

Image Compression Standards

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History of Image Codec

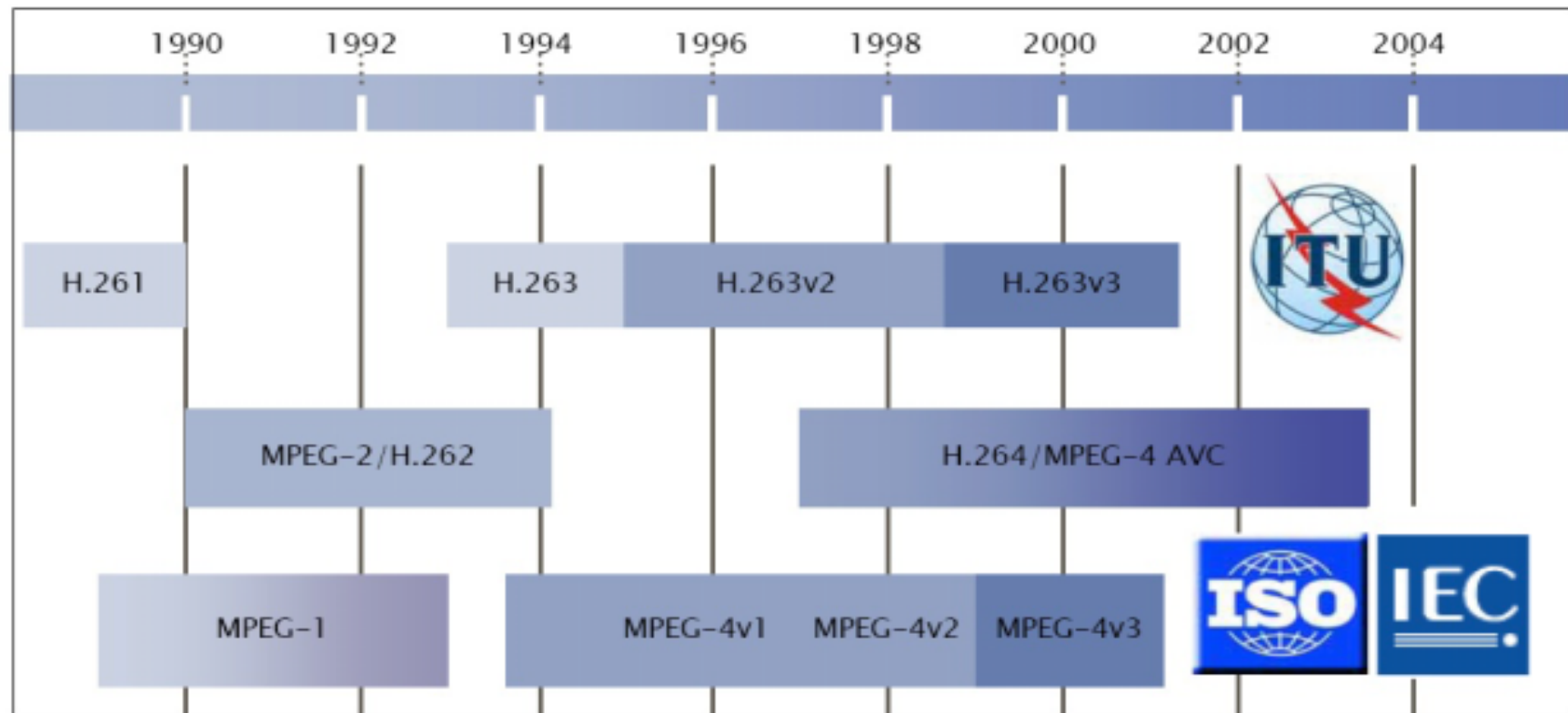
- 1980 : ITU-T T.4 : G3 FAX for PSTN
 - Facsimile for the telephone network
- 1984 : ITU-T T.6 : G4 FAX for ISDN
 - Facsimile for the ISDN network
- 1992 : JPEG (ISO 10918, ITU-T T.81)
 - Digital Still Camera, Color Fax, ...
- 1993 : JBIG (ISO 11544, ITU-T T.82) :
 - Lossless compression for bi-level images
- 1997 : JPEG-LS (ISO FCD 14495)
 - Lossless and near lossless

History of Image Codec

- 1999 : JBIG2 (ISO FCD 14492)
 - Lossless compression for bi-level images
- 2000 : JPEG2000 (ISO FCD 15444)
 - Image Compression with various features

Video Codec

- Video Codec History



MPEG-1

- Moving Picture Expert Group (ISO/IEC)
- MPEG-1, ISO/IEC 11172 ,1991
 - Target application: Video CD at 1.5Mbps
 - Part 1: System for multiplexing AV data (.mpg)
 - Part 2: Video coding algorithm
 - 320x240, 30fps
 - Part 3: Audio coding algorithm
 - 32, 44.1, 48khz, CD quality
 - Layer 1, Layer 2 (DAB, MUSICAM), Layer 3 (.mp3)

MPEG-2

- MPEG-2, ISO/IEC 13818, 1993
 - Target application: Digital TV and DVD
 - SD: 6Mbps, HD:20Mbps
 - Part 1: System for multiplexing AV data
 - Transport Stream (TS) for broadcasting
 - Program Stream (PS) for DVD titles
 - Part 2: Video coding algorithm
 - 720x480, 30fps for SD
 - 1920x1080, 60fps for HD
 - Part 3: Audio coding algorithm
 - Multichannel mp3 (5.1 channels)
 - Part 7: Advanced Audio Coding (AAC), 1995

MPEG-4

- MPEG-4, ISO/IEC 14496, 1999
 - Target application: object-based multimedia
 - Part 1: System for multiplexing AV data
 - MPEG4-FF
 - Part 2: Video coding algorithm
 - Not fixed bitrate and image size
 - Part 3: Audio coding algorithm
 - MPEG-2 AAC + alpha = MPEG-4 AAC
 - BSAC
 - AAC+SBR = MPEG-4 HE AAC
 - Part 10: Advanced Video Coding (AVC)
 - H.264

Summary

- Image Compression Standards
 - JPEG, etc
- Video Compression Standards
 - H.264, etc
- MPEG