
'Ground-Up' Realization of H.264 Video CODEC Standard**Introduction**

VidWare VisionTM **Motion** is a fully standard compliant implementation of H.264 video, also known as MPEG-4 part 10, and is designed and built for software developers, integrators and all other digital video enterprises. **VidWare Vision**TM **Motion** exceeds the performance levels of existing products based on legacy methodologies such as MPEG-2 and previous revisions of MPEG-4. It allows developers to create state-of-the-art full motion video compression/decompression capabilities that will surpass existing video CODEC's. **VidWare Vision**TM **Motion** will augment existing video processing applications and provide leading software companies with advanced capabilities in the digital video industry.

Application Areas

VidWare VisionTM **Motion** products will facilitate rapid development and ROI by providing your customers with robust capabilities to meet their fast-growing expectation in the following industries:

- Video Conferencing
- Set-Top-Box Solutions
- Mobile Technology
- Broadcasting
- DVD Recording and Playback
- Industrial Video Content Production
- Motion Picture Industry
- OEM Video CODEC Integration, and many more

Description

VidWare VisionTM **Motion** is a '*ground-up*' implementation of the H.264 standard and is highly optimized for performance and quality. Because of this rare development approach, its performance is far beyond the CODEC's built by less efficient traditional methods used by some of our competitors. **VidWare Vision**TM **Motion** performs many factors of ten faster than the reference software. **VidWare Vision**TM **Motion** also gives greater flexibility for customization, offering an ideal resource for rapid integration and deployment of this high quality video CODEC.

The examples below show the superior quality of a **VidWare Vision**TM **Motion** stream over an MPEG-2 stream at the same data rate. The clip consists of 30 frames.



Original Uncompressed AVI
Stream Size: 13.9MB
Data Rate: 1.39 MB/Sec



VidWare VisionTM **Motion**
Stream Size: 292 KB
Data Rate: 29.2 KB/Sec



MPEG-2
Stream Size: 292 KB
Data Rate: 29.2 KB/Sec

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The examples below show the reduced data rate requirement of a **VidWare Vision™ Motion** stream over an MPEG-2 stream of similar quality.



Original Uncompressed AVI
Stream Size: 13.9MB
Data Rate: 1.39 MB/Sec



VidWare Vision™ Motion
Stream Size: 292 KB
Data Rate: 29.2 KB/Sec



MPEG-2
Stream Size: 624 KB
Data Rate: 62.4 KB/Sec

Features and Benefits

- Applies seven different Macro-Block sizes for improved motion compensation.
- Adopts a superior motion compensation methodology for higher flexibility and efficiency over conventional legacy MPEG CODEC's.
- Specifies motion vectors to $\frac{1}{4}$ pixel accuracy.
- Employs improved de-blocking filter.
- Achieves a high process speed by using integer based algorithms, outperforming the legacy CODEC based on Discrete Cosine Transform (DCT).
- Supports spatial prediction within each frame.
- Optionally implements Context-based Adaptive Binary Arithmetic Encoding (CABAC) to achieve even higher levels of compression.

VidWare Vision™ Motion Products

In order to meet various customer requirements, **VidWare Vision™ Motion** is offered at different levels of flexibility:

▶ API/SDK

VidWare Vision™ Motion API/SDK allows for rapid application development of custom applications using VidWare's software components. This API/SDK is licensed with an optional technical support service.

▶ DSP Optimized CODEC

VidWare Vision™ DSP Optimized CODEC will be available as code optimized for integration with a Digital Signal Processor (DSP). This code will maximize the performance of video processing.

▶ DirectShow Filters

DirectShow Filters for VidWare Vision™ Motion are designed and built based on the DirectX™ DirectShow architecture. These filters allow Microsoft® Windows® application developers to rapidly implement **VidWare Vision™ Motion** without the learning curve required by the API/SDK. These filters are made available based on a one-year renewable license arrangement.