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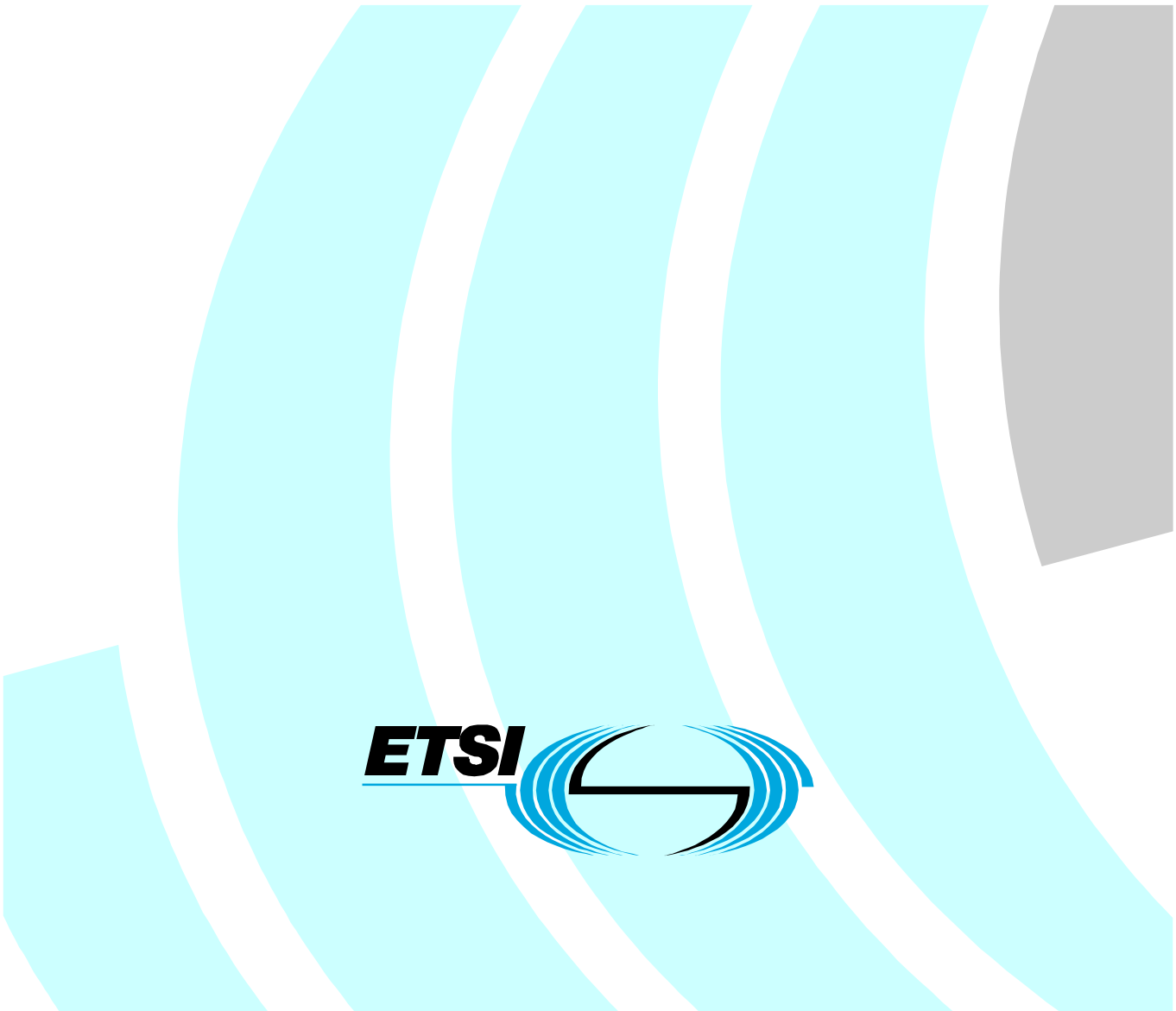
Technical Specification

Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 2: Architectural framework for the delivery of time critical services over cable Television networks using cable modems



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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access and Terminals (AT).

The present document is part 2 of a multi-part deliverable a multi-part deliverable covering Digital Broadband Cable Access to the Public Telecomunications Network; IP Multimedia Time Critical Services. Full details of the entire series can be found in TS 101 909-1 [10].

