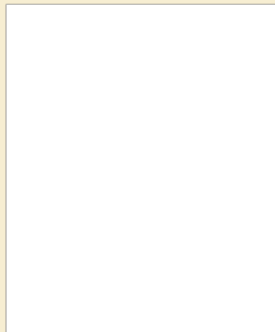


ScreenPlays

A BROADBAND INFORMATION RESOURCES INC. Publication www.screenplaysmag.com

March 2006 STRATEGIC INFORMATION FOR THE BROADBAND MARKETPLACE

SOURCECODE



JOSHUA GOLDMAN | 26

CEO of Web VOD pioneer Akimbo weighs trends in new media environment.

Consumer Choice Trumps Walled Garden

Cable in Strategic Shift As Web Video Explodes

By FRED DAWSON

Cable industry anxieties about the aggressive Internet video strategies emanating from traditional programming quarters are giving way to new thinking about how MSOs can exploit these developments to gain advantage over competitors.

While the general attitude in cable toward telcos' IPTV plans has been "anything they can do we can do as well or better," the Internet video intentions of media giants like Walt Disney Co., Viacom, Fox and Sony, not to

mention well-heeled portals like Yahoo!, AOL and Google, pose a bigger challenge. The burgeoning Web video trend suggests that, before long, consumers will have schedule-free access not only to all the current content available from the multitude of programming outlets owned by these companies but to vast repositories of old programming and to new interactive and community-building applications as well.

Cable strategists are moving toward what amounts to a two-pronged response to this changing environment, on the one hand exploiting high-quality

Tanya Kim Court, vice president & general manager, ESPN Broadband and Interactive Television

Web video to enhance the appeal of broadband services and on the other letting go of the old
See SHIFT | 34

Interoperability Certifications Underway

Home Networking Disarray Giving Way to Cooperation

By PETER LAMBERT

Growing realization among electronics manufacturers that there's more money to be made through collective versus proprietary approaches to linking devices appears to be finally breaking the logjam that has made it impossible to create a consumer-friendly interoperable home-networking experience.

"What makes home networking effective is not a PC or set-top in the center of it all, but rather that all these devices can share content wherever it is," says Martin Stein, senior marketing director for Motorola Broadband's IP Video Solutions Group, a leading provider of set-top boxes and broadband data network gear to cable and telco operators. "No one company can dominate this and be successful at making all this

See HOME NETWORKING | 16

PRESENT STD
AUTO
U.S. POSTAGE PAID
WHEAT RIDGE CO
PERMIT NO. 10

From HOME NETWORKING

happen. Standards are the way to capitalize on interoperability. That makes the pie bigger for everyone."

Building on their own most popular legacy PC, consumer electronics and broadband access devices, players in each of the key device segments have for several years proffered home networking architectures to interconnect consumer devices in ways each claims will make it easiest to locate, download, stream, store, sort, share and make portable the richest possible array of commercial and personal video, music and other media content. Not everyone is ready to change course, but it's clear Motorola isn't alone in taking a new approach to getting consumer device networking off the ground.

Indeed, Scott Smyers, vice president of the Network and Systems Architecture Division of the US Advanced Technologies Center at Sony Electronics, believes the technological disarray has largely been solved, leading industry shapers to focus on equally mystifying strategic go-to-market concerns. As chairman of the Digital Living Network Alliance and president of DLNA Corp, he's in a position to know.

"It's all about business, which is what motivates big companies to act," Smyers says. "Now there's the promise of easier, more convenient access to content, and there's a huge business to pursue in getting content available through these new channels."

Milestones reached this winter by the DLNA indicate that standards cooperation

may now outweigh any impulses to foster CE, PC or set-top box walled gardens within the digital home. This month, DLNA will extend its Home Networked Device Interoperability Guidelines to embrace mobile devices and additional streaming formats. Several hundred devices have gone through DLNA "plugfest" interoperability tests, and dozens of products have been certified.

DLNA Certified products will be sold with logos designed to assure consumers of plug-and-play interoperability among all other DLNA-certified devices. "As we speak, products are starting to be offered," says Smyers.

