

**Electronic communications networks and services;  
Candidate list of standards and/or specifications  
in accordance with Article 17 of Directive 2002/21/EC**

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Reference

RSR/OCG-00014

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interoperability, interworking, regulation

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## Foreword

This Special Report (SR) has been produced by Advisory Committee Operational Co-ordination Group (OCG).

NOTE: The SR type of deliverable was chosen to publish the contents of the document because the information is not specifically technical and is an integration of information from many sources. The current version of the present document was published after endorsement by the ETSI Operational Co-ordination Group, which represents all technical bodies of ETSI.

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## Introduction

EC mandate M/328 invited the European Standards Organisations (ESOs), CEN, CENELEC and ETSI, to analyse the existing list of standards/specifications published in the Official Journal of the European Communities (OJEC) [6] at the end of 2002 in support of Article 17 of the Framework Directive (2002/21/EC [1]). In addition the mandate requested the ESOs to propose revisions to the list and, where necessary, these revisions to take into account the technology neutral definitions of electronic communications services and networks within the scope of the new regulatory framework.

Following the above, ETSI produced a first edition (V1.1.1) of the report SR 002 211 with an extensive analysis on the possible implications of the new regulatory regime.

Later the following guidance produced by the CEU services reflecting the agreement in COCOM was taken as a base to produce the contents of the present document.

- 1) The revised List should include standards:
  - 1a) for interconnection of, or access to, electronic communications networks and/or interoperability of electronic communications services, to the extent strictly necessary to ensure end-to-end user interoperability and freedom of choice for users; and
  - 1b) whose implementation does not represent an undue expense as compared with the expected benefits (i.e. proportionality);and that fulfil one or more of the following criteria:
  - 1c) standards for key interfaces representing the boundaries between systems owned and operated by different parties, including cross-border aspects, in particular standards solving severe and likely cases on non-interoperability or a lack of freedom of choice;
  - 1d) standards that are relevant in today's marketplace, that are still evolving and have some future life span.

- 2) The revised List should not include:
  - 2a) standards for well established networks and services that are no longer subject to evolution;
  - 2b) standards for networks and services that are currently in an early phase of their development;
  - 2c) by implication of paragraph 1) 3<sup>rd</sup> indent, standards where achieving interoperability and freedom of choice can be left to the market because it will be secured through consumer demand or industry interest.
- 3) Notwithstanding the criteria in 1) and 2) above, special attention should be given to:
  - 3a) standards currently in use for regulation at national or European level, where the impact of their elimination should be first assessed;
  - 3b) standards that are needed to provide specific public interest obligations, according to national or Community law, that operators do not have a commercial incentive to implement.
- 4) If doubt exists (e.g. standards covered by criteria that may be contradictory), the standard should be included in the revised List submitted by ETSI. In all cases, the reasoning for inclusion in the revised List or withdrawal from the List should be given.

As a result of the above steps and after an active collaboration among ETSI Technical Bodies and considering contributions from some experts regularly contributing to COCOM, ETSI is now proposing the present document as the formal input to be considered by COCOM when giving its opinion to the CEU.

Finally ETSI is studying the possibility of maintaining in a separate document (SR 003 211) the contents of the initial edition (V1.1.1) of SR 002 211 and publish it with further updated, extended and enhanced contents, to be used by ETSI experts and those who wish to understand better the relationship between regulatory regime and standardisation work, without having necessarily in mind the minimalisation criteria used for the publications under the criteria of Article 17 of the Framework Directive (2002/21/EC) [1] enounced above.

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# 1 Scope

The present document proposes a revision of the Article 17 of the Framework Directive (2002/21/EC) [1] List of Standards according the guidance received from the CEU services.

NOTE 1: The first version published of the LoS [6] was published ad interim in the OJEC in 31<sup>st</sup> December 2002. A subsequent list of mandatory leased line standards was published in 25<sup>th</sup> July 2003 [7].

NOTE 2: The document does not intend to classify as mandatory or not the standards listed, but suggests that an integrated manner of listing all the standards would facilitate a consistent application.

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# 2 References

For the purposes of this Special Report (SR), the following references apply:

- [1] Directive 2002/21/EC of the European Parliament and of the council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive).
  - [2] 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).
  - [3] Directive 2002/58/EC of the European Parliament and of the council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).
  - [4] Directive 2002/19/EC of the European Parliament and of the council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive).
  - [5] 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).
  - [6] 2002/C 331/04: "List of standards and/or specifications for electronic communications networks, services and associated facilities and services (interim issue)".
  - [7] Commission Decition (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.
  - [8] Commission Recommendation (2005/57/EC) of 21 January 2005 on the provision of leased lines in the European Union (Part 1 - Major supply conditions for wholesale leased lines) (notified under document number C (2005) 103).
- NOTE: Official Journal L 024, 27/01/2005 P. 0039 - 0044.
- [9] Commission Recommendation (2005/268/EC) of 29 March 2005 on the provision of leased lines in the European Union - Part 2 - pricing aspects of wholesale leased lines part circuits (notified under document number C(2005) 951) (Text with EEA relevance).
- NOTE: Official Journal L 083, 01/04/2005 P. 0052 - 0055.
- [10] 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.
  - [11] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

