FULL COMMITTEE HEARING ON THE IMPORTANCE OF PATENT REFORM ON SMALL BUSINESS

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UNITED STATES HOUSE OF REPRESENTATIVES

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FULL COMITTEE HEARING ON THE IMPORTANCE OF PATENT REFORM ON SMALL BUSINESS

THURSDAY, MARCH 29, 2007

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Committee met, pursuant to call, at 10:00 a.m., in Room 2360 Rayburn House Office Building, Hon. Nydia Velázquez [chairwoman of the Committee] presiding.

Present: Representatives Velázquez, Jefferson, Shuler, González, Larsen, Cuellar, Braley, Clarke, Ellsworth, Chabot, and Akin.

OPENING STATEMENT OF CHAIRWOMAN VELÁZQUEZ

ChairwomanVELÁZQUEZ. I am very pleased to call this meeting to order, this hearing, this morning on the potential impact of patent reform on small business. For more than 200 years, the U.S. patent system has served America's investors and helped to foster innovation and technological advancement.

The words "strong, enforceable patent"—based on an effective patent system—provides a critical incentive to innovation. Granting investors certain exclusive rights helps spur research inventors and development efforts, which in turn help drive American technological leadership. In this way, patents are an important linchpin with respect to continuing America's economic growth and global competitiveness.

An effective patent and trademark office and sound intellectual property laws are particularly significant to small companies. As tireless innovators, small companies produce more than 13 times as many patents per employee than do their larger counterparts. This demonstrates the critical role that patents play for small firms, enabling them to attract investors, grow their companies, and compete with larger entities.

Due to its importance to the U.S. economy and to small business, today's hearing will examine the effect of potential reforms on small firms. We will hear testimony on ways that we can improve the system to enable small companies to compete in a global economy. This includes harmonizing U.S. patent laws with those of other industrialized countries and strengthening patent quality.

We will also hear about potential changes to the litigation system, which many suggest has become a deterrent to innovation and technological progress. Reforming the U.S. patent system could have a very significant impact on small companies' ability to pro-

tect as well as enforce their rights. The current system has a significant impact on the small companies that manufacture complex products, license patented technologies, and defend themselves in alleged infringement cases.

We will hear testimony that will discuss these issues, which will illustrate the important stake that small companies have in this debate. Small innovative companies play a significant role in the most productive sectors of the United States economy. These companies are often more willing to take risks than larger competitors, positioning themselves to seize market opportunities.

As remarkable inventors, small companies use and rely on the U.S. patent system. For many, this is central to their business and ongoing competitiveness. Today, we will ensure that these small firms have a voice in the patent reform legislation.

I look forward to the testimony on this important, if complex, issue. And I will now recognize Mr. Chabot for his opening statement.

OPENING STATEMENT OF MR. CHABOT

Mr.CHABOT. Thank you very much, Madam Chairwoman. I first want to apologize for being a little bit late and holding the meeting up. I am usually very careful about being here on time. Unfortunately, I had to speak at a meeting, and it went a little longer than we had anticipated. I hate keeping people waiting, so I do apologize for that.

I also want to thank you, Madam Chairwoman, for holding this hearing this morning. I would also like to thank all of our witnesses for agreeing to share their views on this important issue. If I may, I would like to welcome Mr. Kevin Kirsch, who I will be introducing here shortly, who hails from the city of Cincinnati and also happens to be my Congressional District, the First District of Ohio in Cincinnati.

Innovation is the heart and soul of this country, and we need not look any further than to our founding fathers and the United States Constitution to demonstrate the importance of patents and the development of our great nation. Through Title 35, Congress has promoted "the progress of science and useful arts by securing, for limited times, to authors and inventors the exclusive right to their respective writings and discoveries, the impact of which is immeasurable."

The impact of this protection and the protections that are contained in here is immeasurable. We now live in an age where what was once considered science fiction is now a part of everyday life. Advances in medicine and health technology allow us to lead longer lives. Wireless satellite, digital and electronic technology, have allowed us to live fuller lives, entertaining and communicating and traveling in ways that were never imagined in the past.

The relationship between innovation, particularly advances in technology, and small businesses cannot be overstated. In 2003, the Small Business Administration noted, "Small firm innovators are extremely effective at producing technically important innovations, and technically important innovations are most likely to be commercially important."

In particular, the report found, among other things, small firms produce more highly-cited patents than large firms on average. Small firm patents are twice as likely as large firm patents to be among the most cited patents. Small patenting firms produce 13 to 14 times more patents per employee as large patenting firms. Small firm innovation on average is linked to scientific research twice as often as large firm innovation, and so it is substantially more high tech or leading edge.

Thus, there is no doubt that small businesses have made significant contributions under the current patent system. But, like many other statutes such as the Sherman Act, our patent laws were enacted more than half a century ago. Advances in technology, together with uncertain patents and increased litigation, raise legitimate questions as to the sufficiency of Title 35 to protect and incentivize innovation in the 21st century.

For small businesses, these concerns are compounded by the problems faced by small businesses utilizing the patent system. In its same report highlighting the successes experienced by small businesses, the Small Business Administration found that "Small firms find the patent system to be problematic. The costs of obtaining and maintaining patents can be prohibitive, and small firms are not able to undertake expensive litigation to defend their intellectual property."

I believe we have a unique opportunity today to explore in greater detail how different industry sectors utilize the patent system, determine what works for small businesses, and what areas can be improved to ensure that innovation continues to flourish into the future.

I would also like to take a moment to recognize all of the time and effort that has been invested in this issue, particularly by my colleagues on the Judiciary Committee. I also happen to be on that Committee. As all of you know, patent law is a complex area, and I would like to thank Ranking Member Lamar Smith, and Courts and Intellectual Property Subcommittee Chairman Howard Berman, in particular for their leadership on this issue on that Committee.

And, again, I want to thank all the witnesses for being here today and the testimony that we will be receiving here shortly, and I yield back, Madam Chair.

ChairwomanVELÁZQUEZ. Thank you.

Our first panel, we have The Honorable John Doll, Commissioner of Patents. He is responsible for all aspects of the patent-granting process for the United States, more than 5,000 employees, and an annual budget of more than $970 million. Commissioner Doll joined the Patent & Trademark Office in 1974 as a Patent Examiner.

Thank you for being here today. Welcome, and you will have five minutes to make your presentation.

STATEMENT OF THE HONORABLE JOHN DOLL, COMMISSIONER OF PATENTS, UNITED STATES PATENT & TRADEMARK OFFICE, U.S. DEPARTMENT OF COMMERCE

Mr.DOLL. Thank you, Madam Chairwoman, Ranking Member Chabot, Members of the Committee. On behalf of my 8,500 col-

leagues at the United States Patent & Trademark Office, thank you for this opportunity to discuss the PTO's programs and initiatives for small businesses.

We are all aware of the vital role businesses play in promoting our economic growth. The inventions and innovations brought to us by independent inventors, minority and small businesses, have improved our lives and, in fact, saved lives. As inventors turn their ideas into viable, marketable products, it is important that they obtain the protection they need to safeguard their inventions.

Many of the PTO's programs and initiatives serve to educate and assist small businesses and independent inventors in obtaining and maintaining that protection domestically and internationally. The PTO would not be able to effectively do what we do without the support of the administration and the Congress. I would like to take this opportunity to thank the administration and the Congress for supporting our current fee structure, which includes a 50 percent reduction for small entities, and ensuring that the PTO has access to all of our fees.

Full access to our fees permits us to build on our successes in enhancing quality and production. Full access also allows us to offer a variety of services that are particularly useful to the minority and small businesses, as well as independent inventors.

Our website, USPTO.gov, is an excellent starting point for inventors. It contains a wealth of information, including searchable databases of issued patents and of published patent applications. Our website also offers inventors a resource page that provides information on financing, marketing, and invention promotion scams.

Inventors can also call our inventor's assistance center for one-on-one help in filling out forms as well as getting answers to questions on rules, procedures, fees, and patent examination policy. Our inventor's assistance center receives approximately 6,000 calls a month. Help is also available across the country through the PTO's Patent and Trademark Depository Library Program. This is a nationwide network of public, state, and academic libraries, which disseminate patent and trademark information.

They also support inventors and entrepreneurs with seminars and training sessions. The library network consists of 85 libraries located in 47 states, the District of Columbia, and Puerto Rico. We also sponsor two-day conferences for independent inventors and small businesses, which feature sessions on how to conduct a patent search, what is patentable, what is not patentable, how to protect your intellectual property, and even how to write a business plan.

We are also working to streamline and demystify the patent application process. We continue to promote electronic filing, processing of patent applications, to enable all applicants to file and follow up on their patent applications 24 hours a day from any location in the world.

The U.S. PTO is considering and has a variety of innovative patent processing initiatives, including a new offering called accelerated examination. Under this program, which began in August of 2006, the PTO offers a complete examination within 12 months as an option to inventors who wish a quick turnaround. The first patent issued under this new program was filed on September 29,

2006, and issued as a patent less than six months after on March 13, 2007.

Independent inventors and small businesses are becoming involved in the global marketplace where counterfeiting and piracy are a serious threat. Small and minority businesses are particularly at risk here, since they often do not know the law and do not have the resources to effectively fight the fight.

As part of the administration's STOP! initiative to combat piracy and counterfeiting of intellectual property, the PTO manages a telephone hotline. The phone number is 1-866-999-HALT, where callers receive information from intellectual property attorneys at the Patent & Trademark Office on how to secure patents, trademarks, and copyrights.

We have also established a link on our website to stopfakes.gov, which provides in-depth details of the STOP! initiative and has a section devoted solely to small business issue. An important part of the STOP! initiative is a nationwide public awareness campaign to help educate small businesses on protecting their intellectual property here and abroad. Our research shows that 81 percent of small businesses do not understand that their U.S. intellectual property rights stop at the United States borders.

We look forward to working with this Committee to improve and expand our outreach to small businesses. Madam Chairwoman, thank you for this opportunity to discuss these issues with the Committee.

[The prepared statement of Commissioner Doll may be found in the Appendix on page 46.]

ChairwomanVELÁZQUEZ. Thank you. Thank you, Mr. Doll, Commissioner Doll. In your testimony, you mentioned that patent applications received by your agency continue to increase. And I also understand that the number of highly technical applications covering fields such as biotechnology and computer science has also soared.

Under these circumstances, I applaud your agency's effort to address concerns that have been raised regarding patent quality. Do you believe that effective planning, adequate budgetary resources, and rulemakings are sufficient for your agency to address the challenge of maintaining high patent quality?

Mr.DOLL. That is an excellent question, and you have covered quite a bit of information. Right now, the office is doing very well. We have a large number of new initiatives to address quality. Quality is our number one initiative. If an applicant receives a patent that isn't of good quality, it can be much more harm and be much more expensive than if we spend the time to do the good quality examination.

ChairwomanVELÁZQUEZ. Okay. Is that a yes?

Mr.DOLL. Okay. Yes.

ChairwomanVELÁZQUEZ. Yes. Thank you.

Mr.DOLL. Okay.

[Laughter.]

ChairwomanVELÁZQUEZ.The next panel of witnesses will discuss a number of issues associated with the rules of patent litigation, including venue standards and the calculation of damages in infringement cases. Do you believe that legislation is necessary to ad-

dress the concerns that some people have raised about the rules governing patent litigation?

Mr.DOLL. Is that a yes or no answer?

ChairwomanVELÁZQUEZ. Yes, sir.

[Laughter.]

I just want for the record to reflect whether you believe that is so.

Mr.DOLL. Yes.

ChairwomanVELÁZQUEZ. Okay. So does the administration have positions on various key elements of pattern reform now being considered by Congress? What are the PTO and administration positions on, first, post-grant review and the need for a second window; and, two, potential reforms in the ways that damages are calculated in patent infringement cases?

Mr.DOLL. With respect to the post-grant review and the second window, we haven't seen exactly what is in the bills that will be introduced in the House and the Senate, so it is difficult to comment on those. I think post-grant opposition is an excellent opportunity to complement a program that we already have, and that is ex parte and inter-party reexamination.

This is an opportunity where we may be able to expand past the printed publication, which is the only requirement in ex parte and inter-party reexamination, to actually get to questions that are raised with respect to Title 35 of the United States Code 101 and 112 with respect to utility enablement and written description.

ChairwomanVELÁZQUEZ. So do you think legislation is required?

Mr.DOLL. Post-grant is an interesting option, and I am sure there will be lively debate with respect to that. The system, as it works right now, as you said in your opening statement, has been working very well for 200 years. I think the reexamination procedure provides that opportunity, and a venue post-grant may well open up the opportunity to discuss enablement utility and written description.

ChairwomanVELÁZQUEZ. Okay. Let us switch gears for a moment. Could you highlight some of the efforts that the U.S. PTO is making in order to help small businesses protect their intellectual property against piracy, counterfeiting, and infringement?

Mr.DOLL. Yes. The first thing that I would like to talk about were some of the things that we did in our testimony, or in my testimony, and that was education that we do through our independent inventor conferences—the conferences that we hold that are two-day conferences that teach people exactly what their patent is, how to get a patent, how to process a patent.

And, as I said, 81 percent of the small businesses don't realize that if you have an invention that is internationally viable or marketable that you need to protect that invention in each one of the countries where that invention may be useful or may be marketed or sold.

We have also the inventor's assistant, where you can call in and speak to supervisory primary examiners to see exactly what you need to protect your invention in the United States. We have an independent inventor's office that we have just opened in the past year where we just assigned one of our experienced supervisory pri-

mary examiners to help in the outreach effort to independent inventors and to small businesses.

We work with the patent and trademark depository library programs, as I said, in 47 states and in Puerto Rico, which provide really invaluable information on exactly what information is out there, what patents have already issued, and to provide inventors and small businesses with the opportunity to learn what their rights are and how to protect.

We have the STOP! initiative that I talked about where we have received thousands of telephone calls where people don't understand what they need to do to protect their inventions. We have 18 conferences planned that have been held—some have been held, some have been planned—across the countries where Undersecretary Dudas and Deputy Undersecretary Pinkos go across the country and talk about intellectual property and what their rights are.

Education is the biggest thing that we can do. We have also just recently started posting U.S. patent office employees in foreign countries as intellectual property attaches. We have them, or currently will have them, in Brazil, two in China, Egypt, India, Thailand, Russia, and Geneva. What they have done is funnel a lot of the information back to the embassies and provided information that we can then funnel to the independent inventors and small businesses on what the challenges are in those countries.

ChairwomanVELÁZQUEZ. Commissioner, let me just say that I really appreciate your agency's efforts in all of these areas.

Let me recognize Mr. Chabot, but I will come back and ask some other questions.

Mr.CHABOT. Thank you very much, Madam Chair. And I first would note the—if you are noticing, there is a lot of Democrats here, not too many Republicans here. We were actually invited down to the White House. Most of my Republican colleagues are down at the White House meeting with the President about a number of issues. I personally felt that patent reform was much more important than meeting with the President, so—

[Laughter.]

—that is why I am here today where I should be, so—

[Laughter.]

ChairwomanVELÁZQUEZ. You are going to get in trouble.

Mr.CHABOT. I will probably get in trouble, you are right.

[Laughter.]

Just for the record, I like the President.

[Laughter.]

ChairwomanVELÁZQUEZ. Let the record reflect that.

Mr.CHABOT. Of course, that could be controversial. That is probably a 30-second ad next time, too, so—

[Laughter.]

But in any event, I also want to thank Commissioner Doll for accommodating me recently in visiting the U.S. Patent & Trademark facility, not too far from here. But my staff and myself were very—it was very interesting seeing, you know, what goes on down there, so thank you very much for allowing us to do that.

Just a few questions, and I think you really covered a lot in the chair's questions here. How does the U.S. Patent & Trademark Office deal with over-broad claims? And is there any way to deter-

mine whether large or small businesses submit applications with overly broad claims?

Mr.DOLL. Overly broad claims is a very important issue. It is something that we deal with from the first days that we start to train examiners. The most important thing that a patent examiner can do is assess the scope and the breadth of a claim. If they don't have a correct assessment of that breadth and scope, they may not do a proper search.

And, in fact, what we have seen in the past couple of years is that is the number one error that we find when an examiner makes a determination is that the scope and the breadth of the claim had been improperly analyzed. We are spending a great deal of time in our new patent training academy where we have just instituted a program last year where we bring people in and we put them through an eight-month training program.

And we spend several days of the training talking about the breadth of the claims, scope of claims. And we have hands-on examples, and then we allow them to look at actual applications where rejections have been written, have been upheld by the courts, and talk about exactly what are the pros and cons of interpreting this claim.

It is an extremely important issue. As far as understanding whether large or small businesses, I don't have any statistics on that right now, but I would be happy to look into that. But a broad claim should never be allowed, so the claims that are allowed are the claims that have been determined by the examiner to have the correct scope and the correct breadth.

Mr.CHABOT. Thank you. What do you think will be the long-term impact of web-based searching for patents and patent applications? And do you think it will reduce or increase conflict in the patent system?

Mr.DOLL. I think the web has opened up new doors to the American public, to the independent inventor, to the person working in their garage, to the small businesses that give them the opportunity to actually come into the United States Patent Office and look at what patents have been issued.

If they have a particular invention, an idea, or an innovation that they would like to patent, they have the opportunity to look through our databases to search the same databases that the examiners searched for prior art with respect to patents that have issued with respect to applications that are pending to give them an idea as to whether or not their invention has been done or not.

I think the web has really facilitated, again, the independent inventor and the small business to give them the opportunity to determine what is patentable and what isn't patentable.

Mr.CHABOT. Thank you. Could you comment on what problems arise because the United States doesn't use the first to file system for patents? And as you discuss this type of issue—and I assume you probably do with other countries and their representatives—what sort of feedback do you get as far as satisfaction or dissatisfaction with the way they do it as opposed to the way we do it?

Mr.DOLL. Right. I will go back to how Madam Chairwoman opened, with the United States patent system has been served well

for over 200 years by the first to invent policy that we have. We are the only country in the world that has the first to invent as opposed to the rest of the world which has a first to file.

The first to file takes care of a lot of complex legal questions, if there is a question of prior art as to who invented a particular invention. In the United States, we have a system where we determine who was the first inventor to invent. It may not have always been the first person to file.

So there are pros and cons on both sides of that argument. And as I said, the United States Patent Office has been served for over 200 years very well by first to invent, and I think small businesses and inventors and independent inventors have been served very well by the first to invent.

But I am sure there will be a vigorous conversation in the Congress this year, and possibly in years to come, and the patent office will fully support and implement whatever program Congress feels is appropriate.

Mr.CHABOT. Thank you. If you had the unilateral power to implement any changes to the patent system to help make small businesses—to make it work better for small businesses, what changes would you make?

Mr.DOLL. I think a lot of the changes that we are currently trying to implement work really well for the small business, for the little guy, the innovator that is just trying to get started.

One of those is the peer to patent review. When somebody comes through the patent office, we do a great job. I think the examiners do a phenomenal job in the amount of time that they have to do an examination and to make a patentability determination. What we are trying to do with the peer to patent review pilot that we are getting ready to implement in early June is to give the public an opportunity also to comment on these applications.

