Consumer Choice Trumps Walled Garden

Cable in Strategic Shift As Web Video Explodes

BY FRED DAWSON

able 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-tested 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

Interoperability Certifications Underway

Home Networking Disarray Giving Way to Cooperation

BY PETE LAMBERT

woverization 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
HOMENETWORKING

From HOME NETWORKING | I happen. Standards are the way to capitalize on interoperability. That makes the pie bigger for everyone.6

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 chimns 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 devices networking off the ground.

Indeed, Scott Snyers, 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 ILNA Corp., he’s in a position to know.

“It’s all about business, which is what motivates big companies to act,” Snyers 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 ILNA 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 set 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 Snyers.

“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 ILNA specifications. The ILNA 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 renderer for video and audio display, or it if it also has a controller, the TV can discover the content and access it,” Snyers says. “You could have multiple TVs acting as players and a cable set-top acting as a server. Or you could have multiple TVs, DTVs or portable media players all acting as both servers and players. That’s really at the center of 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 IIP, Intel, Microsoft, Nokia, Panasonic, Philips, Samsung and Sony.

ITV

From ITV | I evening news, and start watching,” Snyers 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, TCI, Konka, Hisense and Great Wall under the auspices of the government’s Ministry of Information and Industry. With mutual liaison to and from ILNA, 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 ScreenS (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-Bots 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-camera,” Taylor says. “You can easily enter these apps, like IMS or VoIP or e-commerce. I might click on a new Beyoncé 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 players.”
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 maker 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 usage 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 Rangebooster 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 | 16

DLNA Roadmap Draws Ever More Adherents

It remains to be seen how the many stakeholders 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 239, a list comprising a who’s who in personal computing (Intel, Microsoft, Dell, Gateway; Hewlett Packard, IBM, Lenovo); consumer electronics (Canon, Epson, 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, Cable Labs, Comcast, New Media, Chunghwa Telecom, DirectTV, RealNetworks, Softbank BB, Swisscom, Telia Sonera, Verizon, Yahoo! Japan).

Whatever the device category, including mobile, the DLNA guidelines now address perhaps the 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 (802.3, 802.3u) and wireless (802.11 a/b/g) standards;
Network addressing via IP4
Media transport via HTTP v1.0 and 1.1
Device discover and control via UPnP Device Architecture v1.2
Media management via UPnP AV v1.0
Media formats, including video (MPEG-2, MPEG-4, WMV9); audio (MP3, WMA, 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 formats 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

Home Networking

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

-Chris Demesy

Home Networking

IBM Launches Chip For 60 GHz Wireless

Interoperability is the device connectivity layer of home networking — a priority to make it easier for physical layer innovations such as new wireless chipsets from IBM to gain acceptance in the marketplace.

In early February, IBM Research announced that it had built its own chipmaking technology called silicon germanium to develop a highly integrated 60 GHz transceiver and communications chip with dual antenna, all within the space of a dime. IBM is contributing its innovations to development of the 802.11at-2011 standard, an emerging Wi-Fi technology designed to support multiple data streams, according to Brian Cashman, network manager, IBM Research, who sits on the Wi-Fi Alliance and is a member of the IEEE 802.11f task group. (Cashman notes that established Wi-Fi networks in the 2.4 GHz range (used by 802.11b/g/n) offers only 100 Kbps of capacity, while the millimeter waves at the 60 GHz spectrum offer speeds up to 8 Gbps in a single stream for a maximum of 16 Gbps in multiple streams, according to 3GPP, the 3rd Generation Partnership Project.)

Unlike traditional electronic systems that employ development of a full range of CPE, PC and other home devices using the Wi-Fi chip, "there is certainly room for a bottleneck, where this technology has been constrained to lower frequencies and distances, so you can't really reach those 8 Gbps speeds across the room except with a point-to-point (home) wireless connection," Cashman says.

"We definitely see multimedia streaming, video, voice over IP and other kinds of home applications and voice over the next generation of Wi-Fi over multiple devices, where they will be able to reach those speeds that are going to keep up with the demand for bandwidth," Cashman said.

In addition to demand for real-time voice and video services, the proliferation of multimedia around the home, IBM's domestically focused Internet of Things (IoT) initiative, and a trend to think of it as a way to keep up with the demand for bandwidth, Cashman said. The company is working with early adopters in healthcare, retail, transportation and the like to "see what the future is going to be and what the next step will be in the mix of home and the homelessness of the home," Cashman said.

"You've got larger and larger bandwidths in terms of data and video, and the CPE and the PSAs, so another high volume application in hop-ahead streaming and not just to 'close the home' but also to ensure that those hard drivers, those barriers in the home networking are being addressed," Cashman said.

HOME NETWORKING

IBM Launches Chip For 60 GHz Wireless

Interoperability is the device connectivity layer of home networking — a priority to make it easier for physical layer innovations such as new wireless chipsets from IBM to gain acceptance in the marketplace.

