definitions	Definitions are included within the present document
8	Tasks of NRA	Policy objectives and regulatory Principles	Underlying requirement for Article 17
17	General provisions	Standardisation	Legal basis for the list of standards and/or specifications
18	General provisions	Interoperability of digital interactive television services	Taking into account the interoperability aspect of digital consumer equipment
19	General provisions	Harmonisation Procedures	Legal basis for introducing harmonisation
26	Final provisions	Repeal	Confirmation of those Directives and legislative measures that no longer apply in their entirety under new Regulatory Framework.

Table 2: Relevant recommendations under R-LAN access to public ECNs and ECSs [14]

Rec.	Chapter	Title	Comments
4	-	-	Pursuant to Article 19 of Framework Directive on harmonisation

4.2.3 Justification and interpretation

4.2.3.1 Article 8: Policy objectives and regulatory Principles

Article 8 states:

“1. Member States shall ensure that in carrying out the regulatory tasks specified in this Directive and the Specific Directives, the national regulatory authorities take all reasonable measures which are aimed at achieving the objectives set out in paragraphs 2, 3 and 4. Such measures shall be proportionate to those objectives.

Member States shall ensure that in carrying out the regulatory tasks specified in this Directive and the Specific Directives, in particular those designed to ensure effective competition, national regulatory authorities take the utmost account of the desirability of making regulations technologically neutral.

National regulatory authorities may contribute within their competencies to ensuring the implementation of policies aimed at the promotion of cultural and linguistic diversity, as well as media pluralism.

2. The national regulatory authorities shall promote competition in the provision of electronic communications networks, electronic communications services and associated facilities and services by inter alia:

- (a) Ensuring that users, including disabled users, derive maximum benefit in terms of choice, price, and quality;
 - (b) Ensuring that there is no distortion or restriction of competition in the electronic communications sector;
 - (c) Encouraging efficient investment in infrastructure, and promoting innovation; and
 - (d) Encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.
3. The national regulatory authorities shall contribute to the development of the internal market by inter alias:
- (a) Removing remaining obstacles to the provision of electronic communications networks, associated facilities and services and electronic communications services at European level;
 - (b) Encouraging the establishment and development of trans-European networks and the interoperability of pan-European services, and end-to-end connectivity;
 - (c) Ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;
 - (d) Cooperating with each other and with the Commission in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of this Directive and the Specific Directives.
4. The national regulatory authorities shall promote the interests of the citizens of the European Union by inter alias:
- (a) Ensuring all citizens have access to a universal service specified in Directive 2002/22/EC (Universal Service Directive);
 - (b) Ensuring a high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures carried out by a body that is independent of the parties involved;
 - (c) Contributing to ensuring a high level of protection of personal data and privacy;
 - (d) Promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available electronic communications services;
 - (e) Addressing the needs of specific social groups, in particular disabled users; and
 - (f) Ensuring that the integrity and security of public communications networks are maintained.”

Table 3: Interpretation of Article 8 Framework Directive

<p>Article 8 highlights that the main objectives of the framework are to:</p> <ul style="list-style-type: none"> - Create a set of rules that are sufficiently flexible, - Deal with changing electronic communications markets and their degree of competition, - Encourage competition, - Improve the functioning of the internal market, - Guarantee basic user interests (freedom of choice) that would not be guaranteed by market forces. <p>One of the means is through the implementation of open network provision. This article underlines the requirement for Article 17.</p>

4.2.3.2 Article 17: Standardisation

Article 17 states:

“1. The Commission, acting in accordance with the procedure referred to in Article 22(2), shall draw up and publish in the Official Journal of the European Communities a list of standards and/or specifications to serve as a basis for encouraging the harmonised provision of electronic communications networks, electronic communications services and associated facilities and services. Where necessary, the Commission may, acting in accordance with the procedure referred to in Article 22(2) and following consultation of the Committee established by Directive 98/34/EC, request that standards be drawn up by the European standards organisations European Committee for Standardisation (CEN), European Committee for Electrotechnical Standardisation CENELEC), and European Telecommunications Standards Institute (ETSI)).

2. Member States shall encourage the use of the standards and/or specifications referred to in paragraph 1, for the provision of services, technical interfaces and/or network functions, to the extent strictly necessary to ensure interoperability of services and to improve freedom of choice for users.

As long as standards and/or specifications have not been published in accordance with paragraph 1, Member States shall encourage the implementation of standards and/or specifications adopted by the European standards organisations.

In the absence of such standards and/or specifications, Member States shall encourage the implementation of international standards or recommendations adopted by the International Telecommunication Union (ITU), the International Organisation for Standardisation (ISO) or the International Electrotechnical Commission (IEC).

Where international standards exist, Member States shall encourage the European standards organisations to use them, or the relevant parts of them, as a basis for the standards they develop, except where such international standards or relevant parts would be ineffective.

3. If the standards and/or specifications referred to in paragraph 1 have not been adequately implemented so that interoperability of services in one or more Member States cannot be ensured, the implementation of such standards and/or specifications may be made compulsory under the procedure laid down in paragraph 4, to the extent strictly necessary to ensure such interoperability and to improve freedom of choice for users.

4. Where the Commission intends to make the implementation of certain standards and/or specifications compulsory, it shall publish a notice in the Official Journal of the European Communities and invite public comment by all parties concerned. The Commission, acting in accordance with the procedure referred to in Article 22(3), shall make implementation of the relevant standards compulsory by making reference to them as compulsory standards in the list of standards and/or specifications published in the Official Journal of the European Communities.

5. Where the Commission considers that standards and/or specifications referred to in paragraph 1 no longer contribute to the provision of harmonised electronic communications services, or that they no longer meet consumers' needs or are hampering technological development, it shall, acting in accordance with the procedure referred to in Article 22(2), remove them from the list of standards and/or specifications referred to in paragraph 1.

6. Where the Commission considers that standards and/or specifications referred to in paragraph 4 no longer contribute to the provision of harmonised electronic communications services, or that they no longer meet consumers' needs or are hampering technological development, it shall, acting in accordance with the procedure referred to in Article 22(3), remove them from this list of standards and/or specifications referred to in paragraph 1.

7. This Article does not apply in respect of any of the essential requirements, interface specifications or harmonized standards to which the provisions of Directive 1999/5/EC apply.”

Table 4: Interpretation of Article 17 Framework Directive

Article 17 provides the basis for publishing a list of standards and/or specifications to encourage harmonisation and the interoperability of ECNs, ECSs and associated facilities and services as prescribed within the specific Directives. NRAs may only use those standards and/or specifications that have been published under Article 17 by the European Commission, when introducing ex-ante controls or requiring ECPs to make the necessary declarations under the various Directives. Article 17(2) places an obligation on Member States to encourage the use of the standards and/or specifications to the extent strictly necessary to ensure interoperability of services and to improve freedom of choice for users. The term interoperability can be defined from several views:

Supplier's view: the capability to provide successful communication between end-users across a mixed environment of different domains, networks, facilities, equipment, etc. from different manufacturers and (or) providers. In this context the communication is meant between end-users or between an end-user and a service provider;

Operator's view: this means the ability to inter-work with other networks and provide seamless services to users;

Content provider's or service provider's view:

it implies the ability to be able to run an application or service on any suitable delivery platform;

Consumer's view:

interoperability can mean ideally the ability to acquire the relevant terminal device and begin to consume and pay for services, without having prior knowledge which services would be consumed, in a simple way. However, in future interactive service environments, distinctions between supplier and consumer will begin to blur. It is expected that users will begin to enrich and create their own content and services, becoming both suppliers and consumers of services at the same time

Standards included within the list must contain an appropriate IPR declaration statement based upon an agreement by IPR owners to make available on fair, reasonable and non-discriminatory terms, and against appropriate remuneration.

Article 17(3) and 17(4) provide the Commission with the ability to make any standard and/or specification on the list compulsory after a public consultation. Article 17(5) and 17(6) provide for the Commission to withdraw standards and/or specifications from the list.

4.2.3.4 Article 18: Interoperability of digital interactive television services

Article 18 states:

“1. In order to promote the free flow of information, media pluralism and cultural diversity, Member States shall encourage, in accordance with the provisions of Article 17(2):

(a) providers of digital interactive television services for distribution to the public in the Community on digital interactive television platforms, regardless of the transmission mode, to use an open API;

(b) providers of all enhanced digital television equipment deployed for the reception of digital interactive television services on interactive digital television platforms to comply with an open API in accordance with the minimum requirements of the relevant standards or specifications.

2. Without prejudice to Article 5(1)(b) of Directive 2002/19/ EC (Access Directive), Member States shall encourage proprietors of APIs to make available on fair, reasonable and non-discriminatory terms, and against appropriate remuneration, all such information as is necessary to enable providers of digital interactive television services to provide all services supported by the API in a fully functional form.

3. Within one year after the date of application referred to in Article 28(1), second subparagraph, the Commission shall examine the effects of this Article. If interoperability and freedom of choice for users have not been adequately achieved in one or more Member States, the Commission may take action in accordance with the procedure laid down in Article 17(3) and (4).”

Table 5: Interpretation of Article 18 Framework Directive

Member states must now encourage

- all providers of digital interactive television services and
- all providers of enhanced digital TV equipment

to use of an open API as listed under Article 17. Article 18(3) stipulates that the Commission reserves the right to impose compulsory standards and/or specifications from the list of standards, to ensure interoperability and freedom of choice for users.

Question:

In Article 18, the term 'open' is used in the respect of open APIs used ultimately in this context for implementation within broadcast receivers. However, STF 254 is acutely aware that the Broadcast industry is divided in its interpretation to the definition of openness in relation to such technical interfaces. Given that in other areas throughout the Directives the premise for some interpretations have aligned with those in Competition Law (e.g. SMP), would we be right to believe that 'open' in this context would best also to be defined in relation to Competition Law principles? Ideally, it would be best for Commission Services to provide the legal intent for this term.

4.2.3.5 Article 19: Harmonisation procedures

Article 19 states: “

1. Where the Commission, acting in accordance with the procedure referred to in Article 22(2), issues recommendations to Member States on the harmonised application of the provisions in this Directive and the Specific Directives in order to further the achievement of the objectives set out in Article 8, Member States shall ensure that national regulatory authorities take the utmost account of those recommendations in carrying out their tasks. Where a national regulatory authority chooses not to follow a recommendation, it shall inform the Commission giving the reasoning for its position.
2. Where the Commission finds that divergence at national level in regulations aimed at implementing Article 10(4) creates a barrier to the single market, the Commission may, acting in accordance with the procedure referred to in Article 22(3), take the appropriate technical implementing measures.”

Table 6: Interpretation of Article 19 Framework Directive

Article 19 is the mechanism by which the Commission can introduce new measures allowing a common and harmonised application of the new Regulatory Framework Directives, in particular publication in accordance with Article 17.

4.2.3.6 Article 26: Repeal

Article 26 states: “The following Directives and Decisions are hereby repealed with effect from the date of application referred to in Article 28(1), second subparagraph:

- Directive 90/387/EEC,
- Council Decision 91/396/EEC of 29 July 1991 on the introduction of a single European emergency call number (1),
- Council Directive 92/44/EEC of 5 June 1992 on the application of open network provision to leased lines (2),
- Council Decision 92/264/EEC of 11 May 1992 on the introduction of a standard international telephone access code in the Community (3),
- Directive 95/47/EC,
- Directive 97/13/EC,
- Directive 97/33/EC,
- Directive 98/10/EC of the European Parliament and of the Council of 26 February 1998 on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment (4).”

Table 7: Interpretation of Article 26 Framework Directive

Article 26 clearly defines the Directives and Decisions that have been repealed. However, provisions in Article 7 of the Access [1] and Article 16 of the Universal Service [4] Directives refer to obligations that the National Regulatory Authorities shall maintain and therefore the standards and/or specifications that were applicable to those specific obligations must be maintained within the list, until such time that the NRAs have performed market analysis under Article 15 [3] and a decision reached regarding those standards. This is further explained within Article 27 defining the transitional measures.

4.2.3.7 Recommendation 4 of R-LAN access to public ECNs and ECSs [14]

The recommendations state:

“HEREBY RECOMMENDS

[...]

4. That Member States should pay special attention to the requirements of Articles 4 and 5 of Directive 97/66/EC and the equivalent provisions in Directive 2002/58/EC, which regulate security and confidentiality of public communications networks and services.”

Table 8: Interpretation of recommendation

Pursuant to the principles of Article 19 of the Framework Directive [3] on harmonization and the general authorization procedure with the Authorisation Directive [2] the European Commission recommends access to public ECNs and ECSs by public R-LANs. However, it further recommends taking into consideration appropriate safeguards ensuring end-users rights in relation to Security and Privacy.

4.3 Authorisation Directive (2002/20/EC)

4.3.1 Introduction

The Authorisation Directive [2] introduces the concept where a general authorisation will be issued by NRAs to Electronic Communication Providers to replace the previous national licensing regimes. This new concept establishes a system whereby any person will be generally authorised to provide communication services and/or networks without the requirement for prior approval to provide specific or additional services.

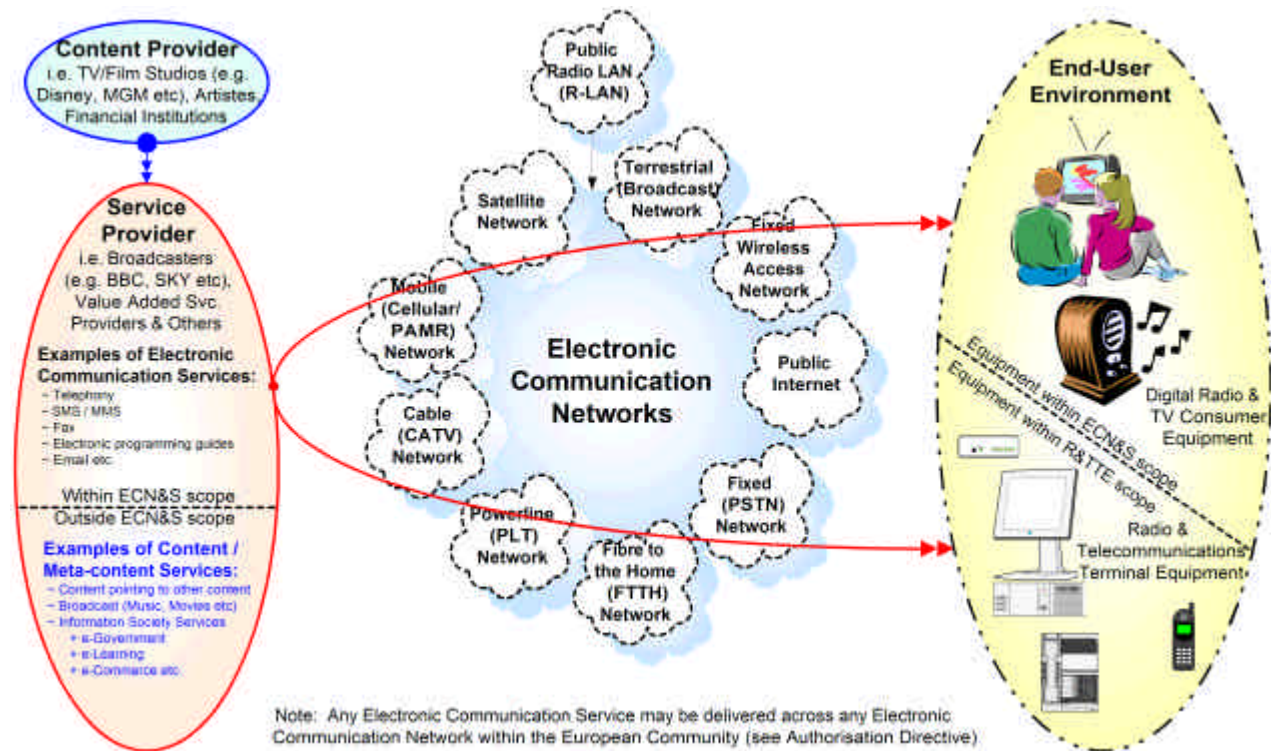


Figure 6: Principle of the Authorisation Directive to Electronic Communication Networks and Services

Editor's Note: Further explanatory text is to be provided ...

4.3.2 Rationale

The following articles are considered to be relevant to the objectives of the present document:

Table 9: Relevant articles under the Authorisation Directive

Article	Chapter	Title	Comments
1	-	Objective and scope	This is an introduction, which is further explained in Recitals
2	-	Definitions	Definitions are included within the present document
4	-	Minimum list of rights derived from the general authorisation	General rights to provide electronic communications Clauses 1(a) and 2
6	-	Conditions attached to the general authorisation and to the rights of use for radio frequencies and for numbers and specific obligations	Clause 6(1)
Annex	-	-	Part A 3; 6; 7; 8; 11; 12; 14; 15; 16 and 18 Part C 3 and 4

4.3.3 Justification and interpretation

4.3.3.1 Article 4: Minimum list of rights derived from the general authorization

Article 4 states:

“1. Undertakings authorised pursuant to Article 3, shall have the right to:

- (a) provide electronic communications networks and services;

[...]

2. When such undertakings provide electronic communications networks or services to the public the general authorisation shall also give them the right to:

- (a) negotiate interconnection with and where applicable obtain access to or interconnection from other providers of publicly available communications networks and services covered by a general authorisation anywhere in the Community under the conditions of and in accordance with Directive 2002/19/EC (Access Directive);
- (b) be given an opportunity to be designated to provide different elements of a universal service and/or to cover different parts of the national territory in accordance with Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) (1).”

Table 10: Interpretation of Article 4 Authorisation Directive

Article 4 defines the general rights to provide electronic communications throughout the European Community and the opportunity for ECPs to be designated to provide elements of a Universal Service in accordance with the Universal Service Directive. Once an ECP has been granted the right to provide electronic communications networks and services, ECPs with SMP must allow access and interconnection to their network.

4.3.3.2 Article 6: Conditions attached to the general authorisation and to the rights of use for radio frequencies and for numbers, and specific obligations

Article 6 states: “1. The general authorisation for the provision of electronic communications networks or services and the rights of use for radio frequencies and rights of use for numbers may be subject only to the conditions listed respectively in parts A, B and C of the Annex. Such conditions shall be objectively justified in relation to the network or service concerned, non-discriminatory, proportionate and transparent.”

Table 11: Interpretation of Article 6 Authorisation Directive

Having access to the end users requires access to certain elements of an ECN for interoperability, such facilities may include number translation.

4.3.3.3 Annex

“The conditions listed in this Annex provide the maximum list of conditions which may be attached to general authorisations (Part A), rights to use radio frequencies (Part B) and rights to use numbers (Part C) as referred to in Article 6(1) and Article 11(1)(a).

A. Conditions which may be attached to a general authorisation

[...]

3. Interoperability of services and interconnection of networks in conformity with Directive 2002/19/EC (Access Directive).

[...]

6. Must carry obligations in conformity with Directive 2002/22/EC (Universal Service Directive).
7. Personal data and privacy protection specific to the electronic communications sector in conformity with Directive 97/66/EC of the European Parliament and of the Council of 15 December 1997 concerning the processing of personal data and the protection of privacy in the telecommunications sector (1).
8. Consumer protection rules specific to the electronic communications sector including conditions in conformity with Directive 2002/22/EC (Universal Service Directive).

[...]

11. Enabling of legal interception by competent national authorities in conformity with Directive 97/66/EC and Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (4).
12. Terms of use during major disasters to ensure communications between emergency services and authorities and broadcasts to the general public.

[...]

14. Access obligations other than those provided for in Article 6(2) of this Directive applying to undertakings providing electronic communications networks or services, in conformity with Directive 2002/19/EC (Access Directive).
15. Maintenance of the integrity of public communications networks in accordance with Directive 2002/19/EC (Access Directive) and Directive 2002/22/EC (Universal Service Directive) including by conditions to prevent electromagnetic interference between electronic communications networks and/or services in accordance with Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (1).

16. Security of public networks against unauthorised access according to Directive 97/66/EC.

[...]

18. Measures designed to ensure compliance with the standards and/or specifications referred to in Article 17 of Directive 2002/21/EC (Framework Directive).

[...]

C. Conditions which may be attached to rights of use for numbers

[...]

3. Number portability requirements in conformity with Directive 2002/22/EC (Universal Service Directive).

4. Obligation to provide public directory subscriber information for the purposes of Articles 5 and 25 of Directive 2002/22/EC (Universal Service Directive).

Table 12: Interpretation of Annex to Authorisation Directive

While Article 4 of the Authorisation Directive provides the minimum list of rights for ECPs, this annex lists the maximum list of conditions and will also serve as a basis for inclusion of standards and/or specifications on the Article 17 list.
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4.4 Access Directive (2002/19/EC)

4.4.1 Introduction

The Access Directive [1] relates both to access and to interconnection of electronic communications networks and associated facilities. It sets out the terms on which providers may access each other's networks and services with a view to providing publicly available electronic communication services. Access and interconnection are related but different concepts.