- [12] Council Decision 2001/792/EC of 23 October 2001 establishing a Community mechanism to facilitate reinforced cooperation in civil protection assistance interventions.
- [13] Official texts relating to Community co-operation on Civil Protection.
- NOTE: [http://europa.eu.int/comm/environment/civil/prote/cp02\\_en.htm](http://europa.eu.int/comm/environment/civil/prote/cp02_en.htm).
- [14] Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision).
- [15] Directive 98/34/EC of the European Parliament and of the Council laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on information society services.
- [16] Council Directive 92/44/EEC of 5 June 1992 on the application of open network provision to leased lines.
- [17] Directive 97/51/EC of the European Parliament and of the Council of 6 October 1997 amending Council Directives 90/387/EEC and 92/44/EEC for the purpose of adaptation to a competitive environment in telecommunications.
- [18] Recommendation 2000/417/EC of the Commission on unbundled access to the local loop.
- NOTE: Official Journal L 156, 29.6.2000, p. 44.
- [19] 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, p. 4).
- [20] P5-TA-PROV (2002)0454: "MHP (Multimedia Home Platform) - European Parliament resolution on an EU action plan for the successful introduction of digital television in Europe" (OJEU, published C 273 E/312 and 312, 14.11.2003).
- NOTE: European Parliament resolution on MHP (Multimedia Home Platform) can be found on <http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/ce273/ce27320031114en03110312.pdf>.
- [21] SEC(2004)1028: "Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on interoperability of digital interactive television services".
- NOTE: The large majority of the above listed legislative documents may be found at [http://europa.eu.int/information\\_society/topics/telecoms/regulatory/index\\_en.htm](http://europa.eu.int/information_society/topics/telecoms/regulatory/index_en.htm).

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## 3 Definitions and abbreviations

Definitions and abbreviations extracted from ETSI deliverables can be useful, some of them are related to regulatory documents and in general all of them represent relevant aspects of the communications market sector. Many of the definitions and abbreviations in this document are extracted from ETSI deliverables Terms and Definitions Interactive Database (TEDDI). Many more very useful can be consulted via:

- <http://webapp.etsi.org/Teddi/>.

### 3.1 Definitions

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

**bitstream access:** transparent digital transmission capacity between any NTP of access providers and PoI offered to third parties allowing these to offer their own services to any client

**Leased Line (LL):** transparent transmission capacity between 2 pre-defined points

NOTE: Leased Lines are not associated to addressing function; this definition is derived and simplified from the Directive 92/44/EEC [16]. Directive 92/44/EEC [16] was amended by Directive 97/51/EC [17].



**Network Termination Point (NTP):** physical point at which a subscriber is provided with access to a public communications network

NOTE: This definition is derived and simplified from the USD 2002/22/EC [2] and the R&TTE Directive 1999/5/EC [11].

**Point of Interconnection (PoI):** physical point at which an interconnection (as defined in art.2 of the Access Directive 2002/19/EC [4]) is provided

**shared access:** transparent analogue transmission capacity between any NTP of access providers and PoI offered to third parties allowing these to offer their own services to any client

NOTE: In this case the use of the spectrum on the connecting equipment is shared by 2 operators/ access providers.

**Unbundled Local Loop (ULL):** transparent transmission capacity between any NTP of access providers and PoI offered to third parties allowing these to offer to any client their own services and to fully control the corresponding transmission support

## 3.2 Abbreviations

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

ACR	Anonymous Call Rejected
AoC	Advice of Charge
API	Application Program Interface
CEU	Commission of the European Union
DAB	Digital Audio Broadcasting
DVB	Digital Video Broadcasting
FwD	Framework Directive
ISDN	Integrated Service Digital Network
LI	Lawful Interception
LL	Leased Line
LoS	List of Standards (published or to be published by the CEU)
MHEG	Multimedia and Hypermedia Experts Group
MHP	Multimedia Home Platform
NGN	Next Generation Networks
NO	Network Operator
NSO	National Standards Organisation
NTP	Network Termination Point
OCC	Operations Coordination Group (a body in ETSI coordinating TB's)
PoI	Point of Interconnection
PSTN	Public Switched Telecommunication Network
QoS	Quality of Service
SP	Service Provider
TB	Technical Body
ULL	Unbundled Local Loop
USD	Universal Service Directive
WML	Wireless Mark-up Language
WTVML	Wireless TeleVision Mark-up Language, also designated WTML

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## 4 Common and general parts

In the present clause some clarifications explaining the context of the present document are offered. They justify and offer general background for some of the text suggested for the official publication included in annex A.

### 4.1 Structure of the list of standards

The table of contents of the present document was used as a base for the structure to be used in the version published by the CEU. The text offered in clause A.3.2 is suggested.

A clause (corresponding to clause 5) repeating the reference to standards to be considered compulsory was foreseen and the relevant aspects found in legislation included as subclauses. An additional subclause to cover special decisions was also left.

A later clause (corresponding to clause 6) listing the most useful standards facilitating new NOs and SPs to connect their equipment and to have access to users and content providers is offered under the title transparent transmission capacity.

