The disruptive lossless quality video compression, powerful in software

A TECHNOLOGY SERVING THE GLOBAL AV INDUSTRY

This revolutionary technology is fast and powerful in software (CPU, GPU) and extremely tiny in hardware (FPGA, ASIC), robust for real-time operation with no latency.

Up to now, image and video are sent or stored uncompressed into many displays and systems such as cameras, videos servers, or recorders. TICO is a smart upgrade path to manage higher resolutions (4K, 8K, ...) and frame rates while assuring visual quality, keeping power and bandwidth at a reasonable budget, and significantly reducing the complexity and cost of the system.

Technology benefits

➢ Visually lossless quality:
  - 2:1 to 8:1
  - Robust over multiple encoding generations
  - Math. lossless at lower compression ratio

➢ Fixed latency: maximum one frame in pure CPU and GPU

➢ Powerful, real-time or faster than real-time

➢ Scalable for low power devices and multicore & multi-GPU installations

➢ Easy-to-use API

➢ SMPTE RDD35 compliant:
  TICO over IP (SMPTE 2022 5/6 & RTP for SMPTE 2110-22)
  and over SDI infrastructures (4K over 3G-SDI)

Performances

GPU and CPU decoding performances

<table>
<thead>
<tr>
<th>8K 422</th>
<th>Nvidia GTX 1080</th>
<th>Nvidia GTX 1080</th>
<th>Nvidia GTX 760</th>
</tr>
</thead>
<tbody>
<tr>
<td>4K 422</td>
<td>Core i7-7820 2.9 GHz</td>
<td>Xeon E5-2680 2.5 GHz</td>
<td>Xeon E5-1650 3.6 GHz</td>
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<tr>
<td>HD 422</td>
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Use cases

- Video over IP systems (SMPTE 2022, SMPTE 2110-22, ...
- Video recorders & players
- Video servers, routers and switchers
- Cameras (high-res, real-time or high speed)
- Video monitors and displays
- Frame grabbers and video capture devices
- Cable extenders
- UHD/4K over 3G-SDI, over 10GbE
- UHD/8K over 12G-SDI, over 25GbE/40GbE, ...
- VR/AR/360°, capture, transmission

TICO

is a smart solution to

- Support higher data streams using existing systems & infrastructures (HD/4K/8K/HFR/HDR)
- Increase the stream configuration
- Reduce the internal video bandwidth (and power !)
- Cost effectively increase video buffer and storage capacity
- Reduce the number of lanes needed to transport a stream at a display interface or at an image sensor to save power, cost or both

Fast TICO SDK packages

<table>
<thead>
<tr>
<th></th>
<th>Start</th>
<th>Pro</th>
<th>Ultimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single user encoder or decoder SDK</td>
<td>Encoder/Decoder OEM from HD to 4K60p on all operating systems</td>
<td>Single video stream up to 8K60p &amp; supporting specific image inputs with extreme parallel processing</td>
<td></td>
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<tr>
<td>Highest quality visually lossless codec for the optimization of SDI and IP infrastructures</td>
<td>Perfect for all professionals wanting to deploy zero-latency, lossless encoding over parts of or their entire infrastructure</td>
<td>Optimized for top productions and the future of broadcast</td>
<td></td>
</tr>
<tr>
<td>Ideal for simple test applications, single recorder/player or anyone starting in the field of zero-latency, lossless video coding</td>
<td>Enables access to premium support &amp; customization program</td>
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ORDERING INFOS

<table>
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<tr>
<th>CPU Enc</th>
<th>CPU Dec</th>
<th>GPU Dec</th>
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<td>✔️</td>
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Fast TICO SDK key features

Quality & latency

- Best-in-class visually lossless video codec (lossless at lower compression rate)
- Ultra low latency (below a single frame)

CPU and GPU footprint, speed performances

- Optimized for real-time operations on 100% CPU or 100% GPU (Nvidia, AMD and Intel)
- Extra small Intel CPU footprint (SSSE 4.1 or newer)
- Highly parallelized processing

Image formats & frame rates

- 422 10 bit and 444 8/10/12 bit
- HD to 4K & 8K
- Frame rate depends on CPU/GPU performance & SDK packages

Compression

- Compliant & support of TICO Profile 1 & Profile 2 (SMPTE RDD35)
- Proxi x2 decoding (HD decode from 4K codestream) – with Pro & Ultimate package

Rate control

- Adjustable compression rate
- CBR or optional Capped VBR mode

Supported platforms

- Windows (32 bit/64 bit), Linux (32 bit/64 bit) & Mac OS (64 bit)

SDI add-ons

- Support of the SMPTE RDD35 SDI mapping to map a UHD4K stream over a single 3G-SDI