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MULTIMEDIA SIGNALS

Cable modems

Requirements for the next generation of set-top-boxes

ITU-T Recommendation J.193

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Summary

This Recommendation defines the requirements of a Next Generation Set-Top-Box (NG-STB) that is attached to a CATV. An NG-STB receives broadcast cable services and provides a 2-way communication channel with the cable network for service management.

Source

ITU-T Recommendation J.193 was approved on 29 June 2004 by ITU-T Study Group 9 (2001-2004) under the ITU-T Recommendation A.8 procedure.

FOREWORD

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ITU-T Recommendation J.193

Requirements for the next generation of set-top-boxes

1 Scope

This is an objectives, requirements and functional architecture Recommendation for next generation set top boxes, supporting a core digital video application suite (i.e., broadcast video), and allowing for a large variety of additional services, such as VoD, VoIP, data services, etc. This Recommendation is designed to be used for cable television networks, but the architecture does not necessarily exclude other access network interfaces.

2 References

2.1 Normative

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 revisions; 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. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- ITU-T Recommendation J.112 (1998), *Transmission systems for interactive cable television services*.
- ITU-T Recommendation J.122 (2002), *Second-generation transmission systems for interactive cable television services – IP cable modems*.
- ITU-T Recommendation J.200 (2001), *Worldwide common core – Application environment for digital interactive television services*.

2.2 Informative

- ITU-T Recommendation J.83 (1997), *Digital multi-programme systems for television, sound and data services for cable distribution*.
- ITU-T Recommendation J.125 (2004), *Link privacy for cable modem implementations*.
- ITU-T Recommendation J.126 (2004), *Embedded Cable Modem device specification*.
- ITU-T Recommendation J.181 (2004), *Digital program insertion cueing message for cable television systems*.
- ITU-T Recommendation J.190 (2002), *Architecture of MediaHomeNet that supports cable-based services*.
- ITU-T Recommendation J.191 (2004), *IP feature package to enhance cable modems*.
- ITU-T Recommendation J.192 (2004), *A residential gateway to support the delivery of cable data services*.

3 Terms and Definitions

This Recommendation defines the following terms:

3.1 Next Generation Set-Top-Box (NG-STB): A compilation of hardware and software functional entities contained within one or more physical devices, that at a baseline level provides the receiving functions for cable Broadcast services. In addition, the NG-STB MAY support the interactive functions of IP-based services, additional time-critical services between the HFC and the Home Network as well as extension and supplemental services.

3.2 embedded STB: A Set-Top-Box that does not use a stand-alone interface to connect to a RG.

3.3 LAN IP device: A LAN IP device is representative of a typical IP device expected to reside on Home Networks, and is assumed to contain a TCP/IP stack as well as a DHCP client.

3.4 Portal Services (PS): A functional element that provides management and translation functions between the HFC and Home Network.

3.5 Residential Gateway (RG): A grouping of logical elements used to achieve HFC access for Home Network(s).

3.6 standalone RG: A RG Services element that connects to the CM using only a standalone interface.

3.7 IP-based services: A generic term that includes QoS-controllable both-way and one-way IP-type services rendered over a CATV network on which a high-speed packet-based IP communication system is available. Examples include IP telephony or VoIP, videoconferencing, streaming video feeds, competitive games, and other similar services.

3.8 closed captioning: Text scrolling on a television display that represents the audio portion of the program, typically provided for the hearing impaired.

3.9 home terminal: The device attached to the cable network that receives and renders services for the customer. Also known as a set top box.

3.10 conditional access: The conditional granting of access to cable services and content based upon what service suite has been purchased by the customer.

3.11 portal functions: Functionality that resides within a Residential Gateway that provides connectivity between the cable IP network, and the home network. See ITU-T Recs J.190, J.191 and J.192 for more details.

3.12 2-way communication channel: An IP-based communications link between a NG-STB and the cable network service management system, for the purpose of service management communications.

3.13 core services: The set of services that MUST, at a minimum, be supported by the NG-STB.

3.14 optional services: Services, in addition to the Core Services, that can be supported by the NG-STB.

3.15 key features: Features that MUST be included in the NG-STB in order to support the Core Services identified in this Recommendation.

3.16 optional features: Features that can be added to the NG-STB in order to support the Optional Services identified in this Recommendation.

3.17 middleware: Software within the NG-STB which provides a set of APIs that against which applications can be developed, and that provide access to the resources and services of the NG-STB.