

## **Exhibit 4**

## Planet Money Blog

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This American Life

### When Patents Attack

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*Update, July 26: This story from Planet Money's Alex Blumberg and NPR's Laura Sydell aired this weekend on This American Life. (Check out TAL's "Ways to Listen" page to find how you can hear the story.) A shorter version of the piece is also airing today on All Things Considered. Here's the story.*

Nathan Myhrvold is a genius and a polymath. He made hundreds of millions of dollars as Microsoft's chief technology officer, he's discovered dinosaur fossils, and he recently co-authored a six-volume cookbook that "reveals science-inspired techniques for preparing food."

Myhrvold has more than 100 patents to his name, and he's cast himself as a man determined to give his fellow inventors their due. In 2000, he founded a company called Intellectual Ventures, which he calls "a company that invests in invention."

But Myhrvold's company has a different image among many Silicon Valley insiders.

The influential blog Techdirt regularly refers to Intellectual Ventures as a patent troll. IPWatchdog, an intellectual property site, called IV "patent troll public enemy #1." These blogs write about how Intellectual Ventures has amassed one of the largest patent portfolios in existence and is going around to technology companies demanding money to license these patents.

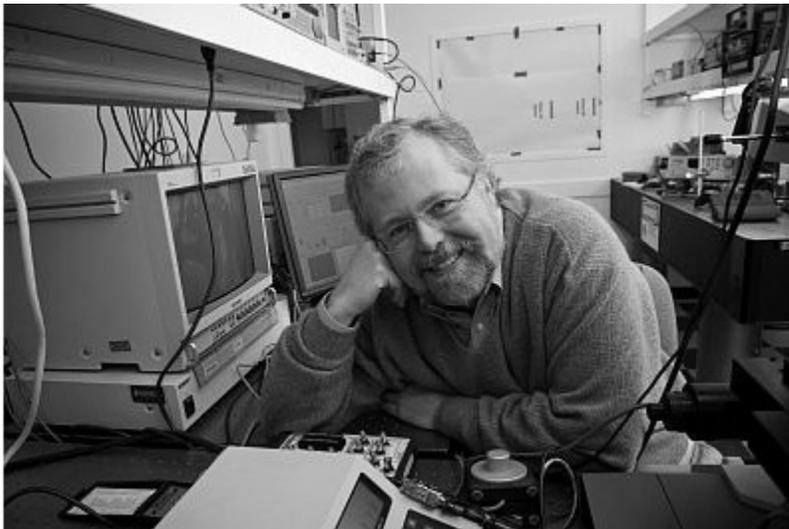
Patents are a big deal in the software industry right now. Lawsuits are proliferating. Big technology companies are spending billions of dollars to buy up huge patent portfolios in order to defend themselves. Computer programmers say patents are hindering innovation.

But people at companies that have been approached by Intellectual Ventures don't want to talk publicly.

"There is a lot of fear about Intellectual Ventures," says Chris Sacca, a venture capitalist who was an early investor in Twitter, among other companies. "You don't want to make yourself a target."

Sacca wouldn't say if Intellectual Ventures had been in contact with any of the companies he's invested in.

"I tried to put you in touch with other people in this community to talk to you about this and they almost uniformly said they couldn't talk to you," Sacca told us. "They were afraid to." IV has the power to "literally obliterate startups," Sacca says.



Dan Lamont/ZUMA Press

Not surprisingly, Nathan Myhrvold (pictured above) has a very different story about Intellectual Ventures. When we ask him if IV is a patent troll, he laughs.

"That's a term that has been used by people to mean someone they don't like who owns patents," he says. "I think you'd find almost anyone who stands up to their patent rights has been called a patent troll."

Intellectual Ventures, says Myhrvold, is just the opposite. It's on the side of the inventors. It pays inventors for patents. It gathers patents together into a huge warehouse of inventions that companies can use if they want. It's sort of like a department store for patents: Whatever technology you're looking for, IV has it.

The company even has its own massive lab, with people walking around in white lab coats, mixing chemicals in beakers and looking at stuff under microscopes. There's a machine shop. A nanotechnology section. It's like a playground for scientists and engineers.

