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J.113

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SERIES J: TRANSMISSION OF TELEVISION, SOUND PROGRAMME AND OTHER MULTIMEDIA SIGNALS

Interactive systems for digital television distribution

Digital video broadcasting interaction channel through the PSTN/ISDN

ITU-T Recommendation J.113

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION J.113

DIGITAL VIDEO BROADCASTING INTERACTION CHANNEL THROUGH THE PSTN/ISDN

Summary

This Recommendation describes the provision of return channel interaction protocols over PSTN and ISDN to, and independently of, digital TV broadcast systems.

Source

ITU-T Recommendation J.113 was prepared by ITU-T Study Group 9 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 18th of March 1998.

Keywords

Digital TV services, interaction channel, ISDN, PSTN.

FOREWORD

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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CONTENTS

Introduction

This Recommendation is one of a series describing interactive digital TV services. This Recommendation describes the provision of return channel interaction protocols over PSTN and ISDN to, and independently of, digital TV broadcast systems. Other relevant Recommendations are J.110 which describes the basic principles and J.111 which describes protocols independent of the underlying physical and transport protocols of such services.

Recommendation J.113

DIGITAL VIDEO BROADCASTING INTERACTION CHANNEL THROUGH THE PSTN/ISDN

(Geneva, 1998)

1 Scope

This Recommendation describes the provision of return channel interaction protocols over PSTN and ISDN to, and independently of, digital TV broadcast systems. Other relevant Recommendations are J.110 [1] which describes the basic principles and J.111 [2] which describes the network independent return channel protocols.

2 References

The following ITU-T Recommendations, and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

[1] ITU-T Recommendation J.110 (1997), *Basic principles for a worldwide common family of systems for the provision of interactive television services*.

[2] ITU-T Recommendation J.111 (1998), *Network independent protocols for interactive systems*.

[3] ITU-T Recommendation I.3xx, *ISDN – Network aspects*.

[4] ITU-T Recommendations I.430, I.431, *ISDN – physical layer*.

[5] ITU-T Recommendation Q.921/I.441 (1997), *ISDN user-network interface – Data link layer specification*.

[6] ITU-T Recommendation Q.931/I.451 (1998), *ISDN user-network interface Layer 3 specification for basic call control*.

[7] ITU-T Recommendation G.960 (1993), *Access digital section for ISDN basic rate access*.

[8] ITU-T Recommendation G.961 (1993), *Digital transmission system on metallic local lines for ISDN basic rate access*.

[9] ITU-T Recommendation I.414 (1997), *Overview of Recommendations of Layer 1 for ISDN and B-ISDN customer accesses*.

[10] ITU-T Recommendation I.112 (1993), *Vocabulary of terms for ISDN*.

3 Definitions

The definitions in Recommendation J.110 [1] apply.

4 Abbreviations

The abbreviations in Recommendation J.110 [1] apply.

5 Protocol stack and system models

5.1 Protocol stack model

The protocol stack model used for the purposes of this Recommendation consists of the following layers:

Physical layer: where all the physical (electrical) transmission parameters are defined – network dependent.

Transport layer: defines all the relevant data structures and communication protocols like data containers, etc. – network dependent.

Application layer: is the interactive application software and runtime environments – network independent.

See Figure 1.