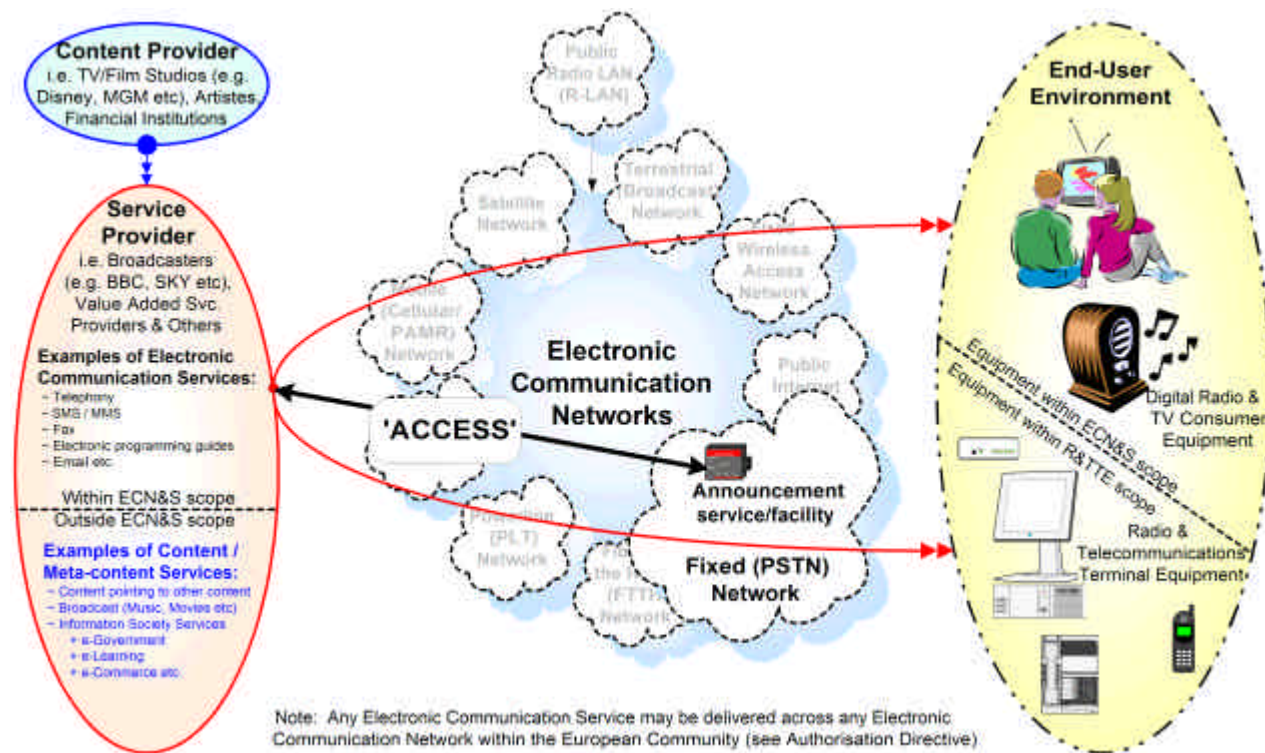


Figure 7: Principle of the term Access to Electronic Communication Networks and Services

“Access” – is a widely used term and could refer to the connection of a subscriber or to a third party service provider. Access as defined within the new Regulatory Framework does not refer to access to the end-user, but the making available of facilities and/or services, to another Electronic Communication Provider, under defined conditions, on either an exclusive or non-exclusive basis, for the purpose of providing electronic communications services. Access will increasingly be realised through APIs and concerns the vertical hand-off to the content layer.

The typical examples¹ of access are:

- unbundled local loops (individual network components enabling maximum use by the purchasing operators' of its own facilities and technology whilst having access to the customer over the 'last mile' of an SMP operator's network);
- interconnection including partial private circuits and ATM xDSL interconnection (enabling one operator to connect its network to another to enable its users to communicate with those on the other network);
- wholesale ADSL services (an end-to-end service provider product allowing the purchaser to deliver their own 'value added' services such as Internet access over the provider's network);
- reseller products such as calls and access (providing an end-to-end technical solution while permitting the purchasing undertaking (known as 'systemless' service providers under the previous regime) to take on non-communications functions such as marketing and customer service including billing and technical support;

¹ Source: OFTEL (UK) "Imposing access obligations under the new EU Directives" (18 December 2002)

- e) access to digital TV platforms (conditional access) (an ‘associated facility’ enabling a content or service provider to provide services to end-users);
- f) co-location facilities or access to operational support systems or billing/other information (associated facilities which support the provision of other wholesale products such as unbundled local loops);
- g) open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;

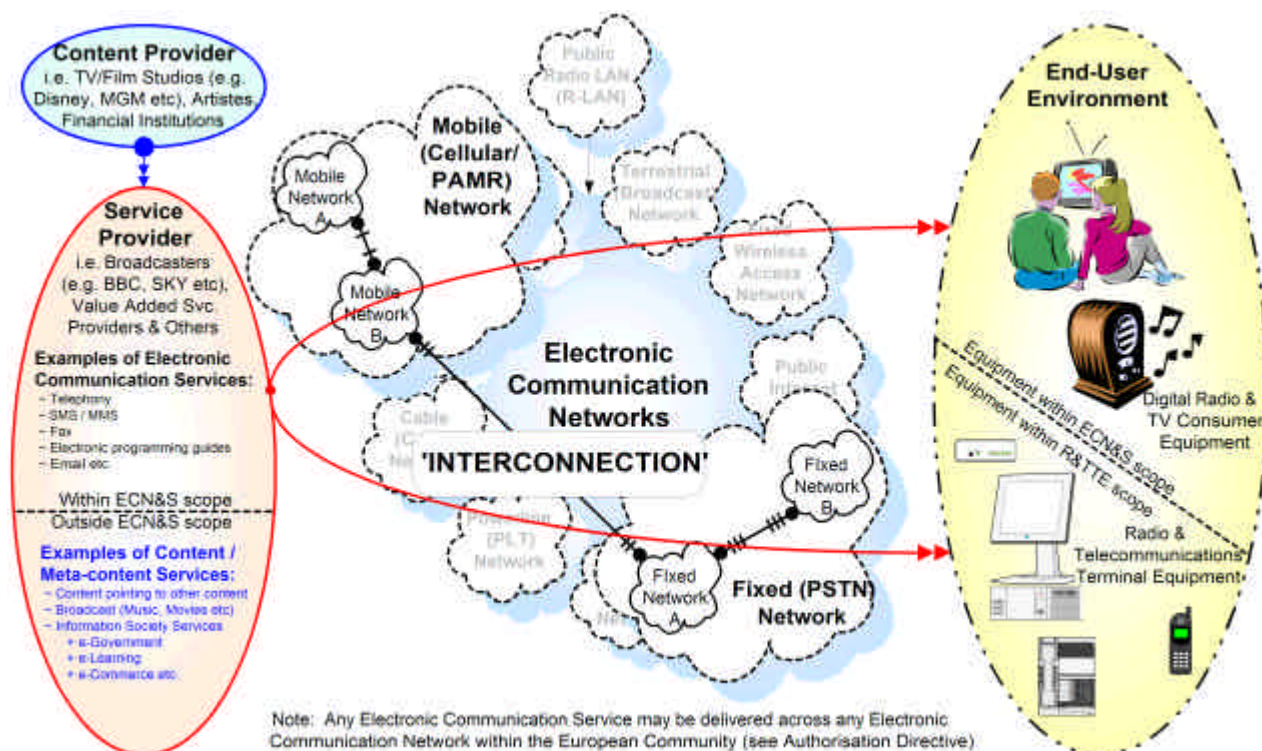


Figure 8: Principle of the term Interconnection to Electronic Communication Networks and Services

“Interconnection” as depicted in Figure 8 may be implemented between either the same or different types of ECN and requires a common interface (whether electrical, magnetic, electro-magnetic energy, signalling or protocol) to facilitate the interconnection. It is like peering and concerns a horizontal hand-off.

Table 13: Examples of Access / Interconnection when providing a Telephony Service

Associated facility / service	Access or Interconnection
Number Translation	Access
User Location Data	Access for Emergency Services only, provided via interconnect to PSAP
Announcement Service (server)	Access
Call metering (information transferred via signalling)	Access & Interconnection
...	

Table 14: Examples of Access / Interconnection when providing an Short Message Service

Associated facility / service	Access or Interconnection
SM - SC	Access
...	

Editor’s Note: Further examples to be completed.

Question:

Recital (Whereas: (1)) in the Access Directive [1] states “Non-public networks do not have obligations under this Directive except where, in benefiting from access to public networks, they may be subject to conditions laid down by

member states”. However, further clarification is requested to understand what is meant by the term ‘benefiting from access to public networks’ such that this can be used as basis for further analysis of the identified articles on the various network technologies.

4.4.2 Rationale

The following articles are considered to be relevant to the objectives of the present document:

Table 15: Relevant articles under Access Directive

Article	Chapter	Title	Comments
1	Scope, aim and definition	Objective and scope	This is an introduction, which is further explained in Recitals
2	Scope, aim and definition	Definitions	Definitions are included within the present document
4	General provisions	Rights and obligations for undertakings	Article 4.2 applies
5	General provisions	Powers and responsibilities of the national regulatory authorities with regard to access and interconnection	Identifies how and when Art.17 list (Framework Directive) will be used
7	Obligations on operators and market review procedures	Review of former obligations for access and interconnection	Section 7.1 To maintain previous obligations (Lease Line requirements, ...)
9	Obligations on operators and market review procedures	Obligation of transparency	Declaration against Article 17 list.
12	Obligations on operators and market review procedures	Obligations of access to, and use of, specific network facilities	As a basis for Art.17 list (Framework Directive) 1: (a); (e); (g); (h); (i) 2: (f)
-	Annex I	Conditions for access to digital TV and radio services broadcast to viewers and listeners in the community	
-	Annex II	Minimum list of items to be included in a reference offer for unbundled access to the twisted metallic pair local loop to be published by notified operators	As a basis for Art.17 list (Framework Directive) A, C and D.1

4.4.3 Justification and interpretation

4.4.3.1 Article 4.2: Rights and obligations for undertakings

Article 4.2 states:

“Public electronic communications networks established for the distribution of digital television services shall be capable of distributing wide-screen television services and programmes. Network operators that receive and redistribute wide-screen television services or programmes shall maintain that wide-screen format.”

Table 16: Interpretation of Article 4.2 Access Directive

<p>Services are transmitted as information via communication networks, and as such should not be modified. The term ‘undertakings’ has been interpreted for the purposes of the present document to mean Electronic Communication Providers (ECPs).</p>

4.4.3.2 Article 5: Powers and responsibilities of the national regulatory authorities with regard to access and interconnection

Article 5 states:

“1. National regulatory authorities shall, acting in pursuit of the objectives set out in Article 8 of Directive 2002/21/EC (Framework Directive), encourage and where appropriate ensure, in accordance with the provisions of this Directive, adequate access and interconnection, and interoperability of services, exercising their responsibility in a way that promotes efficiency, sustainable competition, and gives the maximum benefit to end-users.

In particular, without prejudice to measures that may be taken regarding undertakings with significant market power in accordance with Article 8, national regulatory authorities shall be able to impose:

- (a) to the extent that is necessary to ensure end-to-end connectivity, obligations on undertakings that control access to end-users, including in justified cases the obligation to interconnect their networks where this is not already the case;
- (b) to the extent that is necessary to ensure accessibility for end-users to digital radio and television broadcasting services specified by the Member State, obligations on operators to provide access to the other facilities referred to in Annex I, Part II on fair, reasonable and non-discriminatory terms.

2. When imposing obligations on an operator to provide access in accordance with Article 12, national regulatory authorities may lay down technical or operational conditions to be met by the provider and/or beneficiaries of such access, in accordance with Community law, where necessary to ensure normal operation of the network. Conditions that refer to implementation of specific technical standards or specifications shall respect Article 17 of Directive 2002/21/EC (Framework Directive).

3. Obligations and conditions imposed in accordance with paragraphs 1 and 2 shall be objective, transparent, proportionate and non-discriminatory, and shall be implemented in accordance with the procedures referred to in Articles 6 and 7 of Directive 2002/21/EC (Framework Directive). (1) See page 51 of this Official Journal.

4. With regard to access and interconnection, Member States shall ensure that the national regulatory authority is empowered to intervene at its own initiative where justified or, in the absence of agreement between undertakings, at the request of either of the parties involved, in order to secure the policy objectives of Article 8 of Directive 2002/21/EC (Framework Directive), in accordance with the provisions of this Directive and the procedures referred to in Articles 6 and 7, 20 and 21 of Directive 2002/21/EC (Framework Directive).”

Table 17: Interpretation of Article 5 Access Directive

Giving access to operator facilities to third parties will be controlled by NRAs. They will make sure that technical and operational conditions are met. One of the tools for doing so will be Article 17 of the Framework Directive. Article 5 is important in the respect that as it shows how and when the Article 17 list of standards will be used.

4.4.3.3 Article 7: Review of former obligations for access and interconnection

Article 7 states:

“1. Member States shall maintain all obligations on undertakings providing public communications networks and/or services concerning access and interconnection that were in force prior to the date of entry into force of this Directive under Articles 4, 6, 7, 8, 11, 12, and 14 of Directive 97/33/EC, Article 16 of Directive 98/10/EC, and Articles 7 and 8 of Directive 92/44/EC, until such time as these obligations have been reviewed and a determination made in accordance with paragraph 3. [...]”

Table 18: Interpretation of Article 7 Access Directive

Provisions in Article 7 (Access Directive [1]) and Article 16 of the Universal Service Directive [4] refer to obligations that the National Regulatory Authorities shall maintain, despite the fact that the Directives have been repealed under Article 26 of the Framework Directive [3]. Therefore the standards and/or specifications that were applicable to those specific obligations must be maintained within the list, such as Leased Lines, at least until such time that the NRAs have performed market analysis under Article 15 of the Framework Directive [3] and a decision reached regarding those standards. This is further explained within Article 27 of the Framework Directive [3] defining the transitional measures.

4.4.3.4 Article 9: Obligation of transparency

Article 9 states:

“1. National regulatory authorities may, in accordance with the provisions of Article 8, impose obligations for transparency in relation to interconnection and/or access, requiring operators to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices.

2. In particular where an operator has obligations of non-discrimination, national regulatory authorities may require that operator to publish a reference offer, which shall be sufficiently unbundled to ensure that undertakings are not required to pay for facilities which are not necessary for the service requested, giving a description of the relevant offerings broken down into components according to market needs, and the associated terms and conditions including prices. The national regulatory authority shall, inter alia, be able to impose changes to reference offers to give effect to obligations imposed under this Directive.

3. National regulatory authorities may specify the precise information to be made available, the level of detail required and the manner of publication.

4. Notwithstanding paragraph 3, where an operator has obligations under Article 12 concerning unbundled access to the twisted metallic pair local loop, national regulatory authorities shall ensure the publication of a reference offer containing at least the elements set out in Annex II.

5. In the light of market and technological developments, Annex II may be amended in accordance with the procedure referred to in Article 14(3).”

Table 19: Interpretation of Article 9 Access Directive

Transparency of terms and conditions for access and interconnection, including prices, serve to speed-up negotiation, avoid disputes and give confidence to market players that a service is not being provided on discriminatory terms. Openness and transparency of technical interfaces are particularly important in ensuring interoperability. The list of standards under Article 17 (Framework Directive), should be used to check openness and transparency to ensure interoperability.

4.4.3.5 Article 12: Obligations of access to, and use of, specific network facilities

Article 12 states:

“1. A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations on operators to meet reasonable requests for access to, and use of, specific network elements and associated facilities, inter alia in situations where the national regulatory authority considers that denial of access or unreasonable terms and conditions having a similar effect would hinder the emergence of a sustainable competitive market at the retail level, or would not be in the end-user's interest.

Operators may be required inter alia:

- (a) to give third parties access to specified network elements and/or facilities, including unbundled access to the local loop;

[...]

- (e) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;

[...]

- (g) to provide specified services needed to ensure interoperability of end-to-end services to users, including facilities for intelligent network services or roaming on mobile networks;

- (h) to provide access to operational support systems or similar software systems necessary to ensure fair competition in the provision of services;

- (i) to interconnect networks or network facilities.

National regulatory authorities may attach to those obligations conditions covering fairness, reasonableness and timeliness.

2. When national regulatory authorities are considering whether to impose the obligations referred in paragraph 1, and in particular when assessing whether such obligations would be proportionate to the objectives set out in Article 8 of Directive 2002/21/EC (Framework Directive), they shall take account in particular of the following factors:

[...]

(f) the provision of pan-European services.

Table 20: Interpretation of Article 12 Access Directive

The sub parts of Article 12, as listed above, are regarded as being the basis for identifying those elements within ECNs that ECPs may require either access to, or interconnection with. Correspondingly Article 9 of the Authorisation Directive [2] specifies that the NRAs are required to provide Electronic Communication Providers with a standard declaration relating to their rights for access and interconnection. Article 12 will be used extensively for reviewing each of the network types (Mobile, Fixed and Cable) to identify standards and/or specifications for inclusion within the Article 17 list. Mandating access to a network infrastructure can be justified as a means of increasing competition, but NRAs need to balance the rights of an infrastructure owner to exploit its infrastructure for its own benefit, and the rights of other service providers to access facilities that are essential for the provision of competing services.

4.4.3.6 Annex I: CONDITIONS FOR ACCESS TO DIGITAL TELEVISION AND RADIO SERVICES BROADCAST TO VIEWERS AND LISTENERS IN THE COMMUNITY

Annex I states:

“Part I: Conditions for conditional access systems to be applied in accordance with Article 6(1)

In relation to conditional access to digital television and radio services broadcast to viewers and listeners in the Community, irrespective of the means of transmission, Member States must ensure in accordance with Article 6 that the following conditions apply:

- (a) conditional access systems operated on the market in the Community are to have the necessary technical capability for cost-effective transcontrol allowing the possibility for full control by network operators at local or regional level of the services using such conditional access systems;
- (b) all operators of conditional access services, irrespective of the means of transmission, who provide access services to digital television and radio services and whose access services broadcasters depend on to reach any group of potential viewers or listeners are to:
 - offer to all broadcasters, on a fair, reasonable and non-discriminatory basis compatible with Community competition law, technical services enabling the broadcasters' digitally-transmitted services to be received by viewers or listeners authorised by means of decoders administered by the service operators, and comply with Community competition law,
 - keep separate financial accounts regarding their activity as conditional access providers.
- (c) when granting licences to manufacturers of consumer equipment, holders of industrial property rights to conditional access products and systems are to ensure that this is done on fair, reasonable and non-discriminatory terms. Taking into account technical and commercial factors, holders of rights are not to subject the granting of licences to conditions prohibiting, deterring or discouraging the inclusion in the same product of:
 - a common interface allowing connection with several other access systems, or
 - means specific to another access system, provided that the licensee complies with the relevant and reasonable conditions ensuring, as far as he is concerned, the security of transactions of conditional access system operators.

Part II: Other facilities to which conditions may be applied under Article 5(1)(b)

- (a) Access to application program interfaces (APIs);
- (b) Access to electronic programme guides (EPGs).”

Table 21: Interpretation of Annex I Access Directive

Annex I together with Article 12, will be used as the basis for identifying those elements within Conditional Access systems that are required to have standards and/or specifications listed under Article 17.

4.4.3.7 Annex II: MINIMUM LIST OF ITEMS TO BE INCLUDED IN A REFERENCE OFFER FOR UNBUNDLED ACCESS TO THE TWISTED METALLIC PAIR LOCAL LOOP TO BE PUBLISHED BY NOTIFIED OPERATORS

Annex II states:

“For the purposes of this Annex the following definitions apply:

- (a) ‘local sub-loop’ means a partial local loop connecting the network termination point at the subscriber's premises to a concentration point or a specified intermediate access point in the fixed public telephone network;
- (b) ‘unbundled access to the local loop’ means full unbundled access to the local loop and shared access to the local loop; it does not entail a change in ownership of the local loop;
- (c) ‘full unbundled access to the local loop’ means the provision to a beneficiary of access to the local loop or local sub-loop of the notified operator authorising the use of the full frequency spectrum of the twisted metallic pair;
- (d) ‘shared access to the local loop’ means the provision to a beneficiary of access to the local loop or local sub-loop of the notified operator, authorising the use of the non-voice band frequency spectrum of the twisted metallic pair; the local loop continues to be used by the notified operator to provide the telephone service to the public;

A. Conditions for unbundled access to the local loop

- 1. Network elements to which access is offered covering in particular the following elements:
 - (a) access to local loops;
 - (b) access to non-voice band frequency spectrum of a local loop, in the case of shared access to the local loop;
- 2. Information concerning the locations of physical access sites (1), availability of local loops in specific parts of the access network;
- 3. Technical conditions related to access and use of local loops, including the technical characteristics of the twisted metallic pair in the local loop;
- 4. Ordering and provisioning procedures, usage restrictions.

[B ...]

C. Information systems

Conditions for access to notified operator's operational support systems, information systems or databases for pre-ordering, provisioning, ordering, maintenance and repair requests and billing.

D. Supply conditions

- 1. Lead time for responding to requests for supply of services and facilities; service level agreements, fault resolution, procedures to return to a normal level of service and quality of service parameters.”

Table 22: Interpretation of Annex II Access Directive

The sub parts of Annex I, as listed above, together with Article 12 are regarded as being the basis for identifying those elements within ECNs that ECPs may require either access to, or interconnection with, in order to facilitate local loop unbundling.

4.5 Universal Service Directive (2002/22/EC)

4.5.1 Introduction

The Universal Service Directive [4] concerns, among others, the universal service obligations including social obligations (Chapter II), the regulatory control on undertaking with SMP in specific markets (Chapter III), and the end users interests and rights (Chapter IV) - a basic set of services that must be provided to end-users. The rationale behind regulatory intervention with respect to the end users interests and rights is that the revenues from telecommunications services to certain groups of customers are less than the cost of provision. This is why in a fully commercial world these customers would not receive service. However, wider economic and social benefits justify the provision of telecommunications service to these customers (for example, improved employment, economic benefits to rural or isolated areas that would not have access to telecommunications, social benefits of integration of customers with society in general, etc.).