IV says it has invented a nuclear technology that's safer and greener than existing technologies. A cooler that can keep vaccines cold for months without electricity. And the world's most high-tech mosquito zapper.

But the lab is a tiny fraction of what IV does. The company has received about 1,000 patents on stuff it's come up with at the lab; it's purchased roughly 30,000 patents from other people. In fact, nothing that's come out of this lab — not the mosquito zapper, not the nuclear technology — has made it into commercial use.

IV, for its part, says its job is to encourage invention, not to bring products to market.

Imagine an inventor out there — someone with a brilliant idea, a breakthrough. This inventor has a patent, but companies are stealing his idea. And this inventor doesn't have the money or legal savvy to stop them. That's where IV comes in. It buys this inventor's patent, and it makes sure that companies who are using the idea pay for it.

When we asked for an example of an inventor in this situation, someone with a breakthrough, who wasn't getting paid for it, two separate people at IV pointed us to a guy named Chris Crawford.

Joe Chernesky, a vice-president at Intellectual Ventures, said:

The neat thing about Chris is he had no idea how to get money for his patents. He had this great idea. These patents were immensely valuable because every technology company was adopting the technology. Yet he didn't know how to get paid. He eventually found Intellectual Ventures. So we bought those patents

So we went to talk to Chris Crawford. But that turned out to be harder than we thought — and it led us on a five month journey, where things did not quite fit the story Intellectual Ventures was telling.

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When we followed up with IV to get Chris Crawford's contact info, the company told us it no longer owned Chris Crawford's patent. And Crawford probably wouldn't

want to talk right now anyway, the company said, because he was in the middle of litigation.

We started digging around and found Chris Crawford in Clearwater, Florida. As predicted, he never responded to our many emails and phone calls. You'll never hear from him in this story. But we were able to locate Chris's patent — number 5771354.

He got it in 1998. And the way IV explained the patent to us, Chris Crawford invented something that we do all the time now: He figured out a way to upgrade the software on your home computer over the Internet. In other words, when you turn on your computer and a little box pops up and says, "Click here to upgrade to the newest version of iTunes," that was Chris Crawford's idea.

But when we looked at the patent, it seemed to claim a lot more than that. The name of the actual invention is "an online back-up system." The patent says this invention makes it possible to connect to an online service provider to do a bunch of stuff — software purchases, online rentals, data back ups, information storage. The patent makes it seem like Chris Crawford invented a lot of the most common things we do on the Internet.

We weren't sure what to make of all this, so we went to see David Martin, who runs a company called M-Cam. It's hired by governments, banks and business to assess patent quality, which the company does with a fancy piece of software. We asked Martin to assess Chris Crawford's patent.

At the same time Crawford's patent was being prosecuted, more than 5,000 other patents were issued for "the same thing," Martin says.

Crawford's patent was for "an online backup system." Another patent from the same time was for "efficiently backing up files using multiple computer systems." Yet another was for "mirroring data in a remote data storage system."

And then there were three different patents with three different patent numbers but that all had the same title: "System and method for backing up computer files over a wide area computer network."

Martin says about 30 percent of U.S. patents are essentially on things that have already been invented. In 2000, for example, the patent office granted a patent on making toast — patent number 6080436, "Bread Refreshing Method."

We also asked Rick McLeod, a patent lawyer and former software engineer, to evaluate Chris Crawford's patent.

"None of this was actually new," he told us.

McLeod looked to see if anyone else in the field was already doing the thing Chris Crawford claimed to invent in 1993, when he first filed his patent. Here's what he found:

There were institutions, both academic and businesses, that used computers in this way, and I think it's a very interesting collection of things that were well known in the 1980s, with the exception that it adds the word "Internet."

McLeod said he didn't think the patent should have been issued in the first place.

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For a long time, the patent office would have agreed with Rick McLeod. For a long time, the patent office was very reluctant to grant patents for software at all.

For decades, the patent office considered software to be like language. A piece of software was more like a book or an article. You could copyright the code, but you couldn't patent the whole idea.