The worst thing that we can do for a small or an independent inventor is to give them a patent where someone else could legally or actually viably challenge that patent in court. So allowing other people to comment on this application while it is pending in the patent office, whether that be during a peer to pilot review during the examination, or whether that be during a post-grant opposition period, I think gives the small inventor and the independent inventor an opportunity to have a patent that they feel is extremely strong, that they feel confident will withstand a legal challenge in court.

Mr.CHABOT. Thank you. And one final question, would some type of formal or informal arbitration system be effective in your view in contesting the validity of patents? Would that be more effective than the current interference proceeding or post-grant review?

Mr.DOLL. Post-grant is an interesting option where we are looking for a low-cost option, to try to be fair, to try to balance the system, to make sure that the little guy, the small inventor, the small business, has the same opportunity in a reasonably cost-effective manner to challenge a patent and to look at that.

We also have the reexamination proceeding that I think also does that. For $2,520, somebody can challenge a current patent and ask for reexamination, where they actually have a team of three examiners look at a patent one more time and make a determination

whether or not there was prior art that raised a substantial new question of patentability.

We have actually just created a new central reexam unit, and in that reexam unit these are people that are highly skilled, dedicated to the reexamination process, which look at these applications and, again, go through the complete examination process with respect to the new prior art that was submitted by either the patentee or a third party requester, and then any additional new art that they might uncover or discover during their searches to make a complete determination, again, as to the validity of those patents, and possibly amend the claims, cancel claims, or possibly cancel the entire patent.

Mr.CHABOT. Thank you.

Madam Chairman, I yield back.

ChairwomanVELÁZQUEZ. Thank you.

Mr. Larsen, you are recognized for five minutes.

Mr.LARSEN. Thank you, Madam Chairwoman. I just have one question, but it has got a little bit of a follow-up—or sort of a lead-in to it. Since '90, when the U.S. Patent & Trademark Office became self-reliant, until '05 when fee collections exceeded appropriations, and during those years there was about $750 million diverted right from PTO, U.S. PTO.

The U.S. PTO received in excess of 440,000 patent applications in '06, is that right, a record number?

Mr.DOLL. Yes.

Mr.LARSEN. Yes. To help meet that demand, the agency hired over 1,200 patent examiners, exceeding your goal by 200 people. And they are going to continue to hire over 1,000 patent examiners over each year for the next five years.

Recently, in testimony to the House Judiciary Committee, the head of U.S. PTO testified that PTO's '06 budget appropriation was sufficient to meet agency demands. But there is still this concern about a precedent of fee diversion, and what that might mean for available dollars. It is my understanding as well that the decision to grant PTO a robust budget appropriation has been a year-to-year determination as well.

So given that as a lead-in, it is also my understanding that the recent reports by National Academy of Science and the FTC conclude the PTO does not have sufficient resources to ensure that it can meet its mission. So given the conclusion of those reports, and the testimony from the head of the PTO, which seemed to be at conflict, can you—do you agree with the conclusions of those reports? Or can you help enlighten us about why there might be a difference of opinion between the testimony given and the conclusions of these reports?

Mr.DOLL. Well, I fully support the President's budget. I fully support the appropriations that have been given by the Congress to the U.S. PTO. And as I said in my testimony, we really appreciate the full funding. Full access to our fees gives us the opportunity to institute programs, to carry out programs, and we have a list of new initiatives that I would love to talk about, but I am afraid I don't have time to talk about, that wouldn't be possible without full funding.

The full funding has allowed us to actually recreate the independent inventor's office that I talked about, where we have just recently reinstituted it, reinvigorated it, and made it much more robust than it has been in the past, to reach out to small businesses.

As far as the funding issue, what has happened in the past—and I certainly don't disagree with where the money was diverted to. They were very good projects and very worthwhile. But what happened to the U.S. PTO is that we were unable to hire at the levels that we felt we needed to hire to meet the growing demand of the applications filed. And we currently have a backlog of 735,000 unexamined applications.

What we did last year was examine 320,000 new applications. So if you do the math very quickly, we added over 100,000 brand-new unexamined applications to the backlog last year. This year, we will add over 100,000 additional new applications to the backlog and end the year with over 800,000 new applications in the backlog.

We have initiatives to try to address that. We are trying to do a limitation on the number of continuations that an applicant can file. We are trying to focus the examination by limiting the number of claims that an application can contain, without providing additional support.

We have no per se rules on strictly limiting the number of applications or the number of claims, but we have set limits where within those limits there is no additional help required from applicant. But if you feel that you need more claims, you are more than welcome to file them, but we are going to ask you to file an examiner's support document to aid the examiner, to help the examiner do a more focused examination.

Mr.LARSEN. So, if I may, it sounds like you appreciate the full appropriation.

Mr.DOLL. Yes, sir.

Mr.LARSEN. But with regards to the National Academy of Science report and FTC report, you haven't directly answered that question whether or not you agree with the conclusion of those reports. It sounds from your answer is that they—NAS and FTC have made a very good case that there is a lot of work to be done that isn't getting done.

Mr.DOLL. You are absolutely correct, and I certainly don't mean to avoid the question. But I do want to make sure that I support the budgets that we have been given and appreciate the full funding.

However, there is always more that we can do. We have a lot of initiatives that we would like to put in place. We have new programs that we would like to institute. It would be great if we could reach out to small businesses more, actually spend more time in the field working with them, provide better search systems, provide more up-to-date search systems.

More money would always be appreciated, so if you are able to do that the patent office would find very good ways to utilize that money to help small and independent inventors.

[Laughter.]

Mr.LARSEN. That is an unusual request.

[Laughter.]

Thank you.

Thank you, Madam Chairman.

ChairwomanVELÁZQUEZ. Mr. Jefferson.

Mr.JEFFERSON. Thank you, Madam Chair.

Mr. Chabot asked the question one way, which was, if you had the power to enact to some provisions, which would they be? I want to ask it a different way. Which of the proposals that you are aware of that are under the so-called label of reform of the patent system would be most advantageous to small businesses if they were adopted?

Mr.DOLL. I don't have a good answer, because the proposals that I have seen have been proposals that are a long way from final rules or law. And I would hope that the office would have the opportunity to work with Congress and to work with the Committee to make sure that there is always a fair and balanced equity between the large entity, the people with the deep pockets that can run to the office often, and that small independent inventor that is trying to get his invention off of the ground or trying to get a corporation started.

And so I am not sure which ones would be most disadvantageous, because I see pros and cons on both sides, but overall from the programs that I have seen and the bills that I have seen from the last Congress it looked like we could make all of them work fairly and equitably for.

Mr.JEFFERSON. The issue of access to the federal courts, in your opinion, would that—just ask on this one, would that be more or less disadvantageous to small or larger concerns?

Mr.DOLL. I am not sure I understand the question.

Mr.JEFFERSON. Well, the cases now in court, there is some talk about arbitration, some talk about other ways to get after disputes. Do you think if we—right now the court actions that are brought to deal with patent infringement questions—and so my question, I am trying to get specific on one issue, I couldn't get the broad ones, just ask about this. Do you think that would disadvantage small business folks or not?

Mr.DOLL. I think the court system has fair access for both large and small entities. There is always a question of cost as to whether or not the small entities have the resources to fully fight the fight. We do have programs in the office, such as the reexamination unit, where for what I think is a very reasonable cost they have the opportunity to challenge the validity of a patent.

Mr.JEFFERSON. Let me ask you another question and get out of this area, then. On harmonization, there are differences pointed out in the information I have gotten here about how different regimes deal with patent issues. I would guess you would say that the U.S. parent regime, if I can call it that, is superior to the rest of the world's patent protection regime, would you not?

Mr.DOLL. Oh, absolutely.

Mr.JEFFERSON. So, consequently, we don't want to harmonize too much, do we, with the rest of the world, if ours is better than theirs, do we?

Mr.DOLL. I was hoping harmonization would lean towards the U.S. system.

Mr.JEFFERSON. Oh, I would hope so, too. But all of the material I am reading about the reform seems to suggest that we ought to join league with others in the world, because our system is different. I suppose it is different because in your opinion mine is better.

Mr.DOLL. I think our system is better. I think our quality is better. It is certainly less expensive. It is less expensive to obtain a patent and maintain a patent in the United States than it is anywhere else in the world, especially with respect to Japan or the EPO. When it comes to our quality, I believe our quality is better than the quality in either the European patent office or in the Japanese patent office.

Mr.JEFFERSON. So you would warn against harmonization that takes us to the other patent regimes as opposed to our own.

Mr.DOLL. I agree with you, Congressman. The United States system is the best system, and harmonization should lead towards the United States, as compared to leaning towards either the Japanese or the European system.

Mr.JEFFERSON. Thank you, Madam Chair.

ChairwomanVELÁZQUEZ. Mr. González?

Mr.GONZÁLEZ. Thank you very much, Madam Chairwoman. And welcome, Commissioner.

Mr.DOLL. Thank you.

Mr.GONZÁLEZ. These are huge issues, and we try to remain focused on the implications and consequences of small businesses. Obviously, things are going on in other committees, things are going on in the Senate, but our charge really is about small business, and sometimes they just kind of get lost in the one size fits all, because many times the size is just too big and it doesn't fit small businesses, and that is going to be my fear.

And how do we define or characterize some of the smaller players? Now, I am going to be reading from a recent article. "Computer companies say they are often the targets of suits filed by technological buffs."—now, I would imagine technological buffs are probably small business—"who obtain patents they do not intend to use to provide a product or service."

And I am going to read on, "Microsoft, the world's largest software company, is a defendant in more than 35 patent infringement cases. The vast majority of those cases were filed by individuals and small companies whose main business is licensing patents," said David Capers, Microsoft's General Manager of Intellectual Properly Licensing.

"There is such uncertainly about patent quality and about patent litigation that it really rewards those willing to play the patent lottery. Microsoft says the current system gives patent owners of any size—small, for instance—excessive powers to demand royalties." And it goes on to discuss that.

And I understand the perspective from Microsoft, and I understand Pfizer, and I understand Amgen, I understand what is going on out there. The difference, though, is that I think they can articulate and promote their view of the world much better than small businesses, and that is my biggest concern.

And I am not saying every small business litigant is right, and the big issue then, is, are we going to wait for the courts for the

litigate this, or are we going to legislate something? Where courts used to defer to the legislature pursuant to the Constitution of the United States and are now maybe deviating from that. So we do have a charge, and we are going to be acting.

What I am going to ask you to do, and I am going to basically follow pretty much what my colleague, Congressman Jefferson, was pointing out, but I am going to ask you to present your testimony in this light. Worst case scenario for the small business, when we talk about harmonization, what would be the things that we need to guard against as we promote the best interests of small businesses in the United States?

For instance, if we do have some harmonization, are we only extending the problems from, let us say, a domestic model to an international model for small businesses?

Secondly, patent quality—I am reading in our memo. "Leading technology companies have raised concerns that modifications to U.S. patent law should be made to help ensure that patents issued by the PTO continue to be quality patents," whatever that really does mean. Again, worst case scenario for small businesses, if we attempted to do something, where should we not be going?

And, last, patent litigation, basically, you know, loser pays, and so on. And we can have that debate over and over again, but I will tell you now it is a tremendously chilling effect when someone asserts a legal right and doesn't have the resources and takes a great risk, and then they lose because sometimes I am just telling you they are truly outdone. And I have witnessed this firsthand, and they will lose.

And then, of course, then they are going to be saddled with the cost of the litigation that was brought in good faith, but for whatever reason that jury or that judge just didn't see it that day. And many times it is just the legal talent, in quantity and quality in that courtroom. So I just want to know, what would be the worst case scenario for businesses as we attempt to reform patents?

Mr.DOLL. I am at a loss as to what the worst case scenario would be. What I would like to address, if you allow me, is to talk about the quality, because I think that is the thing that the U.S. PTO can do, has control over, and it gives the small businessman or the independent inventor the most leverage, whether it be in court or whether it be in litigation, or before the patent office.

Our quality numbers are the best they have been in over 25 years. What we are doing in the office is we have a large number of quality initiatives. We have a targeted review. We are using a second pair of eyes. We have a quality review program that looks at a statistically significant sample of allowed applications—applications where the examiner has finished their work. And we also have an in-process review, where we look at the work as the examiners are doing it.

We have experts in each one of the technology centers to address whether or not these inventions, whether or not these applications are ripe for appeal. Before an application goes to the Board of Appeals to make a determination as to whether or not the examiner has made a correct determination, we have a pre-appeal brief conference where the examiner sits down with a supervisory primary examiner and an appeal specialist and goes over the arguments

made by applicant and made by the examiner, to make sure that the inventor, to make sure the applicant isn't spending money to write an appeal brief to go to the Board of Appeals to get a decision whether or not the examiner was right.

After the pre-appeal brief conference, we then have another appeal brief conference, that once the applicant has spent the money to write the appeal brief, and to file that formal appeal, that the case is still ripe, that it should go to the Board of Appeals. Our affirmance rate at the Board of Appeals has been rising over the last couple of years, meaning that the examiners are doing a better job of picking cases that really are ripe for appeal, where the examiner has made the correct determination during the prosecution.

Quality I think is the key. Regardless of how we harmonize, I think if the applicant, whether it be a small or a large entity, if they walk out of the patent office with a quality patent, a patent that they are sure they can walk into court and defend, that they have confidence in that they are going to win, no matter how much it costs them to finance that litigation, I think that is the best thing that we can do for all of our applications.

We have another program that we are working on this summer. We are actually working with our PPAC, our Patent Public Advisory Committee, which is a Congressionally-mandated advisory committee to the patent office. We are working with them to do townhall meetings this summer across America. And what we are doing is we are looking to—

ChairwomanVELÁZQUEZ. Time expired, so if you want to finish your sentence right there.

Mr.DOLL. What we would like to do is get opinions from stakeholders as to what we can do to the office to make it work better for every one of our stakeholders, whether it be a large or a small entity.

Mr.GONZÁLEZ. Madam Chair, will you indulge me for 10 seconds?

ChairwomanVELÁZQUEZ. Sure.

Mr.GONZÁLEZ. Thank you.

Commissioner, what I was trying to elicit from you was basically where not to go, and that is the lesson that we all learned when we have had Alan Greenspan before us. He would never tell you where to go, but he definitely told us where not to go. And that is what I really wanted. And I know it is a difficult one for any administrator or chairman or commissioner to tell us, but sometimes a little bit of guidance does help Congress, and I thank you for your service.

I yield back.

ChairwomanVELÁZQUEZ. Okay. Mr. Shuler?

Mr.SHULER. Madam Chair, thank you.

Mr. Doll, thank you for your testimony here today. I want to talk about third party requesters. You know, how effective is a third party requester? Is that where you are seeing some of the fraud and abuse on patents? How does help small businesses?

And I looked through some of the statements, and it looks like you have, you know, 5,000 employees who are actually working with the patent office in order to conduct the files and the processes. And it looks like they have to obtain about one and a half patents under review per week.

Mr.SHULER. Well, is it more effective for your office to be able to have a third party such as an attorney or some of the court—you can read the line item ads in the classified sections, or even sometimes you can actually see it on the TV, "If you have a patent, please inquire at our office." How effective, and what is the abuse side of that?

Mr.DOLL. That is a great question, and I think that is an opportunity for the patent system to take a quantum step forward and to increase quality immeasurably. What we are doing is the statistic that you reported is absolutely correct. The average examiner has 20.4 hours to do an application. That is the average examiner. That is the average application last year.

In that time, the examiner does a search, reads the claims, analyzes those things, and then makes a patentability determination and informs the applicant as to what is patentable and what isn't patentable. What we are doing with the peer to patent review that you spoke about, or third party submissions, is to allow other people to opine on the patentability of this application.

Now, we have heard from some small entities that they see this possibly as the big guy ganging up on the little guy. I don't see it that way at all, because, again, what I would like to do is talk about quality, because the more opinion that you get, the more prior art that is before the examiner, the better opportunity that examiner has to make that right determination and to grant a patent properly.

When you look at the litigation history, and you look at the court statistics, when the examiner has the best prior art in front of them, they make the right decision the vast majority of times. So the peer to patent review actually gives the examiner a better opportunity to actually make that determination.

We are starting a pilot in probably early June this year, maybe July, where we are actually going to work in one of our technology centers, one of our high-tech technology centers, where we do software and all of our hardware computer applications. And we are going to run the pilot for a year where we are working with Beth Novak from New York University, and we are actually going to have an external body review applications that are voluntarily submitted to this program and then published, and then allow this body, this third party submission, of prior art with explanation to the patent office as to why these claims are patentable or why they are not patentable over the prior art that they turned up.

I think that gives applicant a much stronger feeling about the patent that they get, and would give them the confidence to say, "My patent has gone through not only review by the patent office, it has gone through a peer review by an objective third party who would really like to opine and be experts in this area."

Mr.GONZÁLEZ. Would it increase the costs from the applicant?

Mr.DOLL. No. No, it would not increase the cost at all, because the third party review is purely voluntary on their part. They would make a submission to the office, and then the examine would review that submission and then make the same determination. So there would be no cost at all, but I think a much higher quality.

Mr.SHULER. And from your budget standpoint, will we see a reduction in the budget, or would it be an increase in the budget because of that third party?

Mr.DOLL. The budget would stay the same. The examiner would view this as actually additional prior art, and would view that as a help in making the determination.

Mr.SHULER. Expediting the process much faster?

Mr.DOLL. I don't think it would expedite it, because we would not relieve the examiner from doing their search or making their own determination. This would just be one more submission that they would consider.

Mr.SHULER. All right. Great. Thank you, Mr. Doll.

I yield back.

ChairwomanVELÁZQUEZ. Thank you.

Ms. Clarke?

Ms.CLARKE. Thank you very much, Madam Chair.

Good morning, Commissioner. I wanted to ask about the inventor's assistance center. Is it physically located in one place? Can you tell us a little bit more about it?

Mr.DOLL. Right. The inventor's assistance center really is—it is one of our flagships for independent inventors. It is staffed by retired supervisory primary examiners. They have one administrative patent judge who retired and came back and is working as an inventor assistance center person.

We have a great deal of expertise there on everything from how to fill out the forms to actual examination questions and how to deal with an examiner. It is one on one. It is physically located in the Patent & Trademark Office. But because we have an 800 phone number, anybody can call in from anywhere where they would like and get that assistance.

Ms.CLARKE. Commissioner, have you considered perhaps partnering with SBA or one of the other entities that serves small businesses, so that we can sort of decentralize that operation and get perhaps an individual who does the outreach into other communities and then channel them into the 1-800 number?

I raise that simply because when you re talking about, you know, isolated communities, perhaps immigrant communities, perhaps African-American communities of color, navigating the system tends to be the challenge. Even though we have stuff online, we may mention 1-800 numbers, when they are able to actually physically see someone, especially because they are holding on to their inventions so tightly. They want to see someone face to face, because they don't want someone to steal their information. Have you considered that?

Mr.DOLL. That is a great suggestion, and it is an idea that I will take back to the office. We have partnered with various organizations, inventor organizations, small business agencies. When we go to particular cities for our independent inventor conferences, and we have had them come in and actually talk to the independent inventors and the small businesses, it is—as far as decentralizing, that is a wonderful idea, because you are absolutely right.

When you see the inventors walk in to our independent inventor conferences, they are holding their notebooks, and they are holding—

Ms.CLARKE. With sunglasses on, right?

[Laughter.]

