Dirac : The video compression family using open technology

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Dirac: Activity

- Project Aim
  - Advanced Video Compression System
  - Open Technology
- Activity
  - Dirac specification released in January 2008
  - Schroedinger project – optimised implementation. Version 1.0 released in February 2008.
  - Dirac research software version 1.0 released in September 2008

Dirac: Activity...

- Activity...
  - Dirac support in multimedia applications

    FFmpeg, ffmpeg2dirac, Gstreamer, Mplayer, Quicktime Player, Windows Media Player, VLC.

    More info at www.diracvideo.org
  - Dirac Pro 1.5, Dirac Pro 270, and Dirac Pro 221 available commercially from Numedia Technology.
  - Dirac Pro 270 used at Beijing games to use existing SD links for HD production.
  - Dirac at NHK.

Dirac: Challenges

- Documentation
- Useable Encoder Software Implementation.
- Efficient decoder that is mot resource hungry.
- Adoption

Dirac: Dependencies

- Dirac Reference Software
  - None
- SchrÖdinger
  - liboil
- Projects we depend on for adoption
  - Players (vlc, mplayer, etc)
  - Multimedia libraries (ffmpeg, transcode, Xiph libraries)
  - Multimedia framework libraries (gstreamer)

Dirac: Next Steps

- Standardisation
  - Complete Standardisation of VC-2 through SMPTE
  - Full Dirac standardisation through SMPTE
- Algorithms Improvements/New developments
  - NHK's SHV
  - Raman network
  - Dirac Pro Simple Profile
- Further Hardware development
  - Implementation of VC-2/Dirac Simple Profile
  - Implementation of VC-2/Dirac Main Profile
  - Implementation of ASI and IP input/output for Dirac Pro

Dirac: Next Steps...

- Further Software development
  - Optimised encoder – quality as well as speed
  - Optimised decoder – less resource hungry
  - Dirac in liboggplay
  - Muxing in Quicktime movie format using VLC and Ffmpeg
  - Native support for Dirac muxed with Vorbis in Ffmpeg
  - DirectShow filter for production use.
  - RTP specification.