In early February, IBM Research announced that it had built its own chipmaking technology called silicon germanium to develop a highly integrated 60 GHz transceiver and communications chip with dual antenna, all within the space of a dime. IBM is contributing its innovations to development of the 802.11at-2011 standard, an emerging Wi-Fi technology designed to support multiple data streams, according to Brian Cashman, network manager, IBM Research, who sits on the Wi-Fi Alliance and is a member of the IEEE 802.11f task group. (Cashman notes that established Wi-Fi networks in the 2.4 GHz range (used by 802.11b/g/n) offers only 100 Kbps of capacity, while the millimeter waves at the 60 GHz spectrum offer speeds up to 8 Gbps in a single stream for a maximum of 16 Gbps in multiple streams, according to 3GPP, the 3rd Generation Partnership Project.)

Unlike traditional electronic systems that employ development of a full range of CPE, PC and other home devices using the Wi-Fi chip, "there is certainly room for a bottleneck, where this technology has been constrained to lower frequencies and distances, so you can't really reach those 8 Gbps speeds across the room except with a point-to-point (home) wireless connection," Cashman says.

"We definitely see multimedia streaming, video, voice over IP and other kinds of home applications and voice over the next generation of Wi-Fi over multiple devices, where they will be able to reach those speeds that are going to keep up with the demand for bandwidth," Cashman said.

In addition to demand for real-time voice and video services, the proliferation of multimedia around the home, IBM's domestically focused Internet of Things (IoT) initiative, and a trend to think of it as a way to keep up with the demand for bandwidth, Cashman said. The company is working with early adopters in healthcare, retail, transportation and the like to "see what the future is going to be and what the next step will be in the mix of home and the homelessness of the home," Cashman said.

"You've got larger and larger bandwidths in terms of data and video, and the CPE and the PSAs, so another high volume application in hop-ahead streaming and not just to 'close the home' but also to ensure that those hard drivers, those barriers in the home networking are being addressed," Cashman said.

HOME NETWORKING

IBM Launches Chip For 60 GHz Wireless

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

-Chris Demesy

Home Networking

IBM Launches Chip For 60 GHz Wireless

Interoperability is the device connectivity layer of home networking — a priority to make it easier for physical layer innovations such as new wireless chipsets from IBM to gain acceptance in the marketplace.

In early February, IBM Research announced that it had built its own chipmaking technology called silicon germanium to develop a highly integrated 60 GHz transceiver and communications chip with dual antenna, all within the space of a dime. IBM is contributing its innovations to development of the 802.11at-2011 standard, an emerging Wi-Fi technology designed to support multiple data streams, according to Brian Cashman, network manager, IBM Research, who sits on the Wi-Fi Alliance and is a member of the IEEE 802.11f task group. (Cashman notes that established Wi-Fi networks in the 2.4 GHz range (used by 802.11b/g/n) offers only 100 Kbps of capacity, while the millimeter waves at the 60 GHz spectrum offer speeds up to 8 Gbps in a single stream for a maximum of 16 Gbps in multiple streams, according to 3GPP, the 3rd Generation Partnership Project.)

Unlike traditional electronic systems that employ development of a full range of CPE, PC and other home devices using the Wi-Fi chip, "there is certainly room for a bottleneck, where this technology has been constrained to lower frequencies and distances, so you can't really reach those 8 Gbps speeds across the room except with a point-to-point (home) wireless connection," Cashman says.

"We definitely see multimedia streaming, video, voice over IP and other kinds of home applications and voice over the next generation of Wi-Fi over multiple devices, where they will be able to reach those speeds that are going to keep up with the demand for bandwidth," Cashman said.

In addition to demand for real-time voice and video services, the proliferation of multimedia around the home, IBM's domestically focused Internet of Things (IoT) initiative, and a trend to think of it as a way to keep up with the demand for bandwidth, Cashman said. The company is working with early adopters in healthcare, retail, transportation and the like to "see what the future is going to be and what the next step will be in the mix of home and the homelessness of the home," Cashman said.

"You've got larger and larger bandwidths in terms of data and video, and the CPE and the PSAs, so another high volume application in hop-ahead streaming and not just to 'close the home' but also to ensure that those hard drivers, those barriers in the home networking are being addressed," Cashman said.
HOME NETWORKING

To view the picture, you need to connect the TV to the Media Center and the PC to the network.

By definition, a PC is a computer that can connect to a network. It can be used for various purposes, such as playing games, watching movies, and browsing the internet. The Media Center is a PC that is specifically designed for media consumption.

The Media Center includes a TV tuner, which allows you to watch live TV or record shows. It also includes a media player, which allows you to play music, movies, and other media files. Additionally, the Media Center includes a remote control, which allows you to control your TV and other devices from a distance.

The Media Center also includes a web browser, which allows you to surf the internet and access online content. It also includes a media library, which allows you to organize and manage your media files.

The Media Center is a powerful tool for media consumption, and it can be used to enhance your home entertainment experience. Whether you want to watch live TV, listen to music, or browse the internet, the Media Center has you covered.

For more information, visit the Media Center website at mediacenter.microsoft.com.