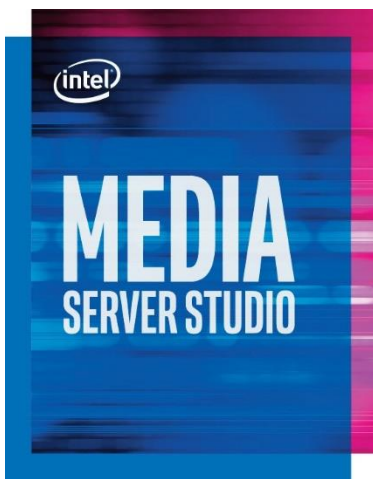


Ground-Breaking Video Performance, Density & Quality

Intel® Media Server Studio 2017

A comprehensive software development tool suite for media encode, decode & processing.



Supports select skus of Intel® Xeon® and Intel® Core™ processors. See [Technical Specifications](#) for details.

- Supports HEVC, AVC, MPEG-2 and AAC (audio) formats
- Linux* and Windows* versions are available.

Develop Enterprise-Grade, High Performance & Quality Media Solutions & Applications

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

- **Develop and optimize media solutions and applications** to get the best performance and quality.
- **Speed transition to 4K and HEVC**; innovate 360 degree video and virtual reality.
- **Reduce infrastructure costs** with hardware-accelerated video transcoding.
- **Cut product time to market.** Write applications once and run anywhere, with forward and backward compatibility.

Global video traffic is soaring, forecasted at up to 80 percent of all consumer Internet traffic by 2019.² This trend creates high demand for the media processing in the network and the cloud. Video solution providers need efficient video transcoding to reduce infrastructure and development costs while improving viewing experiences. And to stay competitive and meet consumer content demands, it's essential to be ready to transition quickly emerging 4K/ultra-high definition (UHD) and new video experiences such as 360 degree videos and virtual reality. Intel Media Server Studio helps readies the industry for these challenges by providing access to real-time hardware accelerated HEVC and AVC codecs.

Deliver Fast, 4K/UHD Video Transcoding

Intel Media Server Studio is a comprehensive software development tool suite for data center, cloud and network media solutions for high-performance transcoding, live and over-the-top (OTT) broadcasting and streaming, virtual desktop infrastructure (VDI), and video conferencing. Media Server Studio simplifies development of media apps by including state-of-the-art components and features for tailoring visual quality versus performance. It supports both Linux* and Windows Server*, provides media and OpenCL SDKs, runtimes, graphics drivers, advanced performance and quality analysis tools, and more. 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® and 6th generation Core™ processor-based platforms.³

Intel Media Server Studio: Choose the Edition that Best Meets Your Needs

Community Edition

- Delivers full access to Intel® Quick Sync Video enabled hardware-accelerated codecs (HEVC, AVC and more), and a development environment for heterogeneous apps
- Includes Intel® Media SDK, Intel® SDK for OpenCL™ Applications, runtimes, graphics drivers
- Support is via an online forum

Essentials Edition

- Community Edition +
- Intel® Premier Support with direct access to Intel tech experts

Professional Edition

- Essentials Edition +
- Enterprise-quality HEVC, MPEG-2 and audio codecs
- Expert-grade performance and quality analyzers (Intel® VTune™ Amplifier, Video Quality Caliper), Premium Telecine Interlace Reverser, and more

Benefits

- **Build 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® platforms¹ with Intel® Iris™, Intel® Iris™ Pro, and Intel® HD Graphics. Transcode up to 18 HD AVC@30fps streams per socket.
- **Stay Competitive & Innovate.** Deliver amazing viewing experiences—including quickly evolving 360 degree videos and virtual reality with real-time 4K HEVC@60fps encoding.
- **Streamline the Development Cycle** with support for multiple Intel processor generations. Write applications once and run 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 apps and solutions.
- **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.
- **Develop High-Performance Heterogeneous Applications.** With the Intel® SDK for OpenCL™ Applications, build, debug and analyze your apps. Get full control over media pipelines and exploit the full computational capabilities of Intel Graphics Processors 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 if you need broadcast quality. With Intel's award-winning⁴ portfolio of HEVC codecs, benefit from great compression and reduce bandwidth use with a broad range of Intel platforms: 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.
- **Virtualized environment.** Use Intel Media Server Studio software implementation on the Intel Xeon processor E5 product family with KVM+Xenon Linux*.
- **Optimize application performance and quality** with advanced tools: Intel® VTune™ Amplifier provides analysis of Graphics Processor and CPU performance for media and OpenCL apps with rich sorting, filtering and visualization options. **Video Quality Caliper** is a graphical tool for objective and visual quality inspection of encoded and uncompressed streams.

