

The Video Flood

CES was a great place to observe the dizzying array of new video providers, distributors products and services. What it all adds up to: more demand for bandwidth.

By Sandy Teger and David Waks ■ *System Dynamics Inc.*

If Rip Van Winkle awoke today from his twenty-year sleep, he'd be puzzled by all the sources of video and the places he could watch it. During his long nap, video content moved beyond the movie theater and TV screen into personal computers, mobile phones, portable video players and game players.

This year's Consumer Electronics Show was a great place to observe the acceleration of the video flood. It demonstrated the continuing trends of video coming from more creators, delivered by more distributors, and displayed on ever more devices. Here is a whirlwind tour of a few of the sources, conduits and devices Rip would find for his new video experiences.

TRADITIONAL PROVIDERS

Traditional video providers like Comcast covered their bases with more content to both the TV and PC. In his keynote speech, Comcast CEO Brian Roberts debuted "Project Infinity," the company's initiative to offer "more than 1,000 high-definition choices" by the end of 2008. Roberts said Comcast expects to offer more than 6,000 movies a month in 2009 – with more than half of those in high-definition – facilitated by Comcast's fiber-rich network, IP backbone and video servers across the country.

In Comcast's expansion of its interactive Web site Fancast.com, Roberts also paid strong attention to the PC as an alternative gateway to video content.

Fancast has multiple personalities, including being a free video-on-demand site. Viewers get free access to full TV episodes from NBC, CBS, Fox, FX, Bravo, SciFi, Discovery, MTV and more. Its Web-based service also allows customers to find and manage TV

content including full-event replays, highlights, features and interviews.

Sony Pictures Entertainment, a provider of motion picture production and distribution, TV programming, home video and more, announced a new partnership with Google/You Tube for ad-supported video channels. The first is The Minisode Network (TMN), which delivers five-minute versions of popular television shows.

Consumer electronics giant Panasonic, in conjunction with the cable industry, announced a series of new products powered by tru2way technology, the new branding for digital cable devices based on CableLabs' OpenCable specs. Panasonic's upcoming plasma high definition

(HD) TVs, HD DVR set-top boxes and portable DVR devices will allow US consumers served by cable to get interactive services without a set-top box. Panasonic's new VIERA line of Plasma Internet-connected HDTV's will also give viewers direct access to Google's YouTube videos and Picasa Web Albums. Other consumer electronics companies, including LG, Samsung and Thomson, also showed tru2way products at CES.

Tru2way enables consumers to access the full range of two-way cable programming – including electronic program guides, video on demand, and interactive services – without a set-top box provided by the cable operator. Tru2way will be built into retail set-top boxes, high-end TVs and DVRs that

New set-top boxes abounded, but Tru2way technology (formerly OpenCable) lets consumers access two-way cable programming – including electronic program guides, video on demand, and interactive services – without a box at all.

shows and movie titles from a variety of sources, including the traditional cable guide/lineup, the Internet, DVDs or local movie theaters.

TRADITIONAL CONTENT SOURCES

Broadcasters and traditional movie and content sources are right in the middle of the fray. NBC Universal, which owns the exclusive US media rights to this summer's Olympic Games in Beijing, announced an alliance with MSN and Microsoft to create "NBC Olympics.com on MSN." Bill Gates' CES keynote described plans for MSN to offer 2,200 hours of live event video coverage, with more than 20 simultaneous live video streams at peak times, as well as more than 3,000 hours of on-demand video

should work in most cable homes by the end of 2008. By creating a national market, tru2way will encourage equipment makers to develop new devices and software developers to come up with new services. We expect this will lead to more innovation in user interfaces and interactive applications for cable TV.

DVR provider TiVo announced that its users will soon be able to subscribe to and watch a broad range of content available on Real Simple Syndication ("RSS") feeds. These feeds can be part of a viewer's "season pass" and will appear in the user's Now Playing List alongside recorded TV shows. TiVo will also provide an on-screen guide of selected Web video sources for users to browse and select Season Pass recordings.

Digeo, makers of the Moxi digital media recorder (DMR) announced alliances with four leading content providers: Flickr, Finetune, Accedo Broadband and CloverLeaf Digital. Content from these sources will be integrated throughout the user interface to provide consumers easy access to all of the available content in one cohesive entertainment experience.

The relatively new company VUDU has its own box to bring video entertainment – including an increasing number of HD movies – to the living room TV. It says playback of HD movies can be viewed "instantly" if the Internet connection to the home network is advertised to be at least 3 Mbps, and will still work with delayed viewing if the connection is advertised at 2 Mbps.

Sling Media announced its Slingbox PRO-HD product, with SlingStream 2.0, which allows adaptive streaming of high-quality television content across virtually any network connection. SlingStream 2.0 improves audio/video quality both for remote clients operating over a comparatively slow connection, and for high-definition players on a home network.

