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Digital Video Broadcasting (DVB);
Service Discovery and Programme Metadata for DVB-I

EBU DVB®

Reference
RTS/JTC-DVB-407

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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 - APE 7112B
Association à but non lucratif enregistrée à la
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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 Normalisation 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.

European Broadcasting Union
CH-1218 GRAND SACONNEX (Geneva)
Switzerland
Tel: +41 22 717 21 11
Fax: +41 22 717 24 81

The DVB Project is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulators and others from around the world committed to designing open, interoperable technical specifications for the global delivery of digital media and broadcast services. DVB specifications cover all aspects of digital television from transmission through interfacing, conditional access and interactivity for digital video, audio and data. The consortium came together in 1993.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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Introduction

DVB-I represents the intersection of linear broadcast television and internet media streaming, offering the possibility for linear television services to be delivered to internet connected devices. The present document defines the mechanisms to be used to find sets of linear television services delivered through broadband or broadcast mechanisms as well as methods to retrieve electronic programme data for those services.

1 Scope

The present document defines the following:

- signalling of linear TV or radio services and content that are delivered over broadband;
- access linear TV services that are delivered by broadband in a way that is consistent with their access to linear TV services delivered by RF-based DVB technologies;
- the metadata and mechanisms to present electronic programme guides;
- the integration of linear services delivered by the RF-based DVB tuner and linear services delivered by broadband into a single coherent offering that is accessed through a single consistent UI; and
- a method for national TV regulators or their representatives, operators and trademark licensors to offer a list of trusted/legitimate/authorized/regulated services.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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

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

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 103 285: "Digital Video Broadcasting (DVB); MPEG-DASH Profile for Transport of ISO BMFF Based DVB Services over IP Based Networks".

[2] CI Plus™ specification (V1.3.2): "Content Security Extensions to the Common Interface".

[3] IETF RFC 4151: "The 'tag' URI Scheme".

[4] ETSI TS 102 034: "Digital Video Broadcasting (DVB); Transport of MPEG-2 TS Based DVB Services over IP Based Networks".

[5] ETSI TS 102 809: "Digital Video Broadcasting (DVB); Signalling and carriage of interactive applications and services in Hybrid broadcast/broadband environments".

[6] ETSI EN 300 468: "Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems".

[7] ETSI TS 102 822-3-1: "Digital Video Broadcasting (DVB); Broadcast and On-line Services: Search, select, and rightful use of content ("TV-Anytime"); Part 3: Metadata; Sub-part 1: Phase 1 - Metadata schemas".

[8] ISO/IEC 646: "Information technology - ISO 7-bit coded character set for information interchange".

[9] National Imagery and Mapping Agency Technical Report 8350.2, Third Edition, 3 January 2000.

[10] EN 50585 (2014-05): "Communications protocol to transport satellite delivered signals over IP networks", (produced by CENELEC).

[11] ETSI TS 101 162: "Digital Video Broadcasting (DVB); Allocation of identifiers and codes for Digital Video Broadcasting (DVB) systems".

[12] IETF RFC 1738: "Uniform Resource Locators (URL)". .

[13] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

[14] IETF RFC 9110: "HTTP Semantics".

[15] IETF RFC 9111: "HTTP Caching".

[16] ETSI TS 102 851: "Digital Video Broadcasting (DVB); Uniform Resource Identifiers (URI) for DVB Systems".

[17] ISO 639: "Code for individual languages and language groups".

[18] Void.

[19] ISO 8601-1: "Date and time -- Representations for information interchange -- Part 1: Basic rules".

[20] ISO/IEC 15938-5: "Information technology -- Multimedia content description interface -- Part 5: Multimedia description schemes".

[21] ETSI TS 102 796: "Hybrid Broadcast Broadband TV".

[22] ETSI TS 101 154: "Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in Broadcast and Broadband Applications".

[23] ISO/IEC 23001-7: "Information technology - MPEG systems technologies - Part 7: Common encryption in ISO base media format files".

[24] Void.

[25] IETF RFC 8446: "The Transport Layer Security (TLS) Protocol Version 1.3".

[26] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[27] IETF RFC 1918: "Address Allocation for Private Internets".

[28] ETSI TS 102 323: "Digital Video Broadcasting (DVB); Carriage and signalling of TV-Anytime information in DVB transport streams".

[29] W3C® Recommendation: "HTML 5.1 2nd Edition".

[30] IETF RFC 5646: "Tags for Identifying Languages".

[31] IETF RFC 2397: "The "data" URL Scheme".

[32] ETSI TS 103 205: "Digital Video Broadcasting (DVB); Extensions to the CI PlusTM Specification".

[33] CI Plus™ Specification (V1.4.4) (2021-09): "Content Security Extensions to the Common Interface".

[34] DVB Bluebook A184: "Implementation Guidelines for DVB-I".

[35] ETSI EN 302 307-2: "Digital Video Broadcasting (DVB); Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications; Part 2: DVB-S2 Extensions (DVB-S2X)".

[36] ISO/IEC 13818-6: "Information technology -- Generic coding of moving pictures and associated audio information -- Part 6: Extensions for DSM-CC".

[37] ETSI EN 301 192: "Digital Video Broadcasting (DVB); DVB specification for data broadcasting".

[38] IETF RFC 7595: "Guidelines and Registration Procedures for URI Schemes".

[39] ETSI TS 126 346: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Multimedia Broadcast/Multicast Service (MBMS); Protocols and codecs (3GPP TS 26.346)".

[40] ETSI TS 126 347: "LTE; Multimedia Broadcast/Multicast Service (MBMS); Application Programming Interface and URL (3GPP TS 26.347)".

[41] CTA-5000: "Web Application Video Ecosystem - Web Media API Snapshot".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI TS 103 769: "Digital Video Broadcasting (DVB); Adaptive media streaming over IP multicast".

[i.2] EN 50494: "Satellite signal distribution over a single coaxial cable in single dwelling installations" (produced by CENELEC).

[i.3] EN 50607: "Satellite signal distribution over a single coaxial cable - Second generation" (produced by CENELEC).

[i.4] List of EU Audiovisual Regulators: Audiovisual and Media Services Directive (AVMSD).

[i.5] W3C® Recommendation: "Encrypted Media Extensions".

[i.6] W3C® Recommendation: "XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes".

[i.7] W3C® Recommendation: "XML Schema Definition Language (XSD) 1.1 Part 1: Structures".

[i.8] ISO 3166: "Country Codes".

[i.9] ETSI TS 101 547-2: "Digital Video Broadcasting (DVB); Plano-stereoscopic 3DTV; Part 2: Frame Compatible Plano-stereoscopic 3DTV".

[i.10] ETSI TS 101 547-4: "Digital Video Broadcasting (DVB); Plano-stereoscopic 3DTV; Part 4: Service frame compatible Plano-stereoscopic 3DTV for HEVC coded services".

[i.11] Digital UK: "Freeview Play Business-to-Consumer Metadata Specification".

NOTE: Additional information is available at https://www.freeview.co.uk/corporate/platform-management/what-we-do.

[i.12] CTA-5001-B: "Web Application Video Ecosystem - Content Specification".

[i.13] IETF RFC 8216: "HTTP Live Streaming".

[i.14] CTA-5005: "Web Application Video Ecosystem - DASH-HLS Interoperability Specification".

[i.15] Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) in view of changing market realities.