The standards establishing the border lines and associated subjects to users (NTP) and among NOs and SPs (PoI) are listed in clauses 7 and 8 respectively.

Particular important services and features in this regulatory context can have their standards listed in clause 9.

Numbering and addressing standards should be included in the clause 10 and the QoS relevant standards in clause 11.

NOTE: All the above aspects are considered important even if in some editions, for some cases no particular standard is referred in some of the above mentioned clauses.

### 4.2 Edition of documents, parts of standards in the list

Unless a standard is intended to be used with compulsory value, the exact reference to the version number and the complete listing of all the parts of a set of the documents is not strictly necessary, would be confusing and risks, very soon after the publication, to become inaccurate. In fact often several versions of a standard serve the propose of the LoS. Formally listing all the appropriate parts and versions of a standard would reduce the impact of the recommendation because in a very long list the impact of an element is very small. Finally an exaggerated listing would force a much longer work of verifying the interrelation among standards, their versions and parts thereof, delaying the publication of LoS editions with unnecessary work.

For compulsory standards, and due the legal impact that the corresponding obligation has, it is necessary to specify exactly the parts and the text expressing that obligation. This should nevertheless be easier because it is expected that a very limited number of subjects should be identified in this context.

The document refers to the exact edition only in case the standard is expected to be mandatory. In this case it is also expected that not necessarily all the requirements of the standard are essential, unless the standard has been made under a specific mandate intended for regulatory purpose.

NOTE 1: The format proposed in clause A.3.8 foresees room for the listing of relevant requirements in a specific standard.

Releases of a certain technology are normally specified in different standards. They correspond to different sets of facilities and not necessarily to improvements in technical terms. Different releases of the same technology may be included in this document provided that they correspond to the criteria of selection.

NOTE 2: This was the case of MHP and API/Parlay in clause 8.1 where more than one release of each one of these technologies were identified to prevent influencing the market on the adoption of a more or less complete set of facilities.

Within the standardisation process, unless otherwise decided by regulation, the reference made to a standard or set of standards does not mean that all possible features or services specified by them have to be provided, but all the provided features and services should comply with them.

## 4.3 Technical Standards, Specifications, Reports, Guides

In general all ETSI deliverables are adopted firstly by the group of experts directly working on it and soon after by the responsible TB. The TB approval leads to the publication of the deliverable if it is a TR or a TS or to the submission to the whole ETSI membership approval if it is a ES or EG.

In the case of a EN, the National Standardisation Organisations coordinate a per country position determining the approval of the deliverable. If the EN is intended for regulatory purposes special measures may be taken. In the case of SR special rules apply; they are often produced by coordination groups or other ETSI entities, not so often by TBs.

ETSI rules establish how to create, progress, adopt and publish standards according to the applicable regulation (at present the EU Directive 98/34/EC [15]). They are regularly updated by ETSI General Assembly.

Table 1, excluding earlier types of deliverables, summarises the main characteristics of ETSI deliverables.

**Table 1: summary of the main characteristics of ETSI deliverables**

Normative	Informative	Adopted by
<p><b>TS</b></p> <p>ETSI Technical Specification</p> <p>The <i>TS</i> (ETSI Technical Specification) is the preferred deliverable when the document contains normative provisions and short time to 'market', validation and maintenance are essential.</p> <p>A <i>TS</i> may later be converted to an <i>ES</i> or an <i>EN</i>, or be used to publish the contents of a draft <i>ES</i> being sent for vote or a draft <i>EN</i> being sent for <i>Public Enquiry</i> or vote.</p>	<p><b>TR</b></p> <p>ETSI Technical Report</p> <p>The <i>TR</i> (ETSI Technical Report) is the default deliverable when the document contains mainly informative elements.</p>	<p><b>Technical Body [TB]</b></p>
<p><b>ES</b></p> <p>ETSI Standard</p> <p>The <i>ES</i> (ETSI Standard) shall be chosen when the document contains normative provisions and it is considered preferable or necessary that the document be submitted to the whole ETSI membership for its approval.</p>	<p><b>EG</b></p> <p>ETSI Guide</p> <p>The <i>EG</i> (ETSI Guide) shall be chosen when the document contains guidance on handling of technical standardization activities in the whole or major parts of the Technical Organization.</p>	<p><b>TB + ETSI membership</b></p>
<p><b>EN</b></p> <p>European Standard (telecommunications series)</p> <p>The <i>EN</i> (European Standard (telecommunications series)) is the formal output for standardization at the European level and shall be chosen when the document is intended to meet needs specific to Europe and requires transposition into national standards or when the drafting of the document is required under an EC/EFTA mandate.</p> <p>In a standardization project encompassing drafting of several or many deliverables, only those parts of the project that fulfil the above justification shall become <i>ENs</i>; the other parts shall become <i>TSs</i>, <i>TRs</i> or <i>ESs</i>, as pertinent.</p> <p>For emerging technologies, the output shall be directed to <i>TSs</i> until the provisions have become 'stable' even if the above justification is fulfilled.</p>		<p><b>TB + ETSI full members (European national head of delegations express national votes via NSO)</b></p>
	<p><b>SR</b></p> <p>ETSI Special Report</p> <p>The <i>SR</i> (ETSI Special Report) shall be used for any other kind of document containing information of general ETSI member or public interest. The <i>SR</i> is also the appropriate deliverable type for a deliverable with dynamic content generated by a software application on the ETSI web site on the basis of database content.</p>	<p><b>Special rules (TB/ Board/ OCG/ ETSI Director General)</b></p>

## 4.4 Technical Bodies

A TB is a group of experts representing all ETSI members with interest in that sector. In general this document refers to ETSI TB's where these experts are bound by rules specifying working and decision methods. These ETSI rules are in line with the applicable regulation (at present the EU Directive 98/34/EC [15]) and regularly updated by ETSI General Assembly.

