ETSI TS 102 542-4 V2.1.1 (2016-04)

**Digital Video Broadcasting (DVB);
Guidelines for the implementation of
DVB-IPTV Phase 1 specifications;
Part 4: Remote Management and
Firmware Update**

EBU
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Contents

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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).

Please note that the present document is a revision to ETSI TR 102 542, and has been converted to a TS because the language used in the document is akin to that of a TS.

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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The Digital Video Broadcasting Project (DVB) is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulatory bodies, content owners and others committed to designing global standards for the delivery of digital television and data services. DVB fosters market driven solutions that meet the needs and economic circumstances of broadcast industry stakeholders and consumers. DVB standards 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 to provide global standardization, interoperability and future proof specifications.

The present document is part 4 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.1].

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

Remote management and firmware update service is specified in ETSI TS 102 824 [2] as an optional extension to the DVB IPTV service covered by ETSI TS 102 034 [1].

ETSI TS 102 824 [2] describes the functionality required to support three primary usage models:

- RMS-only - management and firmware maintenance of CPEs within a managed environment, the presence of a Remote Management Server is assumed in the logical head-end network architecture but no Firmware Update Server is needed.

- FUS-only - the provision of a generic firmware update service (FUS) which can be accessed by unmanaged CPEs, the service is assumed to be provided by a Firmware Update Server in the logical head-end system without using a Remote Management Server and may be supported directly or indirectly by the CE manufacturer.

- RMS-FUS combination - the provision of a generic firmware update service which can be controlled by a remote management service (RMS) for the managed population of CPEs. Because the system is considered in a completely logical way the same FUS may also provide firmware updates for unmanaged CPEs.

ETSI TS 102 824 [2] is designed to be used in conjunction with the DVB IPTV Handbook ETSI TS 102 034 [1] and these guidelines are focused on the solutions that can be realized using the combination of these specifications. However, ETSI TS 102 824 [2] may be used in other environments besides those described by ETSI TS 102 034 [1] where suitable methods are provided to link between the environment and the RMS and FUS sub-systems.

The present document describes the implementation of specific capabilities of the RMS-FUS architecture where it was felt that ETSI TS 102 824 [2] may provide insufficient clarity or information. It should not be considered that the present document can be used in isolation from ETSI TS 102 824 [2].

1 Scope

The present document cannot be considered as a complete specification for or description of the Remote Management and Firmware Update System specified by DVB, it is created to provide guidance to be used in conjunction with the specification (ETSI TS 102 824 [2]) in association with ETSI TS 102 034 [1].

The present document includes:

- Some description of the system reference model, including the interfaces is introduced in clause 4.
- The "operational" relationship between the DVB IPTV, DVB RMS-FUS and the Broadband Forum remote management specifications (ETSI TS 102 034 [1], and ETSI TS 102 824 [2] and TR-069 [7]) is shown in clause 5 of the present document.
- The description of the RMS and FUS usage models is given in clause 6 of the present document.
- Clauses 7, 8 and 9 of the present document provide some information on the components of the solution.
- Clauses 10, 11 and 12 of the present document contain guidelines for implementation of the RMS-FUS, arranged in an order intended to reflect actual usage scenarios.
- Clause 13 of the present document contains usage guidelines for the data model components to support content download services based on the DVB Content Download Service described in ETSI TS 102 034 [1], clause 10.

Devices in the home environment are all referred to as Consumer Premises Equipment (CPEs), and this may include all IP connected devices in the home which are compliant with the DVB RMS-FUS Specification ETSI TS 102 824 [2]. This may include home network devices connected indirectly to the access network, e.g. through a router provided that IP connectivity can be arranged and that the requirements of ETSI TS 102 824 [2] are met.

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 http://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 102 034 (V2.1.1): "Digital Video Broadcasting (DVB); Transport of MPEG-2 TS Based DVB Services over IP Based Networks".

[2] ETSI TS 102 824: "Digital Video Broadcasting (DVB); Remote Management and Firmware Update System for DVB IPTV Services (Phase 2)".

[3] ETSI TS 102 006 (V1.3.1): "Digital Video Broadcasting (DVB); Specification for System Software Update in DVB Systems".

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

[5] Broadband Forum TR-140: "TR-069 Data Model for Storage Service Enabled Devices", Issue Number 1, Amendment 1, April 2010.

NOTE: See http://www.broadband-forum.org/technical/download/TR-140_Amendment-1.pdf.