It's likely there will be many answers rather than one. People will use many different video devices. On large screens, they'll increasingly demand high-definition quality. On small screens, they'll accept lower quality for short clips.

BT announced that all of its broadband customers with Microsoft's Xbox 360 will be able to receive TV and movies, as well as games, through their consoles. Separately, Microsoft announced ABC Television Group and MGM as new Xbox Live content partners.

BRIDGING FROM THE PC TO THE TV

At CES, NETGEAR debuted its Digital Entertainer HD EVA8000 for streaming HD video from home PCs and storage devices to HDTV sets. The device automatically discovers HD movies, TV shows, music files and personal photos on a home network, across multiple computers, and organizes these into a single media library displayed on a TV without the need for media server software running on the computer. The EVA8000 can play protected files in both iTunes and Windows Media formats and handle 1080p HD video. It can play Web-based videos from sites such as YouTube and photos directly from Flickr without a computer.

Linksys is shipping its DMA2100 and DMA2200 Media Center Extenders designed to work with Microsoft

Windows Vista Media Center PCs – the DMA2200 also includes a (non HD) DVD player. Combined with the Media Center PC, they provide a complete PVR system with access to traditional TV and Internet content.

There are now many different media extenders (digital media adapters) on the market. These differ as to which HD connections they support, which networking technologies are used, what types of file formats they can access, and what user interface is provided. This market segment is still struggling to understand what consumers want, what they find easy enough to use and what they are willing to pay.

VIDEO ON MOBILE PHONES

Video announcements for mobile phones weren't at the top of the CES list, but there were some. Qualcomm's MediaFLO USA announced that a number of favorite primetime programs from CBS, FOX, MTV and NBC – along with some new ones – will debut on FLO TV in January. The FLO TV service is available now on some phones from Verizon Wireless, and will soon be available on some AT&T Wireless phones.

Meanwhile, ESPN has partnered with MobiTV to create ESPN Mobile TV, a 24/7 channel offering live, simulcast sports events, breaking sports news and mobile-exclusive programming. MobiTV is available on many Sprint phones.

HOW WILL THIS SHAKE OUT?

The video world grows more confusing every day. While the traditional video



The Slingbox PRO-HD streams high-definition video from a TV over an in-home network or over the Internet.

experience – the family watching together from the living room sofa – has become ever rarer, what will happen in the future is unclear. Companies old and new are developing new forms of video, new distribution services, and new video devices. New technology makes video production increasingly available to anyone who aspires to be creative.

How this will shake out is anyone's guess, but it's likely there will be many answers rather than one. People will use many different video devices, with large, medium and small screens. They will watch video both at home and away from home. On large screens, they'll in-

creasingly demand high-definition quality. On small mobile screens, they'll accept lower quality for short clips.

In this small sampling of the video news coming from CES, one point is abundantly clear: this growing flood of video content will require more and more bandwidth to the home. High definition requires more bandwidth than standard definition. Streaming on-demand video will keep growing in volume. More and more fiber will be deployed to fill the need for bandwidth.

We can't begin to imagine what the video world will look like if Rip wakes up from another twenty-year nap, but

we expect that fiber will increasingly be a mainstay of the picture. ■

ABOUT THE AUTHORS

Sandy Teger and Dave Waks are co-founders of System Dynamics Inc., and recognized experts on the technology and economics of broadband services to and within the home. They are co-authors of "Sandy and Dave's Report on the Broadband Home," a monthly business intelligence report, and the creators of BroadbandHomeCentral.com. They consult on projects related to broadband data, video and voice services, and home networking, including structured cabling, WiFi, powerline, coax and phoneline.

Consumer Electronics and the Networked Home

This year's CES launched thousands of new bandwidth-consuming products, along with new ways to move and share data between devices.

By Masha Zager ■ *Broadband Properties*

Everything about the International Consumer Electronics Show is big. At the 2008 edition of the megatrade show, held last month in Las Vegas, 2,700 companies introduced more than 20,000 new products. Big names (Bill Gates, Yahoo's Jerry Yang, all five FCC commissioners) stood before big crowds and uttered big thoughts. The product that attracted the most notice was positively gigantic: Panasonic's record-setting 150-inch plasma HDTV.

As we sifted through the deluge of CES announcements, another type

of deluge became evident: the sheer volumes of data that will course across the Internet and through consumers' homes

as these products are adopted. Internet-based and connected-home technologies are sparking the imaginations of vendors and consumers alike this year.

In fact, broadband access appears to be a key driver of the purchase and use of consumer electronics. Deloitte & Touche's State of the Media Democracy survey, released at CES, found 45 percent of consumers – compared with 33 percent last year – placing Web sites, photo albums, blogs and music online to share with friends, family, and total strangers. This finding challenges the conventional

Nearly half of American consumers now post Web sites, photo albums, blogs and music online – challenging the conventional wisdom that only a niche group of technology-savvy individuals are involved in creating content. Asians and Europeans have found the same thing.