Mr.DOLL. And they are holding them very closely, because they don't know who to trust, and they don't know who to disclose their inventions to. As I said, we have an inventor's scam listing on our website—

Ms.CLARKE. Exactly.

Mr.DOLL. —to show maybe who you shouldn't be dealing with or who you actually do have a good relationship with. We do outreach with other agencies, as you said. But incorporating them into our inventor's assistance centers is a very good idea, and thank you for that.

Ms.CLARKE. No problem, Commissioner. And then, just finally, can you tell this Committee, what is the culture of diversity within the Patent & Trademark Office? The American business environment consists of a multiplicity of diverse ethnic groups. Therefore, diversity in staff and attorneys is important and should be a reflection of the environment that you serve.

Has your office organization done any training or studies to identify how the Department can be more sensitive to this changing environment? And what is the dynamics as it relates to women in senior-level positions?

Mr.DOLL. Again, that is a great question. And I would be pleased to have you visit the United States Patent & Trademark Office, because when you walk around our campus it is almost like the United Nations. We are 54 percent diverse. Almost 50 percent of all our patent examiners are women. It is a truly diverse organization.

Ms.CLARKE. Well, thank you very much, Commissioner.

Mr.DOLL. Thank you.

Ms.CLARKE. Thank you, Madam Chair. I yield back the rest of the time.

ChairwomanVELÁZQUEZ. Thank you.

Commissioner, a large number of engineers and Ph.D.s are employed by small companies, and they undertake extensive research and development efforts. My question to you is: does PTO gather any specific information about small business patent applicants?

Mr.DOLL. Well, we do have some data on the number. When it comes to small businesses, small entities comprise about 30 percent of the applications that are filed. They comprise over 25 percent of all the patents that we issue.

ChairwomanVELÁZQUEZ. Okay. Thank you. Let me thank you again.

We are going to take a recess. We have a vote on the House floor.

Commissioner, I will ask you, do you have any staff with you?

Mr.DOLL. Yes, I do.

ChairwomanVELÁZQUEZ. And they will stay here to listen to the second panel?

Mr.DOLL. Oh, yes, absolutely.

ChairwomanVELÁZQUEZ. It is going to be a very interesting panel, and I think it is worth having your staff here.

Mr.DOLL. Absolutely.

ChairwomanVELÁZQUEZ. We will recess.

[Recess.]

ChairwomanVELÁZQUEZ. I want to welcome all of the witnesses and thank them for agreeing to be here today to shed some light into this important issue.

Our first witness is Mr. Mitchell Gross. He is a Chairman and CEO of Mobius Management Systems, a company that he helped found in 1984. Mobius is the leading provider of comprehensive software solutions for enterprise archives and records management. Mobius has over 400 employees and is headquartered in Rye, New York. Mr. Gross is testifying on behalf of the Information Technology Association of America. Welcome.

STATEMENT OF MITCHELL GROSS, PRESIDENT & CEO, MOBIUS MANAGEMENT SYSTEMS, INC., ON BEHALF OF INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA

Mr.GROSS. Thank you, Chairman Velázquez and Ranking Member Chabot, members of the Committee. I very much appreciate the opportunity to appear before you today and discuss the importance of patent reform to small business.

The United States patent system is something I work with almost every day in my business, and I believe very strongly that there are some problems with the system that demand our attention as a nation and an economy.

First let me tell you a little bit about my company, Mobius Management Systems. Mobius, as you stated, is a leading provider of comprehensive software solutions, archiving, and records management.

Twenty-five years Mobius has defined and led the market, software that stores, index, distributes diverse documents, reports, images, in any format from any source. Our solutions have achieved industry-wide recognition for the ability to support high-volume, high-performance simultaneous access requirements in distributed environments that range from the desktop to the mainframe.

Commentators have said that more than 85 percent, if not more, of all the information we create today in the United States, in both government and private sector, is created in electronic form, documents to banking transactions, product logistics, e-mail, data analysis, graphs, charts, and all the rest. Much of that only exists in electronic form and is never put on paper.

We at Mobius play a key part in designing and implementing software systems to match. We create our own software, license software products from other companies to implement the solutions. Mobius has over 400 employees, headquartered in Rye, New York. We still do the overwhelming majority of our development in the United States.

I am also testifying on behalf of the Information Technology Association of America, which counts many small businesses among its 325 members. ITAA represents companies of all size. About half of the ITAA members are small businesses. I am privileged to serve on the Board of Directors of the ITAA Information Technology Service.

Chairwoman Velázquez, as the head of a small business in the information technology sector, I am aware and I am here to stress the fact that the United States patent system is broken and needs to be fixed. Let me make it clear from the outset, however, that I

am a strong supporter of patent protection and the role it plays in fostering innovation. And I, too, am the holder of a patent.

Constitutional power of Congress to promote the progress of science and useful arts by granting exclusive patent right for limited periods of time has been and continues to be one of the cornerstones of successful American economy. The United States patent system does have a profound effect on innovation, new business development, job creation, and everything else, creating wealth of that nature.

Today, however, the U.S. patent system has developed a number of flaws that need to be addressed by legislation. The problem is important because the systems impact is so important. The system as skewed as it is now has a profound effect, retarding business development and wealth production.

Where I sit as a small business man, the issues with the patent system stretch from the process of patent application and grant at the PTO on through the process of enforcement, licensing, and litigation. The issuing process is too expensive, takes too long, and poses too much risk that an over-broad patent of questionable validity will issue at the end.

The enforcement side, the system is so tilted to the plaintiff patentee's advantage; that is, the cost of losing litigation can be so high with multiple worldwide damages based on excessive estimates of the value of the infringement, that defendants are forced to settle, regardless of merits of their defense or the weakness of the patent underlying the plaintiff's claim.

Legislation was introduced in the last Congress. And I understand it will be soon introduced again. I applaud the effort to move from generalities about the need for reform, epic proposals that change the structure of how the PTO has business and how patent infringement litigation is conducted.

If I had to try to characterize the problem in just a few words, I might say too much risk of losing a fight when a bad patent stands up against information. What is a bad patent? It is one that is overly broad in its coverage, often one that covers a process, usually one that does not seem very novel to somebody like me who has been in the business for over 25 years that I have been involved with at Mobius. I think the problem may be particularly acute in the software and IT services industry.

The United States needs to do a lot more to improve patent quality at the outset. Everyone knows that not every patent is issued by the U.S. Patent Office. A lot can be done to improve the PTO's access to and knowledge of prior art, the key to determining whether an application really presents a novel and non-obvious innovation.

It remains important to have a viable low-cost administrative process for reviewing patents that already have been issued if the claims of the validity hold up unchallenged. Of course, it is not the fact of over-broad patents that matters. It is the consequence of infringement that weighs most heavily in the equation. And right now the risk of very high damages are exorbitant settlement requests in my mind very real.

Basically, Chairman Velázquez, the current system in my view leaves small business in a position where we are afraid to innovate.

I don't have confidence that undisclosed patent applications are truly novel. My company does not have the resources to do extensive patent searches every time we should in the modern environment, featuring many more patents than has been the case in the past.

If we make a mistake and step into a field of technology covered by undisclosed applications, we run very high risks of serious consequences in the face of a system that favors all patentees.

While the discussion of what to do about the problem—

ChairwomanVELÁZQUEZ. Mr. Gross, time has expired. Would you like ten seconds to summarize whatever important point you want to make?

Mr.GROSS. Okay. Without reform, a system that is intended to serve innovation is having the opposite effect. Whenever my company engages in development of products and services, we have to ask ourselves what is it.

Chairwoman Velázquez, that concludes my prepared remarks. I would be happy to answer questions.

[The prepared statement of Mr. Gross may be found in the Appendix on page 53.]

ChairwomanVELÁZQUEZ. Thank you very much.

Let me remind the witnesses that you will have five minutes to make your presentation.

Our next witness is Mr. Bryan Lord. He is the Vice President for Finance and Licensing and General Counsel of AmberWave Systems Corporation. Founded in 1999, AmberWave is a small technology firm focused on research and development of advance materials. And the company is a pioneer in the field of strained silicon technology. AmberWave has been a symbol, a portfolio of 180 patents, employs 23, and is based in Salem, New Hampshire.

Welcome, sir.

STATEMENT OF BRYAN P. LORD, VICE PRESIDENT, FINANCE & LICENSING, GENERAL COUNSEL, AmberWAVE SYSTEMS CORPORATION

Mr.LORD. Thank you. Madam Chairwoman, thank you very much for that kind introduction. You have saved me a couple of minutes of my testimony. Representative Chabot, members of the Committee, thank you as well for the opportunity to be here with you today.

I want to echo Representative Chabot's comments about the special effort that the Judiciary Committee has been making on this issue. We appreciate that and equally appreciate the Small Business Committee taking an effort to take a special look at this from the small firm's perspective. I would also note that uniquely this has been what appears to be a bipartisan effort as well. And we appreciate the two of you sitting side by side and taking a look at this from our perspective.

As you mentioned, Madam Chairwoman, AmberWave Systems is a small company, 23 employees. We like to think of ourselves as a bit of a special company as well. And that is because we are one of 5,000 spinouts of university technologies that have occurred over the course of the last 25 years.

This is largely due to the successful buy-dual litigation that was passed years ago and has really been the catalyst for a special network of firms that combine entrepreneurship, invention, and investment into what some business school professors have called a value network.

These value networks are really the secret behind why economies like Silicon Valley; New England's Boston Route 128; Research Triangle Park; the Austin, Texas region all have a very special and robust economy associated with them.

I will try to be brief. I want to make just three points. One is America does have the world's most innovative economy. And that is, in large part, because of a very properly and well-functioning patent system.

I will, respectfully, disagree with Mr. Gross and say that our patent system is not broken. We think that our patent system, in fact, is the gold standard in the world. And changing the patent system in a manner that would call for wholesale change would be inconsistent with I think its proper role in creating our world's most innovative economy.

Second, I think that patent reform still is necessary and an appropriate topic for us to be talking about. AmberWave is one of the founding members of a group called the Innovation Alliance, a coalition of firms, small, medium, and large, that all believe that the most appropriate place for us to be focusing our attention is on improving patient quality in very much the same way that Commissioner Doll talked about from the PTO's perspective, and that, really, as the PTO is working hard on their efforts, as the Supreme Court has also taken cases under consideration, really, through patent quality, we can really address most of the ills and help those that are working within the system and still discourage those that are abusing the system.

Let me point out that if the changes that were proposed in the 109th Congress were reintroduced, just hypothetically but, as some have said and speculated that would be the case, these changes would have a severe negative impact on small firms like AmberWave and this innovation ecosystem that I talk about Let me highlight just three ways quickly.

One is the so-called first to file method and revision. As Commissioner Doll talked about, inventors clutch their notebooks to their chest. And it's really through the first to invent process and standard that's unique in the world that inventors get credit for their invention that is properly documented in their notebook.

To suggest that we should harmonize with the rest of the world and go to a first to file standard suggests that what we really do is have a race to the courthouse and reward a patent lawyer who first pays a fee, as opposed to an inventor who properly documents their invention in their notebook.

Second, so-called post-grant review. We have talked about that. I think the most troubling problem with post-grant is the incessant uncertainty and unreliability that would be added into the system for a patent in a post-grant regime.

We think the pre-grant focus, as the commissioner talked about, is the appropriate place to talk about it, but to throw into the sys-

tem an uncertainty and unreliability into patents would make it very difficult to found new businesses.

Finally, the so-called apportionment provision is very difficult and problematic for small firms. What it suggests is that a quantitative standard would be directed towards juries to assess and award damages after an infringement was found. That would prohibit the jury from taking into account a disproportionate and significant impact that a small firm may bring to an overall product. And that would be harmful on small businesses.

So far this debate has been largely between big tech and big pharma, as we saw in the last Congress. And we appreciate the opportunity here in the 110th for you to be expanding the interests and hearing from voices like small firms, like AmberWave, and the innovation economy that we participate in.

Thank you.

[The prepared statement of Mr. Lord may be found in the Appendix on page 60.]

ChairwomanVELÁZQUEZ. Thank you, Mr. Lord.

Our next witness is Ms. Emily Ward. She is the Associate General Counsel for patents at eBay Inc. eBay is a global online marketplace enabling trade on a local, national, and international basis. With a diverse and passionate community of individuals and small businesses, eBay offers an online platform where millions of items are traded each day. eBay was founded in 1995 and is based in San Jose, California.

Welcome, Ms. Ward. You will have five minutes.

STATEMENT OF EMILY WARD, ASSOCIATE GENERAL COUNSEL, PATENTS, eBAY INC.

Ms.WARD. Thank you, Chairwoman Velázquez, for that gracious introduction. Chairwoman Velázquez, Ranking Member Chabot, and members of this Committee, we would like to thank you for giving us this opportunity to testify about the importance of patent reform to small businesses.

Patent litigation reform is not just about patent holders or the technology industries that are developing cutting-edge technologies, products, and services that improve our everyday lives.

The patent litigation reform debate should not just be a legalistic discussion of arcane patent law technicalities. No. Patent litigation reform is about making it easier for hardworking small business people and entrepreneurs across America to use technology tools to succeed in their chosen field of business.

I believe that the most important message here today is that while Twenty-First Century digital technology is important for big global businesses to operate successfully, it is even more important for American small businesses.

Technology tools help level the playing field. They enable small businesses to succeed in our highly competitive global economy. The unfortunate reality today is that patent litigation abuses are imposing significant legal costs on major technology companies across the board. These costs are passed along to technology users in the form of higher prices.

Higher prices hit small businesses with their narrow margins particularly hard. Take a look at the technologies that have been

targets of abusive patient litigation: computer hardware, software, cell phones, BlackBerries, printers, and online services and Web sites.

As consumers, many of us would like to have the largest cell phone, the newest laptop, or cutting-edge digital entertainment systems. These are fun gadgets, but we don't really need them. This is not the same for small business people. It is hard to find a small business person who is not using a host of digital technology equipment and tools every single day to do business.

In short, small business must have and needs affordable effective technology. They are not fun gadgets. They are the tools that enable small business people to operate independently and with unprecedented efficiency.

Just take the Internet and eBay marketplace as an example. Millions of small business people across the globe use Internet technology to compete against the retail giants and sell their products to consumers. Hundreds of thousands of American small businesses that use the eBay marketplace to connect with customers across the nation and increasingly to export to consumers in other parts of the world, this is a massive success story of how technology tools, hardware, software, communications, and the Internet are helping small businesses to survive and thrive.

These same technologies have been targeted by patent licensing businesses that do not make any commercial products. They pursue a new business model. And this business model is to write patent applications or purchase patents, with the aim being to exhort exorbitant licensing fees and patent lawsuits. The weight of these licensing costs and risks of more huge judgments and settlements, like the one in the BlackBerry case last year, which I am sure people are familiar with, which settled for $612 million, drive up the costs of these technologies in ways that hurt small businesses' bottom lines.

Furthermore, small businesses often produce goods and services as partners with larger businesses. When these larger businesses pay hundreds of millions of dollars due to frivolous licensing demands or patent lawsuits, that cost is borne, either directly or indirectly, by the small business partners or customers.

Finally, small business entities have suffered by being directly targeted by patent licensing companies as well. For example, a patent licensing entity called Pan IP sued about 50 small businesses, including a New York ski shop, 2 electronics stores, a pie company that was literally called The Little Pie Company, an Oregon fabric store, a New Jersey plumbing store, an Indiana chocolate shop, among many other defendants for alleged patent infringement.

The patent licensing fees that the plaintiff was seeking were large enough, about 25 to 50 thousand dollars apiece, to be financially crippling to a small company. But, however, the average cost for a small business to defend patent lawsuits and to hire attorneys is even more staggering and can easily run into the hundreds of thousands to millions of dollars.

As I said in my opening, I believe that the patent litigation debate should get beyond the legal technicalities and focus on the real world impact of abusive litigation. That said, eBay believes that modest reforms in the current system to address inequities are

very important and would benefit the overwhelming majority of small businesses. They include addressing the unpredictability and potential unfairness of damages calculations and informed shopping and addressing willfulness claims. These moderate reforms would prove of major benefit to the millions of small businesses who rely on technology to compete.

Thank you.

[The prepared statement of Ms. Ward may be found in the Appendix on page 93.]

ChairwomanVELÁZQUEZ. Thank you, Ms. Ward.

Our next witness is Mr. Neis, Mr. John Neis. He is the Managing Director of Venture Investors, an early-stage venture capital firm with offices in Madison, Wisconsin and Ann Arbor, Michigan. Mr. Neis is testifying on behalf of the National Venture Capital Association, which represents approximately 480 venture capital and private equity firms.

Welcome, Mr. Neis.

STATEMENT OF JOHN NEIS, ON BEHALF OF NATIONAL VENTURE CAPITAL ASSOCIATION

Mr.NEIS. Thank you, Chairwoman Velázquez, Ranking Member Chabot, and members of the Committee. My name is John Neis. And I am Managing Director at Venture Investors, an early-stage venture capital firm based in Madison, Wisconsin. It is my privilege to have the opportunity to share the views of the venture capital community on proposals for patent reform.

Venture capitalists invest in small emerging growth companies that strive to commercialize innovation. Companies that received their start with venture capital dollars include Genentech, Amgen, Intel, Cisco, Google, Medtronic, Microsoft, and eBay. At one time, all of these market leaders were small companies with big ideas.

The complexity of balancing the legitimate interests of numerous parties as Congress examines patent reform does not elude us. While we all agree there are abuses of the patent system and improvements could and should be made, we believe it's absolutely critical that any reform proposals are thoroughly vetted by legislators who are fully apprised of the consequences associated with each change to the system.

At the center of our concerns is the reality that the cost of defending against infringement is disproportionately burdensome for the small venture-backed company while the benefit of infringing relative cost is disproportionately attractive to the large company.

Our young, emerging companies are disadvantaged relative to the larger Goliaths in so many ways that often the only competitive advantage they possess is the sustainability of their intellectual property. Yet, some proposals, while well-intentioned, erode the ability of small companies to defend their patents at a cost that doesn't threaten their viability. Allow me to provide some examples.

The goal of post-grant opposition invalidating flawed patents is one we share. However, an open-ended second process weakens the presumption of validity. A company that has a legitimate patent may not be able to get venture funding if that patent is going to be challenged again and again.

The post-grant review clearly favors large companies with deep pockets, who could use these proceedings to delay patent issuances to a venture-backed company. If a post-grant opposition procedure is to be adopted, it should allow only a single window with a short predictable duration of approximately six months. Petitioners for cancellation should be required to identify themselves and should be required to file all issues regarding patentability.

If a party elects to challenge a patent issuance through this process, they should not be permitted to again raise these issues in any subsequent proceeding, which would protect the patentee from having to repeatedly defend the patent based upon the same arguments.

One area that we do not feel needs reforming is the calculation of damages. The current system in which the full impact of a patented feature on a product is considered is an appropriate one. Patentees have never been systematically overcompensated, nor are they currently.

The apportionment of damages proposal, which limits damages to only the patented feature, does not recognize that the sale of the whole product is often dependent on the presence of a patented improvement. Arbitrarily denying the courts the ability to base computations on the entire market value of a product will lead to equally arbitrary results as judges go for the hypothetical price of an unsold feature. This is an area of reform that is best left alone.

