QuickTime: Computer Speed Affects Playback (8/94)

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TOPIC ---

We've noticed with QuickTime a wide disparity of playback caused by dropping of
video frames to remain synchronized with sound when moving from one computer to
another. Only when we get to Macintosh IIfx speeds do we seem to maintain frame
integrity.

DISCUSSION --

The QuickTime engineers deliberately designed QuickTime to do exactly what you
describe. Each computer has limitations of how many instructions it can process
in a given amount of time. For QuickTime, this imposes certain performance
limitations.

When performance needs exceed performance limitations, adjustments must be made
to preserve timing and synchronization. When playing a movie with one or more
video and audio tracks, QuickTime drops video frames to preserve timing and
synchronization. This solution is much less damaging to the presentation than
dropping audio segments.

There are several factors that contribute to the performance that you
observe when playing QuickTime movies. Some of them are:

- The CPU (68020, 68030, 68040, or PowerPC) and its clock speed

- The number of tracks played at one time

- The precision of the data within each track (examples: bits/pixel,
  pits/audio sample)

- The background processes that run at playback time (examples: VBL tasks,
  drivers, file sharing, and so on)

- AppleTalk network traffic. (Each Macintosh partially inspects EVERY
  packet that comes by to determine whether the packet was addressed to
  it.)

Article Change History:
19 Aug 1994 - Revised to show that QuickTime requires 68020 computer or

better.

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