"It's hard to predict where it will go from here," he adds. "I think there will be a period where consumers try to understand. DLNA will conduct consumer outreach, like what the logo means. Once many products are there and the promise proved, I think we'll see a steep upward curve. Within the next year or two years, there will be increasing variety and innovation. This is an exciting, if unpredictable, place to be. It's going to be hard to fail for the next couple of years."

Given the failures of so many efforts to date, that's a huge claim, but it potential power of the burgeoning consensus behind the DLNA specifications. The DLNA guidelines set up an architecture that allows any device to qualify as a Digital Media Player (DMP), Digital Media Server (DMS) or both. The DMP incorporates a rendering device and might also incorporate media control.

"You could have a TV that's only a

Scott Smyers, VP Network and Systems Architecture Division, US Advanced Technologies Center, Sony Electronics, and chairman, DLNA

renderer for video and audio display, or if it also has a controller, the TV can discover the content and access it," Smyers says. "You could have multiple TVs acting as players and a cable set-top acting as a server. Or you could have multiple TVs, DVRs or portable media players all acting as both servers and players. What's really at the center is the content."

The primary promise of DLNA "is that all these devices and all this content is discoverable on the network," he says, noting that DLNA's board of directors consisting of executives from HP, Intel, Microsoft, Nokia, Panasonic, Philips, Samsung and Sony

ITV**From ITV**

14 evening news and start watching," Smyers says. "Or he might want to download a new movie for the weekend, so from the same bedroom TV, he'll discover the PC Media Center to surf the Web, and then use the Google Video Store interface to purchase and download it. So the purveyor of content is the one that owns the user interface while the user is sitting at that storefront. Personally, it seems to me there's something healthy about that, as if I'm given the freedom to go to Macy's or to WalMart."

DLNA owes key elements of this scenario to Intelligent Grouping and Resource Sharing (IGRS), an industry platform founded in the People's Republic of China by manufacturers including Lenovo, TCL, Konka, Hisense and Great Wall under the auspices of the government's Ministry of

Information and Industry. With mutual liaisons to and from DLNA, the Chinese alliance ratified IGRS Version 1.0 in early 2004. (See www.igrs.com.cn.)

As portability moves closer to reality in consumer homes, device and content purveyors are intensifying the race to develop compelling UIs. Motorola, for example, is working to employ the best of navigation innovations across its cable, DSL, mobile and consumer electronics divisions. On the cable TV front, its Whole Home Video system allows viewers to stop DVR content and pick it up where they left off from another room. As a supplier to both Sprint Nextel and Comcast and other cable partners in their quadruple-play Joint Venture, Motorola also expects to apply to cellular innovation, such as Push-to-Talk, Push-to-View and Screen3 (zero-click access

to news, sports, entertainment, and other premium content), to supporting seamless media access in the home, says Bill Taylor, senior marketing director, retail mobility products, for Motorola's Home Mobility Solutions Group.

"By pressing these Connect-to buttons, I might instantly enter not just IMS or talk with Nextel friends, but also tune into the home intercom or my family's baby-cam," Taylor says. "You can easily enter these apps, like IMS or VoIP or e-commerce. I might click on a new Beyonce song, get a taste of it, then make a buy decision. If I have the right adapters and DRM, I can still share DVR video around the house or share music to my cell phone or our new line of MP3

See **ITV** 36

reflects this cross-industry consensus.

"DLNA does help flatten out the home network," he says. "One [certified] product came with pointers to discover pictures as you wander around the house. Sony can sell a TV that discovers content across servers manufactured by all players. Set-tops get media into the home, then Sony's space takes over—where to store it, how to view it, share it and the like. Unless there's one big pie, no one will win."

This prospect of a global addressable market is engendering not only heightened standard cooperation, but significant business transformations as well. For example, on the heels of its acquisition of set-top box makers Scientific-Atlanta and KiSS, Cisco Systems further ramped up its entry into the retail consumer market by launching a new Networked Entertainment business unit under its Linksys consumer retail division.

The new unit is "assembling a toolkit for products we will introduce in the back half of 2006," says Chris Stevens, vice president of networked entertainment at Linksys. "We have put this group together because we know that, after connecting your broadband service, music and movies and other personal and commercial content are the most interesting usages of a network in a home. Video is what consumers want, and it is increasing network requirements dramatically."

