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r/ffmpeg

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r/ffmpeg • 3 yr. ago

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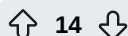


Quicksync vs NVENC vs CPU for Transcoding?

I understand most of the differences when it comes to reencoding and transcoding is basically the same thing... but I figure it couldn't hurt to ask.

As I understand it, NVENC is faster and overall better than quicksync but requires a GPU. Both are significantly worse than CPU in terms of quality and compression ratio, but they're faster. The exact details differ depending on generation (at least it does with NVENC), but hw accelerated encodes seem to be roughly on par with h264 in quality.

My question is how much does this affect transcoding, especially in a bandwidth limited environment? There's not much point in getting a GPU if just downloading it takes less data



14



17



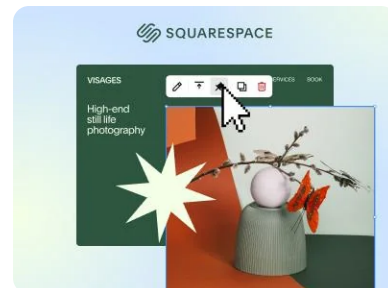
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Vectordeiz • 3y ago

"on par with h265" H265 is a codec standard, not an encoder. So, quality of 'H265' varies with encoder (libx265 presets, nvenc_h265, etc). So, don't use it to benchmark gpu encoding quality.

Anyhow, transcoding is decoding + encoding. Decoding is a deterministic process that will result in same raw frames with any decoder (hw or sw) as long as input is not corrupted.

Transcoding vs encoding is not much different in terms of speed for a gpu since Nvidia consumer grade gpus use dedicated asic submodules for decode and encode. So, using both likely won't reduce speed compared to just encoding. In fact, it probably speeds it up if you use hw frames as this avoids moving raw frames from system memory to gpu memory.

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I actually typoed that i meant 264 not 265. In any case, I believe it was libx264 slow or medium for ampere.

Speed isnt the issue because 20x realtime or 200x realtime, I'm going to watch the content at 1x. But what about the bandwidth part of the equation? The software I'm using is emby, which uses FFmpeg and it does h264. So quality would be about the same, just with more bandwidth?

↑ 1 ↓ ○ Reply ...



nmkd • 3y ago

better than quicksync but requires a GPU.

Quicksync also requires a GPU that supports it.

⊖ ↑ 5 ↓ ○ Reply ...



[deleted] OP • 3y ago

Yeah but it's built into the CPU, eliminating the need to use up a pcie slot (ITX~MATX system)

↑ 3 ↓ ○ Reply ...



zun888 • 3y ago • Edited 3y ago

I think CPU better for with H.265 (libx265+slow) output less size, better quality.

More CPU core better speed, test 9900k for encode

⊖ ↑ 3 ↓ ○ Reply ...



[deleted] • 3y ago



djsat2 • 3y ago

Basically at the same bandwith settings CPU transcodes will generally be better quality than NVenc and QSV but take much longer (depending on your CPU).

CPU transcoding also generally has access to more codec features than GPU encoding.

↑ 2 ↓ ○ Reply ...



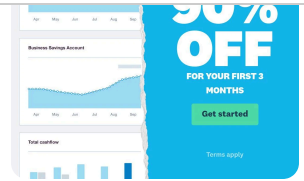
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iamleobn • 3y ago

Good quality, small output size, fast encoding: pick two.

In very simple terms, software encoding means you'll be choosing quality and size, at the expense of encoding time. Hardware encoding is meant to be fast, so you'll have to choose whether to increase the bitrate to get good quality or just accept the lower quality.

To be fair, hardware encoders have come a long way (the NVENC for Nvidia 3000 series is pretty good for what it is), but it is still not nearly as good as software encoding.

↑ 2 ↓ [Reply](#) ...



64IQ • 3y ago

CPU Transcoding for H.264 (x264) is better than nvenc/QSV (H264) and there is not much difference in terms of speed unless you have a very good Processor. And in terms of H.265 Nvenc/QSV is offers fast encoding Better for Screen recording or Gameplay recording But if you want to compress a video x265 or SVT-HEVC would be better although x265 is bit slow and SVT-HEVC takes more RAM .

↑ 1 ↓ [Reply](#) ...



Vectordeiz • 3y ago

I think you're asking whether transcoding movies with gpu before viewing is worth it. Hmm, well, if your source video is high quality and high bitrate (bandwidth) then transcoding it to reduce bitrate will reduce visual quality. I would say that nvenc might be able to achieve 1080p twitch/youtube quality at 4-6Mbps.

Whether that's acceptable quality loss to bitrate for you is up to you.

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r/PleX • 4 yr. ago

CPU choices for Quicksync transcoding?

4 upvotes · 11 comments

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143 upvotes · 6 comments



r/partycrashers • 2 mo. ago

Literally TCNick3

213 upvotes · 10 comments



r/partycrashers • 27 days ago

Met TCNick3 and Vernias

633 upvotes · 32 comments



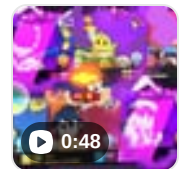
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Betrayed by NMC Update

97 upvotes · 6 comments



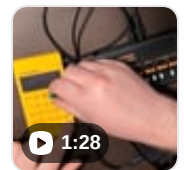
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Techno? You mean TENCHO?

63 upvotes · 8 comments



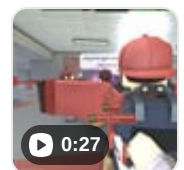
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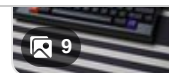
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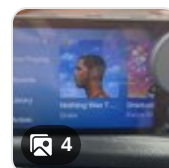
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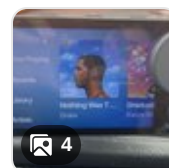
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 r/PleX · 4 yr. ago

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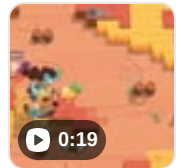
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The Tracer changes, won't really impact much I think. Thoughts?

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