In my written testimony, I have described similar unintended consequences with many of the other proposed reforms regarding willful infringement, injunctive relief, prior use rights, and venue shopping, each of which alone could add cost, delay, and uncertainty that favors a deep-pocketed Goliaths in a battle against a small company that is solely reliant on successfully commercializing a single innovation.

Many of the companies supported by my firm have fewer than 20 employees. Lawyers charge as much as $600 an hour for their expertise. A freshly minted Ph.D., the one who is actually turning the innovation into a commercial reality, makes the equivalent of $60 an hour or less. While I have nothing against lawyers, only the investment in the latter is going to help advance innovation.

We share the objective of reducing unnecessary litigation. Money spent by Google or Roche in frivolous patent litigation is not only a drag on the U.S. economy. It's money that could be better spent acquiring young companies that are moving technology in new directions. However, reforms that add new processes, delays, and uncertainty force my young companies to spend their scarce dollars on J.D.'s, rather than Ph.D.'s. And that stifles innovation.

The best reforms will be those that focus on the front end, ensuring that patents are issued, the ones that are issued, are of high quality. Part of the problem in getting quality patents out of the system has been the lack of information available to patent examiners.

Reported plans to use the power of the Internet to access technical experts is a radical idea that can improve access for patent examiners. While this is only a pilot project, we feel that it is the type of innovation that offers tremendous promise.

In conclusion, the U.S. must continue to be the leader in promoting and insisting on sound, strong, and consistent intellectual property protections for those who need it most. Improving the quality of the patent system is critical to our nation's innovation leadership. However, so is protecting the smallest of companies that have contributed so substantially to that leadership in our nation.

Thank you.

[The prepared statement of Mr. Neis may be found in the Appendix on page 96.]

ChairwomanVELÁZQUEZ. Thank you, Mr. Neis.

Our next witness is Mr. John Thomas. He is professor of law at Georgetown University in Washington, D.C. Professor Thomas teaches courses in patent law and food and drug law. And his publications include both a textbook and a case book on patent law. Professor Thomas was recently awarded a grant from the MacArthur Foundation in order to continue his work as a visiting scholar at the Congressional Research Service.

Welcome.

STATEMENT OF JOHN R. THOMAS, PROFESSOR OF LAW, GEORGETOWN UNIVERSITY LAW CENTER

Mr.THOMAS. Thank you, Madam Chairwoman, Ranking Member Chabot, and members of the Committee. Thank you again for the opportunity to testify here today before you. I very much respect the work of the Committee to take on a field of law that sometimes deserves its reputation as being rather daunting and impenetrable. But small businesses and their owners are increasingly feeling the impact of the patent system upon competition, upon sustainable development, and upon social justice. So the issues that are before you impact your constituents very much.

Legislation before the 109th Congress would have dealt with two controversial features that I want to discuss: oppositions and market-based damages, the latter sometimes sailing under the heading of apportionment. Let me talk about oppositions first.

The legislation would have created a post-grant administrative revocation proceeding before the Patent Office with the intended goal of, first, having a low-cost litigation substitute to allow members of the public to test patent validity and also taking advantage of the expertise of the Patent Office, two features that would seem to favor the interest of small firms.

Now, concerns have been expressed that these opposition proceedings would inject uncertainty into the proprietary rights granted by patients. And those are important concerns. But when weighing them, I hope the Congress would consider that, in fact, there are a number of existing post-grant proceedings that have already been discussed before you.

One of them is a reissue, a proceeding that is just about as old as the patent system in this country. And that procedure allows any patent owner to return to the Patent Office with her patent and effectively tune it up, change claims, amend claims, omit claims. And that can be done, again, at any time during the life of the patent.

Similarly, we have two flavors of reexamination proceedings that allow, again, the patent owner, third parties, the Commissioner of Patents to challenge an issued patent, again at any time during the life of the patent.

In view of these established post-grant proceedings, savvy patent decision-makers have long accounted for the role of the Patent Office once a patent issues. And, again, that intervention can be at any time.

So I think Congress may wish to consider carefully whether opposition procedures really are going to amount to a sea change, established patent practice, and also whether time limits on bringing an opposition are appropriate, both in view of our long tradition of respecting public views and public inputs into the patent system, and also the sense that many products are not valuable or their value is not realized early in their life span. In fact, they only impact—for some pharmaceuticals, they can't be marketed early in their life span. So the worth of that patent does not accrue until later on.

Let me also talk about the damages proposal, the apportionment proposal. The fundamental premise of the patent system is that the market values inventions best. That is why the patent system has been such a success over its alternatives, such as a prize system, where an entity like this would dole out money to different firms based on what they thought of the merits of the invention.

Now, filling that premise is the concept that patent damages should be based on the value of that invention. As evidenced, for example, by the recent $1.52 billion verdict reached against Microsoft, there is some mounting evidence that judicial determinations of patent damages have become overly generous.

In the general sense, that is due to the increasing complexity of technology or even everyday consumer products we buy are not just one invention but dozens or hundreds or even thousands of them and also the sense that there are just a lot more patents out. The number of issued patents today is an order of magnitude more than a generation before.

So the combination means that there are a lot of patents and there are fairly heavy damages. So within this milieu, high tech firms increasingly have to obtain not just one patent license or two patent licenses. They have to pay dozens of them.

How are the cases stacking up on that? Recent empirical evidence suggests that the average royalty award awarded by courts is 13 percent. Now, if someone entering into the world of academia did some patent license negotiations, that's a pretty high number, particularly if a product is covered by hundreds or dozens of patents.

I have also listed a number of judicial opinions in my statement. It also suggests that there are some problems afoot. Damages awards that are super competitive, that are above the marketplace rate lead to emphasis on litigation. They promote patent speculation. They cause the patent scope to effectively cover other products and technologies that are not within that patent. And ultimately they may impede the process of technological innovation dissemination that the patent system is meant to foster.

So I believe that the apportionment concerns are very significant ones. And I encourage the Committee to consider them further. Thank you very much.

[The prepared statement of Mr. Thomas may be found in the Appendix on page 106.]

ChairwomanVELÁZQUEZ. Thank you, Mr. Thomas.

And now I will recognize Ranking Chabot for the introduction of his witness.

Mr.CHABOT. Thank you, Madam Chair.

And I am proud to introduce our final witness here today, not only because of the expertise that he brings to these hearings but because he is, as I mentioned before, a constituent of mine from the first district of Ohio, Cincinnati.

Mr. Kirsch has an impressive background in commercial and intellectual property litigation matters. He is currently a partner with the Cincinnati law firm of Taft, Stettinius and Hollister in their Litigation Department. Prior to joining Taft, Mr. Kirsch was intimately involved with intellectual property issues, including leading the Legal Services Department for Luxottica retail, the world's leading designer, manufacturer, and distributor of prescription frames and sunglasses.

He was also formerly a partner with Oppenheimer, Wolff and Donnelly, focusing on complex commercial patent, trademark, copyright, misappropriation of trade secrets, and domain name disputes.

Mr. Kirsch was of counsel with Stradling, Yocca, Carlson and Rauth, a leading high technology law firm in Newport Beach, California. He is admitted to practice before the state courts of California, U.S. District Courts of California, U.S. Courts of Appeals for the Ninth Circuit and the Federal Circuit. And so he has a considerable amount of wealth. I think he will have something to add to this panel.

We welcome your testimony, Mr. Kirsch.

STATEMENT OF KEVIN KIRSCH, PARTNER, TAFT, STETTINIUS & HOLLISTER, LLP

Mr.KIRSCH. Thank you very much, Ranking Member Chabot, Madam Chairwoman Velázquez, and the rest of the members of the Committee. I appreciate very much the opportunity to speak here today on issues concerning patent reform.

Before I begin with my prepared comments, I would like to just quickly address a comment made by Committee Member González and also by Committee Member Jefferson. Based on my experience in litigation, patents are swords. They are not shields. They are only as good as the desire and the ability to enforce brought by the person who holds the patent.

In litigation, leverage is key. And so two initiatives that have been sort of promulgated by various factors of removing the ability to get injunctive relief and removing the ability to get willfulness damages or curbing those abilities would severely impact small business' ability to retain contingency fee lawyers to work on their cases because typically small businesses can't afford the $2 million it costs on average for a small patent case and the $4 it costs on average for a $25 million-plus patent case. So to remove those two

components I think would potentially cause great harm to small businesses and their ability to effectively enforce their portfolios.

So let me dive into my prepared statement. From a patent litigator's perspective, the largest issue confronting the current system is the pervasive uncertainty created by a systemic flow in the system of patent procurement that allows patents to issue with undefined and ambiguous terms and a system of jurisprudence ill-equipped to adequately treat patent cases.

Although the patent statute requires patent applicants to claim their inventions with specificity, patent applicants are not required during the application process to define the terms in the patent claims in such a manner so as to educate the public as to the intended meaning of such claim terms.

For example, when a claim term recites the signal A as multiplexed together with signal B, did the applicant intend that signals A and B are multiplexed together with each other on the same signal line or signals A and B are multiplexed together at the same time? As such, many patents are inherently ambiguous at their point of issuance.

When litigated, these patents are then put forward for interpretation to a District Court judge with typically no relevant technical background and no training in patent law. The judge is charged with the daunting responsibility of construing the meaning of each of the asserted claims, which could far more easily have been defined by the patentee during the procurement process.

The construed claims are then presented to a jury at trial charged with the responsibility of rendering a verdict, whether a particular product or process, method of doing business, software program, etcetera, infringes one or more of the construed claims of the asserted patent and charged with rendering a verdict on a host of possible defenses asserted by the alleged infringer.

Is there any greater evidence of the need for definition of each of the claim terms by the patentee during the procurement process than the hundreds of millions of dollars and countless jurist hours spent related to claim construction hearings each year?

Short of trial, the claim construction hearing is the most significant event in patent litigation. During a claim construction hearing, attorneys spend hours, if not days, presenting arguments and evidence to a District Court judge regarding the meaning of typically 5 to 10 claim terms. The judge then spends hours, if not days, writing lengthy opinions regarding what 5 to 10 claim terms mean.

Despite brilliant jurists, quality attorneys, and excellent law clerks assisting the judges in crafting the opinions, the reversal rate at the Federal Circuit on claim construction approaches 40 percent. Further, the Federal Circuit basically repeats the entire claim construction process as it treats appellate review of claim construction de novo.

In addition to the extraordinary and economic opportunity costs lost by the claim construction process, the inherent uncertainty caused by the ambiguity in the meaning of terms subverts one of the primary purposes of the patent system. With an almost 40 percent reversal rate, how can alleged infringers receive actual notice of what is disclosed and claimed in a patent until after the Federal Circuit rules on the meaning of the claims?

What if we could cure the single most problematic aspect of patent cases, removing the confusion associated with claim terms, and set District Court judges free from the daunting task of interpreting the languages of patents?

One possible solution to the confusing and ambiguous nature of some claim language would be to require applicants for patents to define terms in the claims of the patents at the time of the filing of the application or at a very early stage of the patent application process, require the examiner to review and reject the proposed definitions until such time as they are written in plain English and allowed, and hold the patent to the allowed definitions during litigation. The process may also involve the patent examiner identifying claim terms for definition by the application in an early stage of the examination process.

While not having a retroactive effect and while not completely eliminating disputes as to the meaning of patent claims, as the parties may then revert to arguing as to what the definitions mean, this process may lead to fewer patent disputes since the public will have a much better understanding of exactly what is covered by the patent claims and may also lead to more streamlined and efficient patent litigations.

One other issue that I would like to address briefly that is ripe for reform concerns the way patents are litigated. With rare exception, District Court judges do not wish to preside over patent cases. District Court judges are uncomfortable dealing with the technology; do not fully understand patent law; and, understandably, do not appreciate the high rate of reversal associated with patent cases.

A system of District Court judges, preferably patent attorneys, positioned throughout the country dedicated primarily to patent cases with the support of special clerks with technology backgrounds, preferably patent attorneys, would appear to present a far better alternative to the current system.

In addition, patent cases should be tried on the bench, rather than a jury. Is it really fair to ask a juror to decide whether patent A on a subtle nuance of semiconductor MOSFET capacitor technology when viewed in light of patent B on another subtle nuance of semiconductor MOSFET capacitor technology renders obvious patent C, which is being asserted against a semiconductor chip manufacturer?

The jurors just don't understand this. I have been in mock jury panels. I have watched them work. They don't get the technology. They don't get the patent law. They don't understand the issues. And they come out on such a—they basically decide this issue on the most bizarre reasons that have nothing to do with the merits of the case.

Finally, one other benefit to actually having special District Court judges with the technical background would potentially allow us to open the door to give deference to the claim construction rulings of those courts.

The Federal Circuit does not give any deference whatsoever to what the District Court judges are doing currently. If you put in special judges who actually understood the issues and were trained

in patent law, it is more probable that we would receive that type of deference for them.

So thank you very much.

[The prepared statement of Mr. Kirsch may be found in the Appendix on page 123.]

ChairwomanVELÁZQUEZ. Thank you.

This has been an incredible, incredible panel. What it shows is the complexity of this issue and the ramifications of what patent reform could have on both ends of those who are opposing it and those who are in favor of it.

Let me just say that, as we heard from the different witnesses, this could have significant impact on small businesses. Given the fact that our Committee has been given expanded jurisdiction, we have a responsibility to try to understand this issue and to see how it is going to impact on small businesses.

So with that, let me thank all of the witnesses. And I would like to address my first question to the two patenting experts, Mr. Thomas and Mr. Kirsch.

From my perspective, there are legitimate small business concerns, both in favor of and opposed to patent reform legislation. There are small companies being sued under spurious claims and others that must compete with companies employing questionable patents. These companies support patent reform. There are also small businesses that develop and license technologies, and they are concerned about changes in patent law that might make their patent rights less certain. These companies do not support patent reform.

Would you agree with this assessment?

Mr.THOMAS. Yes.

[Laughter.]

ChairwomanVELÁZQUEZ. Mr. Kirsch?

Mr.KIRSCH. Yes.

ChairwomanVELÁZQUEZ. Okay. Thank you.

My next question is addressed to Ms. Ward. One of the more difficult facets of the debate about patent reform is how best to qualify or quantify the impact the spurious patent litigation has on innovation.

When Mr. Lord testifies that potential patent reform legislation could mean that his company will have a difficult time attracting future venture capital investments, I understand his concern. For many companies, no investors mean no research and development.

Less clear to me is how patent litigation impacts ongoing innovation. Ms. Ward, can you tell me how the patent infringement cases, like the ones your company has faced, impact innovation, particularly for small companies?

Ms.WARD. Yes. I would be happy to. That is an excellent question. Reformation of patent litigation abuses will actually help and improve innovation. I think a number of the witnesses testified that, frankly, there is so much money being spent on lawyers, there is so much money being spent on settlements and judgments right now in patent litigation.

That is because abuses are so common under the current system. Tamping down and making, if you will, minor adjustments or minor corrections in the current litigation system to really tamp

down abuses will actually help free up more money and take it away from defending or paying spurious licensing fees and more money into innovation, more money into R&D, more money into engineers.

One quick note is that when we were facing the Merc Exchange/eBay case about a year ago, where there were a lot of opponents to sort of the automatic injunction rule that had been in place before the Supreme Court decided Merc Exchange, those opponents would say, "Look, if you grant eBay's request in the Merc Exchange case, gosh, the patent system will end. The whole thing will fold. This will be a complete disaster."

If you sort of see, what has happened is the Supreme Court unanimously agreed and put in place the four-factor test that is sort of traditional in looking at injunctions, applied it as well to patents, and what you will see is that since that time, actually, the system has worked much better.

ChairwomanVELÁZQUEZ. Anyone else who would like to comment on that?

Mr.LORD. Yes. Madam Chairwoman,—

ChairwomanVELÁZQUEZ. Yes, Mr. Lord?

Mr.LORD. —I would like to jump in. Thank you—

ChairwomanVELÁZQUEZ. Sure.

Mr.LORD. —for the comments.

You know, I think that what we really have here is an appeal from large technology companies to change and reduce the burden on large companies' legal budgets.

And, quite frankly, I don't buy the argument that a reduction in a large company's overall litigation budget will result in increased investment in research and development.

Large companies should already have an incentive to invest in research and development because of their very place in the marketplace. That ought to be encouraged. But I don't think that it's fair to say that there is a one-to-one correlation that a dollar reduced from a large company's litigation department will shift into a dollar in early-stage research and development.

ChairwomanVELÁZQUEZ. Thank you, Mr. Lord.

Mr. Gross and Ms. Ward, why is apportionment of damages so important to the proponents of patent reform?

Mr.GROSS. I mean, I was somewhat surprised and actually wasn't aware about the average size of the settlements of patent disputes. Just for frame of reference, my peer group of public companies, where there is available information, the maximum license royalty fee that we pay for embedded products is ten percent.

My particular company is two percent. And if we were faced with a 13 percent average royalty rate, we would shut our doors very quickly. We couldn't afford to do that. We couldn't afford to pass that cost along to our customers.

The risk of a patent settlement that makes your commercialization efforts not worth it are what keeps a lot of small businesses from proceeding along the process of creating innovation and commercializing it.

Ms.WARD. If I could just answer your question regarding damages apportionment? The proposal that has been enunciated in previous bills, the House and the Senate, is just that damages should

be in a sense related to the inventive contribution or the inventive value of the patented invention and should not necessarily include the value that others in a sense contribute.

If I could give you sort of a real world, you know, just an example? If somebody is an engineer in a company and they are working in a group of 200 engineers and every engineer is making a contribution to the final product, that engineer should be accorded in a sense his salary. He or she should not necessarily be accorded a percentage of every other person's salary because every other person has made a contribution to that final product. And those contributions in a sense should be recognized separately.

All we're talking about is sort of common sense adjustment, that the damages that a patentee should get should actually be related back to the value of his invention that he contributes.

ChairwomanVELÁZQUEZ. Mr. Kirsch?

Mr.KIRSCH. If I may, this apportionment of damages issues is actually addressed by the Georgia Pacific standard, which is that there is about—I can't remember the number of terms but about 15 different factors that you weigh when you're looking at Georgia Pacific specifically related to royalty that factors deal with damages.

But you are supposed to look at the actual contribution of the invention to the overall product that you are analyzing for your damages analysis? So it should actually be done by the standard that is being followed by most of the courts anyway. I think the apportionment issue is more of a statutory sort of codification of existing case law.

Mr.NEIS. If you would, may I jump in, please, Madam?

Mr.LORD. Go ahead. I have already spoken.

Mr.NEIS. Yes. I would like to add there. You know, I have got a portfolio company that has developed revolutionary new treatments for cancer. These devices sell for about $3 million. It's an enormous piece of equipment. It's having a huge impact on cancer treatment. Some of their patents are covering relatively minor aspects of the total system, but those minor aspects are what impact their ability to get market share.

And if you went to an apportionment of damages approach where you were just looking at the value of that component that might be—you know, a court could arrive at a $50,000 value. That is not going to compensate them for loss of half of their marketplace that people started trying to infringe the patents. So this is an area that really makes it ripe for abuse by large companies.

ChairwomanVELÁZQUEZ. Thank you. Now I will recognize Mr. Chabot.

Mr.CHABOT. Thank you very much, Madam Chair.