NOTE: ETSI rules can be found on <http://portal.etsi.org/directives/>.

## 5 Compulsory standards

There is no mandatory part in the present document. The standards to be identified in this clause will be mandatory (in the context of FwD - Directive 2002/21/EC [1], article 17, chapter 3) pending on the decision of the CEU. It is suggested this clause to be based on a selection of standards from other(s) clause(s).

NOTE: It is nevertheless assumed that the criteria used in the LoS published in December 2002 (2002/C 331/04 [6]) and updated in July 2003 (2003/548/EC [7]) build a nuclear set of measures to make available a minimum number of physical supports allowing all the service providers to interconnect among them and to access the end users. The recommendations 2005/57/EC [8] and 2005/268/EC [9] on conditions and pricing of lease lines suggest a confirmation of that and eventually an expansion of the set to higher capacity leased lines to facilitate multi-pack higher bit-rates offers to be widely introduced in the market by an increased number of service providers.

## 6 Transparent transmission capacity

### Justification:

- 1) According to the objectives of the present regulation, NOs are due to give access to network facilities to other parties under certain conditions depending on the result of market analysis.
- 2) Listing the basic "Transparent transmission capacity" standards, including the different forms of access to the user i.e. the different forms of ULL like shared access and bitstream access as well as LL possibilities, facilitates a harmonized implementation in the single market of the requirement to ensure very minimal conditions to *end-to-end user interoperability and freedom of choice for users*.

NOTE 1: At present, and apart the selection for the clause 6.3, the standards selected are the ones classified by CEU in the LoS LL 2003 (2003/548/EC [7]) as compulsory.

NOTE 2: ETSI initiated an investigation on higher capacity transparent transmission capacity; this can be useful for future editions of the present document.

### 6.1 Analogue, voice band LL

Table 2: Analogue, voice bandwidth LL

Standards		Remarks
Designation	Short title	
ETSI EN 300 448 (V1.2.1)	Ordinary quality 2 wire Connection and network interface presentation	
ETSI EN 300 451 (V1.2.1)	Ordinary quality 4 wire Connection and network interface presentation	
ETSI EN 300 449 (V1.2.1)	Special quality 2 wire Connection and network interface presentation	
ETSI EN 300 452 (V1.2.1)	Special quality 4 wire Connection and network interface presentation	

## 6.2 Digital LL

Table 3: Digital LL

Standards		Remarks
Designation	Short title	
ETSI EN 300 288 (V1.2.1)	64 kbit/s, network interface presentation	
ETSI EN 300 289 (V1.2.1)	64 kbit/s, Connection characteristics	
ETSI EN 300 418 (V1.2.1)	2 048 kbit/s - E1 (unstructured and structured) Network interface presentation	
ETSI EN 300 247 (V1.2.1)	2 048 kbit/s - E1 (unstructured) Connection characteristics	
ETSI EN 300 419 (V1.2.1)	2 048 kbit/s - E1 (structured) Connection characteristics	

## 6.3 Local Loop access to 3<sup>rd</sup> parties

Table 4: Local loop access to 3<sup>rd</sup> parties

Standards		Remarks
Designation	Short title	
ETSI TR 101 830-1 (V1.1.1)	Spectral management on metallic access networks; Part 1: Definitions and signal library	

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## 7 Publicly offered user interfaces (NTP)

### Justification:

- 1) According to the objectives of the present regulation, NOs are due to give access to network facilities to other parties under certain conditions depending on the result of market analysis.
- 2) Listing "basic emerging broadband access" standards applicable at the NTP, facilitates a harmonized or at least standardised implementation in the single market of the requirement to ensure very basic conditions to *end-to-end user interoperability and freedom of choice for users*. This has special relevance for the competitiveness of terminals and home and corporate networks area.

Under this clause no standard was considered to fulfil the criteria of selection to be included at present in the LoS.

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## 8 Interconnection and access

In this clause LL; ULL and bitstream issues were excluded, they are included in clause 6.

### Justification:

- 1) NOs and SPs may have the obligation, although having no particular commercial incentive, to make available some harmonised or standardised solutions for some particular aspects of interconnection and/or access. This may lead to quality impairments or disproportionate increase in costs for the competing SPs using an established NO or SP infrastructure or facility. When not standardised solutions are offered, degrading the QoS or increasing the prices of competitors or bundling services to the network access is easier; this will unbalance market opportunities for SPs not owning access to the users.
- 2) Listing the strictly minimum of standards specifying "basic interconnection" aspects applicable at the PoI, facilitates a harmonized or at least standardised implementation in the single market of the requirement to ensure very basic conditions to *end-to-end user interoperability and freedom of choice for users*. This has special relevance for the competitiveness of the service provision and new network operators area.

