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

Application for Interactive Digital Television

Common core for digital video recorder platform

Recommendation ITU-T J.203

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Common core for digital video recorder platform

Summary

Recommendation ITU-T J.203 defines the APIs, semantic guarantees and system aspects of a harmonized digital video recorder platform.

FOREWORD

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The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

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.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

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Introduction

This Recommendation is intended to harmonize an application environment for the digital video recorder extension to Recommendation ITU-T J.202.

This work was carried out as a joint effort between DVB and CableLabs.

Recommendation ITU-T J.203

Common core for digital video recorder platform

1   Scope

The 2006 edition of Recommendation ITU-T J.203, Common core for digital video recorder platform was based on the work of the DVB and Cablelabs and was published as an informative document by the DVB. Since that time, ETSI has published a revised and updated version [1]. This Recommendation revises Recommendation ITU-T J.203 to align with [1].

This Recommendation defines a modular extension to Recommendation ITU-T J.202, and updated as GEM [1], which defines how the recording and playback of digital video (and audio) content is integrated with the GEM [1] platform. This Recommendation is firstly intended to be used by entities writing terminal specifications and/or standards that extend a GEM [1] terminal specification with digital video (and audio) recording and playback. Secondly, it is intended for developers of GEM [1] applications that wish to use digital video (and audio) recording and playback. Implementers should consult the publisher of specifications which reference GEM [1] regarding conformance.

NOTE 1 – This Recommendation defines the interfaces visible to applications. Application developers should not assume that any related interface is available unless it is specifically listed. Terminal standards or implementations may have other interfaces present. One of the primary goals of this Recommendation is to maximize the common aspects concerning the integration of digital video/audio recording between MHP [3] and the various GEM [1] terminal specifications.

NOTE 2 – The structure and content of this Recommendation have been organized for ease of use by those familiar with the original source material; as such, the usual style of ITU-T Recommendations has not been applied.

2   References

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

[1]   ETSI TS 102 817 V1.1.1 (2007-09), *Digital Video Broadcasting (DVB); Digital Recording Extension to Globally Executable Multimedia Home Platform (GEM).*
(http://webapp.etsi.org/exchangefolder/ts_102817v010101p.pdf)
(http://webapp.etsi.org/exchangefolder/ts_102817v010101p0.zip)

2.2   Informative references

[2]   OC-SP-OCAP-DVR-I03-070509 (2007), *OCAP DVR Extension.*
(http://www.opencable.com/specifications/ocap.html)

[3]   ETSI TS 102 816 V1.1.1 (2007-09), *Digital Video Broadcasting (DVB); Personal Video Recorder (PVR)/Personal Data Recorder (PDR) Extension to the Multimedia Home Platform.*
(http://webapp.etsi.org/exchangefolder/ts_102816v010101p.pdf)
(http://webapp.etsi.org/exchangefolder/ts_102816v010101p0.zip)

3 Definitions

This Recommendation defines the following term:

3.1 **synthesized timeline**: A timeline for a piece of content which was synthesized by the GEM recording terminal (as opposed to being included as part of the piece of content when it was transmitted).

4 Abbreviations

This Recommendation uses the abbreviations given in clause 3 of [1].

5 Conventions

This Recommendation includes the conventions of clause 4 in [1].

6 Common platform definition of Digital Video Recorders

It is recommended to use [1] for common core for digital video recorder platform. The recommended platform definitions for the common core are defined in Annex A. Regional extensions are presented in Appendices I and II. Appendix III summarizes changes to the platform definitions presented in this Recommendation.

Annex A

DVR/PVR Common Core APIs

(This annex forms an integral part of this Recommendation)

The following APIs are defined by ETSI [1] and form the content of this annex.

> org.ocap.shared.dvr
>
> org.ocap.shared.dvr.navigation
>
> org.ocap.shared.media

Appendix I

OCAP additional APIs

(This appendix does not form an integral part of this Recommendation)

The following APIs are defined by OCAP [2] and form the content of this appendix.

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org.ocap.dvr

org.ocap.dvr.even

org.ocap.dvr.storage

</div>

Appendix II

MHP additional APIs

(This appendix does not form an integral part of this Recommendation)

The following APIs are defined by ETSI [3] and form the content of this appendix.

org.dvb.pvr

org.dvb.pvr.navigation

Appendix III

Summary of API changes

(This appendix does not form an integral part of this Recommendation)

1) Addition of two new states in org.ocap.shared.dvr.LeafRecording Request

2) Modification of org.ocap.shared.dvr.LeafRecording Request.getService()

3) Modification of some of the semantics of org.ocap.shared.dvr.LocatorRecordingSpec

4) Modification of some of the semantics of org.ocap.shared.dvr.navigation.RecordingList

5) Addition of org.ocap.shared.dvr.navigation.getCascadingFilter() method

6) Modification of some of the semantics of org.ocap.shared.dvr.navigation.Recording ListIterator

7) Modification of some of the semantics of org.ocap.shared.dvr.ParentRecordingRequest

8) Modification of some of the semantics of org.ocap.shared.dvr.RecordedService

9) Addition of new constructor to org.ocap.shared.dvr.RecordingChangedEvent and modification of some of the semantics

10) Addition of new exceptions to org.ocap.shared.dvr.RecordingFailedException and modification of some of the semantics

11) Modification of some of the semantics of org.ocap.shared.dvr.RecordingManager

12) Modification of inheritance to org.ocap.shared.dvr.RecordingPermission and removal of a method

13) Modification of some of the semantics of org.ocap.shared.dvr.RecordingRequest

14) Modification of some of the semantics of org.ocap.shared.dvr.RecordingTerminatedEvent and correction of javadoc error

15) Add org.ocap.shared.dvr.SegmentedRecordedService

16) Modification of some of the semantics of org.ocap.shared.dvr.ServiceContextRecording Spec

17) Modification of some of the semantics of org.ocap.shared.dvr.ServiceRecordingSpec

18) Modification of some of the semantics of org.ocap.shared.media.BeginningContentEvent

19) Modification of some of the semantics of org.ocap.shared.media.EndOfContentEvent

20) Add org.ocap.shared.dvr.media.FrameControl

21) Modification of some of the semantics of org.ocap.shared.media.MediaTimeFactoryControl

22) Modification of some of the semantics of org.ocap.shared.media.TimeLine

23) Modification of some of the semantics of org.ocap.shared.media.TimeShiftControl

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