Further, Stevens says, "the CE, computer and Internet companies are at a spot where the path is not entirely clear" with respect to what the ultimate business models and relationships with consumers will be. "Where there is disarray, there's opportunity," Stevens adds.

To seize the opportunity in a way that exploits agreement on basic connectivity under the DLNA banner, Cisco is positioned to build upon S-A and KiSS set-top boxes, as well as Linksys Wi-Fi, game adapter, music bridge, media adapter and Media Center Extender products. In February, Linksys also promised to grow its Wi-Fi Range-Booster family this year to include USB and PCI adapters for an array of consumer devices. And according to Stevens, the company will leverage not only Wi-Fi in all its flavors, but also wireline-based standards including Ethernet, Home Plug AV and Multimedia Over Cable (MoCa).

Standards and interoperability "will inevitably play a huge role," Stevens says. "We're seeing that sobriety or maturity exhibited in the real collaboration occurring

See **HOME NETWORKING** | 18

DLNA Roadmap Draws Ever More Adherents

It remains to be seen how the many stake holders in the home-networking arena will exploit the Digital Living Network Alliance platform to their own advantages, but at least the doubts are over as to whether there will be enough players tied to the platform to make it resonate with consumers.

As of February, DLNA membership had grown to 279, a list comprising a who's who in personal computing (Intel, Microsoft, Dell, Gateway, Hewlett Packard, IBM, Lenovo); consumer electronics (Canon, Ericsson, Hitachi, Matsushita/Panasonic, Mitsubishi, LG Electronics, Nvidia, Philips, Pioneer, Samsung, Sharp, Sony, Sony/Ericsson Mobile, Thomson/RCA, Toshiba), and network equipment (Alcatel, Cisco/Linksys, D-Link, Huawei, Lucent, Motorola, NDS, NEC, Pace Micro, Scientific-Atlanta, Siemens AG, UT Starcom), as well as broadband operators and Web content service providers (Bell Canada, CableLabs, Comcast New Media, Chunghwa Telecom, DirecTV, RealNetworks, Soffbank BB, Swisscom, Telia Sonera, Verisign, Yahoo! Japan).

Whatever the device category, including mobile, the DLNA guidelines now address perhaps the most complete 'stack' of interfaces required to make device and content discovery, control and rendering available to all corners. The stack's layers include:

- Physical network connectivity via wired

- (802.3i, 802.3u) and wireless (802.11 a/b/g) standards;

- Network addressing via IPv4
- Media transport via HTTP v1.0 and 1.1
- Device discover and control via UPnP Device Architecture v1.p
- Media management via UPnP AV v1.0
- Media formats, including video (MPEG-2, MPEG-4, WMV9); audio (MP3, WMA9, AC-3, AAC, ATRAC3plus); and imaging (JPEG, GIF, TIFF, PNG)

All DLNA features, functions and capabilities in a product must pass in order for the product to be certified. UPnP alone failed to accomplish interoperability in the absence of DLNA's liaison with the Wi-Fi Alliance and other networking bodies, as well as a lack of specified media formats, Smyers says. "Now that media format and streaming formats are more settled, both UPnP and DLNA have embraced them. You could discover content, but now DLNA guidelines settle how to stream it, giving UPnP real meaning."

This month's updated DLNA guidelines will include new device classes, such as printers and mobile devices. To support mobile, the Alliance has added BlueTooth. "The notion is that, when you bring picture phone into the network, it ought to be discoverable," says DLNA chairman Scott Smyers. "We also have a controller that can reside in remote control to search for content and renderers in the network. ■"

March 2006 | ScreenPlays | 17

IBM Launches Chip For 60 GHz Wireless

Compatibility at the device connectivity layer of home networking promises to make it easier for physical layer innovations such as a new wireless chipset from IBM to gain acceptance in the marketplace.

In early February IBM Research revealed that it has used its own chip-making technology called silicon germanium to develop a highly integrated 60 GHz receiver and transmitter chipset with dual antennas, all occupying the space of a dime. IBM is contributing its innovations to development of the 802.15.3c IEEE standard, an emerging Wi-Fi technology designed to support multi-Gigabit speeds, according to Brian Bucher, research manager, IBM Research, who sits on the 802.15.3c Personal Area Networking Group of the IEEE.