## 8.1 Application Program Interfaces (APIs)

**Table 5: Application Program Interfaces (APIs)**

Standards		Remarks
Designation	Short title	
ETSI ES 201 915 series	Open Service Access (OSA); Application Programming Interface (API/ Parlay 3)	
ETSI ES 202 915 series	Open Service Access (OSA); Application Programming Interface (API/ Parlay 4)	This standard corresponds to a different release and not to a different version number of ETSI ES 201 915 series See clarification and note in clause 4.2
ETSI ES 203 915 series	Open Service Access (OSA); Application Programming Interface (API/ Parlay 5)	This standard corresponds to a different release and not to a different version number of ETSI ES 201 915 series See clarification and note in clause 4.2
ETSI TS 129 078	UMTS Customized Applications for Mobile network Enhanced Logic (CAMEL) Phase 3; CAMEL Application Part (CAP) specification	
ETSI TS 129 198-1	UMTS Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview	
ETSI TR 129 998	UMTS Open Services Architecture Application Programming Interface - Part 2	
ETSI ES 201 812	DVB Multimedia Home Platform (MHP) Specification 1.0.3	In support of European Parliament resolution on MHP (SEC(2004)1028 [21])
ETSI TS 102 812	DVB Multimedia Home Platform (MHP) Specification 1.1.1	In support of European Parliament resolution on MHP (SEC(2004)1028 [21]) This standard corresponds to a different release and not to a different version number of ETSI ES 201 812 See clarification and note in clause 4.2
ETSI TS 101 993	Digital Audio Broadcasting (DAB); A Virtual Machine: DAB Java Specification	This is the Digital Radio equivalent to MHP
ETSI ES 202 184	MHEG-5 Broadcast Profile	CEU signalled its intention SEC(2004)1028 [21] to add two presentation engines, MHEG 5 and WTVML
ETSI ES 102 322	WTVML, Specification for a Lightweight Microbrowser for interactive TV applications, based on and compatible with WML	CEU signalled its intention SEC(2004)1028 [21] to add two presentation engines, MHEG 5 and WTVML

## 8.2 Access to network facilities and services

Under this clause no standard was considered to fulfil the criteria of selection to be included at present in the LoS.

## 8.3 Interconnection

**Table 6: Interconnection**

Standards		Remarks
Designation	Short title	
ETSI TS 101 909-12	IPCablecom; Part 12: Internet Signalling Transport Protocol (ISTP)	defines the SS7 interface to the Signalling Gateway of an IPCablecom network
ETSI TS 101 909-23	IPCablecom; Part 23: Internet Protocol Access Terminal - Line Control Signalling (IPAT - LCS)	identifies the V5.2 signalling interface to the IPAT of an IPCablecom network

## 9 Services and features

Under this clause several clauses were included; they all obey to the following justification. Many other aspects were not included because it was assumed that in normal cases the corresponding standards will be respected. In some cases the motivation of the market players may not be evident but it was believed that the existing regulation is clear enough and the liability issues originated by non compliance will not encourage the responsible organizations to assume those risks.

### Justification:

- 1) NOs and SPs may have no particular commercial incentive to make available standardised solutions for some particular aspects of services and features required to be ensured. This may lead to insufficient respect of the current legislation and probably, in some cases to unacceptable lack of transparency for the user.
- 2) Listing the strictly minimum of standards specifying those services and features aspects, facilitates a harmonized implementation in the single market of the associated requirements established in the regulation and ultimately ensures the very basic conditions to *end-to-end user interoperability and freedom of choice for users*.

### 9.1 Caller Location

Table 7: Caller Location

Standards		Remarks
Designation	Short title	
ETSI TS 102 164	Emergency location protocols	
ETSI TS 123 171	Location Services (LCS); Functional description; Stage 2 (UMTS)	

### 9.2 Broadcasting aspects

Under this clause no standard was considered to fulfil the criteria of selection to be included at present in the LoS. The Broadcast standards found relevant in the present edition are cited in clause 8.

### 9.3 Advice of Charge (AoC)

The relevance of ISDN AoC is in the context of them present document very questionable as ISDN is viewed as a declining market and furthermore no real demand from customers for various AoC services' options can be identified, even if the basic function of AoC is extremely important for the users. Also other methods of correctly informing users on their costs are commonly used.

Under this clause no standard was considered to fulfil the criteria of selection to be included at present in the LoS.

### 9.4 Directory enquiry services

Table 8: Directory enquiry services

Standards		Remarks
Designation	Short title	
ITU-T Recommendation E.115	Computerized directory assistance	Is currently used to implement international public directory services
ITU-T Recommendation F.510	International public directory services	Also suitable for interconnecting national directory databases.
ITU-T Recommendation F.515	Unified Directory Specification	
NOTE: Further details and references can be found on: <a href="http://www.eidq.org/index.php?lm3=MXGOXLOIMJBY">http://www.eidq.org/index.php?lm3=MXGOXLOIMJBY</a> .		