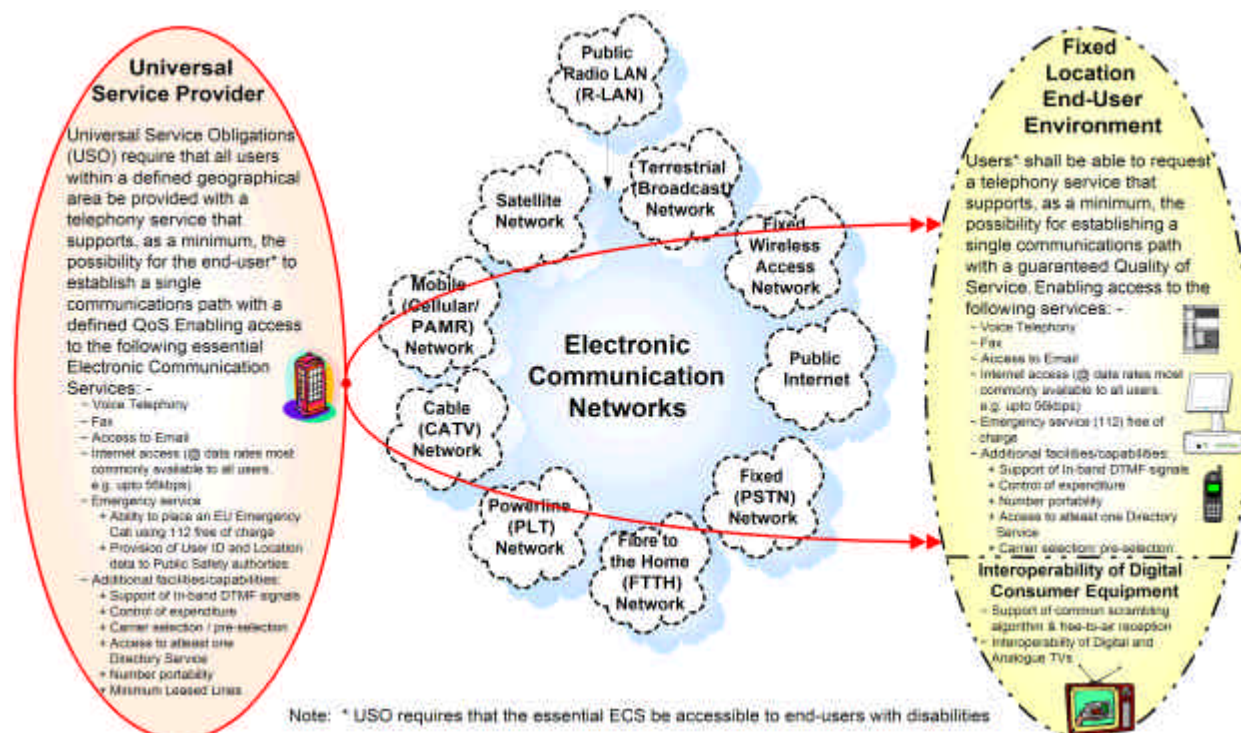


Figure 9: Principles of the Universal Service Directive to Electronic Communication Networks and Services

Universal Service aspects that are of interest to the European Commission for inclusion in the voluntary part of the list and/or specifications include:

- ?? The harmonized provision of leased lines beyond the minimum set (covers leased lines up to and including 2.048 kbit/s)
- ?? Number portability
- ?? Carrier (pre-)selection for fixed networks
- ?? Access to emergency services and the making available of caller location information
- ?? Calling line identification and support of DTMF tones.

The specific areas of interest include requirements for access and usability by disabled users and users with special social needs, transparency of prices and tariffs, privacy, reliability, security and network integrity.

4.5.2 Rationale

The following articles are considered to be relevant to the objectives of the present document:

Table 23: Relevant articles under the Universal Service Directive

Article	Chapter	Title	Comments
1	Scope, aim and definition	Objective and scope	This is an introduction, which is further explained in Recitals
2	Scope, aim and definition	Definitions	Definitions are included within the present document
4	Universal service obligations including social obligations	Provision of access at a fixed location	Covers access to Universal Service and provides the description of Universal service
7	Universal service obligations including social obligations	Special measures for disabled users	
10	Universal service obligations including social obligations	Control of expenditure	Annex II, Improves freedom of choice for users.
11	Universal service obligations including social obligations	Quality of service of designated undertakings	Annex III: QoS parameters
15	Universal service obligations including social obligations	Review of the scope of universal service	Section 1.(a) and 1.(b)
18	Regulatory controls on undertakings with significant market power in specific markets	Regulatory controls on the minimum set of leased lines	Specific reference to Article 17
19	Regulatory controls on undertakings with significant market power in specific markets	Carrier selection and carrier pre-selection	Freedom of choice
21	End-User Interest and rights	Transparency and publication of information	Annex II, Improves freedom of choice for users.
22	End-User Interest and rights	Quality of service of designated undertakings	Annex III: QoS parameters

Article	Chapter	Title	Comments
23	End-User Interest and rights	Integrity of the network	Ask for a clarification regarding the definition of integrity
24	End-User Interest and rights	Interoperability of consumer digital television equipment	Interoperability
25	End-User Interest and rights	Operator assistance and directory enquiry services	Provision of access to information, privacy and electronic communications
26	End-User Interest and rights	Single European emergency call number	Universal service: 112, has an impact on priority status
27	End-User Interest and rights	European telephone access code	All providers of public telephone networks to handle all calls to the European Telephony Numbering Space (ETNS)
28	End-User Interest and rights	Non-geographic numbers	Improves freedom of choice for users
29	End-User Interest and rights	Provision of additional facilities	Annex I
30	End-User Interest and rights	Number portability	Improves freedom of choice for users
35	General and Final Provisions	Technical adjustment	Annexes I, II, III, VI, and VII
-	Annex I	Description of facilities and services referred to in article 10 (Control of expenditure) and article 29 (Additional Facilities)	Part A: (b); Part B: (a); (b)
-	Annex II	Information to be published in accordance with Article 21 (Transparency and publication of information)	Freedom of choice.
-	Annex III	Quality of service parameters	Articles 11 and 22
-	Annex VI	Interoperability of digital consumer equipment referred to in article 24	Access Directive
-	Annex VII	Conditions for the minimum set of leased lines referred to in article 18	Leased Lines

Table 24: Relevant articles under Decision 2003/548/EC on the minimum set of leased lines referred to in Article 18 of the Universal Service Directive

Article	Chapter	Title	Comments
Annex	-	List of standards and/or specifications for electronic communications networks, services and associated facilities and services	List of leased line standards to be included

4.5.3 Justification and interpretation

4.5.3.1 Conflicting guidance/requirements for providing basic telephony services under the Universal Service Directive

Universal Service definitions should confine themselves as they do throughout all the Directives with non-technical matters. Recital (8) specifically states that ISDN is excluded because it provides two voice channels is potentially flawed when considering advice provided in ECN&S#3(03)10 (item 1/2) relating to alternative technologies and generally to be technology neutral. The definitions should concentrate upon specifying that the minimum requirement under USO is to provide a basic telephony service that supports, as a minimum, the possibility for the end-user to establish a single communications path with a guaranteed Quality of Service level. How this is achieved is then a matter for operators and service providers, where specifications or standards are specified within the Article 17 list of standards for each of the different technical implementations (e.g. ISDN, Fixed Wireless Access, PLT or Cellular etc.).

Question:

STF 254 therefore seeks explicit guidance as to whether Basic Rate ISDN may be used by ECPs to deliver PATS (Publicly Available Telephony Service).

4.5.3.2 Article 4: Provision of access at a fixed location

Article 4 states:

“1. Member States shall ensure that all reasonable requests for connection at a fixed location to the public telephone network and for access to publicly available telephone services at a fixed location are met by at least one undertaking.

2. The connection provided shall be capable of allowing end-users to make and receive local, national and international telephone calls, facsimile communications and data communications, at data rates that are sufficient to permit functional Internet access, taking into account prevailing technologies used by the majority of subscribers and technological feasibility.“

Table 25: Interpretation of Article 4 Universal Service Directive

In a competitive market, certain obligations should apply to all ECPs providing publicly available telephone services (PATS) at fixed locations and others should apply only to ECPs enjoying significant market power or which have been designated as a universal service operator. Recital (8) in the Universal Service Directive [4] further explains that any technology may be considered for use in meeting the requirements to provide PATS.

4.5.3.3 Article 7: Special measures for disabled users

Article 7 states:

“1. Member States shall, where appropriate, take specific measures for disabled end-users in order to ensure access to and affordability of publicly available telephone services, including access to emergency services, directory enquiry services and directories, equivalent to that enjoyed by other end-users.

2. Member States may take specific measures, in the light of national conditions, to ensure that disabled end-users can also take advantage of the choice of undertakings and service providers available to the majority of end-users.”

Table 26: Interpretation of Article 7 Universal Service Directive

Disabled users should have access to publicly available telephone services (PATS). Specific measures for disabled users should be used by the Member States, they can include, as appropriate, making available accessible public telephones, public text telephones or equivalent measures for deaf or speech-impaired people, providing services such as directory enquiry services or equivalent measures free of charge for blind or partially sighted people, and providing itemised bills in alternative format on request for blind or partially sighted people. Specific measures may also need to be taken to enable disabled users and users with special social needs to access emergency services ‘112’ and to give them a similar possibility to choose between different operators or service providers as other consumers.

4.5.3.4 Article 10: Control of expenditure

Article 10 states:

“1. Member States shall ensure that designated undertakings, in providing facilities and services additional to those referred to in Articles 4, 5, 6, 7 and 9(2), establish terms and conditions in such a way that the subscriber is not obliged to pay for facilities or services which are not necessary or not required for the service requested.

2. Member States shall ensure that designated undertakings with obligations under Articles 4, 5, 6, 7 and 9(2) provide the specific facilities and services set out in Annex I, Part A, in order that subscribers can monitor and control expenditure and avoid unwarranted disconnection of service.

3. Member States shall ensure that the relevant authority is able to waive the requirements of paragraph 2 in all or part of its national territory if it is satisfied that the facility is widely available.”

Table 27: Interpretation of Article 10 Universal Service Directive

The affordability of telephone service is related to the information which users receive regarding telephone usage expenses as well as the relative cost of telephone usage compared to other services, and is also related to their ability to control expenditure.

Affordability therefore means giving power to consumers through obligations imposed on ECPs designated as having universal service obligations.

This relates to Annex II, to improve the freedom of choice for the users.

4.5.3.5 Article 11: Quality of service of designated undertakings

Article 11 states:

“1. National regulatory authorities shall ensure that all designated undertakings with obligations under Articles 4, 5, 6, 7 and 9(2) publish adequate and up-to-date information concerning their performance in the provision of universal service, based on the quality of service parameters, definitions and measurement methods set out in Annex III. The published information shall also be supplied to the national regulatory authority.

2. National regulatory authorities may specify, inter alia, additional quality of service standards, where relevant parameters have been developed, to assess the performance of undertakings in the provision of services to disabled end-users and disabled consumers. National regulatory authorities shall ensure that information concerning the performance of undertakings in relation to these parameters is also published and made available to the national regulatory authority.

3. National regulatory authorities may, in addition, specify the content, form and manner of information to be published, in order to ensure that end-users and consumers have access to comprehensive, comparable and user-friendly information.

4. National regulatory authorities shall be able to set performance targets for those undertakings with universal service obligations at least under Article 4. In so doing, national regulatory authorities shall take account of views of interested parties, in particular as referred to in Article 33.

5. Member States shall ensure that national regulatory authorities are able to monitor compliance with these performance targets by designated undertakings.

6. Persistent failure by an undertaking to meet performance accordance with Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive) (1). National regulatory authorities shall be able to order independent audits or similar reviews of the performance data, paid for by the undertaking concerned, in order to ensure the accuracy and comparability of the data made available by undertakings with universal service obligations.”

Table 28: Interpretation of Article 11 Universal Service Directive

Quality is a key factor in a competitive market. NRAs should be able to monitor the achieved quality for undertakings, which have been designated as having universal service obligations. Annex III provides the Quality of Service parameters.

4.5.3.6 Article 15: Review of the scope of universal service

Article 15 states:

“1. The Commission shall periodically review the scope of universal service, in particular with a view to proposing to the European Parliament and the Council that the scope be changed or redefined. A review shall be carried out, on the first occasion within two years after the date of application referred to in Article 38(1), second subparagraph, and subsequently every three years.

2. This review shall be undertaken in the light of social, economic and technological developments, taking into account, inter alia, mobility and data rates in the light of the prevailing technologies used by the majority of subscribers. The review process shall be undertaken in accordance with Annex V. The Commission shall submit a report to the European Parliament and the Council regarding the outcome of the review.”

Table 29: Interpretation of Article 15 Universal Service Directive

As communications markets have and continue to evolve in terms of services used and technical means to deliver them to the users, the current list of standards under the Universal service directive can evolve taking into account the prevailing technologies and the risk of social exclusion for those who cannot afford them.

4.5.3.7 Article 18: Regulatory controls on the minimum set of leased lines

Article 18 states:

“1. Where, as a result of the market analysis carried out in accordance with Article 16(3), a national regulatory authority determines that the market for the provision of part or all of the minimum set of leased lines is not effectively competitive, it shall identify undertakings with significant market power in the provision of those specific elements of the minimum set of leased lines services in all or part of its territory in accordance with Article 14 of Directive 2002/21/EC (Framework Directive). The national regulatory authority shall impose obligations regarding the provision of the minimum set of leased lines, as identified in the list of standards published in the Official Journal of the European Communities in accordance with Article 17 of Directive 2002/21/EC (Framework Directive), and the conditions for such provision set out in Annex VII to this Directive, on such undertakings in relation to those specific leased line markets.

2. Where as a result of the market analysis carried out in accordance with Article 16(3), a national regulatory authority determines that a relevant market for the provision of leased lines in the minimum set is effectively competitive, it shall withdraw the obligations referred to in paragraph 1 in relation to this specific leased line market.

3. The minimum set of leased lines with harmonized characteristics, and associated standards, shall be published in the Official Journal of the European Communities as part of the list of standards referred to in Article 17 of Directive 2002/21/EC (Framework Directive). The Commission may adopt amendments necessary to adapt the minimum set of leased lines to new technical developments and to changes in market demand, including the possible deletion of certain types of leased line from the minimum set, acting in accordance with the procedure referred to in Article 37(2) of this Directive.”

Table 30: Interpretation of Article 18 Universal Service Directive

If the market for the provision of part or all of the minimum set of leased lines is not competitive, NRA's shall impose obligations on such ECPs in relation to specific leased line markets. The minimum set of Leased Line services (such as published in the OJEC) are mandatory services to be provided, until NRAs in accordance with market analysis procedures show otherwise (for example if they can be substituted by other technologies such as DSL).

4.5.3.8 Article 19: Carrier selection and carrier pre-selection

Article 19 states:

“1. National regulatory authorities shall require undertakings notified as having significant market power for the provision of connection to and use of the public telephone network at a fixed location in accordance with Article 16(3) to enable their subscribers to access the services of any interconnected provider of publicly available telephone services:

- (a) on a call-by-call basis by dialling a carrier selection code; and
- (b) by means of pre-selection, with a facility to override any pre-selected choice on a call-by-call basis by dialling a carrier selection code.

2. User requirements for these facilities to be implemented on other networks or in other ways shall be assessed in accordance with the market analysis procedure laid down in Article 16 of Directive 2002/21/EC (Framework Directive) and implemented in accordance with Article 12 of Directive 2002/19/EC (Access Directive).

3. National regulatory authorities shall ensure that pricing for access and interconnection related to the provision of the facilities in paragraph 1 is cost oriented and that direct charges to subscribers, if any, do not act as a disincentive for the use of these facilities.”

Table 31: Interpretation of Article 19 Universal Service Directive

A subscriber should have the freedom of choice to access the services of any interconnected provider of publicly available telephone services on a call-by-call basis (carrier selection) or by means of pre-selection

4.5.3.9 Article 21: Transparency and publication of information

Article 21 states:

“1. Member States shall ensure that transparent and up-to-date information on applicable prices and tariffs, and on standard terms and conditions, in respect of access to and use of publicly available telephone services is available to end-users and consumers, in accordance with the provisions of Annex II.

2. National regulatory authorities shall encourage the provision of information to enable end-users, as far as appropriate, and consumers to make an independent evaluation of the cost of alternative usage patterns, by means of, for instance, interactive guides.”

Table 32: Interpretation of Article 21 Universal Service Directive

To allow end users to know ahead of time the price they will have to pay for a communication, even more so if it is an international communication. The price of a single call may indeed depend not only on time, duration and destination, but also on other factors like number of calls made to a certain country, volume discounts, ... Knowledge on such information improves the freedom of choice for the user and may be provided, by means, for instance, interactive guides, etc

4.5.3.10 Article 22: Quality of service

Article 22 states:

“1. Member States shall ensure that national regulatory authorities are, after taking account of the views of interested parties, able to require undertakings that provide publicly available electronic communications services to publish comparable, adequate and up-to-date information for end-users on the quality of their services. The information shall, on request, also be supplied to the national regulatory authority in advance of its publication.

2. National regulatory authorities may specify, inter alia, the quality of service parameters to be measured, and the content, form and manner of information to be published, in order to ensure that end-users have access to comprehensive, comparable and user-friendly information. Where appropriate, the parameters, definitions and measurement methods given in Annex III could be used.”

Table 33: Interpretation of Article 22 Universal Service Directive

Quality of service should be measurable to allow a comparison between service providers and member states.
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4.5.3.11 Article 23: Integrity of the network

Article 23 states: “Member States shall take all necessary steps to ensure the integrity of the public telephone network at fixed locations and, in the event of catastrophic network breakdown or in cases of force majeure, the availability of the public telephone network and publicly available telephone services at fixed locations. Member States shall ensure that undertakings providing publicly available telephone services at fixed locations take all reasonable steps to ensure uninterrupted access to emergency services.”

Table 34: Interpretation of Article 23 Universal Service Directive

A public telephone network and publicly available telephone services should always be available at a fixed location to ensure uninterrupted access to emergency services. This infers that ECNs with Universal Service Obligations should ensure that analogue line powered voice terminals are provided with power either by the network or via battery back-up locally in the event of local power failure.
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4.5.3.12 Article 24: Interoperability of consumer digital television equipment

Article 24 states: “In accordance with the provisions of Annex VI, Member States shall ensure the interoperability of the consumer digital television equipment referred to therein.”

Table 35: Interpretation of Article 24 Universal Service Directive

Article 24 sets out the legal basis for Member States to ensure the provisions of Annex VI are met.

4.5.3.13 Article 25: Operator assistance and directory enquiry services

Article 25 states:

“1. Member States shall ensure that subscribers to publicly available telephone services have the right to have an entry in the publicly available directory referred to in Article 5(1)(a).

2. Member States shall ensure that all undertakings which assign telephone numbers to subscribers meet all reasonable requests to make available, for the purposes of the provision of publicly available directory enquiry services and directories, the relevant information in an agreed format on terms which are fair, objective, cost oriented and non-discriminatory.

3. Member States shall ensure that all end-users provided with a connection to the public telephone network can access operator assistance services and directory enquiry services in accordance with Article 5(1)(b).

4. Member States shall not maintain any regulatory restrictions which prevent end-users in one Member State from accessing directly the directory enquiry service in another Member State.

5. Paragraphs 1, 2, 3 and 4 apply subject to the requirements of Community legislation on the protection of personal data and privacy and, in particular, Article 11 of Directive 97/66/EC.”

Table 36: Interpretation of Article 25 Universal Service Directive

Article 25 defines the requirements for end-users' choice regarding access to and inclusion within a directory enquiry service, it further defines that Directory Services may be accessed by end-users in another member state provided that in all instances the provisions of the Privacy Directive [5] are maintained.

4.5.3.14 Article 26: Single European emergency call number

Article 26 states:

“1. Member States shall ensure that, in addition to any other national emergency call numbers specified by the national regulatory authorities, all end-users of publicly available telephone services, including users of public pay telephones, are able to call the emergency services free of charge, by using the single European emergency call number ‘112’.

2. Member States shall ensure that calls to the single European emergency call number ‘112’ are appropriately answered and handled in a manner best suited to the national organisation of emergency systems and within the technological possibilities of the networks.

3. Member States shall ensure that undertakings which operate public telephone networks make caller location information available to authorities handling emergencies, to the extent technically feasible, for all calls to the single European emergency call number ‘112’.

4. Member States shall ensure that citizens are adequately informed about the existence and use of the single European emergency call number ‘112’.”

Table 37: Interpretation of Article 26 Universal Service Directive

Article 26 specifies that calls placed to the European emergency call number ‘112’ should be free of charge; caller location information should be available to the emergency services and progressively support simultaneous handling of several languages over the networks.

4.5.3.15 Article 27: European telephone access codes

Article 27 states:

“1. Member States shall ensure that the ‘00’ code is the standard international access code. Special arrangements for making calls between adjacent locations across borders between Member States may be established or continued. The end-users of publicly available telephone services in the locations concerned shall be fully informed of such arrangements.

2. Member States shall ensure that all undertakings that operate public telephone networks handle all calls to the European telephony numbering space, without prejudice to the need for an undertaking that operates a public telephone network to recover the cost of the conveyance of calls on its network.”