NOTE 1: The choice of a multi-part format for the present document is to facilitate maintenance and future enhancements.

NOTE 2: The term **MUST** or **MUST NOT** is used as a convention in the present document to denote an absolutely mandatory aspect of the specification.

Introduction

The cable industry in Europe and across other Global regions have already deployed broadband cable television hybrid fibre coax (HFC) data networks running the Cable Modem Protocol. The Cable Industry is in the rapid stages of deploying IP Voice and other time critical multimedia services over these broadband cable television networks.

The cable industry has recognized the urgent need to develop ETSI Technical Specifications aimed at developing interoperable interface specifications and mechanisms for the delivery of end-to-end advanced real time IP multimedia time critical services over bi-directional broadband cable networks.

IPCablecom is a set of protocols and associated element functional requirements developed to deliver Quality of Service (QoS) enhanced secure IP multimedia time critical communications services using packetized data transmission technology to a consumer's home over the broadband cable television Hybrid Fibre/Coaxial (HFC) data network running the Cable Modem Protocol. IPCablecom utilizes a network superstructure that overlays the two-way data-ready cable television network. While the initial service offerings in the IPCablecom product line are anticipated to be Packet Voice, the long-term project vision encompasses packet video and a large family of other packet-based services.

The cable industry is a global market and therefore the ETSI standards are developed to align with standards either already developed or under development in other regions. The ETSI Specifications are consistent with the CableLabs/PacketCable set of specifications as published by the SCTE. An agreement has been established between ETSI and SCTE in the US to ensure, where appropriate, that the release of PacketCable and IPCablecom set of specifications are aligned and to avoid unnecessary duplication. The set of IPCablecom ETSI specifications also refers to ITU-SG9 draft and published specifications relating to IP Cable Communication.

The whole set of multi-part ETSI deliverables to which the present document belongs specify a Cable Communication Service for the delivery of IP Multimedia Time Critical Services over a HFC Broadband Cable Network to the consumers home cable telecom terminal. "IPCablecom" also refers to the ETSI working group program that shall define and develop these ETSI deliverables.

1 Scope

The present set of documents specify IPCablecom, a set of protocols and associated element functional requirements. These have been developed to deliver Quality of Service (QoS), enhanced secure IP multimedia time critical communication services, using packetized data transmission technology to a consumer's home over a cable television Hybrid Fibre/Coaxial (HFC) data network.

NOTE 1: IPCablecom set of documents utilize a network superstructure that overlays the two-way data-ready cable television network, e.g. as specified within ES 201 488 [8] and ES 200 800 [9].

While the initial service offerings in the IPCablecom product line are anticipated to be Packet Voice and Packet Video, the long-term project vision encompasses a large family of packet-based services. This may require in the future, not only careful maintenance control, but also an extension of the present set of documents.

NOTE 2: The present set of documents aims for global acceptance and applicability. It is therefore developed in alignment with standards either already existing or under development in other regions and in International Telecommunications Union (ITU).

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.

[1] ETSI EN 300 356 (all parts): "Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 4 for the international interface" (ETSI ISUP Common Channel Signalling)".

[2] ETSI EN 300 008-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP) to support international interconnection; Part 1: Protocol specification [ITU-T Recommendations Q.701, Q.702, Q.703, Q.704, Q.705, Q.706, Q.707 and Q.708 modified]".

[3] ETSI EN 300 009 (parts 1 and 2): "Integrated Services Digital Network (ISDN); Signalling System No.7; Signalling Connection Control Part (SCCP) (connectionless and connection-oriented) to support international interconnection".

[4] ETSI ETS 300 287: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities Application Part (TCAP) version 2".

[5] ITU-T Recommendation G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".

[6] ITU-T Recommendation J.112: "Transmission systems for interactive cable television services".

[7] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[8] ETSI ES 201 488: "Data-Over-Cable Service Interface Specifications; Radio Frequency Interface Specification".

[9] ETSI ES 200 800: "Digital Video Broadcasting (DVB); DVB interaction channel for Cable TV distribution systems (CATV)".

[10] ETSI TS 101 909-1: "Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 1: General".