## 9.5 Anonymous Call Rejected (ACR)

The standards of ACR Supplementary Service have not been included into the present edition of the LoS due to the fact that, although ACR was standardized for PSTN/ISDN networks, only some of the current implementations do partly comply with the standards and ACR was not standardized for GSM networks.

ETSI is preparing ACR standards for NGN (Next Generation Networks). The inclusion of those standards should be reconsidered when NGN is stable enough to be recognized as a new technology in the list.

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# 10 Numbering and addressing

## Justification:

- 1) NOs have no particular commercial incentive to make available to their costumers the access to competing networks and services.
- 2) Listing the basic standards on "Numbering and addressing" measures well recognised on the market like the Carrier Selection, Carrier Pre-Selection and number portability facilitates a harmonized implementation in the single market of the necessity to ensure very minimal conditions to *the freedom of choice for users*.

## 10.1 Carrier selection and carrier pre-selection

Under this clause no standard was considered to fulfil the criteria of selection to be included at present in the LoS.

## 10.2 Number portability

Under this clause all the identified standards at present were considered weather well established or not yet mature.

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# 11 Quality of service (QoS)

## Justification:

- 1) NOs submitted to hard competition environment are likely to choose for their offers QoS measurement/evaluating methods overvaluing their services and distorting the vision of the consumers.
- 2) Establishing and underlining the value of objective evaluation methods accepted at international level ensures a minimal level of transparency required in the regulatory regime and facilitates a fair competition. Listing the "QoS evaluation parameters and methods" facilitates a harmonized implementation in the single market of the EU requirement to ensure very basic conditions to *freedom of choice for users*.

This clause refers to USD (Directive 2002/22/EC [2]), articles 11 and 22 and annex III but can be used as reference for some other services.



## 11.1 Supply-time and QoS parameters, definitions, measurement methods

**Table 9: Supply-time and QoS parameters, definitions, measurement methods**

Standards		Remarks
Designation	Short title	
ETSI EG 201 769 (V1.1.2)	Supply-time and quality-of-service parameters, definitions and measurement methods	
ETSI EG 202 057 series (parts 1 to 4)	User related QoS parameter definitions and measurements	Only part 3 is published, the publication of the other parts are expected to be published in 2005
ETSI EG 202 009 series (parts 1 to 3)	Quality of telecom services;	Parameters relevant to the users
ITU-T Recommendation G.1020 (Including annex A)	Performance parameter definitions for quality of speech and other voice band applications utilising IP networks	

## 11.2 Grade of Service

**Table 10: Grade of Service**

Standards		Remarks
Designation	Short title	
ITU-T Recommendation G.1010 (11/01)	End-user multimedia QoS categories	

## 11.3 Network performance objectives

The performance objectives are important but, at present, only the situation of IP based services was considered relevant to be included in a clause in this context.

### 11.3.1 IP based services

**Table 11: performance objectives for IP based services**

Standards		Remarks
Designation	Short Title	
ITU-T Recommendation Y.1541 (including Appendix X and Amendments 1 and 2)	Network performance objectives for IP-based services	Some technologies may need special treatment on tolerances.
ETSI TS 123 107 (3GPP TS 23.107)	Quality of Service (QoS) concept and architecture	Mapping between ITU-T Recommendation Y.1541 and TS 123 107 QoS Classes

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## Annex A: LoS, text suggestions for common and general parts

### A.1 Title

The following title is suggested:

- Electronic communications networks and services; List of standards and/or specifications in accordance with Article 17 of the Directive 2002/21/EC [1].

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### A.2 Explanatory note

The following explanatory note is suggested:

*In accordance with Article 17 of the Framework Directive 2002/21/EC [1]:*

- *"the Commission (...) 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" (1<sup>st</sup> paragraph), "to ensure interoperability of services and to improve freedom of choice for users". (2<sup>nd</sup> paragraph).*

*This publication replaces the former:*

- *List of standards and/or specifications for electronic communications networks, services and associated facilities and services (interim issue) (2002/C 331/04 [6]).*
- *COMMISSION DECISION 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 (2003/548/EC [7]).*

*The evaluation of the situation lead to a reduction of the number of documents cited in the document due to the need to focus exclusively on issues where the market by itself cannot ensure appropriate implementation of the regulative regime. This evaluation will regularly be made and the LoS correspondingly adapted. The present version had as first goal to achieve a revised structure to accommodate future regulatory needs with a reduced set of referenced standards but does not yet appropriately cover all the aspects of all types of future networks which need further consideration before formal position documents can be published.*

*This is a selective list of standards in the areas concerned. Standards are included in the list to the extent strictly necessary to achieve the objectives indicated in Article 17 of the Framework Directive. In accordance with Article 17(2) of the Framework Directive, in the absence of standards and/or specifications in this list, Member States must encourage the implementation of standards and/or specifications adopted by European standards organisations and, in the absence of such standards and/or specifications, 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).*

## A.3 Preface

### A.3.1 General

The following text is suggested:

*Pursuant to Article 17(1) of the Framework Directive the Commission shall draw up and publish in the Official Journal of the European Communities a list of standards and/or specifications for encouraging the harmonised provision of electronic communications networks, electronic communications services and associated facilities and services.*

