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Technical Specification

Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Set of Specifications for Phase 1

European Broadcasting Union



Union Européenne de Radio-Télévision



Reference

DTS/JTC-DVB-184

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Foreword

This Technical Specification (TS) has been produced by Joint Technical Committee (JTC) Broadcast of the European Broadcasting Union (EBU), Comité Européen de Normalization ELECTrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI).

NOTE: The EBU/ETSI JTC Broadcast was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC Broadcast became a tripartite body by including in the Memorandum of Understanding also CENELEC, which is responsible for the standardization of radio and television receivers. The EBU is a professional association of broadcasting organizations whose work includes the co-ordination of its members' activities in the technical, legal, programme-making and programme-exchange domains. The EBU has active members in about 60 countries in the European broadcasting area; its headquarters is in Geneva.

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Founded in September 1993, the DVB Project is a market-led consortium of public and private sector organizations in the television industry. Its aim is to establish the framework for the introduction of MPEG-2 based digital television services. Now comprising over 200 organizations from more than 25 countries around the world, DVB fosters market-led systems, which meet the real needs, and economic circumstances, of the consumer electronics and the broadcast industry.

Introduction

IP Datacast over DVB-H is an end-to-end broadcast system for delivery of any types of digital content and services using IP-based mechanisms optimized for devices with limitations on computational resources and battery. An inherent part of the IPDC system is that it comprises of a unidirectional DVB broadcast path that may be combined with a bi-directional mobile/cellular interactivity path. IPDC is thus a platform that can be used for enabling the convergence of services from broadcast/media and telecommunications domains (e.g., mobile / cellular).

1 Scope

The present document defines the set of specification documents applicable to IP Datacast services over DVB-H. The set of documents describes the IP Datacast over DVB-H air interface:

- DVB-H Radio Interface.
- IP Datacast over DVB-H Service Layer.
- IP Datacast Content Formats.

The set of specifications also include the definition of the IP Datacast end-to-end system and use cases for phase 1.

2 References

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.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI EN 302 304 (V1.1.1): "Digital Video Broadcasting (DVB); Transmission System for Handheld Terminals (DVB-H)".
- [2] ETSI TS 102 470: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Program Specific Information (PSI)/Service Information (SI)".
- [3] ETSI TS 102 471: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Electronic Service Guide (ESG)".
- [4] ETSI TS 102 472: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Content Delivery Protocols".
- [5] ETSI TS 102 474: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Service Purchase and Protection".

- [6] ETSI TS 102 005: "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in DVB services delivered directly over IP protocols".

2.2 Informative references

- [7] ETSI TR 102 473: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Use Cases and Services".
- [8] ETSI TR 102 469: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Architecture".
- [9] ITU-T Recommendation I.112: "Vocabulary of terms for ISDNs".

3 Definitions and abbreviations

3.1 Definitions

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

broadcast: unidirectional distribution to all receivers

DVB network: collection of MPEG-2 Transport Streams, each carrying a multiplex, and transmitted on a single delivery system. DVB network is identified by network_id

IP Datacast Baseline: The minimum core protocol profile an IPDC DVB-T/H Receiver may expect to be available on IPDC DVB-T/H Bearer (data transmission baseband) and the IPDC DVB-T/H Network is expected to make available on the IPDC DVB-T/H Bearer as specified in EN 302 304 [1].

protocol: formal set of procedures that are adopted to ensure communication between two or more functions within the same layer of a hierarchy of functions

NOTE: Source: ITU-T Recommendation I.112 [9].

3.2 Abbreviations

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

DVB-H	DVB-Handheld
ESG	Electronic Service Guide
PSI	Program Specific Information
SI	System Information

4 End-to-end System Description

The following documents describe in an informative way the end-to-end IP Datacast system:

The use cases applicable to phase 1 are described in:

- ETSI TR 102 473: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Use Cases and Services".

The end-to-end system architecture for an IP Datacast over DVB-H system is described in:

- ETSI TR 102 469: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Architecture".

5 DVB-H Radio Interface

The following documents define the DVB-H radio interface.

The DVB-H transmission SHALL be based on the following documents:

- ETSI EN 302 304 (V1.1.1): "Digital Video Broadcasting (DVB); Transmission System for Handheld Terminals (DVB-H)".

The DVB-H –related system level signalling, applicable both to DVB-H transmitter and to DVB-H receiver SHALL be based on the following document:

- ETSI TS 102 470: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Program Specific Information (PSI)/Service Information (SI)".

6 IP Datacast Service Layer

The following documents define in a normative way the IP Datacast service layer over DVB-H.

The Electronic Service Guide for IP Datacast over DVB-H SHALL be based on the following document:

- ETSI TS 102 471: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Electronic Service Guide (ESG)".

The content delivery protocols to use for IP Datacast over DVB-H SHALL be based on the following document:

- ETSI TS 102 472: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Content Delivery Protocols".

The ESG and CDP specification documents provide a mechanism for signalling the way a service purchase and protection system can be referred to. The service purchase and protection for IP Datacast over DVB-H SHALL be based on the following document:

- ETSI TS 102 474: "Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Service Purchase and Protection".

7 IP Datacast Codecs

The following document SHALL be used for the audio and video formats supported in IP Datacast systems over DVB-H:

- ETSI TS 102 005: "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in DVB services delivered directly over IP protocols".

History

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