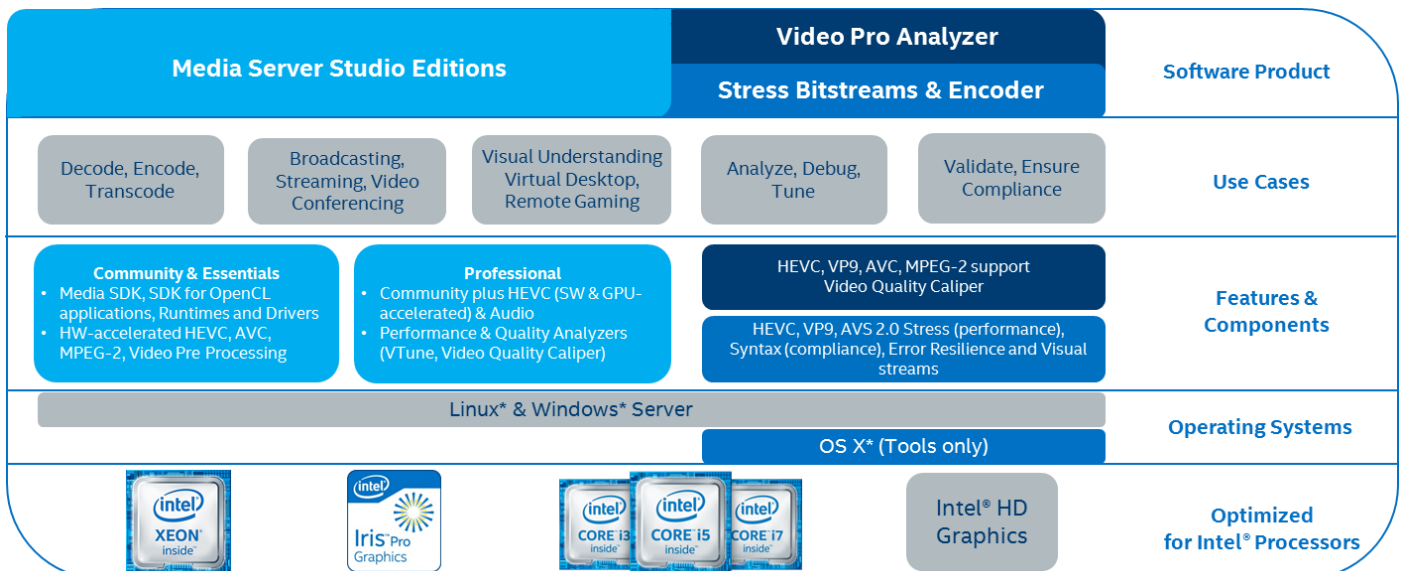


Figure 1. Intel Media Server Studio, its components, support; and complementary advanced video analyzer tools.

Key Features & Components

- **Video Decoders:** H.265 (HEVC): 8-bit (hardware accelerated and software), 10-bit (software only), H.264 (AVC) 8-bit, MPEG-2, VC-1, MVC, MJPEG
- **Video Encoders:** H.265 (HEVC) : 8-bit (hardware-, GPU-accelerated and software), 10-bit (software and GPU accelerated only), H.264 (AVC) 8-bit, MPEG-2, MVC (Windows Server OS only), MJPEG (software)
- **Advanced Performance and Quality Analyzers:** Intel VTune Amplifier and Video Quality Caliper
- **Programmability:** OpenCL™ 1.2 and 2.0, video motion estimation (VME) preview support
- **Includes Flexible Encode Infrastructure (FEI)** with limitations.⁵
- **Video Processing Filters:** Deinterlacing, Resizing, Rotating, Cropping, Composition and Alpha Blending, Color Conversion, Denoising, Frame-Rate Conversion, Videosignal Info, Advanced Deinterlacing handling scene changes (Linux only), Mirroring (Windows only)
- **Premium Telecine Interlace Reverser** to convert telecined or interlaced video to progressive format, **Screen capture** (Windows Only)
- **Audio Codecs:** AAC decode and encoder, MPEG decode

Build Enterprise-Grade Media Solutions

Get the most out of Intel® architecture for your enterprise-grade media solutions and applications with Intel Media Server Studio.