*The List of Standards will be revised on a regular basis to take account of requirements resulting from new technologies and market changes. Interested parties are encouraged to comment on this issue.*

### A.3.2 Structure of the list of standards

The table of contents of the present document was used as a base for the structure to be used in the version published by the CEU. The following text is suggested:

*The list in this publication consists of a first chapter listing the compulsory standards, followed by a series of chapters covering relevant aspects for the correct implementation of the FwD and the specific Directives (as defined in the FwD, article 2). Some of the chapters may be void in some editions if the market forces can by themselves achieve the objectives of the regulatory regime. The following list summarises the areas covered:*

- (5) Chapter I            *Compulsory standards*
  - *Minimum set of LL according to the USD, article 18.*
  - *QoS parameters according to the USD, articles 11 and 22.*
  - *Other compulsory standards.*
- (6) Chapter II        *Transparent transmission capacity*
- (7) Chapter III      *Publicly offered user interfaces*
- (8) Chapter IV      *Interconnection and access*
- (9) Chapter V       *Services and features*
- (10) Chapter VI     *Numbering and addressing*
- (11) Chapter VII    *Quality of service*

### A.3.3 Status of the standards in the list

The following text is suggested:

*The status is different for the standards in Chapter I and other chapters of the document.*

*Standards listed in Chapter I are compulsory to use, on the basis of specific EU legislation. Other than through specific EU legislation, standards could be made compulsory in future by the procedure set in Article 17 of the Framework Directive.*

- *According to Article 17(3) of the Framework Directive, if standards and/or specifications included in this list as voluntary "have not been adequately implemented (...) the implementation (...) may be made compulsory (...) to the extent strictly necessary to ensure (...) interoperability and to improve freedom of choice for users".*
- *According to Article 17 (4) of the Framework Directive, "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".*

*In the present list, the standards in Chapter I are the leased lines standards that are cited in article 18 and in Annex VII of US Directive 2002/22/EEC, and the quality of service parameters, as established in articles 11 and 22 and in Annex III of US Directive 2002/22/EEC [2], for operators with Universal Service obligations. A selected list of standards in other areas may also be included in this Chapter I.*

*The use of standards listed in chapters other than I is encouraged but there is no legal obligation to implement them. According to Article 17 (2) of the Framework Directive, "Member States shall encourage the use of the standards and/or specifications referred to (...) 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". In this context, the list of recommended standards was minimised and those recommended standards should be seen as candidates to compulsory standards as soon as the authorities detect effects of market distortion associated to the insufficient respect of recommended standards.*

*In accordance with Article 17 of the framework Directive, the purpose of this list is:*

- *"to serve as a basis for encouraging the harmonised provision of electronic communications networks, electronic communications services and associated facilities and services" (1<sup>st</sup> paragraph);*
- *"to ensure interoperability of services and to improve freedom of choice for users" (2<sup>nd</sup> paragraph).*

*This should be borne in mind when implementing standards which contain alternatives or optional clauses.*

*According to Article 17(5) and (6) of the Framework Directive, "where the Commission considers that standards and/or specifications (...) 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 (...) remove them from the list of standards and/or specifications (...)"*.

### A.3.4 Edition of the documents and parts of standards in the list

The following text is suggested:

*When no version number of the standard is quoted, the version(s) referred to in this list is (are) the version(s) valid at the time that the list is published.*

*Unless otherwise specified, when referring to a multipart standard, all the parts and subparts of the standard are relevant. In some cases, where clearly specified, only certain parts of a standard are included in the list.*

### A.3.5 Technical Standards, Specifications, Reports and Guides

The following text is suggested:

*Most of the standards and specifications mentioned in this list are ETSI deliverables under both the previous and current ETSI nomenclature. Definitions of the different type of ETSI deliverables can be found on the "ETSI Directives" available on: <http://portal.etsi.org/directives/>.*

*NOTE: In the present document, including the title, the designation "standards" refers to all type of documents cited in the list and not only to the deliverables designated by ETSI or other recognised standardisation bodies as such.*

*The most relevant characteristics of these deliverables summarised are:*

- *Deliverables under the current ETSI nomenclature:*
  - ***Technical Specification, TS**, contains mainly **normative** provisions, approved by a **Technical Body**.*
  - ***Technical Report, TR**, contains mainly **informative** elements, approved by a **Technical Body**.*
  - ***Standard, ES**, contains mainly **normative** provisions, approved by **ETSI Membership**.*
  - ***Guide, EG**, contains mainly **informative** elements, approved by **ETSI Membership**.*
  - ***Special Report, SR**, contains **information** made publicly available for reference purposes.*

- *European Standard (telecommunications series), EN (telecommunications series), EN, contains normative provisions, approved by the National Standards Organizations and/or National Delegations with implications concerning Standstill and National transposition.*
- *Harmonized Standard, an EN (telecommunications series) the drafting of which has been entrusted to ETSI by a mandate from the European Commission under European Directive 98/48/EC and has been drafted taking into account the applicable essential requirements of the "New Approach" Directive and whose reference has subsequently been announced in the Official Journal of the European Communities.*
- *Deliverables under the previous ETSI nomenclature to which reference is made in the list:*
  - *European Telecommunication Standard, ETS, contains normative provisions approved by the National Standards Organizations and/or National Delegations with implications concerning standstill and national transposition.*
  - *ETSI Technical Report, ETR, contains informative elements approved by a Technical Committee.*

## A.3.6 Addresses where documents referenced can be obtained

### A.3.6.1 ETSI Publications Office

The following text is suggested:

*It is recommended the direct download of ETSI deliverables, which can be obtained free of charge on the following address:*

- <http://pda.etsi.org/pda/queryform.asp>.