Bucher notes that established Wi-Fi spectrum in the 2.4 GHz range (used by 802.11a/b/g) offers only 300 MHz of spectrum, while the millimeter waves at the 60 GHz spectrum tier targeted by 802.15.3c yield 7,000 MHz, or 230% greater usable spectrum.

Unmanned consumer electronics products are exploring development of a full range of CE, PC and other home devices using the IBM chipset. "There's certainly been a bottleneck where wireless has been constrained to the lower frequencies and data rates, so you can't really address those HD signals across the room, except with a hard-wired-like HDMI wire," Bucher says.

"We definitely see multimedia driving speed, with more demand for HD and gaming," he adds. "Yet even with advances in 802.11a [the new high-speed Wi-Fi standard], I don't think that's going to keep up with the trends."

In addition to demand for real-time viewing of high definition multimedia around the house, IBM also focuses on data transfer of massive data. "You've got larger and larger hard drives on iPods and PCs and DVRs, so another high-volume application is rapid downloading rich media to those hard drives," Bucher notes. ■

HOME NETWORKING [from 17] among competitors. Rather than just saying, "We're going to communicate," there's real action through games like *HLWA*.

Indeed, he adds, "XBLA and [Intel's] Via [entertainment PC platform] got talked about as different spaces, but they actually kind of talk. For the first time, we're at a point where interest in more interoperability trumps other concerns."

Contra to any notion that Cisco is out to compete directly with a Sony or Dell, "we'll do our utmost through standards—to the degree that a manufacturer takes a standards-based approach—to let traditional CE manufacturers do the things they've historically done and have the solving of network problems to us. We're happy with that role," Stevens says.

"We'll make a product or two that sit on that network, and that may be perceived as competition, but it will not be to the extent of any traditional CE manufacturer," he adds. "It won't be 'circle our wagons.'"

To the contrary, it will be an interoperable and standards-based ecosystem to make it as simple to buy, set up and operate as possible, because we're after a broad market segment beyond geeks. We're using Universal Plug and Play, Vivid and other common technologies to ensure a high degree of interoperability with other people's stuff."

The Linksys.co-branded Yahoo! Music Bridge unveiled in January and designed to deliver quality IP audio around the home formulates Cisco's central mission in the consumer electronics context. "We're going to make a high-performance [home network] backbone," Stevens says. "A number—arguably a majority—of consumer electronics manufacturers will be very happy to see us do that, because they won't have to do it themselves."

Nothing better illustrates the movement toward new thinking to accommodate the opportunities in IP entertainment than the steps taken toward creating consumer-friendly products by the PC sector. "For the first time in the 25-year history of PC,

business is aligned with consumer value propositions, and the average person going down to Best Buy will understand the proposition," says Sony's Symons. "They may be doing things they want to do without even knowing it's a PC."

He points to products like *Akinbo* or "a cool Internet radio. It's a computer, but to the consumer, it presents all that complexity as radio stations and tuning, and it's really affordable. When it's networked, it's a bunch of resources that I can buy as I need them, rather than all these functions integrated into one major buy decision."

Dell, Gateway and other PC makers also are pursuing the role described by Symons. They've started making TVs and are ramping up a new generation of Vista-powered Windows Media Center products, along with Media Center Extensions that make it

easier to share media with TVs and other devices. Microsoft has sought to make Windows Media Center more easily networked in the home through its own Xbox 360 game console and through Windows "Media Center Extensions" designed to transport video and other media to additional devices and sold by Hewlett-Packard and other hardware makers. Employing Windows Media Connect software, both the new Xbox and the extenders enable playback of Internet video on devices beyond the PC.

"Because more home PC customers are asking for entertainment features in their PCs," Gateway has decided to base upcoming Gateway PCs on Intel Vivid technology, says Gateway Computer spokeswoman Kelly Cole. "We believe the next-generation graphics, audio capabilities and other benefits will help increase usability."

Scheduled for shipment by March, Gateway's Vivid PCs will come with a TV tuner and remote control to manage the 10-foot user experience and "will adhere to a set of standards for making sure that next-generation entertainment capabilities are present and that the PCs work together and complement each other," she says. The Vivid PCs

For the first time, we're at a point where interest in more interoperability trumps other concerns.