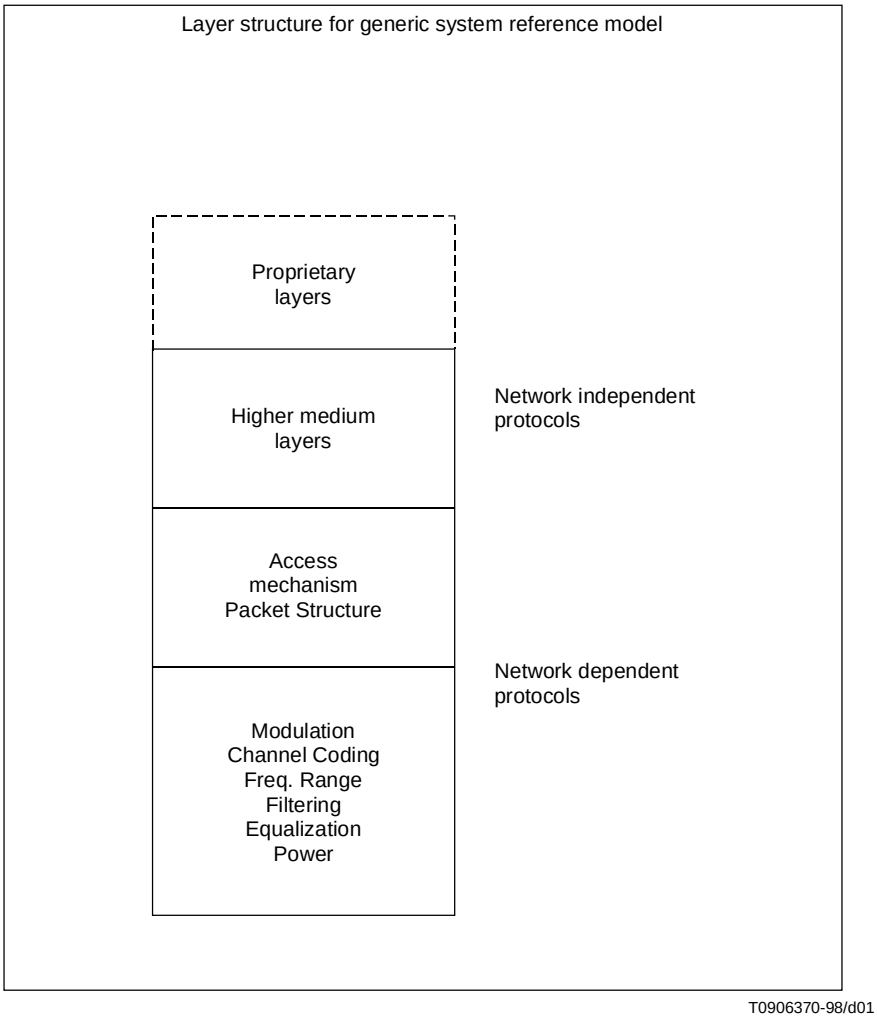

Figure 1/J.113 – Layer structure for generic system reference model

This Recommendation describes the network dependent protocols within the transport and physical layers for the PSTN/ISDN. The network independent protocols are described in Recommendation J.111 [2] (to layer 4 of the OSI reference model typically).

5.2 System model/overview

Refer to Recommendation J.110 [1].

6 Interaction channel for PSTN

6.1 PSTN requirement

The PSTN shall provide a bidirectional communication path between interfaces A_x (PSTN/Interactive network adaptor interface) and A_b (PSTN/Interactive interface module interface) of the system model of Figure 2/J.110 [1].

6.2 PSTN interfaces requirement

Both the interactive network adaptor at interface A_x and the interactive interface module at interface A_b shall comply with the physical and transport layer functionality requirements relevant to the national PSTN service provider concerned.

7 Interaction channel for ISDN

7.1 ISDN requirement

The ISDN shall provide a bidirectional communication path between interfaces A_x (ISDN/Interactive network adaptor interface) and A_b (ISDN/Interactive interface module interface) of the system model of Figure 2/J.110 [1]. For the purposes of this Recommendation, it is assumed that the ISDN complies with Recommendation I.3xx [3].

7.2 ISDN interfaces requirement

The physical and transport layer functions of the interactive network adaptor at interface A_x and the interactive interface module at interface A_b shall comply with Recommendations I.430, I.431 [4], Q.921/I.441 [5], Q.931/I.451 [6], G.960 [7], G.961 [8], I.414 [9] and I.112 [10].

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