

# Cisco: Video Is the Keystone to the Internet

“Visual networking” brings the interactive capabilities of the Internet to TV while delivering TV and movie content to other devices.

**F**ollowing are excerpts from a podcast by Bob McIntyre, chief technical officer for Cisco’s Service Provider Technology group, made during the 2008 International Consumer Electronics Show.

We like the term visual networking because it captures the concept that people are not just simply watching “TV” anymore, and that video is now becoming the keystone to the Internet and other communications and entertainment services. A TV service provider, such as a cable company like Comcast or a “phone” company like AT&T, now offers multimedia TV services that can tie together with all kinds of other content and devices. At the center of all those services is video. We’re really at the beginning of this exploration as more and more TV service providers use Internet protocol technologies to run their video networks.

By tying TV video with Internet-based networks, it is much easier for TV service providers to offer such things as video on demand and digital video recording so people can watch what they want, when they want. Plus, these companies are also providing new ways people can bring all the great content from the Internet to the TV, so you can use your plasma screen TV to watch your favorite YouTube video or perhaps show off your latest family photos to relatives.

Obviously, the personal computer is a preferred way to view or use certain multimedia applications, but the TV is the source for high-quality video. Multi-player gaming, for example, is a natural for the larger screens and higher quality of the TV set. Another example of visual

networking might be an integrated chat program that the fans of a certain TV program could use while watching their favorite show.

As we’ve seen from some of the Web 2.0 and social networking activities, you never know what will catch on. So for the new generation of TV service providers, it’s vital for them to not only offer high-quality movies and programming but to also help their customers connect that video content to all kinds of other electronic devices, Internet applications, and multimedia content. So that’s what visual networking is all about. People

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love the Internet but they also love their TV, and as we are seeing, video is really the “killer app” that is bringing the two worlds together. They keep wanting more and more of this. We’re going to give it to them.

## WHY SERVICE PROVIDERS ARE STILL RELEVANT

In a word: quality. Delivering large screen video – especially high-definition

programming – is seriously demanding. We consider it tenfold more technically challenging than running VoIP networks. So simply plugging your broadband connection into your TV set is not enough to create a satisfying experience for most people. The public Internet does not offer big enough pipes to the home and, more importantly, it lacks the specialized and sophisticated mechanisms necessary to carefully prepare and escort these signals as they travel the network. You simply can’t deliver high-quality video by any other means. Only major service providers can deliver that. At the same time, these TV service providers are also the ones offering the broadband connections to the Internet. They are working hard at building even bigger pipes so people can get all the content they want from the Net. Then, by combining these two services, these companies are at the center of visual networking.

HDTV takes roughly five times as much bandwidth as a standard-definition digital signal. So these TV networks need as much bandwidth as they can get. That’s where we come in with our state-of-the-art routers and switches, which are really supercomputers for visual networking. But brute bandwidth is not enough. As mentioned, high-definition video networks have to be carefully managed to ensure the impeccable quality of the images and the dependability of the service. All those tricks of quality of service are something that can best be done in the network.

So that takes care of the part about getting the video to the home. But now-

days people are also interested in doing a lot more than just channel surfing. They want to have control of when and where they watch their favorite shows. So our networking technologies are helping TV service providers tap the power of the Internet to provide on-demand viewing, digital video recording, and interactive services, including links to personal computers and other electronic devices in the home.

#### **THE GATEWAY: "A FRIENDLY TROJAN HORSE"**

We've been talking to our customers – TV service providers – who help us prioritize where we put our resources. Several things have come out of that that are pretty interesting. One concept is the "gateway." Many people now have a modem in their homes to provide broadband services. But that's been an island unto itself. That broadband link really only connects to your PC. So we've been working with service providers to

*Residential gateways will help connect the Internet and all its content and services with the TV, music players, gaming consoles and other devices in the house.*

develop a type of product that not only takes care of the broadband connection but also helps connect that Internet link with all kinds of other devices in the house, including the TV, music players, gaming consoles and much more. Our first gateway products will be rolled out in early 2008. The ultimate aim of the gateway is to make it easier for people to connect the Internet and its myriad of content and services to all of their devices in the home.

The gateway is very appealing to TV service providers. It's sort of a friendly Trojan Horse. Because once the gateway is installed, it gives the service provider the means to offer a far greater variety of entertainment and communication services. So that's one concept that's come to the forefront over the last 12 months.

The other concept that's come up is the hybrid set-top box: a hybrid visual networking experience that would allow service providers to not only bring analog channels, digital channels, high-definition channels, and video-on-demand services to the TV set [but] would also allow TV viewers access to streaming video from various types of Web sites. This content could be delivered both to the PC and the TV.

We like to think of telecommunications companies as "experience" providers rather than a phone company, a cable company, or a broadband provider. All of these worlds are coming together. The trick these days is to make these various options simple and fun to use. **BBP**



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