



NAB Recap: MPEG-4 & Windows Media “ecosystems” abound as exciting new products arrive on the market.

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Over the past year, Enliten has spent considerable time studying MPEG-4, Windows Media, and developing an understanding of how (and when) it will impact the delivery of media in the enterprise. With great anticipation, we traveled to Las Vegas for the National Association of Broadcasters (NAB) 2005 Conference and Exposition to evaluate the status of this next-generation video compression technology, understand the products and services being offered, and – most importantly – get a feel for the market for these products.

We are encouraged by the progress made by these competing next-generation video compression standards. In the seven months since the International Broadcasting Convention in Amsterdam, there has been an explosion in the numbers of manufacturers introducing products based on MPEG-4 and Windows Media compression. These products address all forms of delivery: from DVD to satellite.

Equally encouraging was the response of the marketplace to these products. The Microsoft and Advanced Video Coding Alliance (photo below) pavilions enjoyed endless streams of attendees eager to learn about their products. It appears that the interest for these products reached across all attendees. Broadcasters driven by the growing demand for High Definition Television, telecommunications firms looking to delivery higher quality video over DSL lines and wireless connections, and enterprises investigating video-on demand and streaming applications demonstrate both the power of MPEG-4 and Windows Media and their importance across converging industries.



What are “Ecosystems” and all these new acronyms?

Another important part of our NAB mission was to catch up on the terms, jargon, and acronyms that our industry is so fond of using.

The latest buzz term coming from the MPEG-4 and Windows Media groups at NAB 2005 is *ecosystem*. The common definition of *ecosystem* is an ecological community together with its environment, functioning as a unit. At NAB, these groups are using the term to describe a *technological community* of products using a common video compression platform. Manufacturers of products that leverage Microsoft technology are said to be part of the Windows Media ecosystem.

The new acronyms are largely based off of the pending adoption of Windows Media as a recognized standard of the Society of Motion Picture and Television Engineers (SMPTE). VC1 is an acronym that refers to the Microsoft’s Windows Media technology that has been submitted to SMPTE for standardization. VC1 stands for “Virtual Codec 1” and replaced the term VC9 – which stood for “Virtual Codec 9” to correspond with Windows Media 9 (WM9). Microsoft’s release of its Windows Media 10 player (and each future player release) outdates the VC9 nomenclature, thereby driving the move to VC1, a name not associated with a particular software release.

To clarify the difference between its compression technology and its media player technology, Microsoft has changed the acronyms it uses to define its products. The acronym WMV (Windows Media Video) is now used to describe its video compression technology. The current release, WMV9, is synonymous with VC1. This is similar to the way that the terms AC3 & Dolby Digital are commonly used to describe the same audio standard.

Microsoft’s Window Media Video Players now use the acronym WMVP to differentiate themselves. Each subsequent release will carry the release number following the acronym. WMVP9 refers to the release that was introduced in January 2003. WMVP10 is the current release, introduced in August 2004.

As of NAB, it was announced that VC1 has reached Final Committee Draft 1 (FCD1) status with SMPTE. This is important in that FCD status enables full product development to occur amongst manufacturers. This will lead to yet more acronyms, as SMPTE will release the standard in three parts: SMPTE 421M, SMPTE RP228, and SMPTE RP227. SMPTE 421M will create the main standard, with SMPTE RP228 and SMPTE RP227 defining “recommended practices” for standard compliance.

Another acronym being tossed about at the show is MPS, or Media Protection Services. Although the exact meaning of this term varied with the user, this appears to be a variation of Digital Rights Management (DRM).

What MPEG-4 & Windows Media technology for enterprise communications was presented at NAB?

With a show as large as NAB (some estimated the attendance at over 140,000 – more than double of a couple of years ago), it is impossible to visit every booth and see every product. This was particularly difficult at this year’s show because of the increased number of products offered.

However, there were several products that caught our eye. Here are a few that should be of interest to enterprise media organizations:

IP Set Top Boxes

The Wegener SMD-515 Streaming Media Decoder (photo below) is particularly notable because of the specific enterprise applications it can address. This product can be used as a set top box for enterprises looking to take satellite-based business television to a terrestrial solution where content is streamed over the corporate WAN/LAN at reduced data rates (due to MPEG-4 compression).

This product can also be used for corporate communications in a large corporate facility, using the LAN as an alternative to antiquated cable distribution systems.



Broadcom introduced a HD/SD MPEG-4 AVC Set Top Box that compliments its diverse line of video products for the cable, satellite, and cellular markets.

On the Windows Media side, Pace Micro Technology displayed its VC1 IP Set Top Box. According to Pace, the DB440's Windows Media Video 9 decoder offers between 100Kbps and 5Mbps decoding up to full D1 resolution 720x576@25fps (PAL) including support for advanced post-processing for superior video quality at very low bit-rates. Additionally, low bit-rate content can be viewed on the DB440 at high resolution (full D1) due to full utilization of post-processing options available in Windows Media Video 9.

Real Time Encoders

In the seven months since the IBC show in Amsterdam, the number of high-quality real time encoders, for both MPEG-4 AVC and Windows Media VC1, has dramatically increased. The Harmonic MV100 VC1 Encoder and Tandberg EN5980 High Definition-WMV Encoder garnered much attention. In addition, the Scientific Atlanta D9154 AVC Encoder received high marks from several broadcast engineers we crossed notes with at the show. All of these products can assist enterprises looking to reduce their satellite bandwidth in coming years by upgrading to advanced video compression technology.

The real-time encoder market also is seeing the rise of newcomers. Modulus Video – a company with a strict focus on the MPEG-4 AVC market – demonstrated its ME6000 high definition encoder that is designed for full resolution applications using AVC Main Profile to deliver video at around half the bandwidth of MPEG-2. Several encoder manufacturers were demonstrating AVC products at NAB 2005.

Other Products

Other products of note included the Vbrick Model 9130-6200 Dual Channel MPEG-2 Decoder/MPEG-4 Encoder. This product will allow enterprises to transcode content for streaming applications. For example, a satellite-based broadcast can be received at a remote site as MPEG-2. The MPEG-2 video could then be distributed to television monitors while the Vbrick transcoder converts the same broadcast to MPEG-4 for distribution over remote LAN, extending the reach of the network.

Content publishing and management will become increasingly important to enterprises as advanced video compression drives the acceptance of on-demand desktop video. Many companies demonstrated software for managing this content. We were particularly impressed with The Platform, a Seattle-based provider of media publishing systems.

We look forward to tracking the progress of these companies and products over the next year as the market and competitive landscape continue to evolve. Look for a progress report this fall after IBC.