I will start with you, Mr. Kirsch, if I can. In your testimony, it makes you wonder whether the judicial system is really equipped to handle patent disputes. And you mentioned about how kind of incomprehensible this stuff might be to juries or really to anybody probably up here on this panel if we were sitting on one of those juries as well. What do you think? I mean, what should be done about that? What is, say, a bench trial versus jury trial? What do you think we ought to do?

Mr.KIRSCH. As I suggested, I think that we ought to develop a system of judges throughout the country who are specialists in this area who get patent attorneys to actually become District Court judges, especially in the areas where you have just a heavy amount of patent litigation. In the alternative, Darrell Issa's idea of opting in, so you have a judge, such as in the Northern District of Ohio, Judge O'Malley, has indicated that she actually enjoys doing patent cases. And that is very rare because you go to the Southern District of Ohio and start asking all of those judges. And uniformly they hate doing patent cases.

But if we could basically have a way of either funneling patent cases to judges that are interested in this subject matter and that become trained in it or actually setting up a system where we have specially trained judges with backgrounds with stats, with technical backgrounds that can handle these types of cases, we would be far better off.

I mean, I do think on the bench trial issue—and my statement was a little broad in that there are certain issues you could put to a jury. For example, you could ask a jury who was the first to invent. And that's kind of a more specific fact issue. But to ask a juror to try to analyze whether two prior references actually read on a patent's being asserted against another product in the semiconductor arena or in pharmaceutical arena, they're just not going to understand it. And we would be better served having a judge with special training with special staffs actually dealing with these issues.

So I think that some type of program that would allow for that greater specialty would be very beneficial to the system.

Mr.CHABOT. Thank you.

Mr. Thomas, what would you say is the most important change or modification or reform that could be made essentially in the patents? If you had to pick one, what do you think would be the most significant that would be doable?

Mr.THOMAS. Thank you.

In general I would favor those reforms that lower transaction costs and increase certainty. That would enable small business to navigate the sometimes treacherous patent terrain the best and I think the reforms that serve those purposes are best suited for small entities. That is why I like oppositions, which tend to allow patent validity be tested in a relatively low-cost forum by an expert tribunal before patents can be enforced and more costly litigation.

Mr.CHABOT. Thank you.

Mr. Neis, as an investor, what problems do you perceive with the quality of patents issued by the U.S. Patent and Trademark Office? And how does this affect your investment decisions?

Mr.NEIS. Well, clearly we are making—I mean, we are typically backing a couple of guys with the great idea at the formative stages of a company in that intellectual property is what is really driving the attraction of venture capital dollars into the company in the first place.

So quality up front is important. We think the greatest room for improvement is an improvement of quality, giving the PTO the resources and better access to information so that not overly broad patents are issued.

But we would rather see the improvements up front early in the process, where it's much lower cost, rather than wholesale changes after issuance that really add a whole layer of delay and burden and uncertainty for these small companies because at the end of the day, you know, our companies can only win in these litigation fights one way. They can win in the courts. The big company can win two ways. They will win either in the courts or simply by attrition. They will just spend the little company into bankruptcy.

Mr.CHABOT. Madam Chair, I had a couple of more questions. But I think in the interest of time, I would be happy to yield back to you if you had something you wanted to ask.

ChairwomanVELÁZQUEZ. No. Go ahead.

Mr.CHABOT. Okay. Thank you.

Ms. Ward, what recommendations do you have with regard to making damage calculations more predictable under the current patent system?

Ms.WARD. I think that the provision that was proposed in the Senator Hatch and Leahy bill is excellent. It actually goes back and says, "What is the value of the inventive contribution?" and that is the measure for the damages base. And you should actually consider sort of the comparison between the inventive contribution and then also the comparison of other improvements that may have been added by the company or others and sort of kind of take those against each other in terms of looking at the damages.

Mr.CHABOT. Thank you.

Mr.LORD. Representative Chabot?

Mr.CHABOT. Yes?

Mr.LORD. May I jump in there, please?

Mr.CHABOT. Yes, absolutely

Mr.LORD. I think something has been misstated that I would like to correct on the apportionment issue. And that is that the proposal that has been put forth is actually codification of one of the 15 factors in the Georgia Pacific test. Codification of Georgia Pacific that says that all of the 15 factors, which Ms. Ward should be referring to would be I think a good solution for our patent system. The problem is that the proponents of apportionment want to take one of the prongs out of the Georgia Pacific test and make that single prong the law of the land.

Her hypothetical actually identifies exactly the problem. Not all engineers are created equal. And Mr. Neis talked about this. Some technologies, like some engineers, are Nobel Laureate technologies. And those are the types of technologies that ought to be rewarded in the marketplace.

So simply doing a head count doesn't work. And that is why Georgia Pacific has 15 factors. And that is what we ought to be codifying.

Mr.CHABOT. Thank you.

Mr. Gross, I will conclude with you. You had said very clearly the patent system in your view is broken, it has considerable flaws, it is too expensive, defendants are forced to settle, and folks are afraid to innovate. What one or two doable things would you do if you had the power to do so to change it?

Mr.GROSS. One thing I might recommend is a program similar to what is available for trademarks. And that is kind of a use it or

lose it process where you develop and get a patent if you don't commercialize it within some period of time, you lose the rights or there is some way that there is a just way to provide for a royalty treatment of it.

The other thing that is particularly a problem to small business is that the patent litigation process tends to be one where small patent holders or even large patent holders will go sue the deep pockets that are using the technology. The end result has been it is quite surprising that the deep pockets turn to the little pockets that have the technology.

And we in almost 5,000 license agreements are forced to indemnify our users of our technology, which makes us extremely cautious and extremely careful and extremely fearful of coming up with new products that may step on a patent that we can't adequately research, so somehow finding a way that the risk of the patent can be properly associated and somehow finding a way that patents and technology can, in fact, become commercialized and provide some benefit both to the commercializer and the general population.

Mr.CHABOT. Thank you.

Madam Chair, let me commend the panel for really very excellent testimony here this morning. I want to commend you for putting the panel together and for holding this hearing and exercising our Committee's jurisdiction in this area. There are other committees clearly that are relevant as well, but I think it is important that we look at the impact that the whole patent system has on small businesses. And so I want to commend you on your leadership on that. Thank you.

ChairwomanVELÁZQUEZ. Thank you, Mr. Chabot.

I have two or three more questions. My first question I would like to address to Professor Thomas. We heard this morning concerns being raised about the so-called second window. It sounds to me that companies, small companies in particular, fear that a second window for filing an opposition to an issued patent will make less valuable their patent rights.

I understand you have studied the post-grant opposition issue. Thus, will the availability of a second window fundamentally weakens patent rights?

Mr.THOMAS. Well, in my opinion, no. If I may expand for this answer?

ChairwomanVELÁZQUEZ. Yes.

Mr.THOMAS. Again, the patent system represents a bargain between the public and the inventor. The inventor obtains exclusive rights, but it's over the public interest. And, as a result, it seems suitable that the public may be able to comment upon that grant, if not for the entire term of the patent, at least to such time as the value of that invention is realized.

Please recall that certainly for pharmaceuticals, many of these products are simply not going to be approved by the FDA for many years after the patent is obtained. So if we have a very short initial period and no further chance for an opposition, you are essentially exempting the pharmaceutical industry and all the public health concerns that the patent system embraces from the opposition system. That sounds to me to be an unwise design choice.

Thank you.

ChairwomanVELÁZQUEZ. Thank you.

Anyone else who would like to comment on this?

Mr.KIRSCH. You know, actually, I would like to make one comment with respect to it. I think we need to be careful with any procedure that we put into place for the post-opposition process.

In reviewing H.R. 2795, there were a few things within that proposal that raised concern that had a lower standard of proof where there was a preponderance of the evidence versus clear and convincing and District Court levels. It allowed for discovery. So any affiant during the course who submitted a declaration would be susceptible to a deposition.

These types of procures, that could be a large cost to a small company. So if a small company got a patent and then put it through this post-opposition procedure with no actual opportunity to go collect damages at the end of the day because all they're doing is defending against the actual validity of the patent and paying for all this discovery over a period of time that's supposed to go up to a year, I mean, it could be a pretty onerous burden for small businesses.

ChairwomanVELÁZQUEZ. Thank you.

Professor Thomas, can you explain how passage of legislation that includes provisions on willful infringement and apportionment of damages will have had an impact on the $1.52 billion judgment that a jury rendered in the recent Microsoft v. Alcatel?

Mr.THOMAS. Thank you.

Well, Microsoft is well-capable of representing itself, and I haven't studied the case carefully because of the lack of published opinion. But it's my understanding that the jury awarded .5 percent of the entire price, not just of the operating system but the entire computer, the hardware, based on two patents relating to MP3 files. And while I enjoy listening to music from my computer very much, I rather doubt it's worth that much percentage given all the other technology that has gone into a computer.

So certainly the apportionment standard would allow or perhaps place a renewed emphasis on something we already have in our law, which is a fairly nuanced law that looks for some cases where the technology, that kind of technology, drives the sale and, therefore, it is appropriate to base damages on the entire product—that's the entire market value rule—and other cases where apportionment is more appropriate. You can see how courts went fairly quickly to fault apportionment because it's easier to do, quite frankly. And it's easier for jurors to do. I think legislation might nudge our law in the right direction.

A willful infringement reform would also make sure that there is, in fact, a finding of infringement before we go through the nettlesome issues of what did the inventor, what did the accused infringer know, when did she know it, and do we think she is a bad person, and ten elements that really don't have much to do with the issue at trial.

Thank you.

Mr.LORD. Madam Chairwoman?

ChairwomanVELÁZQUEZ. Yes, Mr. Lord?

Mr.LORD. The one-half percent, I might point out, is much more in line with the types of royalty rates that we see over on the tech side of things. I want to also make a note that the 13 percent that has been talked about I'm quite confident that 13 percent includes as part of its calculus biotechnology licensing rates, which, as you probably know, are far more excessive because of the business models that are present much more sharing, much more of a joint development effort in the biotech space, which obviously then has the net effect of driving up that average 13 percent. The half percent, regardless of how we might deal with apportionment, is much more in line with the type of royalty rates that we see in the big tech, in the high tech side of things.

ChairwomanVELÁZQUEZ. Thank you.

Mr. Gross, am I correct that concerns about the patent system in its current state have caused your company to change its behavior or its direction? And if so, could I ask you to highlight a couple of companies how your company has changed its behavior?

Mr.GROSS. Yes. Thank you.

Many years ago we came up with an innovation that we actually spent close to $10 million developing. And in our initial search as a company, we found no direct patents that we would infringe upon. And after we went to commercialization, we found that there are other people that propose to go after our technology. And faced with the cost of that, we abandoned that technology. And for a small company of our size, that is a lot of money to spend.

ChairwomanVELÁZQUEZ. But let me ask you, how would reform of the patent law have eased your concerns; and, second, the actions your company will be able to take after the patent system is reformed?

Mr.GROSS. A couple of things. One, the ability of us to more openly, clearly, and less expensively challenge patents that just touched on pieces of what we were doing and, therefore, posed a problem to us would have made it a lot easier.

The other thing that I think was important is what we found with a lot of the things that we ran up against. They were warehoused patents. In other words, several of them were owned by very, very large companies with floors full of lawyers that just take out patents with no intent to use those patents but intent to exercise those patents if somebody else did commercialize the technology or to use it, frankly, as a blocking technology, so some review process that could prevent that.

The other thing is the indemnification issue that I mentioned earlier. The requirement of our customers to indemnify us is a big factor in our decision of where to go with technology. And something that deals with that indemnification process would help us greatly.

ChairwomanVELÁZQUEZ. If anyone else would like to add? Yes, Ms. Ward?

Ms.WARD. May I add something? Going to Mr. Gross' example, which I definitely sympathize because I have heard it quite a lot, there are two aspects of the reform that would actually specifically help Mr. Gross. The first is in post-grant opposition having that second window so that the companies like Mr. Gross, the ones that are actually faced with the threat, can then go back and look and

see, "Is there prior art? Are there issues about the patent that make the patent flawed and faulty?" and bring those before the Patent and Trademark Office, which is a less expensive venue than bringing it before court. That reform would actually help companies like Mr. Gross.

The other reform that would actually help companies like Mr. Gross is reform on the willfulness issues, which I am sure you know Mr. Gross has probably suffered as well as other small companies in that, even though he did actually very good faith and very detailed searches, that alone may not be a sufficient defense to willfulness.

Usually, the defense is, after you do those good faith searches, you have to go out and hire an outside counsel opinion, which are 20 to 50 to 100 thousand dollars to get, and have an outside counsel issue a written report saying, "Well, your technology doesn't infringe" or "The patent is invalid." And it's a big expense, and it's a huge burden on small companies.

So those two changes would actually help companies like Mr. Gross'.

ChairwomanVELÁZQUEZ. Yes, Mr. Neis?

Mr.NEIS. I would just like to add. I mean, you know, the issue with post-grant opposition, as Mr. Kirsch pointed out, is that it does add a layer of costs for these small companies.

I mean, these companies are often starting out with only a couple of million dollars of funding that they are using to advance their technology. And if they have to consume that, use that money for attorneys, it is preventing them from spending that money on technology development.

It is not just the cost in terms of the dollars. It is the enormous distraction for the management team in the formative stages that really is going to stifle innovation. So if there is to be any kind of post-grant opposition, it really needs to be short and allow these companies to get to certainty very, very quickly.

ChairwomanVELÁZQUEZ. With that, I want to commend all of the witnesses for participating in this hearing today. It has been quite an important hearing to help us understand the importance of this issue.

And let me just say that we will continue this Committee to monitor what will happen regarding patent reform. And I believe that a case has been made this morning regarding the impact that it could have on small businesses.

So, with that, the Committee adjourns.

[Whereupon, at 12:30 p.m., the foregoing matter was concluded.]

STATEMENT
of the
Honorable Nydia M. Velázquez, Chair
Committee on Small Business
Full Committee Hearing on the Potential Impact of Patent Reform on Small Business
Thursday, March 29, 2007

I am very pleased to call to order this morning's hearing on the potential impact of patent reform on small business.

For more than 200 years, the U.S. patent system has served America's inventors and helped to foster innovation and technological advancement. The award of strong, enforceable patents, based on an effective patent system, provides a critical incentive to innovation. Granting inventors certain exclusive rights helps spur research and development efforts which, in turn, help drive American technological leadership. In this way, patents are an important linchpin with respect to continuing America's economic growth and global competitiveness.

An effective Patent & Trademark Office and sound intellectual property laws are particularly significant to small companies. As tireless innovators, small companies produce more than 13 times as many patents per employee than do their larger counterparts. This demonstrates the critical role that patents play for small firms – enabling them to attract investors, grow their companies, and compete with larger entities.

Due to it's importance to the U.S. economy and to small business, today's hearing will examine the effect of potential reforms on small firms. We will hear testimony on ways that we can improve the system to enable small companies to compete in a global economy. This includes harmonizing U.S. patent laws with those of other industrialized countries and strengthening patent quality. We will also hear about potential changes to the litigation system, which many suggest has become a deterrent to innovation and technological progress.

Reforming the U.S. patent system could have a very significant impact on small companies' ability to protect, as well as enforce, their rights. The current system has a significant impact on the small companies that manufacture complex products, license patented technologies, and defend themselves in alleged infringement cases. We will

hear testimony that will discuss these issues, which will illustrate the important stake that small companies have in this debate.

Small innovative companies play a significant role in the most productive sectors of the United States economy. These companies are often more willing to take risk than larger competitors, positioning themselves to seize market opportunities. As remarkable inventors, small companies use and rely on the U.S. patent system. For many, this is central to their business and on-going competitiveness. Today, we will ensure that these small firms have a voice in the patent reform discussion.

I look forward to the testimony on this important – if complex – issue.

I now recognize Mr. Chabot for his opening statement.

U.S. House of Representatives
Small Business Committee
Rep. Steve Chabot (R-OH), Republican Leader

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March 29, 2007
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Statement of Congressman Steve Chabot
"The Importance of Patent Reform on Small Businesses"

"Madame Chairwoman, I'd like to thank you for holding this hearing this morning. I'd also like to thank all of our witnesses for agreeing to share their views on this important issue. If I may, I'd like to welcome Mr. Kevin Kirsch, who I will be introducing shortly, who hails from the City of Cincinnati.

"Innovation is the heart and soul of this country, and we need not look any farther than to our Founding Fathers and the Constitution to demonstrate the importance of patents in the development of our great nation.

"Through title 35, Congress has promoted quote – 'the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries the impact of which is immeasurable.' The impact of these protections is immeasurable. We now live in an age where what was once considered science fiction is now a part of everyday life. Advances in medicine and health technology allow us to lead longer lives. Wireless, satellite, digital, and electronic technology have allowed us to live fuller lives – entertaining, communicating, and traveling in ways we never imagined.

"The relationship between innovation, particularly advances in technology, and small businesses cannot be overstated. In 2003, the Small Business Administration noted quote 'small firm innovators are extremely effective at producing technically important innovations – and technically important innovations are most likely to be commercially important.'

"In particular, the report found among other things:

"Small firms produce more highly cited patents than large firms on average. Small firm patents are twice as likely as large firm patents to be among the most cited patents.

"Small patenting firms produce 13-14 times more patents per employee as large patenting firms.

"Small firm innovation on average is linked to scientific research twice as often as large firm innovation, and so substantially more high-tech or leading edge.

"Thus, there is no doubt that small businesses have made significant contributions under the current patent system.

"But, like many other statutes such as the Sherman Act, our patent laws were enacted more than a half-century ago. Advances in technology, together with uncertain patents, and increased litigation, raise legitimate questions as to the sufficiency of title 35 to protect and incentivize innovation in the 21st Century.

"For small businesses, these concerns are compounded by the problems faced by small businesses utilizing the patent system. It's same report highlighting the successes experienced by small business, the Small Business Administration found that quote – 'small firms find the patent system to be problematic. The costs of obtaining and maintaining patents can be prohibitive, and small firms are not able to undertake expensive litigation to defend their intellectual property.'"

"I believe we have a unique opportunity today to explore in greater detail how different industry sectors utilize the patent system, determine what works for small businesses and what areas can be improved to ensure that innovation continues to flourish in the future.

"I would also like to take a moment to recognize all of the time and effort that has been invested in this issue, particularly by my colleagues on the Judiciary Committee. As all of you know, patent law is a complex area, and I would like to thank Ranking Member Smith and Courts and Intellectually Property Subcommittee Chairman Berman, in particular for their leadership on this issue.

"Again, I thank the witnesses for their testimony presented to us today."

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Statement of Rep. Jason Altmire
Committee on Small Business Hearing: "The Importance of Patent Reform to Small Businesses"
March 29, 2007

Thank you, Madam Chair, for holding this hearing today on reforming the U.S. patent system and what it means for small businesses. As this debate continues in this Committee and others, it is vital that we keep in mind the impact any reforms will have on small businesses.

Stringent patent protections are crucial to the survival and growth of many small businesses. Small businesses are the greatest drivers of innovation and job growth in this country and depend on the rights and privileges afforded them by the patent system to compete. Congress must undertake this debate in a thoughtful and deliberative manner to ensure that the final result is in the best interests of all parties and of the country as a whole.