¹Technical Specifications – All Editions	
Hardware Requirements	<p>Intel Media Server Studio supports the following platforms with integrated graphics:</p> <ul style="list-style-type: none"> • Intel® Xeon® E3-1200 v4 Family with C226 chipset • Intel® Xeon® E3-1200 and E3-1500 v5 Family with C236 chipset • 5th Generation Intel® Core™ processors • 6th Generation Intel® Core™ processors <p>Additionally, for Intel® Xeon® E5 v4 and v5 processors, support of software-only (CPU) HEVC decode and encode, select video pre-processing (CSC, scaling, DI), and virtualization (KVM*, Xen*) is available.</p>
Operating Systems	<p>Linux: CentOS 7.2</p> <ul style="list-style-type: none"> • CentOS is the preferred Linux operating system. Versions and kernels supported vary based on the release. See Release Notes for correct kernel per release. • Other Linux distributions through generic OS model (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. <p>Windows</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2012 & 2012 R2, and for development only, 64-bit Windows <p>See also individual component tools release notes for supported OS and required software.</p> <ul style="list-style-type: none"> • Intel® SDK for OpenCL™ Applications • Intel® VTune™ Amplifier
Known OEM/ODM Functional Platforms	<ul style="list-style-type: none"> • Intel® Visual Compute Accelerator • HPE ProLiant* m710p and m710x Server Cartridges • Super Micro* Microserver 1U or mini tower MBD/System (X11SSV-M4F/M4) • Kontron SYMKLOUD* MS2900 Media • Artesyn SharpStreamer* • Adlink MCS-2080 Media Cloud Server* • ASRock* Rack C236 WSI4
Languages	C++, OpenCL™ 1.2 & 2.0

Advanced Intel Video Analysis Tools

Along with Intel Media Server Studio Editions, two companion tools give codec developers and validation engineers even more power and control for analyzing their media solutions.

Intel® Video Pro Analyzer

Advanced video analysis software tools for HEVC, VP9, AVC, and MPEG-2 video coding standards allow deep visual inspection of the complete decoding and encoding process, extract statistics, debug, and more. Learn more [here](#).

Intel® Stress Bitstreams & Encoder

Validate and debug HEVC, VP9, and AVS 2.0 decoders, transcoders, players, and streaming solutions. Bitstreams have highly redundant syntax coverage in a small footprint, which speeds the validation process and reduces time to market. Create custom streams for testing. Learn more [here](#).



Get Started Now with Intel Media Server Studio

- [Get a free trial or purchase >](#)
- [Read user testimonials >](#)
- [Get technical details >](#)
- [Learn more: \[software.intel.com/intel-media-server-studio\]\(https://software.intel.com/intel-media-server-studio\) >](#)

Other Resources

- [Intel Xeon E3 15xx v5 Product Brief >](#)

¹ [Specific hardware technical specifications apply, see details.](#)

² [Cisco Visual Networking Index: Forecast and Methodology](#), 2014-2019 White Paper, 2015, pg 2

³ [Specific hardware technical specifications apply.](#) See [performance benchmarks](#) for details.

⁴ [2015 Global Video Encoding & Transcoding Technology Innovation Leadership](#), Frost & Sullivan, and [2015 HEVC/H.265 Video Codec Comparison Report](#), and [Appendix](#), Moscow State University.

⁵ FEI is an extension of Intel® Media SDK that gives more control over encoding process compared to the standard Media SDK API. This feature is available with limitations: 1) Only AVC encode supported; 2) Intel does not provide technical support for the FEI through the media community forum or Intel Premier Support; 3) Building an application with FEI may take significantly more effort compared to the standard Intel Media SDK API; 4) FEI validation is limited. Some combinations of encoding parameters may lead to unstable application behavior, crashes and hangs; 5) FEI API is not backward compatible; 6) FEI is subject to the same [EULA](#) terms as Media Server Studio. Some FEI components are distributed as "pre-release materials" which restricts their usage according to the [EULA](#).

For more information regarding performance and optimization choices in Intel® software products, visit software.intel.com/articles/optimization-notice.

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