Table 38: Interpretation of Article 27 Universal Service Directive

Easy access to international telephone services is vital for European citizens and European businesses.

Code ‘00’ has already been established as the standard international telephone access code for the Community. Special arrangements for making calls between adjacent locations across borders between Member States may be established or continued.

Code ‘3883’ has also been assigned to the European Telephony Numbering Space (ETNS). In order to ensure connection of calls to the ETNS, undertakings operating public telephone networks should ensure that calls using ‘3883’ are directly or indirectly interconnected to ETNS serving networks specified in the relevant European Telecommunications Standards Institute (ETSI) standards.

4.5.3.16 Article 28: Non-geographic numbers

Article 28 states: “Member States shall ensure that end-users from other Member States are able to access non-geographic numbers within their territory where technically and economically feasible, except where a called subscriber has chosen for commercial reasons to limit access by calling parties located in specific geographical areas.”

Table 39: Interpretation of Article 28 Universal Service Directive

Example: a UK subscriber (end-user) has rented/purchased a non-geographic number where they pay either part or the whole cost of the call being placed to them (local rate, national rate, free phone etc). The requirement is that, if the owner of that non-geographic number has not chosen to limit (for financial reasons) reception of calls from within their own geographic area (country); then Member States shall ensure that a call to that number in the UK from another Member State is possible.

4.5.3.17 Article 29: Provision of additional facilities

Article 29 states:

“1. Member States shall ensure that national regulatory authorities are able to require all undertakings that operate public telephone networks to make available to end-users the facilities listed in Annex I, Part B, subject to technical feasibility and economic viability.

2. A Member State may decide to waive paragraph 1 in all or part of its territory if it considers, after taking into account the views of interested parties, that there is sufficient access to these facilities.

3. Without prejudice to Article 10(2), Member States may impose the obligations in Annex I, Part A, point (e), concerning disconnection as a general requirement on all undertakings.”

Table 40: Interpretation of Article 29 Universal Service Directive

Article 29 and Annex I Part B state that when technically feasible, DTMF signalling (end to end) and calling line identification (CLI) should be provided across Member State boundaries.

4.5.3.18 Article 30: Number portability

Article 30 states:

“1. Member States shall ensure that all subscribers of publicly available telephone services, including mobile services, who so request can retain their number(s) independently of the undertaking providing the service:

- (a) in the case of geographic numbers, at a specific location; and
- (b) in the case of non-geographic numbers, at any location.

This paragraph does not apply to the porting of numbers between networks providing services at a fixed location and mobile networks.

2. National regulatory authorities shall ensure that pricing for interconnection related to the provision of number portability is cost oriented and that direct charges to subscribers, if any, do not act as a disincentive for the use of these facilities.

3. National regulatory authorities shall not impose retail tariffs for the porting of numbers in a manner that would distort competition, such as by setting specific or common retail tariffs.”

Table 41: Interpretation of Article 30 Universal Service Directive

Number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment such that end-users who so request should be able to retain their number(s) on the public telephone network independently of the organisation providing service. The Universal Service Directive [4] does not cover the provision of this facility between connections to the public telephone network at fixed and non-fixed locations.

4.5.3.19 Article 35: Technical adjustment

Article 35 states: “ Amendments necessary to adapt Annexes I, II, III, VI and VII to technological developments or to changes in market demand shall be adopted by the Commission, acting in accordance with the procedure referred to in Article 37(2).”

Table 42: Interpretation of Article 35 Universal Service Directive

Electronic communications networks should make the necessary adjustments to be measured against the “features” listed in the Universal Services Directive:
Control of expenditure, provide additional facilities (DTMF and Calling line identification), Transparency and publication of information, Quality of service parameters, Interoperability of digital consumer equipment, and provision of a minimum set of leased lines.

4.5.3.20 Annex I: Description of facilities and services referred to in Art. 10 and 29

Annex I states:

DESCRIPTION OF FACILITIES AND SERVICES REFERRED TO IN ARTICLE 10 (CONTROL OF EXPENDITURE) AND ARTICLE 29 (ADDITIONAL FACILITIES)

Part A: Facilities and services referred to in Article 10

[...]

- (b) Selective call barring for outgoing calls, free of charge I.e. the facility whereby the subscriber can, on request to the telephone service provider, bar outgoing calls of defined types or to defined types of numbers free of charge.

Part B: List of facilities referred to in Article 29

- (a) Tone dialling or DTMF (dual-tone multi-frequency operation) I.e. the public telephone network supports the use of DTMF tones as defined in ETSI ETR 207 for end-to-end signalling throughout the network both within a Member State and between Member States.
- (b) Calling-line identification
 - i.e. the calling party's number is presented to the called party prior to the call being established.
 - This facility should be provided in accordance with relevant legislation on protection of personal data and privacy, in particular Directive 97/66/EC.

To the extent technically feasible, operators should provide data and signals to facilitate the offering of calling-line identity and tone dialling cross Member State boundaries.”

Table 43: Interpretation of Annex I Universal Service Directive

Affordability for individual consumers is related to their ability to monitor and control their expenditure. Control of expenditure (article 10) is provided to the end user through the barring of certain calls of defined types (e.g. premium numbers) or numbers.
Additional facilities (article 29): Tone dialling and calling line identification facilities are normally available on modern telephone exchanges and can therefore increasingly be provided at little or no expense. Tone dialling is increasingly being used for user interaction with special services and facilities, including value added services, and the absence of this facility can prevent the user from making use of these services.

4.5.3.21 Annex II: Information to be published in accordance with Article 21

Annex II states:

“INFORMATION TO BE PUBLISHED IN ACCORDANCE WITH ARTICLE 21 (TRANSPARENCY AND PUBLICATION OF INFORMATION)

The national regulatory authority has a responsibility to ensure that the information in this Annex is published, in accordance with Article 21. It is for the national regulatory authority to decide which information is to be published by

the undertakings providing public telephone networks and/or publicly available telephone services and which information is to be published by the national regulatory authority itself, so as to ensure that consumers are able to make informed choices.

1. Name(s) and address(es) of undertaking(s)

i.e. names and head office addresses of undertakings providing public telephone networks and/or publicly available telephone services.

2. Publicly available telephone services offered

2.1. Scope of the publicly available telephone service

Description of the publicly available telephone services offered, indicating what is included in the subscription charge and the periodic rental charge (e.g. operator services, directories, directory enquiry services, selective call barring, itemised billing, maintenance, etc.).

2.2. Standard tariffs covering access, all types of usage charges, maintenance, and including details of standard discounts applied and special and targeted tariff schemes.

2.3. Compensation/refund policy, including specific details of any compensation/refund schemes offered.

2.4. Types of maintenance service offered.

2.5. Standard contract conditions, including any minimum contractual period, if relevant.

3. Dispute settlement mechanisms including those developed by the undertaking.

4. Information about rights as regards universal service, including the facilities and services mentioned in Annex I.”

Table 44: Interpretation of Annex II Universal Service Directive

Annex II shows clearly the information to presented by ECPs providing PATS, standards and/or specifications that would assist ECPs in presenting such information in a harmonised format will be included with the Article 17 list.

4.5.3.22 Annex III: Quality of service parameters

Annex III states: “ Supply-time and quality-of-service parameters, definitions and measurement methods referred to Articles 11 and 22

Parameter (1)	Definition	Measurement method
Supply time for initial connection	ETSI EG 201 769-1	ETSI EG 201 769-1
Fault rate per access line	ETSI EG 201 769-1	ETSI EG 201 769-1
Fault repair time	ETSI EG 201 769-1	ETSI EG 201 769-1
Unsuccessful call ratio (2)	ETSI EG 201 769-1	ETSI EG 201 769-1
Call set up time (2)	ETSI EG 201 769-1	ETSI EG 201 769-1
Response times for operator services	ETSI EG 201 769-1	ETSI EG 201 769-1
Response times for directory enquiry services	ETSI EG 201 769-1	ETSI EG 201 769-1
Proportion of coin and card operated public pay telephones in working order	ETSI EG 201 769-1	ETSI EG 201 769-1
Bill correctness complaints	ETSI EG 201 769-1	ETSI EG 201 769-1

- (1) Parameters should allow for performance to be analysed at a regional level (i.e. no less than Level 2 in the Nomenclature of Territorial Units for Statistics (NUTS) established by Eurostat).
- (2) Member States may decide not to require that up-to-date information concerning the performance for these two parameters be kept, if evidence is available to show that performance in these two areas is satisfactory.

Note: Version number of ETSI EG 201 769-1 is 1.1.1 (April 2000).”

Table 45: Interpretation of Annex III Universal Service Directive

Quality of service standards have been developed for a range of parameters to assess the quality of services received by subscribers and how well ECPs designated with universal service obligations perform in achieving these standards.

4.5.3.23 Annex VI: Interoperability of digital consumer equipment referred to in Article 24

Annex VI states:

“1. The common scrambling algorithm and free-to-air reception

All consumer equipment intended for the reception of digital television signals, for sale or rent or otherwise made available in the Community, capable of descrambling digital television signals, is to possess the capability to:

- allow the descrambling of such signals according to the common European scrambling algorithm as administered by a recognised European standards organisation, currently ETSI;
- display signals that have been transmitted in clear provided that, in the event that such equipment is rented, the rentee is in compliance with the relevant rental agreement.

2. Interoperability for analogue and digital television sets

Any analogue television set with an integral screen of visible diagonal greater than 42 cm which is put on the market for sale or rent in the Community is to be fitted with at least one open interface socket, as standardised by a recognised European standards organisation, e.g. as given in the CENELEC EN 50 049-1:1997 standard, permitting simple connection of peripherals, especially additional decoders and digital receivers.

Any digital television set with an integral screen of visible diagonal greater than 30 cm which is put on the market for sale or rent in the Community is to be fitted with at least one open interface socket (either standardised by, or conforming to a standard adopted by, a recognised European standards organisation, or conforming to an industry-wide specification) e.g. the DVB common interface connector, permitting simple connection of peripherals, and able to pass all the elements of a digital television signal, including information relating to interactive and conditionally accessed services.”

Table 46: Interpretation of Annex VI Universal Service Directive

Annex VI stipulates that consumer equipment intended for the reception of digital television signals are compliant with the common European scrambling algorithm, as specified in the Article 17 list of standards.
 Analogue Television sets with an integral diagonal visible screen greater than 42cm must be fitted with at least one European standardised open interface socket.
 Digital Television sets with an integral diagonal visible screen greater than 30cm must be fitted with at least one open interface socket that conforms to either European standard or industry-wide specification.

4.5.3.24 Annex VII: Conditions for the minimum set of leased lines referred to in Article 18

Annex VII states:

“Note: In accordance with the procedure in Article 18, provision of the minimum set of leased lines under the conditions established by Directive 92/44/EC should continue until such time as the national regulatory authority determines that there is effective competition in the relevant leased lines market.

National regulatory authorities are to ensure that provision of the minimum set of leased lines referred to in Article 18 follows the basic principles of non-discrimination, cost orientation and transparency.

1. Non discrimination

National regulatory authorities are to ensure that the organisations identified as having significant market power pursuant to Article 18(1) adhere to the principle of non-discrimination when providing leased lines referred to in Article 18. Those organisations are to apply similar conditions in similar circumstances to organizations providing similar services, and are to provide leased lines to others under the same conditions and of the same quality as they provide for their own services, or those of their subsidiaries or partners, where applicable.

2. Cost orientation

National regulatory authorities are, where appropriate, to ensure that tariffs for leased lines referred to in Article 18 follow the basic principles of cost orientation.

To this end, national regulatory authorities are to ensure that undertakings identified as having significant market power pursuant to Article 18(1) formulate and put in practice a suitable cost accounting system.

National regulatory authorities are to keep available, with an adequate level of detail, information on the cost accounting systems applied by such undertakings. They are to submit this information to the Commission on request.

3. Transparency

National regulatory authorities are to ensure that the following information in respect of the minimum set of leased lines referred to in Article 18 is published in an easily accessible form.

- 3.1. Technical characteristics, including the physical and electrical characteristics as well as the detailed technical and performance specifications which apply at the network termination point.
- 3.2. Tariffs, including the initial connection charges, the periodic rental charges and other charges. Where tariffs are differentiated, this must be indicated. Where, in response to a particular request, an organisation identified as having significant market power pursuant to Article 18(1) considers it unreasonable to provide a leased line in the minimum set under its published tariffs and supply conditions, it must seek the agreement of the national regulatory authority to vary those conditions in that case.
- 3.3. Supply conditions, including at least the following elements:
 - information concerning the ordering procedure,
 - the typical delivery period, which is the period, counted from the date when the user has made a firm request for a leased line, in which 95 % of all leased lines of the same type have been put through to the customers.

This period will be established on the basis of the actual delivery periods of leased lines during a recent time interval of reasonable duration. The calculation must not include cases where late delivery periods were requested by users,

- the contractual period, which includes the period which is in general laid down in the contract and the minimum contractual period which the user is obliged to accept,
- the typical repair time, which is the period, counted from the time when a failure message has been given to the responsible unit within the undertaking identified as having significant market power pursuant to Article 18(1) up to the moment in which 80 % of all leased lines of the same type have been re-established and in appropriate cases notified back in operation to the users. Where different classes of quality of repair are offered for the same type of leased lines, the different typical repair times shall be published,
- any refund procedure.

In addition where a Member State considers that the achieved performance for the provision of the minimum set of leased lines does not meet users' needs, it may define appropriate targets for the supply conditions listed above.”

Table 47: Interpretation of Annex VII Universal Service Directive

Until the effective competition in the relevant leased lines market has been determined by NRAs (refer to Article 15 [3]), the obligations with the provision of the minimum set of leased lines must be maintained. The provision of the minimum set of leased lines has to be based on principles of non-discrimination (ECNs should provide the leased lines to others under the same conditions and of the same quality as they provide for their own services), cost-orientation (tariffs for leased lines should be based on the suitable cost accounting system), transparency
 Note: It is the responsibility of NRA's to publish technical characteristics, tariffs, supply conditions for the minimum set of leased lines.

4.5.3.25 Annex to Commission Decision 2003/548/EC: List of standards and/or specifications for electronic communications networks, services and associated facilities and services

The annex states:

“Mandatory part

Identification of the minimum set of leased lines

[...]

Identification of the minimum set of leased lines with harmonized characteristics and associated standards

ANALOGUE LEASED LINES

Leased line type	Reference	Notes
Ordinary quality voice bandwidth ^(a)	— 2 wire:ETSI EN 300 448	Connection characteristics and network interface presentation
	— 4 wire:ETSI EN 300 451	
Special quality voice bandwidth ^(b)	— 2 wire:ETSI EN 300 449	Connection characteristics and network interface presentation
	— 4 wire:ETSI EN 300 452	
(a)	Leased lines meeting the requirements of ETS 300 448 (2 wire)or ETS 300 451 (4 wire)are deemed to comply with the requirements for this type of leased line.	
(b)	Leased lines meeting the requirements of ETS 300 449 (2 wire)or ETS 300 452 (4 wire)are deemed to comply with the requirements for this type of leased line.	

DIGITAL LEASED LINES

Leased line type	Reference	Notes
64 kbit/s ^(c)	— ETSI EN 300 288	Network interface presentation
	— ETSI EN 300 289	Connection characteristics
2 048 kbit/s — E1 (unstructured) ^(d)	— ETSI EN 300 418	Network interface presentation
	— ETSI EN 300 247	Connection characteristics
2 048 kbit/s — E1 (structured) ^(e)	— ETSI EN 300 418	Network interface presentation
	— ETSI EN 300 419	Connection characteristics
(c)	Leased lines meeting the requirements of ETS 300 288, ETS 300 288/A1 and ETS 300 289 are deemed to comply with the requirements for this type of leased line.	
(d)	Leased lines meeting the requirements of ETS 300 418, ETS 300 247 and ETS 300 247/A1 are deemed to comply with the requirements for this type of leased line.	
(e)	Leased lines meeting the requirements of ETS 300 418 and ETS 300 419 are deemed to comply with the requirements for this type of leased line.	

Table 48: Interpretation of Annex to Decision 2003/548/EC

Until such time that the effective competition in the relevant leased line markets has been determined by NRAs (refer to Article 15 [3]), the obligations for the provision of the minimum set of leased lines must be maintained. Consequently the information provided in Decision 2003/548/EC will be included within the list of standards under Article 17 [3].

4.6 Directive on privacy and electronic communications (2002/58/EC)

4.6.1 Introduction

<Figure to be provided in later version>

Figure 10: Principles of the Directive on privacy and electronic communications to Electronic Communication Networks and Services

Editor's Note: Further explanatory text is to be provided ...

The Directive harmonizes the provisions of the Member States required to ensure an equivalent level of protection of fundamental rights and freedoms, and in particular the right to privacy, with respect to the processing of personal data in the electronic communication sector and to ensure the free movement of such data and of electronic communication equipment and services in the Community.

The Directive updates the previous Data Protection Directive (Directive 97/66/EC) in the light of new technologies and ensures that the privacy rules that apply to phone and fax services also apply to e-mail and use of the Internet. The aim is to protect the confidentiality of communications, to set conditions on the use of traffic, location and subscriber data, and subscriber directories, and to regulate the use of communications networks for unsolicited direct marketing by phone, fax, e-mail and SMS.

There are new provisions in the Directive on:

- ?? Value added services based on traffic and location data – allowing now the provision of value added services based on traffic or location data, by network or service providers on their own or in conjunction with third parties. There is no restriction on the type of services that may be provided as long as subscribers give their consent and are informed of the data processing implications.
- ?? Unsolicited commercial e-mail and SMS – is now a subject to a prior consent requirement, so that unsolicited commercial e-mails may not be sent without the prior consent of the addressee, except in the context of an existing customer relationship, where companies may continue to e-mail on an “opt-out” basis.
- ?? Cookies and similar internet tracking devices - used to access and store data on internet linked computer terminals are now subject to a new transparency requirement – anyone who uses them on a website or as part of another online service must normally provide information and a chance to refuse to subscribers or users who are not content to accept them.
- ?? Subscriber directories - Subscribers will have a stronger right to decide whether they want to be listed in subscriber directories or not, and they must be given clear information about the directories in question, including any reverse search-type functions which allow directory users to identify names/addresses by searching against numbers rather than the other way round.

Other changes are related to data retention, on which the Directive now explicitly allows the retention of traffic data (e.g. records of the length, origin and destination of phone calls) for national security and law enforcement purposes, once it is no longer required for billing or other essential management purposes, provided that any measures taken by Member States (such as the data retention provisions that have been included within the UK Anti-Terrorism, Crime and Security Act 2001) are proportionate and necessary.

This Directive is of interest to phone/internet users, communications network and service providers, website and online content businesses, subscriber directory providers and anyone who direct markets by phone, fax, SMS or e-mail.

This Directive shall not apply to activities which fall outside the scope of the Treaty establishing the European Community, such as those covered by Titles V and VI of the Treaty on European Union, and in any case to activities concerning public security, defence, State security (including the economic well-being of the State when the activities relate to State security matters) and the activities of the State in areas of criminal law.

While:

?? Presentation and restriction of calling and connected line identification,

?? Exceptions for emergency calls,

?? Automatic call forwarding

Apply to subscriber lines connected to digital exchanges; it is not mandatory to subscriber lines connected to analogue exchanges if it is not technically possible or if it requires a disproportionate economic effort.

4.6.2 Rationale

The following articles are considered to be relevant to the objectives of the present document:

Table 49: Relevant articles under Privacy Directive

Article	Title	Comments
1	Scope and aim	This is an introduction, which is further explained in Recitals
2	Definitions	Definitions are included within the present document
3	Services concerned	To be included in the introduction. CLIP, CLIP and automatic call forwarding: mandatory on digital networks and conditional on analogue networks
5	Confidentiality of the communications	Art 5.3: Freedom of choice relating to storage of data, or user information related to privacy and data protection
6	Traffic data	Art 6.3: how is the user to withdraw his consent for the processing of traffic data at any time.
7	Itemised billing	Freedom of choice. On itemized billing (OSS). e.g roaming calls with CLIP of the caller. Make sure N° not published on the itemized bill
8	Presentation and restriction of calling and connected line identification	Related to privacy
9	Location data other than traffic data	Related to privacy
10	Exceptions	Emergency calls must carry CLIP and Location
11	Automatic call forwarding	Privacy
13	Unsolicited communications	Art 13.4: Function to be provided by the network facility to block unsolicited mails.

4.6.3 Justification and interpretation

4.6.3.1 Article 5: Confidentiality of the communications

Article 5 states:

“[...]”

3. Member States shall ensure that the use of electronic communications networks to store information or to gain access to information stored in the terminal equipment of a subscriber or user is only allowed on condition that the subscriber or user concerned is provided with clear and comprehensive information in accordance with Directive 95/46/EC, inter alia about the purposes of the processing, and is offered the right to refuse such processing by the data controller. This shall not prevent any technical storage or access for the sole purpose of carrying out or facilitating the transmission of a communication over an electronic communications network, or as strictly necessary in order to provide an information society service explicitly requested by the subscriber or user.”

Table 50: Interpretation of Article 5 Privacy Directive

So-called spyware, web bugs, hidden identifiers and other similar devices can enter the user's terminal without their knowledge in order to gain access to information, to store hidden information or to trace the activities of the user and may seriously intrude upon the privacy of these users. The use of such devices should be allowed only for legitimate purposes, with the knowledge of the users concerned.

4.6.3.2 Article 6: Traffic data

Article 6 states:

“[...]”