In the 1990s, the Federal courts stepped in and started chipping away at this interpretation. There were a couple big decisions, one in 1994 and another in 1998, which overturned the patent office completely.

A flood of software patents followed. A lot of people in Silicon valley wish that had never happened, including a very surprising group: computer programmers.

"I worked on a whole bunch of patents in my career over the years and I have to say that every single patent is nothing but crap," says Stephan Brunner, a programmer.

Brunner says software patents on his own work don't even make sense to him.

I can't tell you for the hell of it what they're actually supposed to do. The company said we have to do a patent on this. ... Personally, when I look at them, I'm not proud at all. It's just like mungo mungo jumbo that nobody understands and makes no sense from an engineering standpoint whatsoever.

(For the record, Stephan Brunner has a patent for a "configurator using structure and rules to provide a user interface.")

We met Stephan randomly one afternoon in South Park, a park in San Francisco where lots of tech people eat lunch.

That same afternoon, we talked to a half dozen different software engineers. All of them hated the patent system, and half of them had patents in their names that they felt shouldn't have been granted. In polls, as many as 80 percent of software engineers say the patent system actually hinders innovation. It doesn't encourage them to come up with new ideas and create new products. It actually gets in their way.

Many patents are so broad, engineers say, that everyone's guilty of infringement. This causes huge problems for almost anyone trying to start or grow a business on the Internet.

"We're at a point in the state of intellectual property where existing patents probably cover every behavior that's happening on the Internet or our mobile phones today," says Chris Sacca, the venture capitalist. "[T]he average Silicon Valley start-up or even medium sized company, no matter how truly innovative they are, I have no doubt that aspects of what they're doing violate patents right now. And that's what's fundamentally broken about this system right now."

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This brings us back to Chris Crawford's patent, the patent Intellectual Ventures cited as an example of how they encourage innovation by ensuring that inventors get paid. As we've said, this patent also seems to cover a big chunk of what happens on the Internet: upgrading software, buying stuff online, and what's called cloud storage. If you have a patent on all that, you could sue a lot of people.

And, in fact, that's what's happening with Chris Crawford's patent. Intellectual Ventures sold it to a company called Oasis research in June of 2010. Less than a month later, Oasis Research used the patent to sue over a dozen different tech companies, including Rackspace, GoDaddy, and AT&T.

We called Oasis several times, but no one ever answered the phone. For a while, the company's voice mail message directed all questions to John Desmarais , a lawyer in New York.

He didn't return our phone calls, but we did track him down at an intellectual property conference in San Francisco.

He cited attorney-client privilege, and wouldn't tell us anything — not even who owns Oasis Research. (He did say he's a big fan of NPR.)

There was hardly any public information about Oasis Research. No way to know who owned it, or how many employees it had.

One of the few details that was available was an address: 104 E. Houston street, suite 190, Marshall, Texas.

So we went to Marshall. The door to Oasis's office was locked, and through the crack under the door we could see there were no lights were on inside.

It's kind of a cliché to knock on the door of the empty office. But we'd flown a long way. So we knocked. No one answered.

The office was in a corridor where all the other doors looked exactly the same — locked, nameplates over the door, no light coming out. It was a corridor of silent, empty offices with names like "Software Rights Archive," and "Bulletproof Technology of Texas."

It turns out a lot of those companies in that corridor, maybe every single one of them, is doing exactly what Oasis Research is doing. They appear to have no employees. They are not coming up with new inventions. The companies are in Marshall, Texas because they are filing lawsuits for patent infringement.

Patent lawsuits are big business in Marshall, which is part of the eastern district of Texas.

Many people say that juries in Marshall are friendly to patent owners trying to get a large verdict. A local lawyer who has argued on both sides of numerous patent cases says it's actually because cases go to trial more quickly in Marshall than in other places.

In any case, thousands of lawsuits are filed there, claiming that there's an inventor whose invention is being used without permission. But there are no inventors in Marshall, just corridors of empty offices.