Cliv Stevens
Intel

See **HOME NETWORKING** 20

IN-DEPTH HOME NETWORKING

HOME NETWORKING [from JB] come with Microsoft Windows Media Center, dual-core processor, chipset, platform software and wired networking capabilities. "Gateway has been shipping many PCs with the Media Center OS since last year," Olla notes. "Whether or not our customers are using it for viewing/recording TV, we're hearing that they view the Media Center OS as an intuitive user interface that makes it easier for them to access digital media."

Clearly, PCs have a long way to go to catch up with the penetration levels of millions of cables, satellite and radio set-top boxes now dominating reception and storage of consumer media. Late 2005 IDC research puts U.S. consumer PC networks at 21.5 million homes or "only 14 percent of 150 million households," says Motorola's Stein. "We believe the PC isn't necessarily in the living room, but is among a very interconnected network of devices that can share transcoding and DRM [digital rights management]," he says. "The PC has a role in what it can do for the image. The TV has a role as the lead-track display."

Yet Microsoft partners continue to seek ways to market Windows Media Center as a PC-less "black box" version of Windows Media Center through the consumer who owns no PC. In February, for example, NBC Universal announced that it would make select movies and TV shows available via a broadband-connected set-top box supplied by Access Digital and scheduled to become available this spring. The \$299 set-top box has a built-in DVR, hard drive storage for 200 hours of programming, a wireless center and a firewall, as well as unlimited free access to an electronic programming guide.

No PC is required, nor is there a subscription fee. It employs Windows Media Center encoding and DRM.

But all networks are vying in the DLNA Certification and Logo program, when Sony says CE, PC and broadband access devices of all are equally positioned to comply with the guidelines. Since launching the program last fall, the Alliance has quietly certified a range of products that are made by both new and established entrants, and that own the CE/PC divide.

Samsung and Sony, both known primarily for CE products, have announced DLNA certification of PC products—the Samsung EX200 laptop as a Digital Media Player and two certifications for Sony Vaio PCs, one as a DMP and another as a Digital Media Server. At the same time, DLNA certified the Toshiba Z1000 (digital TV as a DMP).

For competitive reasons, not all companies are yet revealing their product certifications. Although early Sony DLNA certifications encompass Vaio servers and players, Sony CE and computer products are on "even tracks," Sony says. "We also have a Bravia TV that we announced at CES," he notes. "Our Bravia TV hasn't necessarily gone processing than the average TV. The difference is that it's connected and does all that discovery without entering IP address or any of that other configuration nightmare."

With that flexibility, CE, PC and set-top makers can develop highly simplified, single-purpose devices, each of which can leverage connectivity to become an other shared resource on the consumer's home network—a model already proved with PC peripherals. "That scalability is only defined by the network," Sony notes. "The network allows the TV or DVR to interface to the network for resources like additional storage, including other TVs, DVRs or PCs."

DLNA's server/player architecture supports this mutual outsourcing of resources among devices and an allows consumers to adopt multiple architectures, some PC-centric, some CE-centric. "The PC addresses the creative aspect, where you can also,

Chris Simons, vice president, advanced entertainment, *Logitech, Game Systems*

emerging market for products like that."

To whatever degree cross-industry interoperability may come to fruition, strategists in each camp continue to argue that their device categories comprise the natural gravitational center of the digital multimedia home. In his address at CES 2005, for example, Dell founder and chairman Michael Dell pronounced, "It's still about the PC at the center of the consumer experience." However, most argue that different consumer segments will define the center of their home networks according to their preferences.

Joshua Goldstein, CEO of Akamai, which set the precedent in 2004 making its Internet video service available to TVs via either a dedicated set-top or Windows Media Extensions, sees PC-, CE- and service provider-based

Chris Eubank is bringing in all directions.

products becoming more like each other, just as PC game players and stand-alone game consoles become more like each other and both claimed substantial market shares.

"I think you're seeing the same thing with CE versus PC media architecture," Goldstein says. "I don't think there's a clear winner. Both will thrive and grow for different groups of consumers." ■