Sustainability of Digital Formats: Planning for Library of Congress Collections

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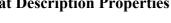
MPEG-4, Visual Coding (Part 2) (H.263)

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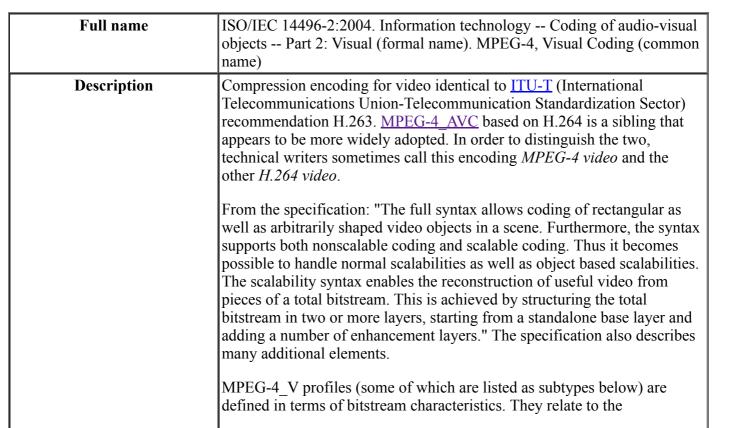
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Format Description Properties 1



- ID: fdd000080
- Short name: MPEG-4 V
- Content categories: moving-image
- Format Category: encoding
- Other facets: unitary, binary, sampled
- Last significant FDD update: 2011-03-14
- Draft status: Full

Identification and description



	conformance of players, and the profiles are generally given the name of the most complicated object type that a player supports.
Production phase	Generally a final-state (end-user delivery) format.
Relationship to other formats	
Used by	MPEG-4 File Format, Version 1, with Visual Encoding, not documented at this time
Used by	MP4_FF_2_V, MPEG-4 File Format, Version 2, with Visual Coding (All Profiles)
Used by	QTV_MP4_V, QuickTime Video, MPEG-4 Visual Coding
Used by	Other file wrappers, not documented here
Has subtype	MPEG-4_V_SP, MPEG-4 Visual Coding, Simple Profile
Has subtype	MPEG-4_V_SSP, MPEG-4 Visual Coding, Simple Scalable Profile
Has subtype	MPEG-4_V_ASP, MPEG-4 Visual Coding, Advanced Simple Profile
Has subtype	MPEG-4_V_CP, MPEG-4 Visual Coding, Core Profile
Has subtype	MPEG-4_V_MP, MPEG-4 Visual Coding, Main Profile
Has subtype	MPEG-4_V_SStP, MPEG-4 Visual Coding, Simple Studio Profile
Has subtype	MPEG-4 Visual Coding, Additional Profiles, not documented here

Local use 1

holdings	The content produced by the <u>NDIIPP partnership project</u> with <u>SCOLA</u> consists of foreign television news broadcasts in <u>MP4_FF_2_V</u> , MPEG-4 File Format, V.2, with Visual Encoding.
LC preference	

Sustainability factors 1

Disclosure	Open standard. Developed through ISO technical program <u>JTC 1/SC 29</u> for coding of audio, picture, multimedia and hypermedia information by Working Group 11 (WG11) aka the Moving Picture Experts Group (<u>MPEG</u>).
Documentation	ISO/IEC 14496-2:2004. Information technology Coding of audio-visual objects Part 2: Visual; ISO/IEC 14496-2:2004/Cor 1:2004; ISO/IEC 14496-2:2004/Amd 1:2004. Error resilient simple scalable profile. These specifications supercede earlier versions.
Adoption	Beginning in about 2005, there is increasing adoption of MPEG-4_AVC, Advanced Video Coding (Part 10), based on ITU-T H.264, with improved capabilities. There is no evidence of any extensive or increasing use of MPEG-4 Video Coding (Part 2). See also MP4_FF_2. The specifications for the video-capable iPod introduced by Apple in late 2005 state that device will play MPEG-4 Video in the Simple Profile, i.e., MPEG-4_V_SP.
Licensing and patents	See MP4_FF_2.
Transparency	Depends upon algorithms and tools to read; will require sophistication to build tools.
Self-documentation	Pertains to the file format; see MP4_FF_2.
External dependencies	None
Technical protection considerations	Pertains to the file format; see MP4_FF_2.

