Channeling the Web: How to plug your TV into the Internet

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TV isn't supposed to be complicated. But just as we've finally sorted out the digital TV transition, another wave of technology is about to remake the lowly set once again.

This time it's a flood of new gadgets for connecting TVs to the Internet and tapping the river of online content.

Geeks have been talking about this "convergence" of TVs and the computer world for decades. About one in 10 U.S. households with home networks are doing this already, mostly by connecting PCs to the TV, according to research firm IDC.

To push this further into the mainstream, Apple, Google, Microsoft and other companies are charging in with new gadgets and services that make it easy and cheap enough for almost everyone to channel the Web on their TV.

What's happening is similar to what's happened to mobile phones over the past three years, according to Eric Kintz, vice president of Logitech, a device company that released the first GoogleTV set-top box this month.

"We see the TV as the next big platform that is ripe for change," he said.

A first step was getting widely available broadband and fast, reliable home-networking gear.

Movie studios and TV networks needed ways to instantly and safely deliver content online, which they're now doing with companies such as Netflix, Hulu and Amazon.com.

Meanwhile, a majority of U.S. households bought fancy new TVs in recent years and want to get more out of them. Early adopters have also come to expect the variety of content they find on their PC to be available on other screens, including their phone, their tablet computer - and their TV.

Tying all of this together are these new gadgets for connecting TVs to the Internet. They range from palm-size boxes that cost less than $100 to $1,600 flat-panel TVs with wireless computers built inside.

Really, the hardest part of channeling the Web on your TV is now sorting through these options.

AN ARRAY OF OPTIONS

Most of the new Internet TV devices are basically wireless adapters that connect a TV to a home network, using either Wi-Fi or wired connections. Apple, Roku, Sony, Western Digital and other brands recently introduced adapters ranging from $60 to about $130.

These devices don't record or store video. And, though they're designed to bring online TV and video content to TV sets, don't expect them to have the breadth of PC capabilities you're used to seeing.

Significantly, most of these devices don't have a browser, so you can't just move around the Web to sites with free video. Instead, they run a set of applications that connect you directly to online video stores and services that typically charge a monthly fee. Some also let you play content stored on PCs on your home network.

You can also buy a new TV that has the same streaming capability and Wi-Fi built right in. Most of the major TV makers offer this option, which may add $150 to $200 to the price of a set. The least expensive option here may be Vizio sets, which start about $500 for a 32-inch model and include a remote control with a slide-out keyboard. Eventually this could become a standard feature of TVs.

About 40 million of these "connected TVs" will ship this year and sales should triple by 2014, according to research firm DisplaySearch.

Some Blu-ray Disc players connect to the Internet and run applications such as Netflix. Newer TiVos also have this capability.

More advanced options include GoogleTV set-top boxes, which are basically little computers. They don't store content and need a separate cable box. But they have a browser and search features. GoogleTV software is also appearing in some Sony TV sets and Blu-ray players, but some reviewers have said the product isn't yet ready for prime time.

YOUR PC IS KEY

The most popular and flexible option remains the good old PC. Most versions of Windows include Media Center software, which records and plays TV shows and connects to Web video services. They also have a program guide that can blend broadcast and Web video offerings and make it easy to find and record programs. Companies such as Lenovo are even making paperback-sized media PCs that mount behind a TV and cost about $350.

Consumer-electronics companies are using Windows Media Center as the basis for simplified set-top boxes that will cost $200 to $250, but they won't be announced until January and may not go on sale until mid- to late 2011.

Newer video-game consoles also stream movies and TV shows. Netflix and other video services are available in high definition through the Xbox 360 and Sony PlayStation 3 and in lower definition through Nintendo's Wii.

There are geekier options. A San Francisco company called Boxee offers a new device that can access video services and content pulled from the Web. Several companies are selling adapters that wirelessly transmit video content from a PC to a TV set. Intel is the biggest player here, with a new technology called "WiDi" - for wireless display - which transmits whatever's on the screen of a properly equipped PC to a $100 receiver attached to a TV.

WHAT YOU'LL NEED

Before buying one of these gadgets, there are a few things to check. For instance, AppleTV and GoogleTV will connect only to TVs that have the secure connection system known as HDMI.

You'll also need a home network that's fast enough to handle video. Most of the new wireless adapters take advantage of the faster speeds of equipment meeting the 802.11n Wi-Fi standard, but may work with the slower but more common flavor, 802.11g.

If you don't want to install or upgrade a Wi-Fi network at home, you can extend a wired connection to the TV with the proper cables. Or you can get "powerline" devices that extend network access through home electrical wiring to the TV set, where they connect with an Ethernet cable. Kits cost under $100.

COSTS ADD UP

The cost is adding up, but you're just getting started. Next comes the service fees. This is important to keep in mind if you're hoping to use one of these devices to "cut the cable" and just stream content from the Web. This can be cheaper and more gratifying than paying for a digital cable plan. But you'll still be paying for at least one service.

You'll need fast broadband service from Comcast, Qwest, Frontier or some other provider. That may cost $40 per month or more. If you're into current TV shows, you'll probably end up subscribing to Hulu, a website operated by the major networks that's now charging $8 per month for full access. Streaming movies and shows from Netflix costs $9 per month.

Finding sports through an online source is a challenge. Some of the devices have a Major League Baseball application that lets you stream live, out-of-market games for about $100 per year. Other leagues will probably follow suit.

You'll also have to get creative to receive local channels. The easiest option is to add over-the-air broadcasts to your mix or continue paying for cable.

And, if you still think Web access means free content, don't get your hopes too high. Some cable channels, such as the Food Network, only provide snippets of their shows online now. Major networks are also blocking GoogleTV devices from accessing free content online that's otherwise available through a PC.

CLOSED SYSTEM

That highlights an underlying trend that could make some think twice about the apps coming to their TV screen.

Owners and producers of premium content - TV shows and movies - are nudging the electronics industry toward a closed-garden model, with secure connections between your screen and their servers. This not only prevents illegal copying, but also gives the content owners more precise information about your viewing for advertising and subscription plans.

Content owners also will sell more ads if people shift from recording and storing video libraries at home - on tapes, DVRs and PCs - to streaming, online video. Networks can sell a fresh ad every time you view a favorite show or movie. The streaming systems are also designed so you can't skip past the ads.

In one sense, this new technology is a return of the old broadcasting model. Consumers will tune in to a network, which will beam a show onto their set. Networks can bypass cable networks this way, although companies such as Comcast will still provide the broadband.

Consumers will have more alternatives and choose when to watch their shows, but they won't take possession of the content on a videotape or DVR. They'll pay for a viewing opportunity, through ads, access fees or both.

The majority of people may be pleased with these changes. Instead of scheduling and managing recordings or going to a video store, they'll just point the remote toward the Web, pay a little bit and get what they want, when they want it.

It's almost enough to make everyone forget that the major networks all started broadcasting their shows in high definition free, over the air, last year.

All we need now is something decent to watch.