Thank you again, Madam Chair, for holding this hearing and highlighting the role that small businesses have in this debate. I yield back the balance of my time.

# # #

STATEMENT OF

JOHN J. DOLL

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE

COMMITTEE ON SMALL BUSINESS
U.S. House of Representatives

"The Importance of Patent Reform to Small Businesses"

MARCH 29, 2007

Introduction

Chairwoman Velazquez, Ranking Member Chabot, and Members of the Committee:

Thank you for this opportunity to appear before you to discuss the United States Patent and Trademark Office's (USPTO) operations, programs and initiatives involving small business.

Small businesses not only represent an important part of our patent and trademark stakeholder community, they are also a strong driving force in our nation's economy. Small businesses account for 99.7% of all employer firms in America and those firms create two out of every three new jobs and account for nearly half of America's overall employment. They have played a vital role in helping our economy add millions of new jobs and have helped reduce unemployment rates across the country.

The contribution from small and minority business and independent inventors to America's innovation and technological growth cannot be overstated.

The strength of our nation's economy continues to rest on the ingenuity of American inventors. In this new century, securing appropriate protection for inventions is almost as important as the invention itself. As inventors turn their ideas and discoveries into viable, marketable products and seek capital investment, it is critically important that they obtain the protection they need to safeguard their inventions. The USPTO is proud to play an important role in that process.

Protecting Small Business Innovation

In addition to our core functions of examination and issuance of patents and trademarks, the USPTO is actively involved with efforts to improve protection of the intellectual property of American inventors and creators on both the domestic and international levels. A wide range of USPTO's ongoing programs and initiatives serve to educate, assist and guide small businesses and independent inventors in obtaining and maintaining appropriate protection for their inventions.

USPTO Fees and Funding

We are thankful that Congress has ensured that our current fee schedule remains in effect for FY 2007. Notably, that fee schedule continues the 50 percent discount for small entity filers. The Administration is preparing for submission to Congress draft legislation that will make permanent our current fee schedule.

We are also pleased that the FY 2008 budget request gives the USPTO full access to the $1.9 billion in fees we expect to collect. This is the fourth consecutive year that the President's budget recommends full access to collected fees, and we appreciate the continued Congressional support for that funding level.

Full access to user fees allows the USPTO to continue its successful model of disciplined focus on real measures that enhance quality and increase production, increase hiring and training, promote electronic filing and processing, provide telework opportunities for our employees and improve intellectual property protection and enforcement domestically and abroad.

Predictable funding permits us to finance the initiatives – particularly initiatives requiring long-term planning and commitment – necessary to providing and maintaining reliable, functioning systems. Without Congressional support, we would not be able to function in a business-like manner and achieve these results.

Inventors Assistance Center

In addition to the wealth of information, including the searchable issued patent and published patent application databases, available on USPTO's website (www.uspto.gov), patent applicants can contact the USPTO's Inventors Assistance Center for help on a variety of issues. Staffed by former Supervisory Patent Examiners and experienced Primary Examiners, the Center provides patent information and services to the public including assistance with filling out forms and general information on relevant rules, procedures, fees and patent examining policy. Approximately 5,000 to 6,000 calls are received each month and approximately 2,500 packages of information are sent each month to the public containing information about provisional patent applications, utility and design patent applications, fee schedules and cautionary literature about invention promotion firms.

The Center's staff members are available for questions and consultations Monday through Friday, from 8:30 A.M to 5:00 P.M. EST, at 1-800-PTO-9199.

Patent and Trademark Depository Libraries

USPTO's patent and trademark depository library (PTDL) program is a nationwide network of public, state and academic libraries authorized to disseminate patent and trademark information and to support inventors, intellectual property attorneys and agents, business people, researchers, entrepreneurs, students, historians and the general public who are not able to come to USPTO's offices in Alexandria, Va.

Services at the libraries are free, and include assistance in accessing and using patent and trademark documents, training on USPTO databases, obtaining access to the USPTO website, and hosting public seminars on intellectual property topics for novice and experienced innovators.

The PTDL network consists of 85 libraries located in 47 states, the District of Columbia, and Puerto Rico. Locations include the public libraries in New York City and Cincinnati.

On-Line Chats

On-Line chats for independent inventors are advertised and hosted by the USPTO. This gives the public the unique opportunity to log onto the "chat" and ask questions that are posted in a public forum. A panel of USPTO experts provides the answers to the questions during a one-hour chat session. On average, 200 members of the public log on to participate in the chats. Transcripts from the chats on published on USPTO's website and converted to frequently asked questions.

Independent Inventors Conferences

The USPTO sponsors conferences for independent inventors and small businesses which feature informative sessions conducted by USPTO personnel including supervisory patent examiners. These two-day events include sessions on how to conduct a patent search, what is and is not patentable, how to protect your trademark, how to write a business plan, and what to do after you receive a patent. The USPTO also invites participation at these events by representatives of local resources such as Small Business Development Centers, Patent and Trademark Depository Libraries, attorneys from the Intellectual Property Law Associations and subject matter experts in marketing.

Future conferences include those planned for New York in May and North Carolina in September 2007.

Electronic Filing and Processing

The USPTO continues to promote electronic filing and processing of patent applications as a means of reducing paper-based inefficiencies and enabling large as well as small

entities and independent inventors to file their patent applications 24-hours a day from any location in the world.

Our patents organization implemented the Electronic Filing System-Web (EFS-Web), a user friendly, Internet-based patent application and document submission program and in FY 2006 achieved a rate of 14 percent of patent applications filed electronically.

A celebration event is being planned at the USPTO to celebrate EFS-Web recently achieving the milestones of (1) receiving 50% of new patent applications on a weekly basis, and (2) the Office having received over 500,000 follow-on papers through the use of EFS-Web.

We will work with our stakeholders to further promote electronic filing and interaction with patent applicants.

We are developing the electronic Patent File Wrapper (PFW) that in conjunction with current Patent Automated Information Systems (AIS's) will allow for a fully automated, text-driven patent application processing system.

Operating in today's wired world requires that the USPTO have full electronic processing that is safe, secure and continually available to employees, applicants and stakeholders.

Innovative Processing

The USPTO is developing and reviewing a variety of innovative patent processing initiatives including a new offering called "Accelerated Examination." Under this program, which began August 26, 2006, the USPTO offers a complete examination within 12 months for applicants who need or want quick turn around.

In exchange for this quick turn around, applicants must file a complete application, agree to interviews and accelerated response periods, must file and prosecute their application electronically and must provide more information about the invention to the USPTO in the form of a prior art examination support document. The first application completed under this program was filed on September 29, 2006, and the patent issued on March 13, 2007 (less than 6 months from date of filing).

The Accelerated Examination option is available to large as well as small entities and independent inventors who determine that marketplace factors justify focused action to gain patent protection in the shortest possible period.

The USPTO is also planning a pilot program involving public peer review of patent applications. Up to 250 applications, assigned to Technology Center 2100, which examines computer related technologies, will voluntarily be placed, by the applicants, on a non-USPTO web site for public review by a peer group of patent users, attorneys and academics. The pilot group of applications will include applications filed by independent inventors and small entity filers. The public group will determine and submit to the

USPTO what they consider the best available and relevant prior art. The pilot will test whether this peer review can effectively identify prior art that might not otherwise be found by our examiners during the typical examination process. We will also make an evaluation as to whether this process results in measurable examination timesavings and quality improvements.

STOP! Hotline

As part of the Administration's STOP! initiative to combat the piracy and counterfeiting of intellectual property, USPTO manages a hotline (1-866-999-HALT) that helps small- and medium-sized businesses leverage the resources of the U.S. Government to protect their intellectual property rights in the U.S. and abroad. Callers receive information from a staff of approximately 37 intellectual property attorneys at the USPTO, with regional expertise, on matters involving how to secure patents, trademarks, and copyrights, and how to enforce those rights.

In FY 2006, the Hotline received 1,460 calls, an increase of more than 50 percent over FY 2005. Thus far in FY 2007, we have received more than 850 calls.

Stopfakes.gov

The USPTO has established a link on its website to *www.stopfakes.gov* which provides in-depth details of the STOP! initiative. One key feature of the website is the country specific "Toolkits" that have been created by our embassies overseas to assist small-and medium-sized businesses with intellectual property rights issues in China, Korea, Mexico, Taiwan, Russia, Brazil, and Malaysia. STOP! also seeks to increase global awareness of the risks and consequences of intellectual property crimes through a section of its website, *www.stopfakes.com/smallbusiness*, that is specifically designed and operated by the USPTO to answer common questions of small businesses to help them better identify and address their intellectual property protection needs.

Outreach to Small Business - Public Awareness Campaign

While counterfeiting and piracy pose a serious threat to all American businesses, small and minority businesses are particularly at risk since they often lack the knowledge and expertise to effectively combat those problems. Because small businesses typically do not have personnel or maintain large operations in other countries, theft of their intellectual property overseas can go undetected. As part of the STOP! initiative, in April of 2005, the USPTO launched an intensive national public awareness campaign to help educate small businesses on protecting their intellectual property both here and abroad.

According to the U.S. Small Business Administration, America is home to about 23 million diverse, geographically dispersed small businesses. As a result, the most significant challenge confronted by the campaign was developing a program that would appeal to – and reach – as many target smaller businesses as possible.

The campaign consists of market research, stakeholder outreach, earned media outreach, online outreach, and conferences. The market research we conducted shows that the great majority of small businesses (81 percent) are not aware that their U.S. intellectual property rights end at the U.S. border and within U.S. Territories, such as Puerto Rico.

The conferences are designed to raise awareness of intellectual property in general, and increase awareness among small businesses of the new realities of counterfeiting and piracy of intellectual property. The program explains the government's role in enforcing intellectual property rights and also the owners' responsibilities.

The conferences consist of presentations by USPTO attorney-advisors on patents, trademarks, copyright, the Patent Cooperation Treaty, trade secrets, and the specific problems posed by China. We cover the basics of intellectual property protection – why to apply, how to apply, the difference between types of intellectual property – as well as how to enforce intellectual property rights.

A handout workbook with a copy of the presentation materials is made available to the conference attendees and the programs include question and answer sessions. We recently added one-on-one consultations with our attorney-advisors as a new feature of these conferences.

Since May 2005, USPTO has presented 10 of these programs throughout the country and reached more than 2,000 small and medium-sized businesses. Members of Congress have been very supportive of this program and have participated as speakers at a number of the conferences.

These programs have received a very positive response from small businesses. More than 90 percent of the attendees have rated these programs as good or excellent and we have seen positive statements such as "the whole program shattered the myth of lazy, apathetic federal government workers," and "the best program I've undertaken since beginning developing patents 15 years ago."

This year, the USPTO is partnering with the U.S. Chamber of Commerce and other business groups to continue to hold small-business outreach seminars to give American businesses face-to-face contact with intellectual property experts.

China Conferences

The USPTO has also hosted special educational outreach conferences on China in several U.S. cities for companies ranging from small businesses contemplating entering the China market to large corporations with established presence in China. Topics have included a review of recent laws and regulations promulgated by the Chinese government that affect protection and enforcement of intellectual property; what the United States government is doing to improve intellectual property protection and enforcement in China; how to best protect business assets to avoid intellectual property problems; how to recognize product infringement; and the practical steps to take if it occurs.

Our China events have been held in Alexandria, Baltimore, Boston, Detroit, Atlanta, Chicago and Seattle.

The USPTO has reached out to both government and non-government stakeholders to help publicize the conferences and the campaign. Some of the organizations that we have worked with to promote awareness of the conferences and the issue of intellectual property theft are: Small Business Administration, Minority Business Development Centers, U.S. Export Assistance Centers, U.S. Customs and Border Protection, American Intellectual Property Law Association, Intellectual Property Owners Association, U.S. Chamber of Commerce, National Association of Manufacturers, Service Core Of Retired Executives, National Federation of Independent Business, and United Inventors Association.

Conclusion

The USPTO has implemented a wide range of initiatives and programs to address the unique concerns and needs of independent and small entity inventors and looks forward to working with the Committee to ensure that ongoing and future initiatives effectively serve the interests of those inventors.

Hearing Before The Small Business Committee
United States House of Representatives
The Importance of Patent Reform on Small Businesses
March 29, 2007
2630 Rayburn House Office Building

Testimony of
Mitchell Gross
Chairman and Chief Executive Officer
Mobius Management Systems, Inc.

Madam Chairwoman, Ranking Member Chabot, members of the Committee, my name is Mitch Gross and I am Chairman and CEO of Mobius Management Systems, Inc., a company I helped found in 1984. I very much appreciate the opportunity to appear before you today and discuss the importance of Patent Reform to small business. The United States patent system is something I work with almost every day in my business life, and I believe very strongly that there are some problems with the system that demand our attention as a nation and an economy.

First, let me tell you a little about my company, Mobius Management Systems. Mobius is a leading provider of comprehensive software solutions for enterprise archiving and records management. For twenty-five years, Mobius has defined and led the market for software that stores, indexes, and distributes diverse documents, reports and images--in any format from any source. Mobius solutions have achieved industry-wide recognition for their ability to support high-volume, high-performance, simultaneous-access requirements in distributed environments that range from the desktop to the mainframe.

Mobius provides the most comprehensive and scalable solutions for managing the entire life cycle of documents, records and content in any format, from any source. Mobius ensures the integrity and long-term availability of these critical corporate assets to support compliance, legal processes and mission-critical business operations.

Mobius products are used by almost 1,500 organizations worldwide, including more than sixty percent of the Fortune 100. Implementations range from departmental applications to enterprise-wide use by tens of thousands of employees, customers and business partners around the globe. Our software helps these companies achieve a broad range of business objectives from reducing operating costs to improving operational productivity and leveraging the Internet for competitive advantage.

Some commentators have said that more than 85% (if not more) of all the information we create today in the United States, in both government and the private sector, is created in *electronic form*, from documents, to banking transactions, product logistics, email, data analysis, graphs, charts and all the rest. Much of that only exists in electronic form and is never backed up on paper. We at Mobius play a key part in designing and implementing software systems to manage all this. We create our own software and also license software products from other companies to implement the solutions we design.

Mobius has over 400 employees and is headquartered in Rye, New York.

I am also testifying today on behalf of the Information Technology Association of America, which counts many small businesses among its more than 325 member

companies. ITAA's member companies range from the smallest IT start-ups to the largest industry leaders in the fields of Internet, software, IT services, digital content, systems integration, telecommunications, and enterprise solutions. It is a leading voice on issues of importance to the IT industry, including information security, tax and finance policy, digital intellectual property protection, telecommunications competition, workforce and education, immigration, online privacy and consumer protection, government IT procurement, human resources, and e-commerce policy. While ITAA represents companies of all sizes, about half of ITAA members are small businesses. I am privileged to serve on the board of directors of the ITAA Information Technology Services Division.

Madame Chairwoman, as the head of a small business in the information technology sector, I am here to stress the fact that the United States patent system is broken and needs to be fixed. Let me make it clear, at the outset, however, that I am a strong *supporter* of patent protection and the role it plays in fostering innovation. The Constitutional power of Congress "to Promote the Progress of Science and useful Arts" by granting exclusive patent rights for limited periods of time[1] has been and continues to be one of the cornerstones of the successful American economy. The United States patent system does have a profound effect on innovation, new business development, job creation and everything else that goes into creating the wealth of the nation.

[1] "Congress shall have power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries"; United States Constitution, Article I, Section 8.

Today, however, the US patent system has developed a number of flaws that need to be addressed by legislation. The problem is important because the system's impact is so important. When the system is skewed, as it is now, it has a profound effect retarding innovation, business development and wealth creation.

From where I sit as a small businessman, the issues with the patent system stretch from the process of patent application and grant at the PTO on through to the process of enforcement, licensing, and litigation.

- The issuing process is too expensive, takes too long and poses too much risk that an overbroad patent of questionable validity will issue at the end.

- On the enforcement side, the system is so tilted to the plaintiff/patentee's advantage – that is, the cost of losing litigation can be so high, with multiple worldwide damages based on excessive estimates of the value of the infringement – that defendants are forced to settle, regardless of the merits of their defense or the weakness of the patent underlying the plaintiff's claims.

Legislation was introduced in the last Congress and I understand may soon be introduced again. I applaud the effort to move from generalities about the need for reform to specific proposals that would change the structure of how the PTO does business and how patent infringement litigation is conducted.

If I had to try to characterize the problem in just a few words, I might say "too much risk of losing a fight when a bad patent stands up against innovation."

What is a "bad patent"? It is one that is overly broad in its coverage, often one that covers a process, usually one that does not seem very novel to somebody like me, who has been in the business for lots more than the 25 years I have been involved with Mobius. I think the problem may be particularly acute in the software and IT services industry.

The United States needs to do a lot more to improve patent quality at the outset. Everyone knows that not every patent that is issued by the US PTO is valid. But a lot can be done to improve the PTO's access to and knowledge of "prior art" the key to determining whether an application really represents a novel and non-obvious innovation. And it remains important to have a viable, low cost administrative process for reviewing patents that already have been issued, to see if the claims of validity hold up when challenged, without having to go to court.

Of course, it is not the fact of overbroad patents that matters; it is the consequence of infringement that weighs most heavily in the equation. And right now, the risk of very high damages or of exorbitant settlement requests, is, to my mind, very real.

Basically, Madam Chairwoman, the current system in my view leaves small business in a position where we are afraid to innovate. I don't have confidence that undisclosed patent applications are truly novel; my company does not have the resources to do extensive patent searches every time we should, in the modern environment

featuring many more patents that has been the case in the past, and if we make a mistake and step into a field of technology covered by undisclosed applications, we run high risks of serious consequences, in the face of a system that favors all patentees, as the current one does.

While the discussion of what to do about the problems can become a little abstract, related, as that discussion must be, to changes in the course of litigation, the calculation of damages, the characterization of infringement as "willful" and the like, we should not let abstraction get in the way of the basic conclusion that the problems we face in business are real and immediate and have an impact on the direction and scope of our business development and efforts to innovate.

I recognize that this is a difficult issue and we have to get it right. As I said before, I am a supporter of the patent system and the role it should be playing in support of innovation. In my view, holders of strong, properly issued patents should have nothing to fear by proposed reforms. Their patents will withstand some additional scrutiny and be sustained for the benefits they bring. But the system is seriously out of balance now and that balance needs to be restored. Some additional scrutiny of patents and a more balanced approach to enforcement are the prices we have to pay to sustain a viable and useful patent system.

Without reform, a system that is intended to serve innovation is having the opposite effect. Whenever my company engages in development of innovative products and services we have to ask ourselves whether the risk of moving into a particular area of

technology is too great, and more than once in my experience, we have decided to shift away from a promising area, simply because it seems covered by questionable patents. The fact is we can neither afford to ignore or challenge those patents – the literal risk of financial loss is too great to take the chance, regardless of how strongly we feel about the facts involved in a particular case. I know that is not how the system is supposed to work, and I hope this committee and the Congress generally will take steps to restore the balance that is so sorely needed in the US patent system.

Madam Chairwoman, that concludes my prepared remarks. I would be happy to answer any questions you and members of the committee may have.