Quality and functionality factors 1

Moving Image		
Normal rendering	Good support.	
Clarity (high image resolution)	Moderate to very good, given that sampling is limited to 4:2:0 (in contrast, MPEG-2 has a 4:2:2 profile), and that MPEG-4 is a format for lossy compression. Both progressive and interlaced video are supported, at spatial resolutions from sub-QCIF to HDTV. [See Notes below for more detail on resolution terms.] The outcome will depend on the type and extent of compression, and the encoder used. MPEG-4_AVC (MPEG-4 Advanced Video Coding, part 10) is more efficient than the Visual Coding (part 2) described on this page; MPEG-4_AVC provides better quality at the same data rate, or equal quality at a lower data rate.	
Functionality beyond normal rendering	The specification discusses features like <i>composition</i> (the mixing or matrixing of tracks), <i>random access</i> , and <i>fragmented movie files</i> .	
Sound		
Normal rendering	Not relevant; see MP4_FF_2.	
Fidelity (high audio resolution)	Not relevant; see MP4_FF_2.	
Multiple channels	Not relevant; see MP4_FF_2.	
Functionality beyond normal rendering	Not relevant; see MP4_FF_2.	

File type signifiers and format identifiers

Tag	Value	Note
Filename extension	See related format.	See MP4_FF_2
Internet Media Type	See related format.	See MP4_FF_2
Magic numbers	See related format.	See MP4_FF_2
File type brand (ISO Base Media File Format)	See note.	Indicated in file wrapper and relates to "brands" defined in <u>ISO_BMFF</u> . Wrapping MPEG-4_V bitstreams in <u>MP4_FF_1</u> would occasion the use of <i>mp41</i> ; in <u>MP4_FF_2</u> , use <i>mp42</i> . See <u>Part 15</u> of the standard, pp. 2-9, 13.
Indicator for profile, level, version, etc.	See note.	A list of codes for <i>profile_and_level_indication</i> for a variety of profiles and levels is provided in Annex G of Part 2 of the standard, Table G.1.
Pronom PUID	See note.	PRONOM has no corresponding entry as of July 2022.
Wikidata Title ID	Q954973	See https://www.wikidata.org/wiki/Q954973 .



General	Terms used for spatial resolution: QCIF stands for Quarter Common
	Intermediate Format (176 pixels by 144 lines), CIF is Common
	Intermediate Format (352 pixels by 288 lines), while HDTV is High
	Definition Television (various, including 1920 pixels by 1080 lines).

	formats.
MPEG began developing video compression standard group was founded by two men described by one comfiery Leonardo Chiariglione (CSELT, Italy)" and "the Yasuda (JVC, Japan)." The initial motivation to devel improve on the compression efficiency of MPEG-2 vithe transmission of video via broadcast, cable, and sat first approvals in 1994. This goal, however, was large ITU-T (International Telecommunications Union-Tele Standardization Sector) Low Bit-Rate Encoding (LBC developed the H.263 standard at about the same time. on MPEG-4, therefore, embraced the concepts expres focused on additional functional requirements desired in delivering video via online networks, mobile audio the like. These additional requirements include an arc interactivity, the representation of natural and synthetic concurrent data streams, robustness in error-prone enviscalability. Work on MPEG-4 began in 1995, with first	Is in the 1980s. The inmentator as "the peaceful Hiroshi op MPEG-4 was to ideo, a standard for tellite that received its ely achieved by the ecommunications C) group as they. The group working used in H.263 and laby those interested e-visual services, and chitecture for ic scenes, coding of vironments, and
Later efforts incorporated H.264 or MPEG-4_AVC, A Coding, with the first ISO specification published in 2	

Format specifications 1

- <u>RFC 3640: RTP Payload Format for Transport of MPEG-4 Elementary Streams</u> (https://www.ietf.org/rfc/rfc3640.txt). from the IETF (Internet Engineering Task Force, http://www.ietf.org/)
- RFC 3016: RTP Payload Format for MPEG-4 Audio/Visual Streams
 (https://www.ietf.org/rfc/rfc3016.txt). (https://www.ietf.org/rfc/rfc3016.txt) from the IETF (Internet Engineering Task Force, https://www.ietf.org/)
- ISO/IEC 14496-2:2004 Information technology -- Coding of audio-visual objects -- Part 2: Visual
- ISO/IEC 14496-2:2004/Cor 1:2004
- ISO/IEC 14496-2:2004/Amd 1:2004 Error resilient simple scalable profile

Useful references

URLs

• See MP4 FF 2 for MPEG-4 references.

Last Updated: 07/22/2022

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