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TELECOMMUNICATIONS

A New Tech Battle for the Home

As Industries Collide and Gadgets Morph, Competition Reigns for Home Technology

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Get ready for another round of technology convergence, bringing more choices -- and more confusion.

Phone companies are offering TV programming. Cable companies have added phone service. Cellphones are now computers, cameras, video players, navigation and messaging devices. Other gadgets are merging, adding hard drives and Internet connections. Every form of entertainment has turned digital and is zipping around the globe and the home on a high-speed wire, or a wireless network.

The scene, as industry executives prepare for the annual Consumer Electronics Show in Las Vegas this week, has never seemed more chaotic. The extended forecast: more of the same.

Indeed, competitive pressures are likely to cause new products and services to merge. Cable and phone companies are already rushing to offer competing "triple-play" bundles of voice, video and high-speed Internet access, for example, not only to seek more revenues but also to keep customers of their core services from defecting.

"If you don't have the broadband pipe, five years from now the likelihood that you will keep the entertainment or voice assets diminishes," says David Dorman, **AT&T Corp.**'s chief executive officer.

The pressures could push more companies as well as technologies together, with industry giants likely to look for partners and acquisition targets outside their already-consolidating markets. Forrester Research analyst Ted Schadler, in a new study by the Cambridge, Mass., firm, makes a case for such cross-industry acquisitions as **Hewlett-Packard Co.** buying **Eastman Kodak Co.**, **Apple Computer Inc.** absorbing **TiVo Inc.**, **Walt Disney Co.** eating **Electronic Arts Inc.** and **Google Inc.** grabbing **Gemstar-**

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DIGITAL DAZE

A look¹ at the dizzying convergence among services and appliances in the digital age. ([Adobe Acrobat Required](#)².)

TV Guide International Group Inc.

Mr. Schadler concedes the odds of any one of those transactions happening soon are slim, and the companies won't discuss the speculation. But he argues that such giants will need to join forces to create offerings that could drive new demand -- such as phones that send caller ID information to TV screens, televised sporting events that allow viewers to pick camera angles, and new types of personalized online games.

"The new value is going to be created between industries," Mr. Schadler says.

For some companies, plenty of value is already being created. At the giant CES show, which formally kicks off Wednesday night, the Consumer Electronics Association will release evidence of a torrid year. Total U.S. shipments of consumer electronics goods rose 11% to \$113.5 billion in 2004, according to the association, which predicts another 11% jump in 2005.

Sales of liquid-crystal-display TVs tripled to \$2.02 billion, and are projected to climb this year to \$3.01 billion. Digital-music players, led by Apple's hit iPod, nearly tripled in revenue to \$1.2 billion, and are projected at \$1.65 billion for this year.

Small wonder that the CES show has become a big attraction to the computer and communications industries. Keynote speakers this week include Microsoft Chairman Bill Gates, Craig Barrett, chief executive officer of **Intel** Corp., and Carly Fiorina, CEO of Hewlett-Packard.

Such speeches in the past have frequently dwelled on the possibilities of technological convergence. So far, the reality has frequently lagged behind the rhetoric.

Interactive TV has been a hot topic for more than 10 years, for example, with few impressive examples. Last year, Mr. Gates, Ms. Fiorina and others discussed new devices to store and manage digital music, photos and movies and view them on TV screens. But sales of such products so far have been slow.

Yet some technology combinations have been huge hits. They include the cleverly designed iPod, which married a computer disk drive and music downloaded from the Internet. The latest cellphones, with features like downloadable games and digital cameras, have reached sales volumes that make the PC industry envious. TiVo, combining digital recording and Internet-delivered TV scheduling, helped create the new viewing habit called time-shifting.

At this year's CES, one hot topic will be "place-shifting," the idea of transferring live TV broadcasts and other video content to cellphones, laptop computers, office PCs or other devices. TiVo, for example, Monday formally announced a long-awaited service called TiVoToGo. It lets some models of its hardware transfer recorded TV programming over a home network to PCs or laptops -- with restrictions designed to limit transfers of shows to people in the same household.

Sling Media Inc., a closely held company in San Mateo, Calif., plans to begin selling a \$249 device this year that sits next to a TV and redistributes live video to any device connected to the Internet. Besides video from cable and satellite providers, the so-called Slingbox Personal Broadcaster passes along

signals from TiVo-style recorders or live images from video cameras. Sling CEO Blake Krikorian envisions users watching their home TV programming at their offices, in Internet-equipped cafés or on the move with cellphones.

Another start-up, Orb Networks Inc., has developed software that can transfer digital media from a home PC -- including live TV, if the computer has a tuner -- to other devices on the Internet. Orb plans to charge \$9.99 a month.

A third Silicon Valley company, AudioFeast, has devised a service that allows subscribers to download radio programming to portable music players. It plans to charge \$2.99 a month.

Sling, by contrast, is adamant about charging only for its hardware. "People are sick and tired of paying over and over again for the same content," Mr. Krikorian says.

Sling and Orb say they have discussed their business plans with media companies, which have generally viewed the idea of place-shifting as a favorable way to reach more consumer eyeballs. But copyright issues could present some hurdles.

Another start-up, Idetic Inc., took a different approach by striking revenue-sharing deals with program providers for a \$9.99 monthly service called MobiTV that puts TV programming on cellphones.

Bernard Gershon, senior vice president and general manager of ABC News's digital-media group, endorses the MobiTV approach. While reserving judgment on Sling and Orb, he notes that ABC sometimes doesn't have the rights to redistribute material such as clips of sporting events, and makes sure it negotiates such rights in material transferred to MobiTV. "Copyright issues can become very very problematic," he says.

Many consumers, of course, are still grappling with much more basic issues -- like getting a decent Internet connection. The question of whether they will adopt triple-play bundles is still open.

A Forrester survey on the concept, conducted last May and June, found that only 14% of U.S. households were interested in getting voice, video and Internet access from the same provider. About 8% of U.S. households already had such a triple-play service combination, with some 5.3 million receiving the combo from phone carriers and 3.1 million from cable carriers. The overwhelming lure was money, with consumers expecting an average monthly saving of \$14.79 over paying multiple companies, Forrester says.

Industry executives are more excited about revenue-enhancing services that aren't easily offered unless one company controls multiple services. They include unified voicemail services for both home and cellular phones, or systems to make it easy to program digital video recorders from a cellphone.

Forrester predicts that more consumers will eventually use a single broadband pipe. But that pipe will actually help serve two home networks: one will be a closed service for copyright-protected entertainment content, including high-definition video; the other would mirror the Internet, allowing consumers to move unprotected digital content around the house without restrictions, Forrester predicts.

It is the second, open network that is inspiring many executives in Silicon Valley, who are working to make the TV as open and programmable as PCs. "Yes, we're going to have cable and satellite programming, but there needs to be an open conduit for new applications and new content that we've never dreamed of to exist on the TV," says Daniel Putterman, president and CEO of Mediabolic Inc., a San Mateo, Calif., maker of software for consumer-electronics devices.

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