"The Mystery of (Intellectual) Capital"
Prepared Statement of AmberWave Systems Corporation

Before the

Committee on Small Business
United States House of Representatives

"The Importance of Patent Reform on Small Businesses"

Rayburn House Office Building
Washington, DC

March 29, 2007

Bryan P. Lord
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Chairwoman Valázquez, Ranking Member Chabot, and Members of the Committee, my name is Bryan Lord and I am Vice President for Finance and Licensing and General Counsel of AmberWave Systems Corporation. Thank you for the opportunity to appear before you to discuss the importance of patents to small businesses such as ours.

AmberWave is a small firm focused on research and development of advanced materials. Our company was founded in 1999 by Dr. Eugene Fitzgerald and Dr. Mayank Bulsara, both of the Massachusetts Institute of Technology. Banking only on an idea and the promise of patent protection, Drs. Fitzgerald and Bulsara were able to raise $500,000 in start-up capital from a local venture capital firm, Adams Capital Management, and negotiated an exclusive license agreement for its technology from MIT. Eight years later, this classic university spin-out operates a 30,000 square foot, state of the art research facility in Salem, New Hampshire, just north of the Massachusetts-New Hampshire border, and has 23 employees, one-quarter of whom have PhDs and 80% of whom have technical degrees. AmberWave has assembled a portfolio of over 180 patents from MIT, AT&T Bell Laboratories (where Dr. Fitzgerald's previous research was conducted) and our own researchers. We have raised over $91 million in venture capital funding from four venture capital firms, one strategic corporate investor, individual angel investors, and our own employees. AmberWave has expanded its research relationships to include Purdue University and is in current discussions with additional research organizations. We have licensed our technology to seven semiconductor manufacturers including Intel Corporation, Applied Materials, Agere Systems, Sumitomo Mitsubishi Corporation, Siltron, among others.

AmberWave is a pioneer in the field of strained silicon technology and its founder, Dr. Fitzgerald, has been called the "Father of Strained Silicon." This technology helps semiconductor chips operate faster or with less power and has been described as one of the industry's most important new technologies because it allows semiconductor manufacturers to continue to meet the incessant "faster, better, cheaper" demands postulated by Moore's Law.[1] AmberWave's business model is to bridge the gap between basic university research and product commercialization. By utilizing a licensing business model, AmberWave avoids duplication of the already existing manufacturing infrastructure, and is instead able to facilitate relationships on both ends of the innovation stream, incorporating our own internal development work in a comprehensive suite of technology transfer to our customers. As AmberWave's CEO, Richard J. Faubert, likes to say, "AmberWave invests upstream in the river running between the headwaters of innovation and the delta of commercialization."

AmberWave is proud to be a founding member of the Innovation Alliance, an alliance of small, medium and large technology companies who believe in, and rely upon, a strong, pro-innovation patent regime to support and protect their research and development (R&D) programs. Of course, this testimony is mine and on behalf of AmberWave alone. However, a copy of the Innovation Alliance's position paper on patent reform is included with my testimony for your reference.

Before diving deep into patent policy, I would like to begin by citing some observations from a seminal and very insightful book, *The Mystery of Capital,* written by Peruvian economist Hernando de Soto. Hailed by both former Presidents Clinton and Bush for its contribution to ending poverty and economic stagnation, de Soto's research unravels the mystery of why capitalism triumphs in the West and fails in so many other places. Citing Adam Smith's *Wealth of Nations*, he asserts that assets become "active capital" only when those assets "become fixed and defined in a parallel and representative instrument that lasts in time beyond the labor which created it."[2] In short, the West's legal and financial system which recognizes, protects, and preserves deeded property ownership, provides a basis for investment in enforceable legal instruments, symbolic but real representations that are separate and distinct from the physical occupation of the real property they represent, enabling its full potential to

[1] Peters, Laura, "Options Narrow at 45 nm," *Semiconductor International*, January 1, 2006.
[2] de Soto, Hernando, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*, (New York: Basic Books, 2000), p. 42.

emerge. It is the reliably enforceable property deed and the rule of law that makes the right it represents enforceable which explains the West's success with capitalism. De Soto goes on to identify the six essential attributes of a real property system that support a dynamic economy:[3]

1. The value of real assets must be captured in proper property records;

2. The records must be integrated into one system;

3. People must be held accountable to respect titles, honor contracts, and obey the law;

4. The records permit fungibility, transferability, and creative reordering of various ownership interests in the assets;

5. The formal property system must create an infrastructure of connected devices that radically improves the flow of communications about assets and their potential; and

6. The property records must be continually tracked and protected as they travel through space and time.

Summarizing, de Soto states, "The substantial increase of capital in the West over the past two centuries is the consequence of gradually improving property systems, which allow economic agents to discover and realize the potential in their assets, and thus to be in a position to produce the non-inflationary money with which to finance and generate more production."[4] With predictable, enforceable legal instruments—the deed and the mortgage—granting dependable title and opportunities to borrow against a piece of property, the West enjoys the benefits of a robust real estate market with an abundance of instruments, services, and specialists. This has brought relative stability to a potentially volatile marketplace and, even in the midst of current concerns over sub-prime lending, national home ownership is at near record levels and Americans own trillions of dollars in aggregate home equity. Today, much of the developing world, including China just this month, is referencing de Soto's blueprint to enhance real property ownership and ignite its own capital generating engine.[5]

America meanwhile is undergoing its own revolution. Replacing our prior revolutions of agriculture and industry, it is a revolution of information and ideas called "innovation." Its economic driver is not tangible, real property, but intangible, intellectual property. Its symbolic representation is not a deed, but a patent. And de Soto's insights continue to resonate with lawmakers charged with shaping policies that reflect and respect what we as a nation are doing right and what we can do better to encourage the continued viability of our nation's wealth generation engine. In fact, if one references de Soto's six criteria for a dynamic real property system, one can clearly recognize the shape of a familiar blueprint for a successful intellectual property system:

1. Inventions need to be captured, properly recorded, and protected in the form of patents;

2. The patent recording system should be integrated in one national system;

3. People must be held accountable to respect patents, honor contracts, and obey intellectual property law;

4. Patent rights should be able to be split up, combined and licensed in numerous creative and capital enhancing ways;

[3] Ibid, pp. 49-67.
[4] Ibid, pp. 64-65.
[5] "China's Next Revolution," *The Economist*, March 8, 2007.

5. Innovators and inventors should use patents to create a whole infrastructure of connected ideas; and

6. Patent ownership and assignments should be continually tracked and recorded by the United States Patent and Trademark Office (USPTO).

These six criteria ably describe our nation's existing patent system. It should be of no surprise then, that just as de Soto hails the economic successes of capitalism in the West, so too the West has become a beacon of successful innovation in the post-industrial era. A recent study entitled "Global Innovation Index 2007" from the French business school INSEAD hailed the United States as the world's most innovative country, stating "The US leads the second most innovative nation by a [very large margin], putting it in a league of its own as far as global innovation is concerned."[6] America's innovativeness, entrepreneurial spirit, venture capital and risk taking culture are often credited as the keys to this world stature.

But just as de Soto credits our real property system as an underlying source of our past economic success, so too should we credit our intellectual property system as an underlying foundation for our innovative success. And while some have said that patents don't themselves stimulate innovation[7], they are only partially right. For just as a title to a piece of property doesn't itself create capital, it does create the instrument, separate and distinct from the physical occupation of the real property, which allows investments to be reliably made in the property, and that process, in turn, creates capital. Patents work the same way. They create an instrument, separate and distinct from the inventive technology, which allows investments to be reliably made, and that creates capital for more innovation. That is the underlying reason patents are fundamentally important to our innovation economy. For, like title to landowners, developers, and lenders, patents are the basis for the process in which universities, entrepreneurs, and venture capitalists reliably represent and invest in a piece of innovative technology.

As a result, lawmakers entrusted by our Constitution to shape our patent system must be careful to preserve two parallel virtues: At a macro-level, lawmakers must be very careful to heed de Soto's structural guidance and ensure that our patent system will maintain our nation's economic leadership as we move into this new age. Lawmakers must also, at the micro-level, heed the special protection that is so important to the individual inventor that our Founding Fathers specifically included authorization to grant exclusive rights to their discoveries in Article I of our Constitution. President Lincoln observed, "Any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention and thereby added the fuel of interest to the fire of genius, in the discovery and production of new and useful things."[8] When we look to the knowledge economy and contemplate our economic future, we must strengthen, not weaken, America's intellectual property system because that system -- the inventions it protects and the innovation systems it stimulates -- that will be the key to our future economic success in the knowledge economy lying ahead.

Reforming (?) the Mystery of (Intellectual) Capital

Despite America's place in the world economy, some would have you believe that the innovation sky is

[6] Dutta, Soumitra, INSEAD, and Caulkin, Simon, *World Business*, "The World's Top Innovators," *World Business*, January 17, 2007.
[7] "Defending Innovation, An Interview with Cisco VP for Intellectual Property Discusses the Cisco Patent Strategy," July 8, 2003. Available at: http://newsroom.cisco.com/dlls/hd_070803.html
[8] Allen, Joseph in "Swords Into Plowshares: How Tech Transfer (Unless We Mess It Up) Can Help Change the World," *les Nouvelles*, December 2006, p. 219.

falling and that patents are to blame.[9] Apparently taking issue with de Soto and Lincoln, their argument both misstates the problem and misplaces the blame.

Misstated problem

First, as the aforementioned INSEAD study reported, America's place as an innovation leader is not presently at risk. However, as witnessed by the closure of industrial research stalwarts such as AT&T's Bell Laboratories and Xerox's PARC labs, the basic research that fuels innovation *is* in jeopardy at some of the nation's largest technology manufacturers. *The Economist* has recently observed, "The big corporate laboratories are either gone or the shadow of what they were. Companies tinker with today's products rather than pay researchers to think big thoughts."[10] But, the fall of big corporate R&D is a largely self inflicted wound. One Intel executive described this shift: "Rather than working on discovery of the next new thing, there is intensified concentration on incremental product adjustments. Our people have that tattooed on their tonsils," he emphasized.[11] What's more, an increasing number of large firms are moving components of their operations overseas, further exacerbating the decline in large company technology research in America.

But thanks to the vibrant network of the nation's research universities, risk capital from the nation's angel and venture investors, and the many small firms like AmberWave, the nation's pool of early stage research activity has not become stagnant. The Association of University Technology Managers (AUTM) reports that $42 billion was spent on R&D in U.S. academic centers in 2005. This led to 4,932 new licenses, 527 new products, and 628 new spin-off companies introduced to the market in one year alone. Since 1980, over 5,000 spin-offs were created, including AmberWave. This activity is stimulated in large part due to the passage of The Bayh-Dole Act in 1980.[12] Until its passage, US patent issuance steadily declined for more than ten years, investment in research and development had been dormant, and small businesses were receiving a smaller percentage of federal R&D money.[13] With its passage, the title for inventions funded with federal government research dollars became the property of the institution conducting the research. While the bill was controversial at the time (the Chairman of the Senate Finance Committee called the bill "the worse he had ever seen")[14], *The Economist* in 2002 called Bayh-Dole "possibly the most inspired piece of legislation to be enacted in America over the past half century."[15] It went on to say, "More than anything, this single policy measure helped to reverse American's precipitous slide into industrial irrelevance."[16] For example, a 2003 report entitled, "Engines of Economic Growth", cited the eight research universities in the Boston metropolitan region as the key driver for the region's economy, providing stimulus and stability through the area's technology transfer oriented research cluster.[17]

General Georges Doriot, a man called the "First Venture Capitalist" and the co-founder of American Research and Development said, "The postwar prosperity of America depends in large measure on finding financial support for the comparatively small percentage of new ideas and developments which

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[9] See: Jaffe, Adam and Lerner, Josh, *Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What to Do About It*, (Princeton: Princeton University Press, 2004) and Coalition for Patent Fairness http://www.patentfairness.org/index.cfm
[10] "Out of the Dusty Labs," *The Economist*, March 1, 2007.
[11] Ibid.
[12] Bayh, Birch, "Bayh-Dole: Don't Turn Back the Clock," *les Nouvelles*, December 2006.
[13] Ibid, p. 215.
[14] Ibid, p. 215.
[15] "Innovation's Golden Goose," *Technology Quarterly, The Economist,* December 2002.
[16] Ibid.
[17] Appleseed, "Engines of Economic Growth: The Economic Impact of Boston's Eight Research Universities on the Metropolitan Boston Area," 2003, available at http://www.masscolleges.org/index.php?option=com_content&task=view&id=37&Itemid=120

give promise of expanded production and employment, and an increased standard of living for the American people. We cannot float along indefinitely on the enterprise and vision of preceding generations. To be confident that we are in an expanding, instead of a static or frozen economy, we must have a reasonably high birthrate of new undertakings."[18] General Doriot prophetically outlined the role that venture investment plays in today's innovation economy. Today, hundreds of venture capital funds provide capital for innovation, including some like ARCH Venture Partners (spawned from the Argonne National Laboratory/ University of Chicago Development Corporation) who focus specifically on transferring "science into sustainable enterprise."[19] ARCH has made over $1 billion in investments in more than 100 technology companies, including AmberWave. In total, PricewaterhouseCoopers and the National Venture Capital Association report that venture capital funds invested over $25 billion in 3,400 investments in 2006, a healthy 10% increase in deal volume and 12% increase in dollar value from 2005.[20] In addition, Center for Venture Research at the University of New Hampshire has reported that 51,000 entrepreneurial ventures received over $25 billion in funding in 2006 from 234,000 smaller angel investors.[21] Almost 90% of the 2 million jobs in the computer and peripherals industry alone come from venture capital backed companies[22] and angel investments are credited for creating over 201,000 new jobs last year in the United States.[23] Harvard's Josh Lerner also found that venture capital investment has a positive impact on not only innovation, but also higher quality patents and higher patenting rates.[24]

As for small firms in general, a recent study by the Small Business Administration lauded the small firm's place in the innovation economy. "Despite the corporate machines dedicated to patent generation in some large firms and the barriers faced by small firms in patenting, it seems quite likely that small firms and inventors who are self-employed or associated with small firms account for about 40% of U.S. corporate patenting. This is a substantial contribution to technical change in the U.S. on a par with the small firm share of the manufacturing economy. Some of this reflects a continuation of the Edisonian tradition of individual ingenuity, some will be biotech firms spun out of university research, and some will be innovative small firms of long-standing. A variety of small entities innovate, and they maintain the diversity in our country's innovative capacity which is a source of economic strength over the long-term."[25] The study went further. "Small firm innovation is twice as closely linked to scientific research as large firm innovation on average, and so substantially more high-tech or leading edge."[26] Thus, while challenges undoubtedly exist for our nation to maintain its innovation leadership (see, e.g. the report from the Taskforce on the Future of American Innovation[27]) the problem is not with our nation's commitment to early stage research by the university, venture capital, small firm ecosystem, but with many big firms' commitment to early stage research in America.

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[18] Gupta, Udayan, *The First Venture Capitalist*, (Calgary: Bayeux Arts, Inc., 2004), p 54.
[19] Lazarus, Steve and Gupta. Udayan, *Mind Into Matter, How ARCH Transforms Science into Sustainable Enterprise*, (Calgary: Bayeux Arts, Inc., 2006). See also http://www.archventure.com/archview.html
[20] "Venture Capital Investing Hits $25.5 Billion in 2006," *American Venture Magazine,"* January 23, 2007. Available at: http://www.americanventuremagazine.com/news.php?newsid=2288
[21] "Angel Market Grows 10 Percent in 2006," Center for Venture Research, Whittemore School of Business & Economics, University of New Hampshire, March 19, 2007. Available at: http://wsbe.unh.edu/Centers_CVR/2006pressrelease.cfm
[22] "Venture Impact: The Economic Importance of Venture Backed Companies to the U.S. Economy", Content First LLC and the National Venture Capital Association, 2007. Available at: http://www.nvca.org/pdf/NVCA_VC07.pdf
[23] "Venture Capital Investing Hits $25.5 Billion in 2006," ibid at note 20.
[24] Lerner, Josh and Samuel Kortum, "Assessing the Contribution of Venture Capital to Innovation," *Rand Journal of Economics*, 31 (Winter 2000) pp. 674-692.
[25] CHI Research, Inc., "Small Serial Innovators: The Small Firm Contribution to Technical Change," Prepared for the U.S. Small Business Administration, Office of Adequacy, February 27, 2003, p. 11
[26] Ibid, p. 3.
[27] Taskforce on the Future of American Innovation, "Measuring the Moment: Innovation, National Security, and Economic Competitiveness: Benchmarks of our Innovation Future II," November 2006. Available at: http://futureofinnovation.org/PDF/BII-FINAL-HighRes-11-14-06_nocover.pdf

Misplaced Blame

Patents which enable innovation are not to blame for its decline. Proponents of the argument, that patents are the problem, demonize the USPTO for poor patent quality complaining that patent litigation is out of control. Simply stated, these arguments are not supported by the facts. Patent quality is actually on the rise. Recently, the Commissioner of the USPTO, Jon Dudas, said, "The number of patents approved has dropped from an historical high of 72 percent in 2000, declining to about 54 percent now. Contrary to conventional wisdom ...we're actually at a record low of approvals."[28] Furthermore, the PTO's tracking of error rates is reported to be at or near a 20 year low. Notwithstanding this fact, many practitioners recognize that patent examination perfection is an impossible and inappropriate virtue. Professors Joseph F and Robert P. Merges observed, "Commentators have stated repeatedly that the optimal error rate at the USPTO is not zero, for at least two reasons. First, perfect screening would be immensely costly, so we might rationally tolerate a few bad patents. Second, mistakenly issued patents are not necessarily enforced; there are safety valves, notably litigation."[29] The article goes on to examine the merits of various "safety valves", and noted that some, including Professor Mark Lemley[30], have suggested that litigation itself may be society's most efficient way to deal with problematic patents.

In addition to dealing with patent validity, patent litigation is also necessary to enforce patent rights because patent rights are by their nature self-enforcing. Accordingly, the holder of the patent, rather than the government, has the burden to enforce the patent's rights and litigation is sometimes the only means. But despite litigation's inevitable role and its potential for abuse by holders and non-holders of patents alike, statistically, patent litigation is far from out of control. Patent litigation has generally increased in recent years along a trend line tracking the corresponding increase in patent issuances, but the number of lawsuits filed in 2005 (2,720) actually dropped by 10% from the number filed in 2004. Comparing to the 143,806 patents issued in 2005, the ratio of lawsuits filed per patent issued is only 1.8 per 100. Furthermore the success rate of plaintiffs (35%) dropped 5% from 2004 and the average damages award ($5.3 million) dropped 83%(!) from the prior year.[31] Some commentators suggest that we focus too much attention on patent litigation,[32] and these statistics and circumstances hardly represent the scope of a problem that should drive calls for wholesale change to our patent system.

