Digital Video to Come Alive in 2005

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Successful new consumer electronic devices are introduced in concept demonstrations at trade shows. Next they emerge, at high cost, for early adopters. Eventually they proliferate as economies of scale make them affordable to mass market consumers.

High-definition television (HDTV) sets are progressing through this process slowly due to a lack of interesting high-definition content. This will soon change as a selection of movies on a new generation of HDTV video disks becomes available. We now see a battle between the HD-DVD and the Blu-Ray next-generation video disk standards. The competition will push both sides to bring their technologies to market faster. 2004 saw the important step of content producers choosing sides. For now, there is a dead heat between interesting titles headed for release on disks of each standard. Neither format will disappear in 2005, but shifts in acceptance of the formats by movie studios will render the winner apparent within the year.

The decision of which digital video coding standard to adopt for next generation video disks as well as other digital video products under development remains open. For nearly a decade, MPEG-2 has been the broadly accepted standard across industries. Today, many video coding standards take advantage of advances in processing speed to give much better compression-quality than is achieved with MPEG-2. The open standards of ISO MPEG-4 and ISO/ITU H.264, Microsoft's closed VC-1 video coding standard, and many others are vying for acceptance in next generation video disks, game consoles, toys, wired and wireless video phones, and television broadcasts from satellite, terrestrial, and internet transmissions.

Looking ahead, expect MPEG-4 acceptance to dwindle. VC-1 will grow popular in PC desktop and internet video broadcast, though not in embedded consumer applications. Popular support will coalesce around H.264 as the next universal standard for digital video coding, along with MPEG-2. However, H.264 will trail sales of MPEG-2 only decoders in consumer electronics for a few years to come.

The names of each video coding standard will remain confusing. H.264 is also widely known as H.26L and as MPEG-4 Part 10 Advanced Video Coding (AVC). VC-1 is the new name for what is essentially the same standard as Windows Media Video 9.

Video codecs will continue to gain in importance to the buyers and makers of DSP chips, FPGAs, and semiconductor IP cores. As vendors tout a growing array of video processor solutions, system developers will look to video processor benchmarks certified by independent analysts such as BDTI.

In 2004, the marketplace of video chip and IP core vendors saw several major acquisitions. Zoran acquired Emblaze Semiconductor, Broadcom acquired Sand Video and Alphamosaic, and Conexant acquired Amphion. There are many other innovative video technology startups with more appearing every year. The pace of acquisitions of

smaller video companies by big players will continue. The big players will produce the chips that bring the HDTV revolution to the masses, bringing digital video alive in 2005.

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