



MPEG-4 AVC vs. MPEG-2: For now, tradition holds sway

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(07/12/2008 12:00 AM EDT)

URL: <http://www.eetimes.com/showArticle.jhtml?articleID=208808368>

It may seem obvious that the many merits of the MPEG-4 Advanced Video Coding (AVC) standard will render the industry-changing MPEG-2 standard obsolete, but there is plenty of life left in the technology that launched the blockbuster [DVD](#) and [DTV](#) businesses.

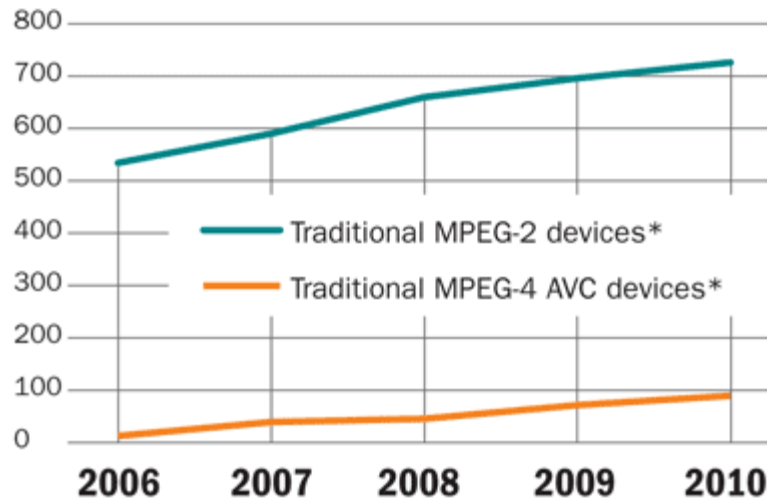
When it comes to what Digital Tech Consulting (DTC) identifies as the "traditional" digital video consumer product categories--DVD devices and digital TV receivers--the MPEG-2 [codec](#) will continue to dominate through the decade. When MPEG-4 AVC products that fall under the nontraditional category--such as mobile handsets and personal media players--are taken into account, it's obvious that AVC is creating a bigger standards-based digital video market than existed even a year ago. But there's a lot of life left for DVD devices and MPEG-2 based set-tops and TVs that receive digital cable, satellite, terrestrial and Internet Protocol TV signals.

The legacy of more than 10 years of mass-market delivery of MPEG-2 content and the long-embedded headend [infrastructure](#) have cemented MPEG-2's relevance. In addition, there are high-population centers in parts of the world that have yet to meet household-saturation levels for DVD devices and digital TV receivers. And although the number of video optical [disk](#) devices and TV receivers that support MPEG-4 AVC will rise rapidly over the forecast period, many of those devices will also support MPEG-2 so that they are backward-compatible with existing content.

At the same time, AVC's compression-efficiency improvements, nonproprietary status and lower licensing fees are taking the open MPEG standard into new industries. When personal media players, mobile handsets, mobile TVs and mobile gaming devices are added to the forecast, the impact is dramatic. For traditional digital video products, DTC estimates that 45 million units will ship worldwide in 2008. When including nontraditional devices (mobile hardware), DTC estimates that 169 million units will ship in 2008, growing to more than 500 million in 2010.

## Estimated global shipments of 'traditional' digital video devices

Millions of units



\* Digital Cable, satellite, and IPTV set-tops; DTT receivers; non-PC and PC video optical-disk devices; videogame devices

SOURCE: Digital Tech Consulting

For this analysis, DTC excludes software products such as online media players and desktop encoding and editing software. With the exception of the MPEG-4 Part 2-based [DivX](#) content and its corresponding online media player, the MPEG standard has had little impact on the multimedia activity on the Internet--until now. Apple's adoption of AVC for its video-capable iPod and video programs on its iTunes Store kicked off high-volume distribution of MPEG-4 AVC-encoded programs on the Internet. Next came YouTube and the [Flash](#) Media format. Now, more than 10 years after MPEG-2 kicked off the digital video era, the MPEG family is a critical piece of the digital video entertainment revolution on the Internet.

With digital video programming moving around all types of network environments, the often-cited expectation that one piece of content will be transmitted over any network and to any device becomes a formatting migraine. MPEG [compression](#) standards may dominate across categories, but there are others, such as WMV and VP6. Transcoding (preparing a piece of content to be displayed on devices that would otherwise be incompatible) is fostering a new niche market. In most cases, the solutions work, but they add steps and costs to the task of making content viewable, given the hundreds of possible combinations of audio and video codecs, aspect ratios, transport stream protocols and [file](#) formats.

DTC believes "one program, all devices" nirvana would be reached a lot sooner if those formats were whittled to as few as possible via open standards.

The cross-industry use of MPEG-4 AVC and other open standards is critical to the expansion of consumer digital media use when transcoding solutions are required to facilitate the [display](#) of

content on multiple devices. But even content not intended for multiple screens is going to set-tops and high-def DVD players equipped with multiple codecs. The entrenchment of MPEG-2 content has created a market for multicodec chips and software where once only a single codec was needed, and that won't change anytime soon. MPEG-4 AVC has ground to make up before the digital video world retires the #2 jersey.