Deliver Fast, Brilliant Media and Video Processing

A comprehensive software tool suite for developing enterprise-grade, high-performance, quality media solutions and applications

Intel® Media Server Studio helps media software developers deliver fast, high-density, high-quality video transcoding—and innovate immersive viewing experiences on Intel® Xeon® and Core™ processor-based platforms for Linux*.1

- Develop media and video solutions and applications to achieve best performance and quality.
- Speed the transition to 4K and HEVC and optimize for high frame rate and resolutions.
- Reduce infrastructure costs with hardware-accelerated video transcoding.
- Cut product time to market. Write applications once and run them anywhere, with forward and backward compatibility.
- Supports select Intel Xeon and Core processors and formats including HEVC, AVC, MPEG-2, and more.
- A Linux and Open Source version is available.

Global video traffic is soaring—forecast to be up to 80 percent of all consumer Internet traffic by 2019*. This trend creates high demand for media and video processing in the network and the cloud. Video solution providers need efficient video transcoding to reduce infrastructure and development costs while delivering reliable, high-quality viewing experiences. To stay competitive and meet consumer content viewing demands, it’s essential to be ready to transition quickly to high frame rates (60fps and higher) and resolutions (4K and higher). Intel Media Server Studio helps the industry meet these challenges by enabling media developers to take full advantage of the power of Intel® processors and providing access to real-time, hardware-accelerated HEVC and AVC codecs.

Deliver Fast, High-Quality Video Transcoding

Intel Media Server Studio is a comprehensive software development tool suite for:

- Data center, visual cloud, and network media distribution
- Live and over-the-top (OTT) broadcasting and streaming
- Cloud gaming and remote desktop
- Video conferencing applications

The tool suite simplifies media and video application development by including state-of-the-art components and features for tailoring visual quality and performance. It includes Intel® Media SDK, Intel® SDK for OpenCL™ Applications, runtimes, graphics drivers, and advanced performance and quality analysis tools and supports Linux*.3
These capabilities allow developers to achieve real-time 4K@60fps HEVC decode and encode and up to 18 AVC full HD@30fps transcoding sessions on Intel Xeon processor E3-1500 v5 and 6th generation Intel Core processors on Linux platforms.3.

Why You Need It

• **Stay competitive by building high-density media pipelines.** Achieve outstanding performance and density by taking advantage of the Intel® Quick Sync Video-enabled, hardware-accelerated codecs on Intel Xeon E3 and Core processor platforms1 with Intel® Iris™, Intel® Iris™ Pro, and Intel® HD Graphics.

• **Streamline the development cycle.** Write applications once and run them anywhere. Instead of cobbling together tools and runtimes from different sources, use a consistent set of SDKs, runtimes, and drivers to rapidly develop and optimize media applications and solutions.

• **Develop high-performance, heterogeneous applications.** With the Intel SDK for OpenCL Applications, build, analyze, debug, and customize your solutions and applications. Get full control over media pipelines and exploit the full computational capabilities of Intel® Graphics Processors (GPUs) and CPUs.

• **Select an HEVC encoder that best fits your scenario.** Use Intel’s fast, hardware-accelerated HEVC codec for high density Web, OTT, and video conferencing. Or choose GPU-accelerated or software HEVC encoder components if you need broadcast quality. With Intel’s award-winning2 portfolio of HEVC codecs and codec ingredients, benefit from great compression and reduce bandwidth use with a broad range of Intel platforms: Intel Core, Xeon E3, and E5 processors and Intel® Visual Compute Accelerator add-in cards. Tap into a rich set of HEVC codec features such as ROI priority (QP) map for better functionality and control for video conferencing, plus low-delay mode.

• **Accelerate time to market.** Intel Media Server Studio can reduce development time, support, and infrastructure costs—key factors for differentiation in an ever more fragmented and commoditized ecosystem.

• **Virtualized environment.** Use Intel Media Server Studio software implementation on the Intel Xeon processor E5 product family with KVM+Xen on Linux.

• **Optimize application performance and quality with advanced tools.** Intel VTune Amplifier, a performance profiler, gathers a rich set of CPU, GPU, threading, OpenCL™, and bandwidth metrics needed to find media processing bottlenecks. Sort and filter the results and then display them for easy analysis on the timeline, code source, and on a GPU architecture diagram that shows VDBox, VEBox, EU utilization, and bus bandwidth. Video Quality Caliper is a graphical tool for objective and visual quality inspection of encoded and uncompressed streams.
What’s Inside Intel® Media Server Studio
Deliver High Performance & Quality Video Transcoding

Optimize application performance and quality with advanced tools. Intel VTune Amplifier, a performance profiler, gathers a rich set of CPU, GPU, threading, OpenCL, and bandwidth metrics needed to find media processing bottlenecks. Sort and filter the results and then display them for easy analysis on the timeline, code source, and on a GPU architecture diagram that shows VDBox, VEBox, EU utilization, and bus bandwidth. Video Quality Caliper is a graphical tool for objective and visual quality inspection of encoded and uncompressed streams.

Key Features and Components
- **Video decoders (hardware-accelerated):** H.265 (HEVC) 8-bit, H.264 (AVC) 8-bit, MPEG-2 & more
- **Video encoders (hardware-accelerated):** H.265 (HEVC), H.264 (AVC) 8-bit, MPEG-2, MJPEG (software)
- **Video codec components:** H.265 (HEVC) software and GPU-accelerated decode and encode, 8- and 10-bit
- **Advanced performance and quality analyzers:** Intel VTune Amplifier and Video Quality Caliper
- **Programmability:** OpenCL 1.2 and 2.0, video motion estimation (VME), VEBox, HEVC PAK extensions
- **Flexible encode infrastructure (FEI)** for AVC encode
- **Video processing filters:** Deinterlacing, Resizing, Rotating, Cropping, Composition and Alpha Blending, Color Conversion, Denoising, Frame-Rate Conversion, Videosignal Info, Advanced Deinterlacing for handling scene changes

Technical Specifications

**Hardware Requirements**

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<th>Intel Media Server Studio supports the following platforms with integrated graphics:</th>
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<tr>
<td>• Intel Xeon processor E3-1200 v4 family with C226 chipset</td>
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<tr>
<td>• Intel Xeon processor E3-1200 and E3-1500 v5 family with C236 chipset</td>
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<tr>
<td>• 5th generation Intel Core processors</td>
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<tr>
<td>• 6th generation Intel Core processors</td>
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Additionally, for Intel Xeon processors E5 v4 and v5, support of software-only (CPU) HEVC decode and encode, select video pre-processing (CSC, scaling, DI), and virtualization (KVM*, Xen*) is available.

**Operating Systems**

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<th>Linux: CentOS* 7.3</th>
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<td>• CentOS* is the preferred Linux operating system. Versions and kernels supported vary based on the release. See Release Notes for correct kernel per release.</td>
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<tr>
<td>• Other Linux distributions through generic OS model (Intel Media Server Studio generally works on these operating systems; however, support is not provided for Linux distributions other than Gold OS.) The installation process applies many changes to the kernel, graphics driver, libdrm, and libva graphics stack. These changes would need to be reverted to request OS vendor support.</td>
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See also individual component tools release notes for supported OS and required software.

- Intel SDK for OpenCL Applications
- Intel VTune Amplifier
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- Read User Reviews >
- Get Technical Details >
- Learn more: software.intel.com/intel-media-server-studio >

Other Resources

- Intel Xeon Processor E3-1500 v5 Product Brief >