3. For the purpose of marketing electronic communications services or for the provision of value added services, the provider of a publicly available electronic communications service may process the data referred to in paragraph 1 to the extent and for the duration necessary for such services or marketing, if the subscriber or user to whom the data relate has given his/her consent. Users or subscribers shall be given the possibility to withdraw their consent for the processing of traffic data at any time.”

Table 51: Interpretation of Article 6 Privacy Directive

A subscriber should be able to know at all times, which marketing service they have agreed to, and have the possibility to remove their consent. This is not the same as an end-user notifying the Data Protection Commissioner, in their Member State, that they do not wish to receive any unsolicited telephone calls, faxes, email or SMS text messages to their identified number. Article 6 introduces the ability for the end-user to remove consent on a per service basis (e.g. entering or sending a pre-defined code for that service via SMS).

4.6.3.3 Article 7: Itemised billing

Article 7 states:

“1. Subscribers shall have the right to receive non-itemised bills.

2. Member States shall apply national provisions in order to reconcile the rights of subscribers receiving itemised bills with the right to privacy of calling users and called subscribers, for example by ensuring that sufficient alternative privacy enhancing methods of communications or payments are available to such users and subscribers.”

Table 52: Interpretation of Article 7 Privacy Directive

The subscriber must have the possibility to check the accuracy of the fees charged by the service provider, but this may jeopardize the privacy of the users of publicly available electronic communication services.

4.6.3.4 Article 8: Presentation and restriction of calling and connected line identification

Article 8 states:

“1. Where presentation of calling line identification is offered, the service provider must offer the calling user the possibility, using a simple means and free of charge, of preventing the presentation of the calling line identification on a per-call basis. The calling subscriber must have this possibility on a per-line basis.

2. Where presentation of calling line identification is offered, the service provider must offer the called subscriber the possibility, using a simple means and free of charge for reasonable use of this function, of preventing the presentation of the calling line identification of incoming calls.

3. Where presentation of calling line identification is offered and where the calling line identification is presented prior to the call being established, the service provider must offer the called subscriber the possibility, using a simple means, of rejecting incoming calls where the presentation of the calling line identification has been prevented by the calling user or subscriber.

4. Where presentation of connected line identification is offered, the service provider must offer the called subscriber the possibility, using a simple means and free of charge, of preventing the presentation of the connected line identification to the calling user.
5. Paragraph 1 shall also apply with regard to calls to third countries originating in the Community. Paragraphs 2,3 and 4 shall also apply to incoming calls originating in third countries.
6. Member States shall ensure that where presentation of calling and/or connected line identification is offered, the providers of publicly available electronic communications services inform the public thereof and of the possibilities set out in paragraphs 1, 2, 3 and 4.”

Table 53: Interpretation of Article 8 Privacy Directive

Subscribers should know the choices they have regarding privacy facilities offered by the providers of publicly available electronic communication services.

Question:

Articles 6, 7 and 8

In article 7(2) there is no mention of post call processing of CLIP/CLIR data (e.g. to respect the withholding of identity in itemised billing), Articles 6 and 8 are also not clear about this provision. This is especially critical where Caller Line Identification data should be available in the Call Data Record (CDR) for possible billing disputes, albeit there is currently no standardised implementation for CDRs.

The issue is primarily of concern in those instances when end-users are roaming and are charged (billed) for the onward portion of the call from their home network to the roamed network, in such instances the itemised bill for such calls could potentially identify the calling party – also if a unique reference is not provided then the user would have difficulty deciding whether to dispute the charge as being valid (or not).

4.6.3.5 Article 9: Location data other than traffic data

Article 9 states:

“1. Where location data other than traffic data, relating to users or subscribers of public communications networks or publicly available electronic communications services, can be processed, such data may only be processed when they are made anonymous, or with the consent of the users or subscribers to the extent and for the duration necessary for the provision of a value added service. The service provider must inform the users or subscribers, prior to obtaining their consent, of the type of location data other than traffic data which will be processed, of the purposes and duration of the processing and whether the data will be transmitted to a third party for the purpose of providing the value added service. Users or subscribers shall be given the possibility to withdraw their consent for the processing of location data other than traffic data at any time.

2. Where consent of the users or subscribers has been obtained for the processing of location data other than traffic data, the user or subscriber must continue to have the possibility, using a simple means and free of charge, of temporarily refusing the processing of such data for each connection to the network or for each transmission of a communication.

3. Processing of location data other than traffic data in accordance with paragraphs 1 and 2 must be restricted to persons acting under the authority of the provider of the public communications network or publicly available communications service or of the third party providing the value added service, and must be restricted to what is necessary for the purposes of providing the value added service.”

Table 54: Interpretation of Article 9 Privacy Directive

In digital mobile networks, location data giving the geographic position of the terminal equipment of the mobile user are processed to enable the transmission of communications. Processing of such data for value added services should only be allowed where subscribers have given their consent.

4.6.3.6 Article 10: Exceptions

Article 10 states: “Member States shall ensure that there are transparent procedures governing the way in which a provider of a public communications network and/or a publicly available electronic communications service may override:

- (a) the elimination of the presentation of calling line identification, on a temporary basis, upon application of a subscriber requesting the tracing of malicious or nuisance calls. In this case, in accordance with national law, the data containing the identification of the calling subscriber will be stored and be made available by the provider of a public communications network and/or publicly available electronic communications service;
- (b) the elimination of the presentation of calling line identification and the temporary denial or absence of consent of a subscriber or user for the processing of location data, on a per-line basis for organisations dealing with emergency calls and recognised as such by a Member State, including law enforcement agencies, ambulance services and fire brigades, for the purpose of responding to such calls.”

Table 55: Interpretation of Article 10 Privacy Directive

User and subscriber rights to privacy may be restricted with regard to CLI where this is necessary to allow emergency services to carry out their tasks as effectively as possible. Restrictions on privacy may also apply when there is need to trace nuisance and malicious calls.

4.6.3.7 Article 11: Automatic call forwarding

Article 11 states: “Member States shall ensure that any subscriber has the possibility, using a simple means and free of charge, of stopping automatic call forwarding by a third party to the subscriber ’s terminal.”

Table 56: Interpretation of Article 11 Privacy Directive

Article 11 introduces the requirement for a facility to remove Automatic Call Forwarding directly on the network facility or block incoming calls from the forwarding party at the instigation of the subscriber that is receiving the forwarded calls.

Question:

Article 11 introduces the requirement for a facility to remove Automatic Call Forwarding directly on the network facility or block incoming calls from the forwarding party at the instigation of the subscriber that is receiving those forwarded calls. The mechanisms to achieve this within ECNs and ECSs become complex when considering that rights for access and interconnection on a remote network may not be possible. If required, STF 254 will prepare a separate paper to explain/highlight the issues.

Obviously if there was or is no intention for such a facility to be achieved within networks and the intent was merely to provide a procedure by which an end-user may invoke a request to their ECP then please advise.

4.6.3.8 Article 13: Unsolicited communications

Article 13 states:

“[...]”

4. In any event, the practice of sending electronic mail for purposes of direct marketing disguising or concealing the identity of the sender on whose behalf the communication is made, or without a valid address to which the recipient may send a request that such communications cease, shall be prohibited.”

Table 57: Interpretation of Article 13 Privacy Directive

The Electronic Communication Network should provide a network facility to block unsolicited emails (“spam”).
 Comment: With regard to the effectiveness of technical mechanisms that can be introduced within an ECN or ECS to control “spam” (“control” not “eliminate”) the consensus is that with current technology, blocking between 85% and 90% of the spam with minimal false positives along the way is the best that can be achieved. There are potential ways to achieve this control on both the server and client side, but this also raises the question of private network resources (email gateways / servers) connected to a Public Electronic Communication Network (PECN). For example, a favoured mechanism for “spammers” (those who send unsolicited email) to deliver or disguise the identity of the originator is to relay email via a private network email server that has an ‘open relay’² configuration problem.

Question:

Article 13(4)

Is it the Commission’s intent to harmonise a technical means for prohibiting those sending email for purposes of direct marketing disguising or concealing the identity of the sender on whose behalf the communication is made, or without a valid address to which the recipient may send a request that such communications? Or is this Article essentially just the legal instrument under which organisations may be prosecuted?

²

Open relay is when an email server receives email that has been routed to its domain, but when processing the message header discovers that the addressee is not a valid user under that domain. It then re-sends (relays) the email back out to the PECN (Internet), with the message ID field for that email consequently being updated to show that it was routed via that mail server and the domain is removed from the address. Address format example from a spammer: target.user@address.com@openrelayservice.com
 Address format example after being relayed: target.user@address.com

Annex A (normative): List of standards and/or specifications (mandatory list)

Editor's Note: How should we structure the mandatory (normative) parts and voluntary (informative) parts ???

A.1 Access and interconnection

A.1.1 Mobile networks

Justifications and interpretations have not been agreed upon. This makes it very difficult to identify the relevant specifications without a common understanding of what should or should not be put in the list.

However, to move forward and to avoid jeopardizing the project, a list of 3GPP specifications is provided hereby, as a complete table. After discussion in the OCG ECN&S#5, specifications will be spread throughout the appropriate tables in the relevant sections.

All mobile related specifications have been put in Annex C.

A.1.1.1 Network interconnection

A.1.1.2 PLMN/PLMN list of interfaces open for international roaming

A.1.1.3 Mobile Virtual Network Operator (MVNO)

A.1.1.4 Value Added Service Providers (VASP)

A.1.2 Fixed Networks

A.1.2.1 Leased Lines

A.1.2.1.1 Interconnection of Leased Lines

The technical interfaces and/or service features listed in this chapter include those listed in Annex III to Directive 92/44/EEC. It lists also the minimum set of leased lines identified in the Commission Decision 2003/548/EC and published in the OJEC L186/43 on 25 July 2003.

Editor's Note: It is proposed that a separate section for leased lines is required that relates not just to Universal Service but all other justifications for leased lines.

A.1.2.1.1 Interconnection of Leased Lines

The technical interfaces and/or service features listed in this chapter include those listed in Annex III to Directive 92/44/EEC. It lists also the minimum set of leased lines identified in the Commission Decision 2003/548/EC and published in the OJEC L186 on 25 July 2003.

A.1.2.1.1.1 Analogue Leased Lines

The following table identifies the minimum set of analogue leased lines with harmonized characteristics and associated standards as identified in the Commission Decision 2003/548/EC and published in the OJEC L186 on 25 July 2003.

Technical Interfaces and/or service features	Reference	Notes
Ordinary quality voice bandwidth	- 2 wire : ETSI EN 300 448 or - 4 wire : ETSI EN 300 451	Connection characteristics and network interface presentation
<i>Comments:</i> Leased lines meeting the requirements of ETS 300 488 (2 wire) or ETS 300 451 (4 wire) are deemed to comply with the requirements for this type of leased line.		
Special quality voice bandwidth	- 2 wire : ETSI EN 300 449 or - 4 wire : ETSI EN 300 452	Connection characteristics and network interface presentation
<i>Comments:</i> Leased lines meeting the requirements of ETS 300 418, ETS 300 247 and ETS 300 247/A1 are deemed to comply with the requirements for this type of leased line.		
Rationale: The Commission Decision 2003/548/EC provides continuity of the legal basis for the minimum set of leased lines, for the purpose of implementation of the relevant provisions in the Framework Directive (Directive 2002/21/EC) and the Universal Service Directive (Directive 2002/22/EC).		

A.1.2.1.1.2 Digital Leased Lines

The following table identifies the minimum set of digital leased lines with harmonized characteristics and associated standards as identified in the Commission Decision 2003/548/EC and published in the OJEC L186 on 25 July 2003.

Technical Interfaces and/or service features	Reference	Notes
64 kbit/s	- ETSI EN 300 288 - ETSI EN 300 289	Network interface presentation Connection characteristics
<i>Comments:</i> Leased lines meeting the requirements of ETS 300 288, ETS 300/288A1 and ETS 300 289 are deemed to comply with the requirements for this type of leased line.		
2 048 kbit/s – E1 (unstructured)	- ETSI EN 300 418 - ETSI EN 300 247	Network interface presentation Connection characteristics
<i>Comments:</i> Leased lines meeting the requirements of ETS 300 418, ETS 300 247 and ETS 300 247/A1 are deemed to comply with the requirements for this type of leased line.		
2 048 kbit/s – E1 (structured)	- ETSI EN 300 686 - ETSI EN 300 688	Network interface presentation Connection characteristics
<i>Comments:</i> Leased lines meeting the requirements of ETS 300 418 and ETS 300 419 are deemed to comply with the requirements for this type of leased line.		
Rationale: The Commission Decision 2003/548/EC provides continuity of the legal basis for the minimum set of leased lines, for the purpose of implementation of the relevant provisions in the Framework Directive (Directive 2002/21/EC) and the Universal Service Directive (Directive 2002/22/EC).		

The technical interfaces and/or service features listed in this table include those listed in Annex III to Directive 92/44/EEC. The reference list includes the digital leased lines beyond the minimum set identified in the Commission Decision 2003/548/EC, published in the OJEC L186 on 25 July 2003 and listed above.

Technical Interfaces and/or service features	Reference	Notes
N x 64 kbit/s	- ETSI EN 300 766	Connection characteristics and network interface presentation
<i>Comments:</i> ETSI EN 300 766 specifies connection characteristics and network interface presentation for multiple 64 kbit/s digital unrestricted leased lines with octet integrity presented at a structured 2 048 kbit/s interface at either of both ends.		
34 368 kbit/s - E3	- ETSI EN 300 686 - ETSI EN 300 687	Network interface presentation Connection characteristics
<i>Comments:</i> E3 is the market denomination for this type of leased line. The associated standard for terminal equipment is ETSI EN 300 689. The attachment requirements for terminal equipment to be connected to these leased lines were specified in ETSI TBR 24.		
139 264 kbit/s - E4	- ETSI EN 300 686 - ETSI EN 300 688	Network interface presentation Connection characteristics
<i>Comments:</i> E4 is the market denomination for this type of leased line. The associated standard for terminal equipment is ETSI ETS 300 690. The attachment requirements for terminal equipment to be connected to these leased lines were specified in ETSI TBR 25.		
SDH VC-based leased digital bandwidth	- ETSI EN 301 164 - ETSI EN 301 165	Connection characteristics Interface presentation
<i>Comments:</i> ETSI EN 301 164 specifies the technical requirements for leased line connections of SDH virtual containers, i.e. VC-4, VC-3, VC-2 and VC12. ETSI EN 301 165 defines the functions relevant for the interface presentations of SDH leased lines with STM-1 (155 520 kbit/s) in both electrical and optical forms and STM-4 (622 080 kbit/s) in optical form.		

A.1.2.1.2 Interconnection based upon circuit switched interfaces, including intelligent network interconnection

This section contains standards for switched network interconnection, including intelligent network interconnection. The interconnection standards identified are based on Signalling System No. 7 (SS7).

Technical Interfaces and/or service features	Reference	Notes
ISUP	- ETSI EN 300 356-1 to 12 - ETSI EN 300 356-14 to 20 - ETSI EN 300 356-21	version 3 and 4 version 3 and 4 version 4
SCCP	- ETSI EN 300 009-1	
MTP	- ETSI EN 300 008-1	
<i>Comments:</i> ISUP is the user part of Signalling System No. 7 (SS7). SS7 provides common channel signalling for use in circuit switched networks : PSTN, ISDN and GSM. ISUP has been designed first at an international boundary, but is also appropriate for the interconnections of different operators' networks in the same country. ISUP uses the layers 1 to 3 protocols (MTP) and may also use SCCP. Different ETSI versions for ISUP exist. ISUP version 2 of ETSI is specified in the ETS 300 356-series and in ETS 300 344. The MTP standard ETSI EN 300 008-1 has been designed for international interconnection.		
Application of ISUP version 3 for the ISDN-GSM signalling interface	- ETSI EN 302 646-1 to 4	
<i>Comments:</i> EN 302 646 contains the ISUP version 3 signalling aspects for the interconnection between ISDN and GSM networks		
TCAP	- ETSI ETS 300 287-1 to 3	version 2
MAP	- ETSI TS 100 974 - ETSI TS 129 002	Phase 2+, Releases 1996-1998 Phase 2+, Release 1999 and Releases 4 and 5
<i>Comments:</i> MAP is the user part of Signalling system No 7 (SS7) for handling roaming in mobile networks. MAP uses the SS7 protocols MTP, SCCP and TCAP.		
INAP ?	- ETSI EN 301 140-series - ETSI EN 301 931-series - ETSI EN 302 039-series	Capability Set 2 (CS2) Capability Set 3 (CS3) Capability Set 4 (CS 4)
<i>Comments:</i> INAP is the user part of Signalling System No 7 (SS7) for intelligent network interconnection. INAP uses the SS7 protocols MTP, SCCP, and TCAP. Different ETSI Capability Set versions exist.		

Editor's note: Should INAP be removed according to the liason statement to OCG/ECN&S, 3rd OCG ECN&S meeting, 3rd September 2003, Agenda item 8.2.?

“The INAP protocol has never been designed to be used for network interconnection. Actually, the scope of EN 301 140 clearly indicates that the document is only intended “as a guide to implementers and network operators to ensure inter-working between different manufacturers’ equipment...”. The scope sections of EN 301 193 and EN 301 039 include a similar statement. Using the INAP protocol for interconnection networks would require additional standardisation effort to remove redundant options and define the coding of a number parameters whose content is currently specified as being “network operator specific”. There is currently no sufficient support from ETSI members to initiate such a work item.

Under these circumstances, ETSI SPAN recommends that the references to the INAP specification be removed from the list of standards for network interconnection. The adaptation of INAP for Service Provider Access has been considered, in accordance with the findings in EG 201 916. This option to develop an "Open" INAP standard has never been undertaken.”

On the other side:

Access Directive, Article 12: “A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations on operators to meet reasonable access to, and use of, specific network elements and associated facilities, inter alia in situations where the national regulatory authority considers that denial of access or unreasonable terms and conditions having a similar effect would hinder the emergence of a sustainable competitive market at the retail level, or would not be in the end-user’s request.

Operators may be required inter alia:

...

(e) to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;

(g) to provide specific services needed to ensure interoperability of end-to-end services to users, including facilities for intelligent network services or roaming on mobile networks;

...

TC to be contacted:

TC TISPAN meeting 1.-5.12. 2003

A.1.2.1.3 Interconnection based upon packet interfaces, including intelligent network interconnection

Editor's note: Needs further investigation.

A.1.2.2 Access to service providers

This section contains standards suitable for access to the network at points other than the network termination points offered to the majority of end-users.

Technical Interfaces and/or service features	Reference	Notes
Service provider access requirements	- ETSI EG 201 722 - ETSI EG 201 897	
<p><i>Comments:</i> ETSI EG 201 722 lists the first set of access requirements that service providers have in delivering services over one or more public telecommunications networks primarily fixed public switched telecommunications networks (PSTNs) and Integrated Services Digital Networks (ISDNs). ETSI EG 201 897 lists the second set of network access requirements that service providers have in delivering services including mobile, cordless and fixed services, over one or more public telecommunication networks.</p> <p>Rationale: ETSI EG 201 722 and ETSI EG 201 897 are related to the Access Directive (2002/19/EC), par. 4.4.1 Introduction: ... "It sets out the terms on which providers may access each other's networks and services with a view to providing publicly available electronic communication services." ...</p>		
Network operators' requirements for the delivery of service provider access	- ETSI EG 201 807	
<p><i>Comments:</i> ETSI EG 201 807 lists the first set of requirements that public network operators have for the delivery of service provider access to ensure network integrity, security and other aspects such as provisions for charging and billing.</p> <p>Rationale: ETSI EG 201 807 is related to the Access Directive (2002/19/EC), Article 12 : 1. "A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations on operators to meet reasonable requests for access to, and use of, specific network elements and associated facilities..."</p> <p>... Operators may be required inter alia: (h) to provide access to operational support systems or similar software systems necessary to ensure fair competition in the provision of services; ...</p>		
Development of standards to support open inter-network interfaces and service provider access.	- ETSI EG 201 916	
<p><i>Comments:</i> ETSI EG 201 916 contains information to enable service providers and network operators to determine and compare standardised facilities that are available in published ETSI protocols to support the introduction of new services.</p> <p>Rationale: ETSI EG 201 916 is related to the Access Directive (2002/19/EC), par. 4.4.1 Introduction: ... "It sets out the terms on which providers may access each other's networks and services with a view to providing publicly available electronic communication services." ...</p> <p>..."Access as defined within the new Regulatory Framework does not refer to the end-user, but the making available of facilities and/or services, to another Electronic Communication Provider, under defined conditions, on either exclusive or non-exclusive basis, for the purpose of providing electronic communication services." ...</p>		

Editor's note:

TC to be contacted:

TC TISPAN (SPAN before) meeting 1.-5.12. 2003

A.1.3 Cable Networks

A.1.3.1 Network Interconnection

Technical Interfaces And/or service features	Reference	Notes
		- ETSI TS 101
<i>Comments:</i> ETSI TS 101 ...		
	- ETSI TS 101 488	
	- ETSI TS 101 - ETSI TS 101	
<i>Comments:</i> ETSI TS 101 ...		

Editor's Note : The content for the table above has yet to be agreed with all the relevant TBs.

A.2 Unbundled Access to the Local loop

A.2.1 Shared Access

The technical interfaces and/or services features given in this section are related to unbundled access to the local loop in accordance with Recommendation 2000/417/EC and Regulation EC/2887/2000 on unbundled access to the local loop.

