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|  | | **International Telecommunication Union** | | |
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| **ITU-T** | **Technical Paper** | |
| TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU | | (30 July 2010) |
|  | SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS Infrastructure of audiovisual services ‑ Communication procedures | | | |
|  | **HSTP.CONF-H.721 Conformance testing specification for H.721** | | | |
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Summary

The purpose of conformance testing is to increase the probability that different implementations are able to interconnect. Conformance testing in this document explains test specifications regarding the IPTV terminal device specified in ITU-T Rec.H.721 “IPTV Terminal Device (Basic Model)”. The test involves testing both the capabilities and behaviour of an implementation, and checking what is observed against the conformance requirements in the Recommendation and against what the implementer states the implementation capabilities are.

Change Log

This document contains Version 1 of the ITU-T Technical Paper on "*Conformance testing specification for H.721*" approved at the ITU-T Study Group 16 meeting held in Geneva, 19-30 July 2010.

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Conformance testing specification for H.721

Summary

The purpose of conformance testing is to increase the probability that different implementations are able to interconnect. Conformance testing in this document explains test specifications regarding the IPTV terminal device specified in ITU-T Rec.H.721 “IPTV Terminal Device (Basic Model)”. The test involves testing both the capabilities and behaviour of an implementation, and checking what is observed against the conformance requirements in the Recommendation and against what the implementer states the implementation capabilities are.

Keywords

IPTV, conformance, conformance testing, IPTV terminal device, IPTV basic services,

# Scope

This document specifies a set of attributes and procedures designed to indicate whether IPTV terminal devices meet the requirements in ITU-T Rec. H.721. This set of conformance tests can provide a basic level of interoperability testing.

# References

[ITU-T H.721] Recommendation ITU-T H.721 (2009), *IPTV terminal devices: Basic model*

# Definitions

N/A

# Abbreviations and acronyms

N/A

# Conventions

N/A

# Description

IPTV basic model terminal device (hereafter referred to as IPTV TD-Basic model) is required to have the following features.

* Network attachment and service discovery
* Security
* Privacy
* Quality of service (QoS)

Appendix I:  
H.721 Conformance Checklist

The following is a preliminary checklist for basic terminal device conformance testing. It is intended to be gradually incorporated to the main text of this draft recommendation as contributions on testing procedures are made.

NOTE: [b\_ITU-T H.IPTV-ProComp] may be also checked

LinearTV Checklist

|  |  |  |
| --- | --- | --- |
| Monomedia | Video MPEG-2 |  |
| Video H.264 (AVC) |  |
| Audio MPEG2 AAC |  |
| Audio MPEG1 Layer II |  |
| Audio MPEG-4 HE AAC v1 |  |
| Dolby AC-3 |  |
| ARIB Captioning |  |
| ATSC Closed Captioning |  |
| EBU Teletext Subtitles |  |
| DVB Subtitling |  |
| Multiplex format | MPEG-2 TS |  |
| TTS\* |  |
| Streaming | RTP |  |

VoD Checklist

|  |  |  |
| --- | --- | --- |
| Monomedia | Video MPEG-2 |  |
| Video H.264 (AVC) |  |
| Audio MPEG2 AAC |  |
| Audio MPEG1 |  |
| ARIB Captioning |  |
| ATSC Closed Captioning |  |
| Multiplex Format | MPEG-2 TS |  |
| TTS |  |
| Streaming | RTP, RTSP |  |

Terminal Device Attachment and Initialization

|  |  |  |
| --- | --- | --- |
| Protocol | IP, ICMP |  |
| IPv6, ICMPv6 |  |
| DHCP |  |
| DNS |  |

Service provider discovery and service attachment

|  |  |  |
| --- | --- | --- |
| Multiplex Format | MPEG-2 TS |  |
| TTS |  |
| Streaming | RTP, RTSP |  |
| Multicast | IGMPv2 |  |
| MLDv2 |  |
| HTTP | HTTP |  |

TD-Basic model service security

|  |  |  |
| --- | --- | --- |
| Secure Communication | SSL/TLS |  |
| Encryption Algorithm | AES |  |
| CSA |  |

Multicast content delivery

|  |  |  |
| --- | --- | --- |
| Multicast | IGMPv2 |  |
| MLDv2 |  |

Unicast content delivery

|  |  |  |
| --- | --- | --- |
| Control of the unicast stream | RTP, RTSP |  |
| HTTP | HTTP |  |

Video decoding

|  |  |  |
| --- | --- | --- |
| H.262 | 1920x1080i MP@HL |  |
| 1440x1080i MP@HL |  |
| 1280x720p MP@HL |  |
| 720, 544, 480x480i MP@ML |  |
| H.264 | 1920x1080i HPorMP@Level4.0 |  |
| 1440x1080i HPorMP@Level4.0 |  |
| 1280x720p HPorMP@Level4.0 |  |
| 720x480i HPorMP@Level3.0/3.1/3.2 |  |
| 720x576i (the format used in Europe) |  |

Audio decoding

|  |  |
| --- | --- |
| MPEG2 AAC |  |
| MPEG1 Layer II |  |
| Audio MPEG-4 HE AAC v1 |  |
| Dolby AC-3 |  |

Bibliography

[b\_ITU-T H.IPTV-ProComp] Draft new ITU-T Recommendation H.IPTV-ProComp, *Profiles of IPTV Service and Compliance*, TD71/WP2-16 (2009)

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