 Requirements for an Internet Video Codec

draft-maxwell-videocodec-requirements-00.txt

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Introduction

• Proposed technical requirements for a video codec working group should one be created
• Currently includes a basic set of requirements, mostly the subset of things that required little discussion
• Has a focus on goals not specific mechanisms
• This is a strawman draft for bashing
  – Bash early, bash often
Applications

- Live video streaming
- Video on demand
- Point-to-point video calls
- Video conferencing
- Telepresence
- Teleoperation
- Remote software services
Constraints of the Internet

• The codec must:
  – Be bandwidth efficient
  – Support recovery from packet loss
  – Support random access (seeking)
  – Support interactive latencies
  – Flexible bandwidth vs quality trade-off
Requirement details

• “Better than”
  – Theora
  – VP8

• Source controlled VBR

• Smooth adaptation across the whole supported quality/bandwidth range
  – Potentially with on-the-fly resolution changes if needed to accomplish this
Comments so far

• Requirements for mechanisms for reducing bitrate burstiness
  – e.g. periodic intra refresh, distinctive access points
• Fast channel switching
• Multicore scaling