Technical Interfaces And/or service features	Reference	Notes
Spectral management on metallic access networks		- ETSI TR 101 830-1
<i>Comments:</i> ETSI TR 101 830-1 gives guidance on a common language for spectral management specifications. It provides a first set of definitions on spectral management quantities and an informative library of signal definitions.		
Asymmetrical Digital Subscriber Line (ADSL)	- ETSI TS 101 388	
Symmetrical single-pair high bit rate Digital Subscriber Line (SDSL)	- ETSI TS 101 524	
High bit rate Digital Subscriber Line (HDSL)	- ETSI TS 101 135	
Very high speed Digital Subscriber Line (VDSL)	- ETSI TS 101 270-1 - ETSI TS 101 270-2	Functional requirements Transceiver specification
xDSL transmission filters	- ETSI TS 101 952-1-1 to 1-5 - ETSI TS 101 952-2-1 to 2-3	ADSL splitters VDSL splitters
ISDN-BRA; transmission system on metallic local lines	- ETSI TS 102 080	
<p><i>Comments:</i> ETSI TS 101 388 endorses ITU-T Recommendation G.992.1, the contents of which apply together with the addition of the modifications being covered in the specification. In addition ITU has worked out a variant ADSL solution in its Recommendation G.992.2, also known as G.Lite or "splitter-less" ADSL, that is very easy to deploy in the customer premises.</p> <p>TS 101 952 series provides the specifications for ADSL and VDSL splitters for European deployment. ETSI TS 102 080 defines the Transmission System for the ISDN Basic Access on local lines.</p> <p>Rationale: TS 102 080 covers the characteristics and parameters of a digital transmission system at the network side of the Network Termination 1 (NT1) to form part of the access digital section for the Integrated Services Digital Network (ISDN) basic rate access using echo cancellation method. TS 102 080 defines the Transmission System for the ISDN-BA on local lines and has been used on unbundled local loops since the very first days of unbundling. It is related to the Access Directive (2002/19/EC), especially to the Article 12: "Obligations of access to, and use of, specific network facilities."</p> <p>TS 101 952-1-1 – TS 101 952-1-4 and TS 101-952-2-1 to TS 101-952-2-3 specify requirements and test methods for DSL splitters. These splitters are intended to be installed at the Local Exchange side of the local loop and at the user side near the Network Termination Point (NTP). Since Splitter Filters are used on unbundled lines as well as the "Transmission Systems" the splitter related specifications TS 101 952 should be included to the list of standards. It is related to the Access Directive (2002/19/EC), especially to the Article 12: "Obligations of access to, and use of, specific network facilities."</p>		

Editor's note:

TC to be contacted:

Note: TS 102 080 and TS 101 952 were added based on the TC TM proposal (1st OCG ECN&S meeting, 16th May 2003, Agenda item 7.1.2)

For TS 102 080, TC 101 952-1-2, TC 101 952-1-3 – TC TM (check the rationale): TM6#32 17.-21.11.2003

For TC 101 952-1-1, TC 101 952-1-4, TC 101 952-2-1 – TC AT: AT#8 17.-21.11.2003

A.2.2 Bitstream Access

Editor's Note: New section – text and justifications being addressed.

A.3 Standards implementing various user services

The technical interfaces and/or services features given in this chapter are those suitable for implementing offerings regarding various user services in accordance with the Universal Service Directive.

A.3.1 Number portability for fixed and mobile networks

The technical interfaces and/or services features given in this section are based upon **Article 30** and Article 19 of the Universal Service Directive with regard to operator number portability, carrier selection and carrier pre-selection.

A.3.1.1 Number portability in fixed public networks

The technical interfaces and/or services features given in this section are based upon **Article 19?** **(number portability is covered by Article 30)** of the Universal Service Directive with regard to operator number portability.

Technical Interfaces and/or service features	Reference	Notes
High level description of number portability	- ETSI TR 101 119	
High level network architecture and solutions to support number portability	- ETSI TR 101 118	
Guidance on choice of network solutions	- ETSI TR 101 697	
Administrative support for number portability	- ETSI TR 101 698	
Numbering and addressing for number portability	- ETSI TR 101 122	
Signalling requirements to support number portability	- ETSI TR 102 081	
SS7 ISUP: Enhancements for support of number portability	- ETSI EN 302 097	
IN and Intelligence Support for number portability	- ETSI EG 201 367	
Number portability for pan-European services	- ETSI TR 101 073	
Number portability for ETNS services	- ETSI EN 301 937	
<p><i>Comments:</i> The ETSI deliverables cover geographic as well as non-geographic numbers. Different solutions for number portability exist. An IN solution can provide high functionality with fairly high throughput or traffic handling capability. Depending on the number portability requirements, also other solutions with lower functionality are possible.</p> <p>EN 301 937 focuses on the number portability between Service Providers (SP) i.e. a customer can move from one ETNS Service Provider (SP) to another and retain a European Number for that service. It describes the main technical requirements and features of number portability in the context of an ETNS service and discusses the technologies available today and in the near future for realizing number portability in an efficient way whilst trying as much as possible to minimize the impacts on the network.</p> <p><i>Rationale:</i> The technical interfaces and/or services features given in this section are based upon Article 30 "Number portability" of the Universal Service Directive with regard to operator number portability: Number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment such that end-users who so request should be able to retain their number(s) on the public telephone network independently of the organisation providing service. The Universal Service Directive does not cover the provision of this facility between connections to the public telephone network at fixed and non-fixed locations.</p>		

Editor's note:

TC to be contacted:

ETSI TR 101 119, TR 101 119, TR 101 122 had been produced by TC NA.

TC TISPAN (SPAN before): ETSI TR 101 697, 101 698, EN 301 937

TC TISPAN meeting 1.-5.12. 2003

A.3.1.2 Number portability in mobile public networks

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i> ETSI has produced TR 101 621 "Consequences of mobile number portability on the PSTN/ISDN and synergy between geographic and mobile number portability".		

A.3.2 Carrier selection and carrier pre-selection

A.3.2.1 For Mobile Networks

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i> There are currently no standards addressing pre-carrier selection from the perspective of user access to non-mobile service providers.		

A.3.2.2 For Fixed Networks

The technical interfaces and/or services features given in this section are based upon Article 19 of the Universal Service Directive with regard to carrier selection and pre-selection.

Technical Interfaces and/or service features	Reference	Notes
Report on carrier selection	- ETSI TR 101 092	
<i>Comments:</i> ETSI TR 101 092 identifies the essential requirements and related network capabilities for introducing carrier selection and carrier pre-selection; a variety of possible methods are considered and the likely impact of each is assessed. ITU-T E.164 (Supplement 1) presents a summary of the potential methods for carrier selection and network identification on the public network.		
Rationale: The technical interfaces and/or services features given in this section are based upon Article 19 of the Universal Service Directive with regard to carrier selection and carrier pre-selection according to which a subscriber should have the freedom of choice to access the services of any interconnected provider of publicly available telephone services on a call-by-call basis (carrier selection) or by means of pre-selection.		

Editor's note:

ETSI TR 101 092 had been produced by TC NA.

TC to be contacted: TC TISPAN: 1.-5.12.2003

A.3.2.3 For Cable Networks

Technical Interfaces and/or service features	Reference	Notes
Report on carrier selection	- ETSI TR 101 092	
<i>Comments:</i> ETSI TR 101 092 identifies the essential requirements and related network capabilities for introducing carrier selection and carrier pre-selection; a variety of possible methods are considered and the likely impact of each is assessed. ITU-T E.164 (Supplement 1) presents a summary of the potential methods for carrier selection and network identification on the public network.		

A.3.3.3 Single line analogue interface and telephone tones

In accordance with Article 4 of the Universal Service Directive Member States shall ensure that all reasonable requests for connection to the public telephone network at a fixed location and for access to publicly available telephone services at a fixed location are met by at least one operator

Technical Interfaces And/or service features	Reference	Notes
PSTN Network Termination Point (NTP) analogue interface	- ETSI ES 201 970	
<i>Comments:</i> The objective of ES 201 970 is to specify the physical and electrical characteristics at a 2-wire analogue presented NTP for short to medium length loop applications, particularly suitable for use by new network operators of public switched telephone networks (PSTN).		
Network generated tones	- ETSI TR 101 041-1	
<i>Comments:</i> The objective of ETSI TR 101 041-1 is to review the different existing tones in use. Recommendations are made for the tones most appropriate for harmonisation and for their technical characteristics.		

A.3.4 Directory enquiry services

In accordance with Article 5 of the Universal Service Directive Member States shall ensure that at least one telephone directory enquiry service covering all listed subscribers' numbers is available to all users.

Technical Interfaces and/or service features	Reference	Notes
Interconnection of computerised directory assistance services.	- ITU-T F.510	
<i>Comments:</i> ITU-T F.510 was developed for international public directory services but is also suitable for interconnecting national directory databases. ITU-T E.115 is currently used to implement international public directory services.		
Rationale: ITU-T F.510 is related to the Article 25 "Operator assistance and directory enquiry services" of the Universal Service Directive that defines the requirements for end-user's choice regarding access to and inclusion within a directory enquiry service. It further defines that Directory services may be accessed by end-users in another member state provided that in all instances the provisions of the Privacy Directive are maintained.		

A.3.6 Caller location

In accordance with Article 26(3) of the Universal Service Directive Member States shall ensure that providers of public telephone networks make caller location information available to emergency services authorities, to the extent technically feasible, for all '112' calls. In fixed networks caller location will be provided by means of CLIP service.

Note: The '112' provisions in Art. 26 of the Universal Service Directive apply to all public network operators [ECPs], either implicitly or explicitly

A.3.6.1 Caller location in Mobile Networks

In accordance with Article 26(3) of the Universal Service Directive Member States shall ensure that providers of public telephone networks make caller location information available to emergency services authorities, to the extent technically feasible, for all '112' calls. In fixed networks caller location will be provided by means of CLIP service.

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i> The Commission Services are preparing a recommendation on the implementation of caller location in public telecommunication networks, for calls to emergency services.		

A.3.6.2 Caller location in Fixed networks

In accordance with Article 26(3) of the Universal Service Directive Member States shall ensure that providers of public telephone networks make caller location information available to emergency services authorities, to the extent technically feasible, for all '112' calls. In fixed networks caller location will be provided by means of CLIP service.

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i> The Commission prepared Recommendation (2003/558/EC) on 25 July 2003 published in the OJEC L189 on 29 July 2003 on the processing of caller location information in electronic communication networks for the purpose of location-enhanced emergency call services.		

Editor's note: Recommended by the Commission (2003/558/EC - 10):

In order to facilitate data transfer between operators and public safety answering points, Member States should encourage the use of a common open interface standard, and in particular for a common data transfer protocol, adopted by ETSI, where available. Such a standard should include the necessary flexibility to accommodate future requirements as they may arise, for instance from in-vehicle telematics terminakns. Member states should ensure that the interface is best suited to the effective handling of emergencies.

EG xxx TISPAN 2: Services and Protocols for Advanced Networks (SPAN); Definition of functional architecture and requirements for supporting Emergency Services and Priority User Services; Architecture and requirements for Emergency Services and Priority User Services

Work in progress: This document defines requirements and recommendations on the Functional Architecture. It initially, focuses on the Signalling requirements for enhancement of the inter-network and international inter-connection of networks to allow the co-operation to achieve the support of Emergency services, e.g. IEPS. Two steps are envisaged: Peer level gateway interconnection and inter-working via higher level functions, e.g. policy, status and user profile databases. Policing and Initialising of these services needs definition based on external end user requirements. These capabilities are defined from benchmark scenarios, a number of which are included.

TC to be contacted: TISPAN

A.3.6.3 Caller location in Cable networks

In accordance with Article 26(3) of the Universal Service Directive Member States shall ensure that providers of public telephone networks make caller location information available to emergency services authorities, to the extent technically feasible, for all '112' calls. In fixed networks caller location will be provided by means of CLIP service.

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i>		

Editor's Note: Further work required – under investigation.

A.3.7 European telephone access code ('3883')

In accordance with Article 27 of the Universal Service Directive Member States shall ensure that all providers of public telephone networks handle all calls to the European Telephony Numbering Space (ETNS).

Technical Interfaces and/or service features	Reference	Notes
Routeing of calls to European Telephony Numbering Space (ETNS) services	- ETSI EN 301 160	It standardizes the short and medium term routeing alternatives for handling a calls using pan-European numbering scheme
Management of the European Telephony Numbering space.	- ETSI EN 301 161	ETSI EN 301 161 Ver.1.2.1 is the revision of EN 301 161 to take into account of the assignment of 388-3 by ITU-T SG2.
Human factors requirements for a European Telephony Numbering Space (ETNS)	- ETSI EN 301 104	It identifies the Human Factors issues in the creation of a European Numbering Space and the creation of recommendations for addressing those issues.
Considerations on network mechanisms for charging and revenue accounting for European Telephony Numbering Space (ETNS) services	- ETSI TR 101 617	It provides the description of a basic frame for charging and revenue accounting for ETNS services.
Rationale: In accordance with Article 27 (2) of the Universal Service Directive (2000/22/EC), Member States shall ensure that all undertakings that operate public telephone networks handle all calls to the European telephony numbering space, without prejudice to the need for an undertaking that operates a public telephone network to recover the cost of the conveyance of calls on its network.		

Editor's note:

TC to be contacted:

ETSI TR 101 617 had been produced by NA.

TISPAN: EN 301 937, EN 301 160, EN 301 161, TISPAN meeting 1.-5.12.2003

HF: EN 301 104 (9.-13.2.204)

A.3.8 Additional facilities

In accordance with Article 29 of the Universal Service Directive operators operating public telephone networks must support the use of DTMF tones and make available calling-line identification as listed in Annex I part B.

A.3.8.1 Dual Tone Multi-Frequency (DTMF) on Mobile Networks

Technical Interfaces and/or service features	Reference	Notes
<i>Comments:</i> Dual-Tone Multi-Frequency Transmitters are specified in ETSI ES 201 235-2. Dual-Tone Multi-Frequency Transmitters and Receivers for use in Terminal Equipment for end-to-end signalling are specified in ETSI ES 201 235-4.		

A.3.8.2 Dual Tone Multi-Frequency (DTMF) on Fixed Networks

Technical Interfaces and/or service features	Reference	Notes
Specification of Dual-Tone Multi-Frequency system	- ETSI ES 201 235-1 - ETSI ES 201 235-3	Part 1 – General Part 3 - Receivers
<p><i>Comments:</i> Dual-Tone Multi-Frequency Transmitters are specified in ETSI ES 201 235-2. Dual-Tone Multi-Frequency Transmitters and Receivers for use in Terminal Equipment for end-to-end signalling are specified in ETSI ES 201 235-4.</p> <p>Rationale: In accordance with Article 29(1) of the Universal Service Directive (2000/22/EC), Member States shall ensure that national regulatory authorities are able to require all undertakings that operate public telephone networks to make available to end-users the facilities listed in Annex I, part B, subject to technical feasibility and economic viability.</p> <p>Part B: List of facilities referred to in Article 29</p> <p>(a) Tone dialling or DTMF (dual-tone multi-frequency operation)</p> <p>i.e. the public telephone network supports the use of DTMF tones as defined in ETSI ETR 207 for end-to-end signalling throughout the network both within a Member State and between Member States.</p>		

A.3.8.3 Calling-line identification

A.3.8.3.1 Calling-line identification in GSM – Networks

Technical Interfaces and/or service features	Reference	Notes

Editor's Note: Further work – investigation being made.

A.3.8.3.2 Calling-line identification in PSTN – Networks

Technical Interfaces and/or service features	Reference	Notes
Calling Line Identification Presentation (CLIP)	- ETSI ETS 300 648	Stage 1
Calling Line Identification Restriction (CLIR)	- ETSI ETS 300 649	Stage 1
Subscriber line protocol for display (and related) Services	- ETSI EN 300 659-1 - ETSI EN 300 659-2 - ETSI EN 300 659-3	On-hook Off-hook Data link message and parameter coding
<p><i>Comments:</i> European Telecommunications Platform (ETP) has developed guidelines (version 4, September 2003) for CLI to telephone companies and organisations transmitting and receiving CLI information, as well as for terminal and network equipment manufacturers. The implementation of these Guidelines should ensure the ability of public networks to use CLI information for network and/or account management purposes and customer care or, in co-operation with the relevant authorities, handling of emergency calls and the tracing of malicious calls and similar services and activities.</p> <p>Rationale: In accordance with Article 29(1) of the Universal Service Directive (2000/22/EC), Member States shall ensure that national regulatory authorities are able to require all undertakings that operate public telephone networks to make available to end-users the facilities listed in Annex I, part B, subject to technical feasibility and economic viability.</p> <p>Part B: List of facilities referred to in Article 29</p> <p>(b) Calling-line identification</p> <p>I.e. the calling party's number is presented to the called party prior to the call being established. This facility should be provided in accordance with relevant legislation on protection of personal data and privacy, in particular Directive 97/66/EC. To the extent technically feasible, operators should provide data and signals to facilitate the offering of calling-line identity and tone dialling across Member State boundaries.</p>		

A.3.8.3.3 Calling-line identification in ISDN – Networks

Technical Interfaces and/or service features	Reference	Notes
Calling Line Identification Presentation (CLIP)	- ETSI EN 300 089 - ETSI ETS 300 091 - ETSI EN 300 092-1	Stage 1 Stage 2 Stage 3
Calling Line Identification Restriction (CLIR)	- ETSI EN 300 090 - ETSI ETS 300 091 - ETSI EN 300 093-1	Stage 1 Stage 2 Stage 3
<p>Rationale: In accordance with Article 29(1) of the Universal Service Directive (2000/22/EC), Member States shall ensure that national regulatory authorities are able to require all undertakings that operate public telephone networks to make available to end-users the facilities listed in Annex I, part B, subject to technical feasibility and economic viability.</p> <p>Part B: List of facilities referred to in Article 29</p> <p>(b) Calling-line identification</p> <p>I.e. the calling party's number is presented to the called party prior to the call being established. This facility should be provided in accordance with relevant legislation on protection of personal data and privacy, in particular Directive 97/66/EC. To the extent technically feasible, operators should provide data and signals to facilitate the offering of calling-line identity and tone dialling across Member State boundaries.</p>		

A.3.8.4 Control of expenditure

In accordance with Article 10 and Annex I part A of the Universal Service Directive operators with universal service obligations must offer a number of services so consumers can monitor and control expenditure. As universal service does not include ISDN only standards for services within the PSTN network are listed.

Editor's Note: See STF 254 Milestone 1 report (and Annex D) for further guidance being sought on this issue.

A.3.8.4.1 Control of expenditure in Fixed Networks

A.3.8.4.1.1 Outgoing Call Barring

Technical Interfaces and/or service features	Reference	Notes
Outgoing Call Barring in PSTN networks		
<p><i>Comments:</i> The CEPT SF Handbook³ Section II Chapter 3.1.2 and 3.1.3 contain recommendations for Outgoing Call Barring.</p> <p>Rationale: In accordance with Article 10 (2) of the Universal Service Directive (2000/22/EC), Member States shall ensure that designated undertakings with obligations under Articles 4, 5, 6, 7 and 9(2) provide the specific facilities and services set out in Annex I, Part A, in order that subscribers can monitor and control expenditure and avoid unwarranted disconnection of service.</p> <p>ANNEX I</p> <p>DESCRIPTION OF FACILITIES AND SERVICES REFERRED TO IN ARTICLE 10 (CONTROL OF EXPENDITURE) AND ARTICLE 29 (ADDITIONAL FACILITIES)</p> <p>Part A: Facilities and services referred to in Article 10</p> <p>(b) Selective call barring for outgoing calls, free of charge</p> <p>I.e. the facility whereby the subscriber can, on request to the telephone service provider, bar outgoing calls of defined types or to defined types of numbers free of charge.</p>		

³ The CEPT SF Handbook can be obtained from ETNO, Avenue Louise 54, 1050 Brussels, Belgium.

Question: Call barring for ISDN? ISDN in or out of the Universal Service Directive?

A.3.8.4.2 Control of expenditure in Mobile Networks

A.3.8.4.2.1 Outgoing Call Barring

Technical Interfaces and/or service features	Reference	Notes
	-	
<i>Comments:</i> The CEPT SF Handbook ⁴ Section II Chapter 3.1.2 and 3.1.3 contain recommendations for Outgoing Call Barring.		

A.3.8.4.3 Control of expenditure in Cable Networks

Editor's Note: No existing standards available / identified to date.

⁴ The CEPT SF Handbook can be obtained from ETNO, Avenue Louise 54, 1050 Brussels, Belgium.