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We did find one key detail about Oasis Research. It was in a legal document called a Certification of Interested Parties, which lists all the entities with a financial interest in Oasis. Tom Ewing, an intellectual property lawyer who makes a business of tracking IV, brought it to our attention.

The Oasis document lists the usual parties — the plaintiff, the defendants, the attorneys involved. But it also includes one other name: Intellectual Ventures.

Peter Detkin, an attorney who co-founded Intellectual Ventures with Nathan Myhrvold, told us that IV likely has a "back-end arrangement" with Oasis.

In other words, Detkin said, "We sell for some amount of money up front, and we get some percentage of the royalty stream down the road that is generated from these assets."

That means it's likely that Intellectual Ventures is taking a cut of whatever money Oasis gets from its lawsuits. Oasis is a company with no operations, no products, and, as far as we can tell, no employees, that is using a very broad patent from 1998 to sue over a dozen companies.

As it happens, Detkin is the man who coined the term "patent troll." He came up with it back in in 1999, when he was working for Intel.

We asked him how it feels to make money from an entity that's behaving much like the patent trolls he once condemned. He said:

These are patents we used to hold, we no longer hold. And we ensure that we have no control over the actions of these third parties. They are independent actors. They are not Intellectual Ventures. They may be monetizing in ways we disagree with, but it's not our call.

...we believe in our heart that litigation is a highly inefficient way to do licensing. But let's not lose sight that litigation is just licensing by other means.

In other words, we try to license these patents in a friendly way. But sometimes, you have to sue. Detkin then repeated the company line we heard from a lot of people at IV: The mission of Intellectual Ventures is to help inventors bring great ideas into the world.

We asked if he could point us to a patent that was languishing, but then got licensed and built.

"There were two deals that were done," he said. "One was with a toy company. The other was... I can't remember the technology, it was out there last Christmas, but I don't know how it's done."

He continued:

The fact is the bulk of our patents, the bulk of our revenue is from people ... [who] were using it before we bought it, they were using it after we bought it, but we provided an efficient way for them to get access to the invention rights.

This is a good thing, Detkin says, because it means inventors — the people who hold the patents — get paid. This, in turn, creates an incentive for people to come up with new inventions.

But IV is not buying inventions. It's buying patents. And most software engineers will tell you, at least when it comes to software, a patent and an invention are not the same. Lots of patents cover things that people who write software for a living wouldn't consider inventions at all.

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All the big tech companies have started amassing troves of software patents — not to build anything, but to defend themselves. If a company's patent horde is big enough, it can essentially say to the world, "If you try to sue me with your patents, I'll sue you with mine."

It's mutually assured destruction. But instead of arsenals of nuclear weapons, it's arsenals of patents. And this was a problem Intellectual Ventures founder Nathan Myhrvold said he was trying to solve when he first started the company. A problem that he and others from his company talked about at investor meetings around Silicon Valley. Chris Sacca attended one of those meetings a few years back.

The pitch he heard was, basically, Intellectual Ventures helps defend against lawsuits. Intellectual Ventures has this horde of 35,000 patents — patents that, for a price, companies can use to defend themselves.

Technology companies pay Intellectual Ventures fees ranging "from tens of thousands to the millions and millions of dollars ... to buy themselves insurance that protects them from being sued by any harmful, malevolent outsiders," Sacca says.

There's an implication in IV's pitch, Sacca says: If you don't join us, who knows what'll happen?

He says it reminds him of "a mafia-style shakedown, where someone comes in the front door of your building and says, 'It would be a shame if this place burnt down. I know the neighborhood really well and I can make sure that doesn't happen.' "

Sacca continues:

Here's what's funny: When I've seen Nathan speak publicly about this and when I've seen spokespeople from IV they constantly remind us that they themselves don't bring lawsuits, that they themselves aren't litigators, that they are a defensive player. But the truth is the threat of their patent arsenal can't actually be realized, it can't be taken seriously, unless they have that offensive posture, unless they're willing to assert those patents. And so it's this very delicate balancing act that is quite reminiscent of scenes you see in movies when the mafia comes and visits your butcher shop and they say, "Hey, It would be a real shame if they came and sued you. Tell you what: pay us an exorbitant membership fee into our collective and we'll keep you protected that way." A protection scheme isn't credible if some butcher shops don't burn down now and then.