*For other contacts the following addresses are valid:*

- *postal address:*

*ETSI  
650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE*
- *Tel.:* +33 4 92 94 42 41
- *Fax:* +33 4 93 95 81 33
- *e-mail:* <mailto:publications@etsi.org>
- *Web site:* [http://www.etsi.org/services\\_products/freestandard/home.htm](http://www.etsi.org/services_products/freestandard/home.htm)

### A.3.6.2 ITU Sales and Marketing Service

The following text is suggested:

*ITU deliverables can be obtained using the following addresses:*

- *postal address:*

*ITU  
Place des Nations  
CH-1211 Geneva 20  
Switzerland*
- *Tel.:* +41 22 730 6141 (English), +41 22 730 6142 (French) or +41 22 730 6143 (Spanish)
- *Fax:* +41 22 730 5194
- *e-mail:* <mailto:sales@itu.int>

- Web site: <http://www.itu.int/publications/default.aspx>

### A.3.7 References to EU Legislation

It is suggested the present clause in the official CEU document to be a copy of clause 2 of the present document.

### A.3.8 Format for the tables to be in the LoS

In the initial version, general standards are likely to be referred without exactly specifying the relevant requirements. In further versions it is expected that the specific requirements relevant for the purpose of the regulation will be cited and not necessarily always the complete standard. This is likely to happen in particular for compulsory standards.

For this reason, the following proforma is proposed for the tables to be used in the publication. Columns not used may be deleted.

**Table A.1: general proforma**

Standards			Remarks
Designation	Short title	Relevant requirements	

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## Annex B: Topics to be reviewed in future editions

The following topics were not included initially but are kept under this clause for a later revision. All these areas have appropriate guidance in the first edition of SR 002 211 and will probably be treated in more detail in SR 003 211.

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### B.1 Security

Under the price and innovation pressure, some access providers (including NOs) or SPs may relax their concerns on the requirements in this area, particularly those of the directive 2002/58/EC [3].

This is nevertheless likely to be one area where market surveillance authorities will observe carefully user complaints and other indicators to keep the level of trust on the e-communications high. Some sectors like e-commerce or e-banking may develop by themselves particular secure methods to take the best advantage of the communications for their business.

Also, in the case of some market actors like content providers, SPs and NOs offering the best security will be preferred because lower security will normally correspond to lack of income.

Appropriate authorities may wish to suggest for a later edition of this document a particular clause in clause 9 to cover these aspects. The evolution observed in the IP related technologies may force the inclusion of specific references in later editions.

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### B.2 Lawful Interception (LI)

Under the price and innovation pressure some access providers (including NOs) or SPs may relax their concerns on the requirements related to the requirements in this area.

National security authorities will observe carefully the developments and are unlikely to allow inaccessible data streams.

Even if this area is typically under the responsibility of national security authorities and, due to secrecy characteristics of the domain itself, there are not standardised solutions, some basic standards particularly for new technologies may, in the future, be found to facilitate the implementation of specific solutions adopted in a country by country or even case by case basis.

Appropriate authorities may wish to suggest for a later edition of this document a particular clause in clause 9 to cover these aspects. The evolution observed in the IP related technologies may force the inclusion of specific references in later editions. No interoperability standards can be foreseen in this context.

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### B.3 Emergency

Under the price and innovation pressure, some access (including NOs) or service providers as well as equipment (terminal or not) suppliers may relax their concerns on the requirements related to the requirements in this area.

This is nevertheless likely to be one area where national authorities, particularly those in charge of the Universal Service and those of rescue and emergency services will observe carefully the developments. Also the multiplication of systems (mobile and fix with an increasing number of access technologies for the user) will provide the user with more effective set of supporting systems in case of emergency or disaster.

The at present most relevant aspects are covered in clause 9. Appropriate authorities may wish to suggest for a later edition of this document further developments in chapter 9 to cover these aspects. Appropriate consideration should be given to "112-services", disaster relief and other essential services.

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## B.4 Control of expenditure

Under the competition pressure, some access (including NOs) or service providers may be tempted to inform the user of their costs in less transparent manners.

This is nevertheless likely to be one area where competition and consumer protection authorities will use appropriate laws, not necessarily specific to the communications sector.

At present, the most relevant aspects are covered in clause 9.3 (AoC) which is associated to only a part of a possible way of performing the transparent information offer to the user. Appropriate authorities may wish to suggest for a later edition of the present document further developments in clause 9 to cover these aspects.



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## History

<b>Document history</b>		
V1.1.1	February 2004	Publication
V2.1.1	October 2005	Publication