A.3.9 Quality of Service

A.3.9.1 Quality of Service (parameters) for Mobile Networks

A.3.9.2 Quality of Service (parameters) for Fixed Networks

Technical Interfaces And/or service features	Reference	Notes
Quality of service parameters definitions and measurement methods	- ETSI EG 201 769-1	Version number is 1.1.2 (October 2000)
User related QoS parameter definitions and measurements	- ETSI EG 202 057	- ETSI EG 202 057-1 : Part 1 : General - ETSI EG 202 057-2: Part 2: Voice telephony; Group3 fax and modem data services - ETSI EG 202 057-3: Part 3: QoS parameters specific to mobile services - ETSI EG 202 057-4: Part 4: Internet Access
Quality of telecom services	ETSI EG 202 009	- ETSI 202 009-1: Part 1: Methodology for identification of parameters relevant to users - ETSI 202 009-2: Part 2: User related parameters on a service specific basis - ETSI 202 009-3: Part 3: Template for Service Level Agreements (SLAs)
<p><i>Comments:</i> ETSI EG 201 769-1 provides QoS parameter definitions and measurements; parameters for voice telephony service required under the ONP Voice Telephony Directive 98/10/EC. ETSI EG 202 057 contains harmonised definitions and measurement methods for a range of user perceivable Quality of Service (QoS) parameters. Part 1 contains general user related QoS parameter definitions and measurement methods that can be applied to any telecommunications service. ETSI is currently working on revision of EG 202 009 Ver.1.1.1.</p> <p>Rationale: The standards in the list are related to Article 11 and Article 22 of the Directive 2002/22/EC.</p> <p>Article 11 references to a list of nine QoS Parameters in Annex III of the Directive. This list is fixed and cannot be changed, unless the Annex III is revised by the Commission. Also the definitions and measurement methods are stable and laid down in EG 201 769. However, for practical implementations of these measurement methods experience in the last years has shown that additional guidance is needed. In order to derive useful and comparable measurement results, specific properties of national telecommunication infrastructures have to be taken into account. Therefore ETSI STQ has approved a Technical Report 102 126 providing guidance on the correct implementation of EG 201 769 and describing practical solutions.</p> <p>Article 22 provides the possibility to inform users on up-to-date QoS performance on various electronic communication services. In this respect Article 22 is not limited to a specific telecommunication service (Article 11 is limited to voice telephony service) but may be applied to any service. Also there is no fixed list of arbitrarily chosen parameters; it is possible to choose adequate and up-to-date QoS parameters. Thus Article 22 may be referred to as the “real” and effective QoS Article of the Directive, offering the possibility to provide QoS information with relevance to the user. A series of ETSI Guides on User QoS parameters (ETSI EG 202 057-1 to ETSI EG 202 057-4) , which are designed to fit in the reglementations of Article 22, has been therefore added to the list of standards.</p>		

A.3.9.3 Quality of Service (parameters) for Cable Networks

A.4 Standards for services and other measures for disabled users: access and usability by disabled users and users with special needs

In accordance with Article 7 of the Universal Service Directive Member States shall, where appropriate take specific measures to ensure equal access to and affordability of publicly available telephone services for disabled users.

A.4.1 Standards for services and other measures for disabled users

Technical Interfaces And/or service features	Reference	Notes
Operational and interworking requirements for DCEs operating in the text telephone mode	- ITU-T V.18	
Basic user requirements and recommendations for text telephony	- ETSI ETR 333	
Guidelines for Telecommunication Relay Services for Text Telephones	- ETSI TR 101 806	
<i>Comments:</i> ETSI has published EG 202 116 "Guidelines for ICT products and services ; Design for All".		

A.4.2 Quality of Service standards for disabled users

A.5 Transparency of prices and tariffs

A.5.1 Transparency of prices and tariffs Fixed Networks

Technical Interfaces and/or service features	Reference	Notes
Advice of charge	ETSI TR 102 088	This TR proposes some enhancements for the subscriber line protocol over the local loop to support the Advice of Charge PSTN services: at call Set up (AOC-S), During the call (AOC-D), on Request (AOC-R) and at the End of the call (AOC-E).
<p>Rationale: In accordance with Recital 41 of the Universal Service Directive:</p> <p>"The impact of number portability is considerably strengthened when there is transparent tariff information, both for end-users who port their numbers and also for end-users who call those who have ported their numbers. National regulatory authorities should, where feasible, facilitate appropriate tariff transparency as part of the implementation of number portability".</p>		

Editor's note: Question: AoC in ISDN ? ISDN in or out of the USD?

A.5.2 Transparency of prices and tariffs for Mobile Networks

A.5.2.1 Advice of Charge

Technical Interfaces and/or service features	Reference	Notes

A.5.3 Transparency of prices and tariffs for Cable Networks

A.6 Standards for privacy, reliability, security and network integrity

A.6.1 Data privacy

The technical interfaces and/or services features given in this Chapter are those suitable for implementing the offerings in accordance with the Directive on privacy and electronic communications and the Universal Service Directive. However for some of the facilities which are also addressed in the Universal Service Directive the relevant standards are placed elsewhere in this List.

A.6.1.1 Calling and connected line identification services

A.6.1.1.1 Calling and connected line identification services for Mobile Networks

The technical interfaces and/or services features given in this section are related to the calling and connected line identification services required under Article 8 of the Directive on privacy and electronic communications.

Technical Interfaces and/or service features	Reference	Notes

A.6.1.1.2 Calling and connected line identification services for fixed networks

The technical interfaces and/or services features given in this section are related to the calling and connected line identification services required under Article 8 of the Directive on privacy and electronic communications.

Editor's Note: See STF 254 Milestone 1 report (and Annex D) for further guidance being sought on this issue as ISDN covered within the USD.

Technical Interfaces and/or service features	Reference	Notes
Anonymous call rejection (Service that rejects incoming call without CLI)	- ETSI EN 301 798	
<i>Comments:</i> ETSI EN 301 798 contains the service description for the Anonymous Call Rejection (ACR) supplementary service.		
Rationale: In accordance to Article 8 of the Directive on privacy and electronic communications (2002/58/EC), subscribers should know the choices they have regarding privacy facilities offered by the providers of publicly available electronic communication services.		

Restrict the presentation of the calling line identification of incoming calls Calling Line Identification Restriction (CLIR) supplementary service	ETS 300 649	Service description
<i>Comments :</i>		
Rationale: In accordance to Article 8 of the Directive on privacy and electronic communications (2002/58/EC), subscribers should know the choices they have regarding privacy facilities offered by the providers of publicly available electronic communication services.		

Restrict the presentation of the connected line identification		
<i>Comments:</i> No standards exist.		

A.6.1.1.3 Calling and connected line identification services for cable networks

The technical interfaces and/or services features given in this section are related to the calling and connected line identification services required under Article 8 of the Directive on privacy and electronic communications.

Technical Interfaces and/or service features	Reference	Notes
Anonymous call rejection (Service that rejects incoming call without CLI)	- ETSI EN 301 798	

Comments: ETSI EN 301 798 contains the service description for the Anonymous Call Rejection (ACR) supplementary service.

Restrict the presentation of the calling line identification of incoming calls		
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Comments: No standards exist.

Restrict the presentation of the connected line identification		
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Comments: No standards exist.

A.6.1.2 Location data for public telephone services

In accordance with Article 26(3) of the Universal Service Directive, undertakings operating public telephone networks should make caller location information available to the authorities handling emergencies, for all calls to the single European emergency number '112'. In accordance with Articles 9 of the Directive on privacy and electronic communications, the subscriber must have the possibility, via a simple means, to temporarily deny the processing of location data for each connection to the network or for each transmission of a communication. In accordance with Article 10 of the Directive on privacy and electronic communications, the temporary denial of the subscriber may be overridden for the processing of location data for organisations dealing with emergency calls.

A.6.1.2.1 Location data for public telephone services within mobile networks

Technical Interfaces and/or service features	Reference	Notes

A.6.1.2.2 Location data for public telephone services within fixed networks

Technical Interfaces and/or service features	Reference	Notes
Presentation of location data (data format) Restrict presentation of location data		
<i>Comments:</i> The Commission prepared Recommendation (2003/558/EC) on 25 July 2003 published in the OJEC L189 on 29 July 2003 on the processing of caller location information in electronic communication networks for the purpose of location-enhanced emergency call services.		

A.6.1.2.3 Location data for public telephone services within cable networks

Technical Interfaces and/or service features	Reference	Notes
Presentation of location data (data format) Restrict presentation of location data		

A.6.1.3 Automatic call forwarding

In accordance with Article 11 of the Directive on privacy and electronic communications Member States shall ensure that any subscriber is provided, free of charge and via a simple means, with the possibility to stop automatic call forwarding by a third party to the subscriber's terminal.

A.6.1.3.1 Automatic call forwarding within mobile networks

Technical Interfaces and/or service features	Notes	Notes
Man-machine Interface (MMI) of the Mobile Station (MS)	- ETSI ETS 300 511 + ETS 300 907 - ETSI ETS 122 030	

A.6.1.3.2 Automatic call forwarding within fixed networks

Technical Interfaces and/or service features	Notes	Notes
Cancellation of call forwarding by the user that receive the forwarded call		

Comments: No standardised service exists. Requests to cancel call forward are handled by operators in an ad hoc basis.

A.6.1.3.3 Automatic call forwarding within cable networks

Technical Interfaces and/or service features	Notes	Notes
Cancellation of call forwarding by the user that receive the forwarded call		

Comments: No standardised service exists. Requests to cancel call forward are handled by operators in an ad hoc basis.

A.6.2 Reliability

Editor's Note: Should this be interpreted as being the reliability of the network to complete 99.5% of all calls?

A.6.2.1 Reliability within mobile networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.2.2 Reliability within fixed networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.2.3 Reliability within cable networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.3 Security and network integrity

Editor's Note: This is interpreted that there should be secure interfaces, i.e. services not open to threats

A.6.3.1 Security and network integrity of Mobile Networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.3.2 Security and network integrity of fixed networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.3.3 Security and network integrity of cable networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.4 Network information security (NIS)

Editor's Note: This is interpreted as security and confidentiality of information carried: ciphering....

A.6.4.1 Network information security within Mobile Networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.4.2 Network information security within fixed networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.6.4.3 Network information security within cable networks

Technical Interfaces and/or service features	Notes	Notes

Comments:

A.7 Standards for electronic communications networks established for the distribution of digital broadcasting services including their associated facilities

This chapter lists the relevant standards for the provision of broadcasting services in accordance with the Access and Interconnection Directive, the Universal Service Directive and the Framework Directive. These carry over or extend the relevant provisions from Directive 95/47/EC on the use of standards for the transmission of television signals (hereafter referred to as the “television standards Directive”).

A.7.1 Interoperability of consumer television equipment

In accordance with Articles 3 and 4(d) of the television standards Directive, television sets should be fitted with at least one open interface socket (as standardized by a recognized European standardization body). These obligations are carried over in modified form to Article 24 and Annex VI of the Universal Service Directive.

Technical Interfaces And/or service features	Reference	Notes
Open interface for analogue television sets, e.g. peritelevision connector Open interface for digital television sets, e.g. common interface Interface for DVB Integrated Receiver Decoder	- CENELEC EN 50049-1 - CENELEC EN 50049-1/A1 - ETSI TS 102 201	

Comments: As stated in recital 33 of the Universal Service Directive, user requirements and functionality of digital interface sockets are still evolving in line with technological developments.

A.7.2 Conditional access systems

In accordance with Article 4(a) of the television standards Directive, consumer equipment capable of descrambling digital television signals must allow the descrambling of such signals according to the common European scrambling algorithm, and the display of signals that have been transmitted in clear. This is also required by Article 24 and Annex VI of the Universal Service Directive.

In accordance with Article 6(1) and Annex I of the Access and Interconnection Directive, Member States must ensure the application of the conditions referred to therein regarding access to digital television and radio broadcasting services. These carry over most of the provisions in Article 4 of the television standards Directive and extend their scope to radio services.

DVB-SimulCrypt; Head-end architecture synchronization and implementation (DVB-SIM)	- ETSI TS 101 197 - ETSI TS 103 197	
Support for use of scrambling and Conditional Access within digital broadcasting systems (DVB-CS)	- ETSI ETR 289	
Common interface specification for conditional access and other DVB decoder applications (DVB-CI) and one relevant implementation guide	- CENELEC EN 50221 - CENELEC R206-001	

Comments: None

A.7.3 Transmission systems

A.7.3.1 Digital Television Broadcasting

In accordance with Article 2(a) of the television standards Directive “*all television services transmitted to viewers in the Community, whether by cable, satellite or terrestrial means shall (...) if they are fully digital, use a transmission system which has been standardized by a recognized European standardization body.*”

Technical Interfaces And/or service features	Reference	Notes
Framing structure, channel coding and modulation for 11/12 GHz satellite services (DVB-S) Implementation of Binary Phase Shift Keying (BPSK) modulation in DVB satellite transmission systems (DVB-S)	- ETSI EN 300 421 - ETSI TR 101 198	
Framing Structure, Channel coding and modulation for cable systems (DVB-C)	- ETSI EN 300 429	
Framing structure, channel coding and modulation for digital terrestrial television (DVB-T) Implementation guidelines for DVB terrestrial services; transmission aspects	- ETSI EN 300 744 - ETSI TR 101 190	
Multipoint Video Distribution Systems: at 10 GHz and above (DVB-MS) below 10 GHz (DVB-MC) based on OFDM modulation (DVB-MT)	- ETSI EN 300 748 - ETSI EN 300 749 - ETSI EN 301 701	
Mega-frame for single frequency networks synchronisation	- ETSI TS 101 191	
MPEG-Implementation Guide-lines for the use of MPEG-2 Systems, Video and Audio in satellite, cable and terrestrial broadcasting applications MPEG-Implementation Guide-lines for the use of MPEG-2 Systems, Video and Audio in Contribution Applications	- ETSI TR 101 154 - ETSI TR 102 154	

Comments: None

A.7.3.2 Digital Radio Broadcasting

This section contains a standard suitable for the transmission of digital radio broadcasts.

Technical Interfaces and/or service features	Reference	Notes
Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers	- ETSI EN 300 401	
MOT	- EN 301 234	Transport protocols for interoperable data services
TDC	- TS 101 759	
DAB Java	- TS 101 993	Radio equivalent to MHP
DAB EPG	- TS 102 818	Radio equivalent to DVB-SI

Comments: None

A.7.4 Services

In accordance with article 18 and Art.17(2) of the Framework Directive Member States shall encourage the interoperability of digital television services.

Technical Interfaces and/or service features	Reference	Notes
Specification for Service information (SI) in DVB (DVB-SI) and two relevant implementation guidelines	- ETSI EN 300 468 - ETSI TR 101 211 - ETSI ETR 162	

Comments: None

A.7.5 Application Program Interfaces (APIs)

Article 18(1)(a) of the Framework Directive requires Member States to encourage, in accordance with the provisions of Article 17(2), providers of digital interactive television services for distribution to the public in the Community on digital interactive television platforms, regardless of the transmission mode, to use an open API.

Editor's Note: Clarification is being sought from Commission Services regarding the definition of 'open' (See Annex D)

A.7.5.1 Multimedia Home Platform

Technical Interfaces and/or service features	Reference	Notes
Multimedia Home Platform (MHP) specification 1.0	- ETSI ES 201 812	Reference updated for ES
Multimedia Home Platform (MHP) specification 1.1	- ETSI TS 102 812	

Comments: Work on the Multimedia Home Platform (MHP) technical specification continues in the Digital Video Broadcast group (DVB). DVB has grouped the MHP functionality into three classes of profiles, i.e. enhanced broadcasting, interactive broadcasting (both covered by MHP version 1.0) and internet access (covered by version MHP 1.1). **ETSI has already adopted version MHP 1.0.3 and MHP 1.1.1**

Annex B (informative): List of standards and/or specifications (voluntary list)

B.1 Access and Interconnection

??? How should we structure the mandatory (normative) parts and voluntary (informative) parts ???

Annex C (normative): Draft list of mobile standards and/or specifications

Specification N°	Title	R99	Y/N/?	Subject
TR 29.998	Open Services Architecture API part 2	3.2.0	Y	API
TS 22.041	Operator Determined Call Barring	3.3.1	Y	Call Barring
TS 22.088	Call Barring (CB) supplementary services; Stage 1	3.0.2	Y	Call Barring
TS 23.088	Call Barring (CB) Supplementary Service; Stage 2	3.2.0	Y	Call Barring
TS 24.088	Call Barring (CB) Supplementary Service; Stage 3	3.0.0	Y	Call Barring
TR 21.978	Feasibility Technical Report; CAMEL Control of VoIP Services	3.0.0	Y	CAMEL
TS 22.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1	3.9.0	Y	CAMEL
TS 23.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); Stage 2	3.17.0	Y	CAMEL
TS 29.078	Customized Applications for Mobile network Enhanced Logic (CAMEL); CAMEL Application Part (CAP) specification	3.15.0	Y	CAMEL
TS 22.082	Call Forwarding (CF) Supplementary Services; Stage 1	3.0.1	Y	CF
TS 23.082	Call Forwarding (CF) Supplementary Services; Stage 2	3.7.0	Y	CF
TS 24.082	Call Forwarding supplementary service; Stage 3	3.0.0	Y	CF
TS 22.081	Line Identification supplementary services; Stage 1	3.2.0	Y	CLI
TS 23.081	Line Identification supplementary services; Stage 2	3.2.0	Y	CLI
TS 24.081	Line Identification Supplementary Service; Stage 3	3.1.0	Y	CLI
TS 23.014	Support of Dual Tone Multi Frequency (DTMF) signalling	3.2.0	Y	DTMF
TR 01.31	Fraud Information Gathering System (FIGS); Service requirements; Stage 0	8.0.0	Y	FIGS

Specification N°	Title	R99	Y/N/?	Subject
TS 22.031	Fraud Information Gathering System (FIGS); Service description; Stage 1	3.0.0	Y	FIGS
TS 23.031	Fraud Information Gathering System (FIGS); Service description; Stage 2	3.0.0	Y	FIGS
TS 01.61	General Packet Radio Service (GPRS); GPRS ciphering algorithm requirements	8.0.0	Y	GPRS
TS 03.64	General Packet Radio Service (GPRS); Overall description of the GPRS radio interface; Stage 2	8.11.0	Y	GPRS
TS 04.60	General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol	8.20.0	Y	GPRS
TS 04.64	General Packet Radio Service (GPRS); Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) layer specification	8.7.0	Y	GPRS
TS 04.65	General Packet Radio Service (GPRS); Mobile Station (MS) - Serving GPRS Support Node (SGSN); Subnetwork Dependent Convergence Protocol (SNDCP)	8.2.0	Y	GPRS
TS 08.14	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) interface; Gb Interface Layer 1	8.0.1	Y	GPRS
TS 08.16	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) Interface; Network Service	8.0.1	Y	GPRS
TS 08.18	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN); BSS GPRS Protocol	8.10.0	Y	GPRS
TS 22.060	General Packet Radio Service (GPRS); Service description; Stage 1	3.5.0	Y	GPRS
TS 23.060	General Packet Radio Service (GPRS) Service description; Stage 2	3.15.0	Y	GPRS
TS 29.060	General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp interface	3.17.0	Y	GPRS
TR 09.01	General Network Interworking Scenarios	8.0.0	Y	Interworking
TR 01.33	Lawful Interception requirements for GSM	8.0.0	Y	Lawful Interception
TS 33.106	Lawful interception requirements	3.1.0	Y	Lawful Interception
TR 23.909	Technical report on the Gateway Location Register	3.0.1	Y	Location

Specification N°	Title	R99	Y/N/?	Subject
TR 25.832	Manifestations of Handover and SRNS relocation	3.0.0	Y	Location
TS 03.71	Location Services (LCS); Functional description; Stage 2	8.7.0	Y	Location
TS 04.31	Location Services (LCS); Mobile Station (MS) - Serving Mobile Location Centre (SMLC) Radio Resource LCS Protocol (RRLP)	8.11.0	Y	Location
TS 04.35	Location Services (LCS); Broadcast network assistance for Enhanced Observed Time Difference (E-OTD) and Global Positioning System (GPS) positioning methods	8.4.1	Y	Location
TS 04.71	Location Services (LCS); Mobile radio interface layer 3 specification	8.4.0	Y	Location
TS 08.31	Location Services LCS: Serving Mobile Location Centre - Serving Mobile Location Centre (SMLC - SMLC); SMLCPP specification	8.1.1	Y	Location
TS 08.71	Location Services (LCS); Serving Mobile Location Centre - Base Station System (SMLC-BSS) interface; Layer 3	8.5.0	Y	Location
TS 09.31	Location Services (LCS); Base Station System Application Part LCS Extension (BSSAP-LE)	8.6.0	Y	Location
TS 22.071	Location Services (LCS); Stage 1	3.4.0	Y	Location
TS 23.012	Location management procedures	3.3.0	Y	Location
TS 23.119	Gateway Location Register (GLR); Stage2	3.0.0	Y	Location
TS 23.171	Location Services (LCS); Functional description; Stage 2 (UMTS)	3.10.0	Y	Location
TS 24.030	Location Services (LCS); Supplementary service operations; Stage 3	3.3.0	Y	Location
TS 29.016	Serving GPRS Support Node SGSN - Visitors Location Register (VLR); Gs Interface Network Service Specification	3.1.0	Y	Location
TS 29.018	General Packet Radio Service (GPRS); Serving GPRS Support Node (SGSN) - Visitors Location Register (VLR); Gs interface layer 3 specification	3.10.0	Y	Location
TS 29.119	GPRS Tunnelling Protocol (GTP) specification for Gateway Location Register (GLR)	3.0.0	Y	Location
TS 29.120	Mobile Application Part (MAP) specification for Gateway Location Register (GLR); Stage 3	3.1.0	Y	Location
TS 22.066	Support of Mobile Number Portability (MNP); Stage 1	3.2.0	Y	MNP