In an email to us, Peter Detkin called the comparison to the mafia "ridiculous and offensive." Detkin wrote:

We're a disruptive company that's providing a way for patent-holders to recognize value that wasn't available before we came on the scene, and we are making a big impact on the market. That obviously makes people uncomfortable. But no amount of name-calling changes the fact that ideas have value. (See Detkin's full response here.)

True enough. But you can see why many people feel like lots of butcher shops have been burning. As we were reporting this story, more and more Intellectual Ventures patents started showing up in the hands of companies like Oasis, companies without employees or operations, that were formed for the purpose of filing lawsuits. They're known as non-practicing entities, or NPEs.

One former IV patent was used by an NPE to sue 19 different companies, a broad assortment that included Dell, Abercrombie & Fitch, Visa, and UPS.

These companies all have websites where, when you scroll your mouse over certain sections, pop-up boxes appear. The NPE said, "We have the patent on that." Which would make pretty much the entire Internet guilty of infringing the patent.

Another group of former IV patents is being used in one of the most controversial and talked about cases in Silicon Valley right now. An NPE called Lodsys is suing roughly three dozen companies developing apps for the iPhone and for Android

phones. Lodsys says it owns the patent on buying things from within a smartphone app.

One interesting wrinkle about that case: The address for Lodsys is 104 E. Houston street, Marshall Texas, suite 190. The same exact address, down to the suite number, as Oasis Research.

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For this story, we called people who had licensing arrangements with IV, we called people who were defendants in lawsuits involving IV patents, we called every single company being sued by Oasis Research. No one would talk to us.

Part of this is probably fear. Part of it is the fact that agreements with Intellectual Ventures include a non-disclosure agreement that's rumored to be the strictest in Silicon Valley.

The Oasis Research case is still ongoing, but many of the original defendants seem to have settled.

Michael Smith, the attorney in Marshall, Texas, represented one of those defendants. He was pretty sure they would have won the case if they'd gone to trial. But his client settled anyway. He says sometimes it makes more sense to settle and pay a license fee than to spend \$2 million to \$5 million on a court case.

Tom Ewing, the lawyer who tracks Intellectual Ventures, says it's likely we'll see plenty more of these cases in the future. In order to purchase its 35,000 patents, Intellectual Ventures raised more than \$5 billion from investors.

Since its founding in 2000, Intellectual Ventures has generated \$2 billion in revenue. But to keep its investors happy over the next 10 years, Ewing says, it's going to have to do a lot better than that:

"Intellectual Ventures seems to have signed a number of deals," Ewing says. "If the stream of deals they're signing doesn't increase significantly, I imagine they would be forced to file more litigation, in order to achieve their revenue targets."

Ewing's prediction already seems to be coming true. Earlier this month, Intellectual Ventures itself filed a lawsuit in federal court against several companies it claimed were infringing some semiconductor patents it owns.

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In early July, the bankrupt tech company Nortel put its 6,000 patents up for auction as part of a liquidation. A bidding war broke out among Silicon Valley powerhouses. Google said it wanted the patents purely to defend against lawsuits and it was willing to spend over \$3 billion to get them. That wasn't enough, though.

The portfolio eventually sold to Apple and a consortium of other tech companies including Microsoft and Ericsson. The price tag: \$4.5 billion dollars. Five times the opening bid. More than double what most people involved were expecting. The largest patent auction in history.

That's \$4.5 billion on patents that these companies almost certainly don't want for their technical secrets. That \$4.5 billion won't build anything new, won't bring new products to the shelves, won't open up new factories that can hire people who need jobs. That's \$4.5 billion dollars that adds to the price of every product these companies sell you. That's \$4.5 billion dollars buying arms for an ongoing patent war.

The big companies — Google, Apple, Microsoft — will probably survive. The likely casualties are the companies out there now that no one's ever heard of that could one day take their place.