Patenting Air or Protecting Property?
Information Age Invents a New Problem

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Universities, corporations and tens of thousands of Web site providers across the country probably never imagined they would be rooting for the pornography industry.

But millions of their dollars could be riding on a court fight between a coalition of Internet video-porn providers and a small California research firm, which early this year began enforcing the eye-opening claim that it owns the patents on how most audio and video is sent over the Internet.

Acacia Research Corp. started by targeting dozens of adult entertainment companies, demanding royalties of as much as 4 percent of their revenue from audio and video streaming. Now the firm is seeking fees from universities that use Web video for remote learning, from companies that serve up movies to hotel rooms, from cable and satellite providers, and from major streaming-media companies such as RealNetworks Inc. and America Online Inc.

"It's pretty much the sky's the limit as to where the impact might fall," said a chagrined John H. Payne, director of educational technologies at the University of Virginia's division of continuing education, which uses online video for lectures and courses. "It's like patenting air."

The Acacia case highlights why a growing chorus of corporate and government officials is warning that the U.S. patent system is broken, threatening to stunt technological innovation.

They argue that an overwhelmed U.S. Patent and Trademark Office is simply approving too many dubious and overly broad patents, especially in the software and Internet realms.

The potential result: a digital world carved up into so many pieces that it loses its power to easily link people, communities and ideas.

The country "needs to revamp not just the patent system, but the entire system of intellectual property law," said Andrew S. Grove, chairman of Intel Corp. "It needs to redefine it for an era that is the information age as compared to the industrial age."

Critics hope that the impending departure of patent office Director James E. Rogan, whose resignation for personal reasons was announced Tuesday, might lead to consideration of a new approach.

Overall, the number of patents has nearly doubled since 1990, fueled in large measure by the high-tech boom. The patent office now has a backlog of 450,000 applications pending for all types of inventions; software and Internet-related patents account for more than 15 percent of all patents granted.

In recent months, several of those patents have spawned court disputes, involving such high-profile technology as Microsoft Corp.'s Internet browser, the BlackBerry e-mail device, and eBay Inc.'s online shopping system.
In a lengthy report released in October, the Federal Trade Commission bluntly questioned the rapid proliferation of patents, especially those covering high-technology advances.

"More patents in more industries and with greater breadth are not always the best ways to maximize consumer welfare," the report stated, summarizing months of public comment. "Many panelists and participants expressed the view that software and Internet patents are impeding innovation."

The National Academy of Sciences, an organization of top scientists that advises the government on science policy, has similar concerns and will release its own report next year.

Controversy has followed patents since the system was created in 1790. Patents are granted for inventions deemed unique, useful and non-obvious, and the system has periodically yielded curious inventions, such as a diaper for pet birds.

But these are viewed as exceptions to an otherwise successful system for encouraging innovation by granting inventors a temporary monopoly on their work.

Software and Internet patents, which the courts began allowing in the past 20 years, pose deeper problems, critics say.

Software patents, for instance, can protect a single line of code that tells a computer to do a specific task. This might include telling one computer program to activate another program.

Such narrow slicing of software development can hinder invention of fully formed technologies, which often are built on the work of others, critics argue.

Internet method patents, meanwhile, allow companies to protect broad ways of doing business on the Internet, rather than a specific product or its underlying technology. These controversial patents include Amazon.com's method of "one-click" shopping and the use of online shopping carts.

The two forms of patents have sparked an escalating patent war as companies use patents to extend and defend their turf.

Small firms have an increasingly difficult time breaking through patent "thickets" amassed by large firms. International Business Machines Corp., the world's patent leader, received 22,357 from 1993 to 2002 and earned roughly $10 billion in licensing fees from them.

"When you have so many competing property rights, the cost of clearing permissions is very large, and it becomes a greater and greater tax on what people can do," said Tim O'Reilly, whose O'Reilly & Associates Inc. publishes software books.

Bigger companies find themselves prey to clever entrepreneurs like the original owners of Acacia's digital media patents, who skillfully anticipate the direction of certain technologies and then quietly wait for someone else to commercialize a related product. If they guess right, they can demand lucrative licensing fees.

Intel's Grove derides such patent holders for showing little interest in producing goods with their inventions in favor of demanding licensing fees from others. "We call them trolls," he said.

Acacia's patents lay dormant for 10 years, until the original company was bought out by some of its minority investors. Management is now making it one of many companies specializing in the business of generating money from patents, rather than using them to develop products directly.

Robert A. Berman, general counsel for Acacia, said that many inventors and companies don't have the sophistication, expertise or money to commercialize their inventions.
"We provide a service," he said, noting that a handful of adult and other firms, such as LodgeNet Entertainment Corp., which provides movies in hotel rooms, have agreed to license Acacia's patents. "We take the risk. It's not an abuse of the patent process at all."