Specification N°	Title	R99	Y/N/?	Subject
TS 23.066	Support of GSM Mobile Number Portability (MNP) stage 2	3.3.0	Y	MNP
TS 22.097	Multiple Subscriber Profile (MSP) Phase 1; Service description - Stage 1	3.2.0	Y	MSP
TS 23.097	Multiple Subscriber Profile (MSP) Phase 1; Stage 2	3.1.1	Y	MSP
TS 23.007	Restoration procedures	3.5.0	Y	O&M
TS 23.015	Technical realization of Operator Determined Barring (ODB)	3.1.0	Y	ODB
TS 29.198	Open Service Architecture (OSI) Application Programming Interface (API) - Part 1	3.4.0	Y	OSI
TS 03.10	GSM Public Land Mobile Network (PLMN) Connection Types	8.3.0	Y	PLMN
TS 03.50	Transmission Planning Aspects of the Speech Service in the GSM Public Land Mobile Network (PLMN) System	8.1.1	Y	PLMN
TS 22.001	Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)	3.2.0	Y	PLMN
TS 22.002	Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)	3.6.0	Y	PLMN
TS 22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	3.3.0	Y	PLMN
TS 24.002	GSM-UMTS Public Land Mobile Network (PLMN) Access Reference Configuration	3.1.1	Y	PLMN
TS 29.007	General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)	3.12.0	Y	PLMN
TS 29.061	Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)	3.13.0	Y	PLMN
TS 23.008	Organisation of subscriber data	3.8.0	Y	Privacy
TS 23.016	Subscriber data management; Stage 2	3.9.0	Y	Privacy
TS 23.018	Basic Call Handling; Technical realization	3.12.0	Y	Privacy
TS 23.107	Quality of Service (QoS) concept and architecture	3.9.0	Y	QoS
TR 05.22	Radio link management in hierarchical networks	8.0.0	Y	Radio

Specification N°	Title	R99	Y/N/?	Subject
TR 05.50	Background for RF Requirements	8.2.0	Y	Radio
TS 05.01	Physical Layer on the Radio Path (General Description)	8.7.0	Y	Radio
TS 05.02	Multiplexing and Multiple Access on the Radio Path	8.11.0	Y	Radio
TS 05.03	Channel coding	8.7.0	Y	Radio
TS 05.04	Modulation	8.4.0	Y	Radio
TS 05.05	Radio Transmission and Reception	8.16.0	Y	Radio
TS 05.08	Radio Subsystem Link Control	8.18.0	Y	Radio
TS 05.09	Link adaptation	8.5.0	Y	Radio
TS 05.10	Radio subsystem synchronization	8.12.0	Y	Radio
TR 33.908	3G Security; General report on the design, specification and evaluation of 3GPP standard confidentiality and integrity algorithms	3.0.0	Y	Security
TS 02.09	Security aspects	8.0.1	Y	Security
TS 02.33	Lawful Interception (LI); Stage 1	8.0.1	Y	Security
TS 03.20	Security-related Network Functions	8.1.0	Y	Security
TS 03.33	Lawful Interception; Stage 2	8.1.0	Y	Security
TS 21.133	3G security; Security threats and requirements	3.2.0	Y	Security
TS 33.102	3G security; Security architecture	3.13.0	Y	Security
TS 33.107	3G security; Lawful interception architecture and functions	3.5.0	Y	Security
TS 02.19	Subscriber Identity Module Application Programming Interface (SIM API); Stage 1	8.0.0	Y	SIM-API
TS 03.19	Subscriber Identity Module Application Programming Interface (SIM API) for Java Card	8.5.0	Y	SIM-API
TS 11.11	Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) Interface	8.9.1	Y	SIM-ME
TS 23.011	Technical realization of Supplementary Services	3.1.0	Y	SS

Specification N°	Title	R99	Y/N/?	Subject
TS 23.101	General UMTS Architecture	3.1.0	Y	UMTS
TR 25.993	Typical examples of Radio Access Bearers (RABs) and Radio Bearers (RBs) supported by Universal Terrestrial Radio Access (UTRA)	3.0.0	Y	UTRA
TS 23.127	Virtual Home Environment (VHE) / Open Service Access (OSA); Stage 2	3.4.0	Y	VHE
TR 23.923	Combined GSM and Mobile IP mobility handling in UMTS IP CN	3.0.0	Y	
TS 23.002	Network architecture	3.6.0	Y	
TS 23.003	Numbering, Addressing and Identification	3.12.0	Y	
TS 25.301	Radio Interface Protocol Architecture	3.11.0	Y	
TS 25.331	Radio Resource Control (RRC) protocol specification	3.15.0	Y	

Annex D (informative): Guidance provided by the European Commission



"ECNS310
EC_answers.doc"

Annex E (informative): Guidance sought from the European Commission – open questions



"ECNS503
Art17_Questions_STF

Annex F (informative): Full list of Articles by Directive

Table F.1 identifies those Articles regarded as having relevance to the rationale and justification for areas to be covered by the Article 17 list of standards.

Table F.1: Articles providing justification in the context of Article 17 of the Framework Directive

Directive	Article	Chapter	Title	Relevant	Comments
Access Directive	1	Scope, aim and definition	Scope and aim	Y	This is an introduction, which is further explained in Recitals
Access Directive	2	Scope, aim and definition	Definitions	Y	Definitions are included within the present document
Access Directive	3	General provisions	General framework for access and interconnection	N	To be included in the introduction
Access Directive	4	General provisions	Rights and obligations for undertakings	Y	Article 4.2 applies
Access Directive	5	General provisions	Powers and responsibilities of the national regulatory authorities with regard to access and interconnection	Y	Identifies how and when Art.17 list (Framework Directive) will be used
Access Directive	6	Obligations on operators and market review procedures	Conditional access systems and other facilities	N	
Access Directive	7	Obligations on operators and market review procedures	Review of former obligations for access and interconnection	Y	Section 7.1 To maintain previous obligations (Lease Line requirements, ...)
Access Directive	8	Obligations on operators and market review procedures	Imposition, amendment or withdrawal of obligations	N	
Access Directive	9	Obligations on operators and market review procedures	Obligation of transparency	Y	Declaration against Article 17 list.

Directive	Article	Chapter	Title	Relevant	Comments
Access Directive	10	Obligations on operators and market review procedures	Obligation of non-discrimination	N	
Access Directive	11	Obligations on operators and market review procedures	Obligation of accounting separation	N	
Access Directive	12	Obligations on operators and market review procedures	Obligations of access to, and use of, specific network facilities	Y	As a basis for Art.17 list 1: (a), (e), (g), (h), (i) 2: (f)
Access Directive	13	Obligations on operators and market review procedures	Price control and cost accounting obligations	N	
Access Directive	14	Procedural provisions	Committee	N	
Access Directive	15	Procedural provisions	Publication of, and access to, information	N	
Access Directive	16	Procedural provisions	Notification	N	
Access Directive	17	Procedural provisions	Review procedures	N	
Access Directive	18	Procedural provisions	Transposition	N	
Access Directive	19	Procedural provisions	Entry into force	N	
Access Directive	20	Procedural provisions	Addresses	N	
Access Directive	A1	Annex I	Conditions for access to digital TV and radio services broadcast to viewers and listeners in the community	Y	
Access Directive	A2	Annex II	Minimum list of items to be included in a reference offer for unbundled access to the twisted metallic pair local loop to be published by notified operators	Y	As a basis for Art. 17 list (Framework Directive) A, C and D.1

Directive	Article	Chapter	Title	Relevant	Comments
Authorisation Directive	1		Objective and scope	Y	This is an introduction, which is further explained in Recitals
Authorisation Directive	2		Definitions	Y	Definitions are included within the present document
Authorisation Directive	3		General authorisation of electronic communications networks and services	N	
Authorisation Directive	4		Minimum list of rights derived from the general authorisation	Y	General rights to provide electronic communications. 1.(a) and 2.
Authorisation Directive	5		Rights of use for radio frequencies and numbers	N	
Authorisation Directive	6		Conditions attached to the general authorisation and to the rights of use for radio frequencies and for numbers and specific obligations	Y	Clause 6(1)
Authorisation Directive	7		Procedure for limiting the number of rights of use to be granted for radio frequencies	N	
Authorisation Directive	8		Harmonised assignment of radio frequencies	N	
Authorisation Directive	9		Declarations to facilitate the exercise of rights to install facilities and rights of interconnection	N	
Authorisation Directive	10		Compliance with the conditions of the general authorisation or of the rights of use and with specific obligations	N	
Authorisation Directive	11		Information required under the general authorisation, for rights of use and for the specific obligations	N	
Authorisation Directive	12		Administrative charges	N	
Authorisation Directive	13		Fees for rights of use and rights to install facilities	N	
Authorisation Directive	14		Amendment of rights and obligations	N	

Directive	Article	Chapter	Title	Relevant	Comments
Authorisation Directive	15		Publication of information	N	
Authorisation Directive	16		Review procedures	N	
Authorisation Directive	17		Existing authorisations	N	
Authorisation Directive	18		Transposition	N	
Authorisation Directive	19		Entry into force	N	
Authorisation Directive	20		Addresses	N	
Authorisation Directive	A	Annex		Y	Part A: 3,6;7;8;11;12;14(?);15;16;18 Part C: 3;4
Directive on privacy and electronic communications	1		Scope and aim	Y	This is an introduction, which is further explained in Recitals
Directive on privacy and electronic communications	2		Definitions	Y	Definitions are included within the present document
Directive on privacy and electronic communications	3		Services concerned	Y	To be included in the introduction. CLIP, CLIP and automatic call forwarding: mandatory on digital networks and conditional on analogue networks
Directive on privacy and electronic communications	4		Security	N	
Directive on privacy and electronic communications	5		Confidentiality of the communications	Y	Art 5.3: Freedom of choice relating to storage of data, or user information related to privacy and data protection
Directive on privacy and electronic communications	6		Traffic data	Y	Art 6.3: how is the user to withdraw his consent for the processing of traffic data at any time.

Directive	Article	Chapter	Title	Relevant	Comments
Directive on privacy and electronic communications	7		Itemized billing	Y	Freedom of choice. On itemized billing (OSS). eg roaming calls with CLIP of the caller. Make sure N° not published on the itemized bill
Directive on privacy and electronic communications	8		Presentation and restriction of calling and connected line identification	Y	Related to privacy
Directive on privacy and electronic communications	9		Location data other than traffic data	Y	Related to privacy
Directive on privacy and electronic communications	10		Exceptions	Y	Emergency calls must carry CLIP and Location
Directive on privacy and electronic communications	11		Automatic call forwarding	Y	Privacy
Directive on privacy and electronic communications	12		Directories of subscribers	N	
Directive on privacy and electronic communications	13		Unsolicited communications	Y	Art 13.4: Function to be provided by the network facility to block unsolicited mails.
Directive on privacy and electronic communications	14		Technical features and standardisation	N	Relates to terminal equipments
Directive on privacy and electronic communications	15		Application of certain provisions of Directive 95/46/EC	N	
Directive on privacy and electronic communications	16		Transitional arrangements	N	

Directive	Article	Chapter	Title	Relevant	Comments
Directive on privacy and electronic communications	17		Transposition	N	
Directive on privacy and electronic communications	18		Review	N	
Directive on privacy and electronic communications	19		Repeal	N	
Directive on privacy and electronic communications	20		Entry into force	N	
Directive on privacy and electronic communications	21		Addresses	N	
Framework Directive	1	Scope, aim and definition	Scope and aim	Y	This is an introduction, which is further explained in Recitals
Framework Directive	2	Scope, aim and definition	Definitions	Y	Definitions are included within the present document
Framework Directive	3	NRAs	National Regulatory Authorities	N	Not relevant to Art. 17. It concerns NRAs
Framework Directive	4	NRAs	Right of appeal	N	Not relevant to Art. 17. It concerns NRAs
Framework Directive	5	NRAs	Provision of information	N	Not relevant to Art. 17. It concerns NRAs
Framework Directive	6	NRAs	Consultation and transparency mechanism	N	Not relevant to Art. 17. It concerns NRAs
Framework Directive	7	NRAs	Consolidating the internal market for electronic communications	N	Not relevant to Art. 17. It concerns NRAs
Framework Directive	8	Tasks of NRA	Policy objectives and regulatory Principles	Y	Underlying requirement for Article 17

Directive	Article	Chapter	Title	Relevant	Comments
Framework Directive	9	Tasks of NRA	Management of radio frequencies for electronic communications services	N	Management of scarce resource allocation
Framework Directive	10	Tasks of NRA	Numbering, naming and addressing	N	Management of scarce resource allocation
Framework Directive	11	Tasks of NRA	Rights of way	N	
Framework Directive	12	Tasks of NRA	Co-location and facility sharing	N	
Framework Directive	13	Tasks of NRA	Accounting separation and financial reports	N	
Framework Directive	14	General provisions	Undertakings with significant market power	N	
Framework Directive	15	General provisions	Market definition procedure	N	
Framework Directive	16	General provisions	Market analysis procedure	N	
Framework Directive	17	General provisions	Standardisation	Y	Legal basis for the list of standards and/or specifications
Framework Directive	18	General provisions	Interoperability of digital interactive television services	Y	Taking into account the interoperability aspect of digital consumer equipment
Framework Directive	19	General provisions	Harmonisation procedures	Y	Legal basis for introducing harmonization
Framework Directive	20	General provisions	Dispute resolution between undertakings	N	
Framework Directive	21	General provisions	Resolution of cross-border disputes	N	
Framework Directive	22	General provisions	Committee	N	
Framework Directive	23	General provisions	Exchange of information	N	
Framework Directive	24	General provisions	Publication of information	N	
Framework Directive	25	General provisions	Review procedures	N	
Framework Directive	26	Final provisions	Repeal	Y	Confirmation of those Directives and legislative measures that no longer apply in their entirety under new Regulatory Framework

Directive	Article	Chapter	Title	Relevant	Comments
Framework Directive	27	Final provisions	Transitional measures	N	
Framework Directive	28	Final provisions	Transposition	N	
Framework Directive	29	Final provisions	Entry into force	N	
Framework Directive	30	Final provisions	Addresses	N	
Framework Directive	Rec 4	Commission Decision 2003/548/EC	Relevant recommendations under R-LAN access to public ECNs and ECSs	Y	Pursuant to Article 19 of Framework Directive on harmonisation
Universal Service Directive	1	Scope, aim and definition	Scope and aim	Y	This is an introduction, which is further explained in Recitals
Universal Service Directive	2	Scope, aim and definition	Definitions	Y	Definitions are included within the present document
Universal Service Directive	3	Universal service obligations including social obligations	Availability of universal service	N	
Universal Service Directive	4	Universal service obligations including social obligations	Provision of access at a fixed location	Y	Covers access to Universal Service and provides the description of Universal service
Universal Service Directive	5	Universal service obligations including social obligations	Directory enquiry services and directories	N	Not relevant for third parties
Universal Service Directive	6	Universal service obligations including social obligations	Public pay telephones	N	
Universal Service Directive	7	Universal service obligations including social obligations	Special measures for disabled users	Y	

Directive	Article	Chapter	Title	Relevant	Comments
Universal Service Directive	8	Universal service obligations including social obligations	Designation of undertakings	N	
Universal Service Directive	9	Universal service obligations including social obligations	Affordability of tariffs	N	
Universal Service Directive	10	Universal service obligations including social obligations	Control of expenditure	Y	Annex II, Improves freedom of choice for users.
Universal Service Directive	11	Universal service obligations including social obligations	Quality of service of designated undertakings	Y	Annex III: QoS parameters
Universal Service Directive	12	Universal service obligations including social obligations	Costing of universal service obligations	N	
Universal Service Directive	13	Universal service obligations including social obligations	Financing of universal service obligations	N	
Universal Service Directive	14	Universal service obligations including social obligations	Transparency	N	
Universal Service Directive	15	Universal service obligations including social obligations	Review of the scope of universal service	Y	Section 1.(a) and 1. (b)
Universal Service Directive	16	Regulatory controls on undertakings with significant market power in specific markets	Review of obligations	N	

Directive	Article	Chapter	Title	Relevant	Comments
Universal Service Directive	17	Regulatory controls on undertakings with significant market power in specific markets	Regulatory controls on retail services	N	
Universal Service Directive	18	Regulatory controls on undertakings with significant market power in specific markets	Regulatory controls on the minimum set of leased lines	Y	Specific reference to Article 17
Universal Service Directive	19	Regulatory controls on undertakings with significant market power in specific markets	Carrier selection and carrier pre-selection	Y	Freedom of choice
Universal Service Directive	20	End-User Interest and rights	Contacts	N	
Universal Service Directive	21	End-User Interest and rights	Transparency and publication of information	Y	Annex II, Improves freedom of choice for users.
Universal Service Directive	22	End-User Interest and rights	Quality of service of designated undertakings	Y	Annex III: QoS parameters
Universal Service Directive	23	End-User Interest and rights	Integrity of the network	Y	Ask for a clarification regarding the definition of integrity
Universal Service Directive	24	End-User Interest and rights	Interoperability of consumer digital television equipment	Y	Interoperability
Universal Service Directive	25	End-User Interest and rights	Operator assistance and directory enquiry services	Y	Provision of access to information, privacy and electronic communications
Universal Service Directive	26	End-User Interest and rights	Single European emergency call number	Y	Universal service: 112
Universal Service Directive	27	End-User Interest and rights	European telephone access codes	Y	Easy access to international telephone services is vital for European citizens and European businesses.

Directive	Article	Chapter	Title	Relevant	Comments
Universal Service Directive	28	End-User Interest and rights	Non-geographic numbers	Y	Improves freedom of choice for users.
Universal Service Directive	29	End-User Interest and rights	Provision of additional facilities	Y	Annex I
Universal Service Directive	30	End-User Interest and rights	Number portability	Y	Improves freedom of choice for users.
Universal Service Directive	31	End-User Interest and rights	"Must carry" obligations	N	
Universal Service Directive	32	General and Final Provisions	Additional mandatory services	N	
Universal Service Directive	33	General and Final Provisions	Consultation with interested parties	N	
Universal Service Directive	34	General and Final Provisions	Out-of-court dispute resolution	N	
Universal Service Directive	35	General and Final Provisions	Technical adjustment	Y	Annexes I,II,III, VI, and VII
Universal Service Directive	36	General and Final Provisions	Notification, monitoring and review procedures	N	
Universal Service Directive	37	General and Final Provisions	Committee	N	
Universal Service Directive	38	General and Final Provisions	Transposition	N	
Universal Service Directive	39	General and Final Provisions	Entry into force	N	
Universal Service Directive	40	General and Final Provisions	Addresses	N	

Directive	Article	Chapter	Title	Relevant	Comments
Universal Service Directive	A1	Annex I	Description of facilities and services referred to in article 10 (Control of expenditure) and article 29 (Additional Facilities)	Y	Part A: (b); Part B: (a); (b)
Universal Service Directive	A2	Annex II	Information to be published in accordance with Article 21 (Transparency and publication of information)	Y	Freedom of choice.
Universal Service Directive	A3	Annex III	Quality of service parameters	Y	Articles 11 and 22
Universal Service Directive	A4	Annex IV	Calculating the net cost, if any, of universal service obligations and establishing any recovery of sharing mechanism in accordance with articles 12 and 13	N	
Universal Service Directive	A5	Annex V	Process for reviewing the scope of universal service in accordance with article 15	N	
Universal Service Directive	A6	Annex VI	Interoperability of digital consumer equipment referred to in article 24	Y	Access Directive
Universal Service Directive	A7	Annex VII	Conditions for the minimum set of leased lines referred to in article 18	Y	Leased Lines
Universal Service Related	A	Commission Decision 2003/548/EC	List of standards and/or specifications for electronic communications networks, services and associated facilities and services	Y	List of leased line standards to be included

Bibliography

The list refers to the following legislative documents which may be found at http://europa.eu.int/information_society/topics/telecoms/regulatory/index_en.htm

Directive 90/387/EEC of the Council on the establishment of the internal market for the telecommunication services through the implementation of open network provision (OJ L 192, 24.7.1990, p. 1), as amended by Directive 97/51/EC of the European Parliament and the Council amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications (OJ L 295, 29.10.1997, p.23).

Directive 92/44/EEC of the Council on the application of Open Network Provision to leased lines [OJ L 165, 19.6.1992, p. 27], as amended by Directive 97/51/EC of the European Parliament and the Council amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications [OJ L 295, 29.10.1997, p. 23], as amended by Commission Decision of 7 January 1998 on amendment of Annex II to Directive 92/44/EEC of the Council [OJ L 14, 20.1.1998, p. 27].

Directive 97/33/EC of the European Parliament and the Council on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (OJ L 199, 26.7.1997, p. 32).

Directive 97/51/EC of the European Parliament and of the Council amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications (OJ L 295, 29.10.1997, p.23).

Directive 98/10/EC of the European Parliament and the Council on the application of open network provision (ONP) to voice telephony and on universal service for telecommunication in a competitive environment [OJ L 101, 1.4.1998, p.24] as amended by Commission Decision of 22 December 2000 on amendment of Annex III of the Directive 98/10/EC of the European Parliament and the Council [OJ L 5, 10.1.2001, p. 12].

History

Document history		
V0.0.1	September 2003	First reformat and draft of where standards may be added
V0.0.2	September 2003	Updated structure to include 'new' aspects covered by new Regulatory Framework
V0.0.3	September 2003	Further restructuring and allocation of main sections to experts
V0.0.4	October 2003	Addition of Section 3.9 (QoS) and definitions from appropriate Directives
V0.0.5	October 2003	Update based upon merge of the working documents from each STF member
V0.0.6	October 2003	Update resulting from ECN&S#4 and Annex A containing rationale/justifications
V0.0.7	October 2003	Interpretation based upon rationale/justifications – for review by OCG ECN&S Main body text temporarily removed.
V.0.0.8	November 2003	Editorial corrections, diagrams and explanations added. Annex A text converted to main body text. Annexes added containing list of standards relating to each Directive. List of open questions added as an annex.