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## Technology

# Peer Play

Quentin Hardy and Evan Hessel 03.26.07

### **Web downloads and P2P traffic consume 75% of the Internet. Much of that's still illegal.**

Technology veteran Edward Kozel has a simple philosophy about a scourge of the Internet--the peer-to-peer networks that let millions of users illegally swap pirated movies, songs and software: If you can't beat 'em, make a buck off 'em.

"LimeWire, Edonkey, Ares, BitTorrent--we want to commercialize them all," Kozel says. "I hope we can get rich and make a lot of money." His company, Skyrider, makes money by loading ads onto these rogue networks, and he has signed up Lions Gate studio to pump legally authorized content through the systems, as well. Kozel, an 18-year veteran of Cisco Systems, can choose from dozens of thriving peer-to-peer (P2P) networks, and they now churn out almost 40% of all Net traffic, says Ellacoya Networks, a firm in Merrimack, N.H. that sells hardware to track network usage.

P2P networks emerged suddenly and infamously a decade ago with the rise of the Napster song-swapping service. The music industry managed to run it out of business by taking them to court. These days, however, P2P is going legit, winning fans for its sleek and powerful design and drawing programmers and hungry entrepreneurs eager to build businesses around the swapping services.

A legal music and movie site called ArtistDirect aims to reap profits by selling data on what movies and songs are swapped the most and in which regions--and by charging content producers to thwart pirate networks by clogging them up with bogus and flawed files. Elsewhere a Web TV service called MediaZone is using peer-to-peer technology to get Bollywood sitcoms, a nightly news show from Mongolia and prime-time fare aired in China to expats in the U.S.

BitTorrent, a superfast download service installed on 135 million computers, once was derided as a web of online thieves. Now its creators have launched a new Web video network for TV shows and movies zapped at a few bucks apiece--all of it entirely legal. And the founders of Kazaa, another infamous peer-swapper, have launched a legal outlet called Joost.

These nascent firms make up a sliver of the \$2 billion digital entertainment market, but already they are allying with Hollywood partners who once cursed the underlying technology as parasitic.

P2P networks can move large files (like movies) faster than traditional server-based networks, because they harness the unused power of millions of PCs. Unlike traditional networks, in which PCs must communicate through central server computers, P2P networks let users communicate directly with one another. Just download a bit of software and you can swap files with anyone else who has done the same. The lack of any central computer server makes it all but impossible to wipe out illegal copies. Stomp out one bad guy and a hundred more take his place.

Skyrider's Kozel figures he is better off surfing the P2P wave than struggling against it. He started Skyrider, oddly enough, to create technology to disrupt the open-source P2P networks. His software uses sophisticated packet inspection and statistical modeling techniques to take snapshots of what moves across the continually changing network of PCs. When Skyrider figures out what content is going where, it can prevent downloads.

One problem: No one wanted to buy that service. "There are only a small number of customers for antipiracy, and they pay 80 cents of every dollar for lawyers, 20 cents for technology," says Kozel, who joined Cisco in 1989 as its first head of business development and rose to chief technology officer before quitting, exhausted, in 2001. He was a board member of a packet analysis company called Narus and, a year after two Narus engineers left to start Skyrider, he joined them as chief executive in 2005.

Finding few takers for the antipiracy software, Kozel crafted a new pitch: Skyrider's antipiracy technology also could be used to track what users are searching for, letting sponsors woo them with targeted advertising. Last June he re-launched, pitching Skyrider as a search advertising vehicle. "LimeWire has 20 million people a day looking for music and television shows, mostly men between 14 and 30 years old," he says. "Someone searches for 'Madonna,' you can sell them ringtones. You can tell what bands are popular in what parts of the country and plan where to tour."

Skyrider also has been paid to load studio content, like rap videos bracketed with ads, onto unauthorized networks. Skyrider just joins the network, same as anyone else, and starts offering up content--only its stuff comes with ads attached.

At ArtistDirect, in Santa Monica, Calif., the staff is exploring ways to make money off P2P. It is experimenting loading songs and music videos (the legal kind) onto the networks. At the same time, it earns money trying to disrupt the illegal file-sharing channels.

The firm in 2005 spent \$42.5 million to acquire the main vehicle for this antiservice, MediaDefender. It is hired by movie studios such as Sony Pictures and Universal and videogame publishers such as Activision to spew garbage, like partial or corrupted files, onto P2P nets and wreck the user experience.

"We're protecting all the major record labels, Hollywood studios and Microsoft," says Jon Diamond, who owns ArtistDirect, with revenue of \$20 million or so last year.