In addition to supporting calls for more patent-office funding, the FTC urged the office to increase the burden on applicants to justify getting patents, while at the same time making it easier for patents that have been granted to be challenged and possibly overturned.

"This is certainly more than just a resource issue," FTC Chairman Timothy J. Muris said in an interview. "We're talking about the questions the [patent office] asks."

Jon W. Dudas, deputy director of the patent office, responded that his agency was "very impressed" with the FTC recommendations on increased resources. The office's 21st Century Strategic Plan envisions a new procedure for challenging patents, Dudas said, although details have yet to be worked out.

But the agency is not contemplating developing new criteria for patent grants or treating industries differently, Dudas said, noting that the office is constrained by U.S. court decisions and international treaties.

"We're focused on making sure that we're kicking out the best quality patents," he said, adding that the office already requires a double layer of review for business-method patents. But he said the agency would need to hire 650 to 750 additional examiners each year for the next several years to its current roster of roughly 3,600 just to reverse the growing backlog of applications.

The agency, along with the business community, is pushing Congress to let the office keep all patent fees it collects, rather than diverting some of the revenue to the Treasury, to fund improvements to the review system.

R. Jordan Greenhall, chief executive of streaming media firm DivXNetworks Inc., agrees that resources are a significant problem.

But he argues that the philosophy behind patents -- that they provide incentive for innovation by granting a 20-year monopoly to the inventor -- falls apart in the software and Internet arenas.

Greenhall argues that the cost of software innovation is lower than in other industries and noted that extensive software invention occurred well before the courts first allowed software patents.

If nothing else, Greenhall said, 20-year patents on software, which quickly becomes obsolete, are "asinine to the point of ludicrosity."

The alarm over patents comes as a string of high-profile court cases have stung corporations that provide popular consumer technologies.

Microsoft, eBay and Research In Motion Ltd., maker of the popular BlackBerry wireless e-mail device, all are appealing court orders to pay damages for patent infringement to small firms.

In many of these cases, including the Acacia dispute, the patents are being challenged on the grounds that the patent office missed examples of "prior art" that would invalidate the patents because they were not original.

Those that survive will be held up by some in the patent community as examples of the system working to benefit the small inventor.

"People who are asked to pay for patents they infringe always whine about it," said Nathan Myhrvold, former chief technology officer of Microsoft, who now runs a private company that is inventing technologies, acquiring some patents and buying others.
"We've seen all this before," adds Marshall C. Phelps Jr., Microsoft's recently named deputy general counsel in charge of intellectual property. Phelps, who joined Microsoft recently after spending 28 years helping IBM become the world's top patent acquirer, said that new technologies are always born and that the system always adapts over time.

The key, he said, is to improve the quality of the patents issued.

But to critics, the system is used primarily by big companies to shake down the little guy, and they are even suspicious of some of those now calling for reform.

"Those of us who work with emerging technologies have been living with this," said Silicon Valley attorney Gary L. Reback, who often represents start-ups in battles against large, entrenched competitors. "But it has gotten so badly out of control that companies the size of Intel are beginning to be disadvantaged."

Reback often tells the story of how a team of IBM patent lawyers went to Sun Microsystems Inc. in the 1980s and claimed that the then start-up was infringing on seven of its patents.

After Sun engineers explained why they were not infringing, the IBM lawyers responded that with 10,000 patents, they would be sure to find some infringement somewhere, Reback says.

Instead, Reback said in a 2002 Forbes magazine article, IBM said Sun could "make this easy and pay us $20 million." After some negotiation on the amount, Sun cut a check.

Jerry Rosenthal, IBM's vice president of intellectual property, denied that the incident occurred the way Reback described. He said IBM supports several improvements in the patent process, including additional challenge procedures.

"But we need to get off this issue of too many patents," he said. "It's the quality of patent." That view is generally shared by the powerful community of patent lawyers. The American Intellectual Property Law Association also supports increasing patent application fees to provide more resources to the patent office.

Gregory Aharonian, publisher of a widely read patents newsletter, said that companies could have pushed long ago for improvement at the patent office.

Instead, they tend to benefit more from low-quality patents than the occasional entrepreneur who might come along and shut them down.

Aharonian thinks software and Internet patents are legitimate. The problem, he said, is that most of those that are granted shouldn't be.

What's needed is much more rigorous research into prior art, and higher standards.

"I would love it if Intel would give me one of its buildings" to build a patent research facility. "I'd buy all the old user manuals; that would be very useful. Just give me one week's worth of Andy Grove's stock options."

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