BitTorrent started out in 2001 as snazzy software for vastly faster downloads, designed by Bram Cohen, a freelance programmer in Berkeley, Calif. In 2004 Cohen formed a company by the same name—to sell legal downloads of films and TV series from the libraries of MGM, Warner Bros., Paramount and Fox in an iTunes-like online store. BitTorrent will sell permanent downloads of TV shows like *24* and *South Park* for \$2 and temporary copies of movies for \$3 to \$4.

"We've got 3,000 movies, a thousand games and a thousand music downloads—all legal. Illegal content will be shut out of this site," says President Ashwin Navin, a former Yahoo executive who cofounded the company with Cohen in San Francisco. He predicts legit P2P systems like his will overwhelm rogue networks such as LimeWire and Edonkey.

Web entrepreneur Michelle Wu started tinkering with P2P as a means for distributing not just recorded video files but live broadcasts. Chinese-born Wu moved to the U.S. in 1990 to obtain a physics doctorate at Princeton. In 2004 she was hired by the South African media conglomerate Naspers to build ChinaPortal, an online video site catering to Chinese citizens living abroad.

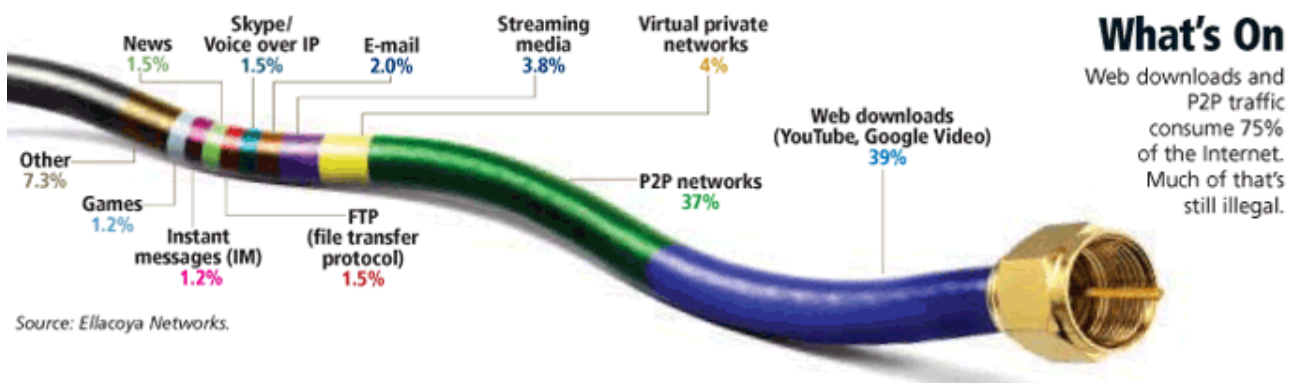
Thousands of Chinese expats signed on for \$10 monthly subscriptions. In 2005 Wu renamed the outfit MediaZone and expanded to an array of international sports and entertainment sites. She hired a dozen software engineers to build a P2P network mimicking China's popular illegal file-sharing services. MediaZone's network transmits a video feed in 30-second chunks to a group of a few dozen viewers, who relay the feed in parts to other fans.

Broadcasts include international sporting events such as the Mavericks big-wave surfing contest from Half Moon Bay, Calif., South African rugby games and Pakistani cricket matches. Wu purchases an event's broadcast rights for certain geographic markets and sells subscriptions for \$5 to \$25 per event. Last year fans paying as much as \$25 watched 300,000 live streams of Wimbledon matches carried by MediaZone.

In February P2P got another dose of legitimacy when media giant Viacom signed a deal to distribute TV shows and movies over Joost, a P2P video network created by Niklas Zennstrom and Janus Friis, the founders of Kazaa (file sharing) and Skype (Voice over Internet). Viacom will use Joost to revive defunct cult favorites such as MTV's *Beavis and Butthead* and Comedy Central's absurdist sitcom *Stella*.

Though still in limited-access test mode, Joost boasts near-DVD picture quality, rare in Web video, and posts as little as a minute of advertising per hour of programming. Zennstrom and Friis hope to charge high enough rates to make up for the limited number of ads, because spots will be targeted to users by geography, demographics and cultural tastes.

Back at Skyriider in Mountain View, Calif., Koziel sees big opportunity and a sea change ahead. "Peer-to-peer will have the same effect on the Internet that the World Wide Web did," he maintains. "It is going to strip away a lot of costs and add a lot of capabilities."



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