The Push for "Patent Reform"

Nevertheless, calls for Congress to do just that are feverously advanced. Some are advocating an urgent timetable despite the fact that the U.S. Supreme Court is contemporaneously examining a series of patent related cases, having heard eight in the past three years alone.[33] A recently released report from the Congressional Research Service said, "[T]he Court has shown, over the past three terms, an increased willingness to hear cases that raise patent law issues. The Supreme Court Justices' apparent new found interest in patent cases perhaps stems from a recognition of the growing importance of intellectual property to the nation's information-based economy, as well as a need to correct perceived errors in lower

[28] Cutler, Joyce, "PTO's Dudas Says It Is 'Wrong' to Call U.S. Patent System Broken," *BNA Patent, Trademark & Copyright Law Daily,* March 1, 2007.
[29] Farrell, Joseph and Merges, Robert, "Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help," *Berkeley Technology Law Journal 19*, Issue 3, Spring 2004.
[30] Citing Lemley, Mark A., "Rational Ignorance at the Patent Office," 95 Nw.U.L.Rev., 1495, 1497 (2001).
[31] PricewaterhouseCoopers LLP, "2007 Patent and Trademark Damages Study." Available at: http://www.pwc.com/extweb/pwcpublications.nsf/docid/cb9df7557a7e45088525729500564c55
[32] Lemley, Mark A., "Re-conceiving Patents in the Age of Venture Capital," 4 J. Small & Emerging Bus. L. 137, 145 (2000).
[33] For a summary of recent cases, see: Yeh, Brian, "CRS Report for Congress: An Overview of Recent U.S. Supreme Court Jurisprudence in Patent Law," Congressional Research Service, March 16, 2007.

courts' interpretation and application of patent law."[34] With the Supreme Court in action at such an unprecedented level, one would question the need and ability of our democratic process to achieve appropriate and comprehensive reform while critical components are under such active judicial review and revision.

Others are advancing an agenda in the name of international "harmonization"[35], suggesting that the United States needs to fall into alignment with rest of the world's intellectual property laws. The U.S. is the world's most innovative economy and therefore generates many patents. It is also the center of the world's creative economy and thus generates many copyright protected works. Does it make sense to internationally harmonize copyright law? Of course not. America's creative content community would strongly object, and wisely so. Why then would the world's strongest innovation system rush to harmonize its patent laws with those of less innovative nations? Former Federal Reserve Chairman Alan Greenspan would seem to agree. At a speech at Stanford University in 2004, he said, "Rationalizing the differences between intellectual property rights as defined and enforced in the United States and those of our trading partners has emerged as a seminal issue in our trade negotiations."[36] Distinguishing negotiation from harmonization, it would seem then that that calls from industry for international harmonization are more likely convenient justifications for policy changes consistent with their other objectives.

Most aggressively, a coalition of the nation's largest technology companies is calling for reform to the United States' intellectual property laws to address the "nature of abusive patent litigation." Self-coined the "Coalition for Patent Fairness" (the "CPF"), this group is calling for the most ambitious reform to the nation's patent system since 1952—often in the name of killing "patent trolls"—abuse litigants who hold patents and do little else but extract nuisance value out of settlements. In a white paper supporting S.3818, the Patent Reform Act of 2006, the CPF cites a series of anecdotes about abusive litigation tactics taken by patent holders, and then proceeds to argue that an "innovation tax" is levied on American innovation, diverting fees from research and development, deterring innovation, and hurting the economy.[37] While no one will argue that litigation abuse is justified for any party, the logic of their arguments is flawed.

The CPF cites an historic increase in patent issuances as prima facie evidence of bad patents being issued. As previously mentioned, the USPTO's error rate is (perhaps appropriately) not perfect. However, it is possible, even probable, that increases in patent issuance actually result from our nation's collective rise in inventiveness. Indeed, many CPF member companies hold our nation's largest patent portfolios, and companies often use the size of their portfolios as demonstration of their own inventiveness. It is inconsistent to apply the opposite logic to our national patent portfolio. Second, the CPF cites a long-term trend of increasing litigation as prima facie evidence of "abusive" litigation. Yet, it is equally possible that a long-term increase in patent litigation would logically result from such a long-term increase in patent issuances. Our nation has also seen a dramatic spike of late in copyright infringement litigation action. Most recognize that this spike is due to enforcement actions by the Recording Industry Association to curtail copyright infringement from illegal file sharing and music downloads. So, isn't it similarly possible that an increasing trend line in patent litigation could also be due to an increase in patent infringement? Interestingly, while many in our nation have generally

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[34] Ibid, summary page.

[35] See e.g., written Testimony of Marshall C. Phelps, Jr., Corporate Vice President and Deputy General Counsel for Intellectual Property, Microsoft Corporation, "Patent Harmonization and Other Issues," Before the Subcommittee on Intellectual Property, Committee on the Judiciary, United States Senate, July 26, 2005. Available at: http://www.microsoft.com/presspass/exec/mphelps/07-26-05PatentTestimony.mspx

[36] Greenspan, Alan, "Intellectual Property Rights," Remarks at Stanford Institute for Economic Policy Research Economic Summit, Stanford, CA, February 27, 2004.

[37] Coalition for Patent Fairness, "The Case for Reform." Available at: http://www.patentfairness.org/CPF_White%20paper%20v3.pdf

accepted the argument that copyright infringement is wrong and ought to be curtailed, the potential scope of patent infringement so far seems to be far removed from the patent reform dialogue. Movies and music may attract more of the public's attention, but no one would assert that maintaining national superiority in creative content is more strategically important than protecting our world technology leadership.

Looking a little deeper, the CPF argument appears instead to suffer from several classic errors in logic. First, in confusing observation with causation, evidence suggests that that while the decrease in large firm R&D coincided with an aggregate increase of patenting, the actual *cause* of large firm R&D decline is likely not patent litigation, but a self imposed change in priorities. Viewed objectively, the recent increase in patenting was likely caused by a slew of separate factors including: an accelerating understanding of science and technology, software patentability, expanding university tech-transfer activity incentivized by Bayh-Dole, improved innovation tools and equipment, more efficient communication and collaboration partnerships, and more small firms and university spin-outs entering the technology marketplace. Even worse, the CPF argument may have the causative effects reversed. While the CPF argues that an increase in patent issuances and litigation may have caused a decrease in large company R&D spending, it is equally plausible that the causality is the other way around. A decrease in R&D spending by large firms may have caused an increase in patent issuances (to universities and small firms who fill the void, for example) which may have resulted in an increase in patent infringement by the very large firms who claim the exact opposite effect.

As if that is not bad enough, the CPF argument is also problematic in its scope. The CPF argument cites instances of extraordinary (but largely isolated) damage awards, anecdotal instances of assertion campaigns by aggressive patent holders, and increases in the cost of litigation actions, but it conspicuously avoids placing any perspective on the scope of the problem. In fact, companies who are members of the CPF recorded over $820 billion in revenue in 2006 and possess an aggregate market capitalization of over $1.2 trillion. Meanwhile, by multiplying the annual number of total lawsuits filed (2,720) by the average rate of cases where infringement is found (35%) by the average judgment ($5.3 million) (each as cited in the PricewaterhouseCoopers litigation survey[38]), one may see, as a rough estimate, that the aggregate of all intellectual property infringement judgments is just over $5 billion annually. Even if one assumes that 100% of all IP infringement judgments were levied against the 50 or so members of the CPF (a gross over-generalization to be sure), we are still talking about IP litigation judgments amounting to a mere six-tenths of one percent of their annual sales. And while $5 billion is more than pocket change by anyone's counting, as a percentage of sales, six-tenths of one percent is far closer to a rounding error than a punitive "tax on innovation"!

We respect the CPF members, for they make up some of the nation's largest and best technology manufacturing companies -- some of whom are our customers. But we have a fundamental disagreement on this issue. Although small companies like us cannot match the resources of the CPF to pay for expensive economic research to investigate and measure factors of correlation and causation in the innovation economy, through an objective analysis of the facts and basic reason, we can identify what seem to be obvious logical flaws and suspect reasoning. We can ask Congress for a closer, more careful examination before we rush to make wholesale changes to our patent laws on the basis of one group's theories. Significantly, it would seem that those advocating wholesale change to our system, not the rest of the patent community, must bear the burden of proof. In its most recent 2007 Report to Congress, the Congressional Research Service suggested that this burden has been far from met (and may even be impossible without far more study): "When analyzing the validity of these competing views, it is important to note the lack of rigorous analytical methods available for studying the effect of the patent law upon the U.S. economy as a whole. The relationship between innovation and patent rights remains poorly understood. As a result, current economic and policy tools do not allow us to calibrate the patent

[38] Ibid at note 31.

system precisely in order to produce an optimal level of investment in innovation. Thus, each of the arguments for and against the patent system remains open to challenge by those who are unpersuaded by their internal logic."[39]

The Proposals for "Patent Reform"

Nevertheless, the CPF supports a number of proposed changes to the nation's patent laws necessary to "level the playing field." Putting aside the irony of this appeal from a coalition of Goliath-sized firms, the advocated changes would indeed change the rules of the game. Here is a sampling:

1. Changing the award of a patent from the first party to invent to the first party to file and pay for a patent application ("First-to-File");

2. Permitting third-parties to participate in the examination of a pending patent application by submitting prior art it deems relevant to a patent examiner ("3rd Party Examination").

3. Establishment of an open-ended, parallel tracked, administrative procedure in which a accused infringer may seek to declare a previously issued patent invalid ("Post-Grant Review");

4. Repeal of the statue (271(f)) which prohibits offshore manufacture of infringing products as means to circumvent U.S. intellectual property law ("271(f)");

5. Significant narrowing the judicial venues (especially fast-track jurisdictions) to which patent holders may seek relief ("Venue");

6. Modification to the method for calculating damages for patent infringement such that a rigid formula assessing relative quantity or proportion of contribution is used rather than an assessment of market or relative value of the infringed technology's contribution to an infringing product ("Apportionment");

7. Significant narrowing of the circumstances in which a convicted infringer is liable for punitive damages ("Willfulness").

In sum, these proposed changes would have the net effect of making patents:

- Harder and more expensive to get (First-to-File, 3rd Party Exam, Post-Grant Review);
- Less certain and harder to rely upon after issuance (Post-Grant Review);
- Harder and more expensive to enforce (Venue);
- Easier to circumvent (271(f)); and
- Less costly to infringe (Apportionment and Willfulness).

As would be expected, the seven proposals all benefit the large, well resourced, integrated technology manufacturing firm which comprises most of the CPF membership.

Curtailing the Mystery of (Intellectual) Capital

The Impact of Patent Reform on Innovation

[39] Schacht, Wendy and Thomas, John, "CRS Report for Congress—Patent Reform: Innovation Issues," Congressional Research Service, October 16, 2006.

Examining the net effect of the patent reform proposals in light of the six-factor de Soto blueprint, one can logically project a dramatically negative impact by these proposals on our nation's intellectual property regime:

1. Inventions are captured, properly recorded, and protected in the form of patents.
    - First-to-File, 3rd Party Exam, Post-Grant Review would make patents harder and more expensive to get.
    - Post-Grant Review would make patents less certain and more difficult to rely upon after issuance.

2. The patent recording system is integrated in one national system.
    - Harmonization seeks alignment with one international system, but without any integration or coordinated planning.

3. People are held accountable to respect patents, honor contracts, and obey intellectual property law.
    - Venue makes patents harder and more expensive to enforce.
    - 271(f) makes patents easier to circumvent.
    - Apportionment and Willfulness makes patents less costly to infringe.

4. Patent rights can be split up, combined and licensed in numerous creative and capital enhancing ways.
    - With less certainty due to Post-Grant Review, patents are more difficult to split up, combine and license.

5. Innovators and inventors use patents to create a whole infrastructure of connected ideas.
    - With less certainty due to Post-Grant Review, patents are less able to use patents to connect and exchange ideas.

6. Patent ownership and assignments are continually tracked and recorded by the United States Patent and Trademark Office.
    - Harmonization seeks alignment with one international system, but without any integration or coordinated planning.

Every factor in the de Soto framework is negatively affected by the patent reform proposals. Were similarly dramatic proposals made in the real property market, one would expect economists like de Soto to loudly question the timing and justification of such an effort. And for a system that has delivered our nation to its place as the world's innovation leader, can Congress similarly justify the risk required to make these wholesale changes to our patent system?

The Impact of Patent Reform on Small Firms

In addition to the negative impact patent reform would have on innovation in general, certain of the proposed changes would have an especially disproportionate adverse impact on small firms whose welfare is entrusted to the care of this Committee:

1. First-to-File: Particularly for universities, independent inventors and the companies they form, the "race to the courthouse" advantages the well resourced over the "true" inventor. It will limit the free exchange of ideas within academia, force instead a culture of fear and a clutching of notebooks to one's chest for fear that an invention will be chased to the patent office, and limit the opportunities for entrepreneurs to explore new ideas with university professors in open and creative ways.

2. Post-Grant Review. By adopting a parallel procedure in which a defendant may challenge the validity of an issued patent at any time, a small firm will be severely hampered in its ability to make business plans based upon the validity of a patent. Furthermore, angel and venture capital investors will be forced to entertain an entirely new risk in making an investment decision, reducing the amount of risk capital available for small firms, and further exacerbate the flight of capital to other private equity investment classes.

3. Apportionment. By adopting a rigid formula that calculates contribution of an invention to an end product based upon the relative *quantity* of contribution rather than the relative *quality* of contribution, apportionment eliminates any regard for the possibility that a small firm's technical contribution may be rewarded for a disproportionate contribution to the aggregate value of an end product.

Each of these three reforms would have severely impacted AmberWave had the legislation as proposed been the law at the time of AmberWave's founding. With a first-to-file regime, the patents that AmberWave licensed from MIT may not have been awarded to MIT, but to some other entity that beat MIT to the courthouse for the rights to its invention.

Regarding a Post-Grant Review regime, commentators suggest that such a system would have a highly detrimental effect on patent pendency (time to issuance) and be extremely expensive to undertake[40]. Both effects would be crippling to an infant firm -- short on both time and money. Worse, however, under some Post-Grant Review proposals, a patent owner will never hold "clear and quiet title" to a patent right because a proposed infringer would be able to challenge the validity of the patent at any time after being accused of infringement. [41] In an essay entitled "Intellectual Property – The Basis for Venture Capital Investment, Mario Cardullo of the U.S. International Trade Commission said, "One of the most important issues evaluated by venture capitalists is the security of intellectual property. Normally, a strong patent position is desired and the issues of ownership of intellectual property need to be well understood, particularly where the inventor is doing the research at a university or other research institution. The venture capitalist must also consider all the potential costs associated with patents and their protection.[42]" Fred Wainwright of Dartmouth's Center for Private Equity and Entrepreneurship advised investors, "One thing is certain about any business plan: it will be wrong. Projections and teams will change. Competitors will surge forward and fade."[43] But he continued, "Patents or licensing agreements are important, as the company must be able to create a strategically defensible position." Venture capital investing is risky enough. But, not unlike mortgage lenders faced with investing in an unclear property title, without certainty in the patent "title," AmberWave's venture capital investors may never have taken their own investment risk.

With Apportionment, AmberWave's contribution to the semiconductor industry would be valued at a fraction of the actual contribution made by our technology. This is because strained silicon is a relatively low-cost technology when compared to the complexity of modifying the rest of the semiconductor chip, however it delivers significant performance enhancement to the chip itself. Low cost is hardly a disadvantage; it is one of its key selling points. In fact, some of the most significant inventions

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[40] Frank, Stephen J., "Patent Reform Cacophony," *IEEE Spectrum*, December 2005. Available at: http://spectrum.ieee.org/dec05/2349

[41] Frank, Stephen J., "Reinventing Invention: Will Patent Reform Stifle Innovation?", The Journal of New England Technology, September 19-25, 2005. Available at: www.goodwinprocter.com/getfile.aspx?filepath=/Files/publications/frank_s_09_05.pdf

[42] Cardullo, Mario, "Intellectual Property—The Basis for Venture Capital Investment." Available at: http://www.wipo.int/sme/en/documents/venture_capital_investments.htm

[43] Wainwright, Fred, "Riding on Angel's Wings," *The Financial Times*," August 15, 2003. Available at: http://mba.tuck.dartmouth.edu/pecenter/research/article_angel.html

are inventive precisely because of their simplicity or low cost (consider Edison's filament, for example). And, some of the smallest inventions are important precisely because of their importance to a large, complicated system (consider O-rings and the space shuttle, for example). This is why, when computing a reasonable royalty to award an aggrieved patent holder from a convicted infringer, it is currently settled law that as many as fifteen factors[44] are considered. Apportionment—comparing solely the relative size or quantity of the infringed and patented technology's contribution to the whole end product—is only one of the fifteen Georgia-Pacific factors a jury is instructed to consider in awarding a reasonable royalty[45].

The proposed changes would codify the single apportionment factor as the law of the land, which would significantly devalue the contribution of technologies such as AmberWave's for one of the very reasons that they are so valuable. The proposed changes would ignore the other fourteen factors that the courts have been using to value patents, each of which have and should be relevant for a judge or jury. Further compounding matters, in the 2006 research paper generally used in support of this argument, Professors Lemley and Shapiro discuss the nature of this issue in patent reform debates.[46] Despite an extensively researched paper, the researchers fail to cite a single actual instance where the Georgia-Pacific fifteen factors have resulted in a miscarriage of justice. Instead, they invent a hypothetical example of a patent for an intermittent windshield wiper, and cite it as support for why damages should not be apportioned on the basis of the value of the car. Of course, when left to invent egregious circumstances, one can find plenty of support for one's argument. But, while memorable, when compared to real-life impact that apportionment would have on appropriately valuing real-world technologies such as AmberWave's strained silicon, the hypothetical argument against apportionment is unpersuasive.

In short, patent reform's proposed changes may well serve to eradicate the vaunted "patent troll", but they would also have crippled the legitimate and future-looking AmberWave business model in its cradle and, if passed, will dramatically alter the opportunities for future AmberWaves for the worse. With increased risk and uncertainty imposed, university technology transfer will constrict, entrepreneurship will slow, and venture capital investment will be encouraged to look elsewhere for lower risk investment opportunities. This will be the true source of "innovative discontent." And while America's inventive spirit will persevere, if a marketplace for innovation is to continue, new market experts and alternative sources of risk capital will be required to assess and accommodate the increase patent risk, adding cost and complexity to the already challenged headwaters of innovation.

***The Real** Purpose of Patent Reform*

Why then is "big tech", who professes to be interested in strong protection for intellectual property, pursuing this agenda? Why argue for a legislative effort that they say targets litigation reform and "patent trolls" but harms all patent holders? My belief is that there are at least three possible reasons.

First, large firms and small firms use patents differently. In an essay entitled "How to Keep Others From Ripping Off Your Ideas," Professor Sid Winter is described contrasting the use of patents for new industries to that of incumbent firms. "[P]atents can be effective for inventions related to the early development of new technology-based industries....[b]ut big corporations accumulate large portfolios of patents and then use them as bargaining chips. By accumulating these patents, big companies are essentially buying a kind of technological protection, making sure they have something to take to the

[44] Georgia-Pacific Corp. v. United States Plywood Corp, 318 F. Supp 1120 (S.D.N.Y 1970).
[45] See, e.g., Pincus, Laura, "The Computation of Damages in Patent Infringement Actions," *Harvard Journal of Law & Technology*, Vol. 5, Fall Issue, 1991.
[46] Lemley, Mark A. and Shapiro, Carl, "Patent Holdup and Royalty Stacking" (July 12, 2006). Stanford Law and Economics Olin Working Paper No. 324 Available at SSRN: http://ssrn.com/abstract=923468

table if somebody challenges them."[47] Thus, one can see that the relative strength or weakness of a single patent is of extremely high importance to a small firm – similar to an individual landowner's homestead. But in contrast to a large firm, the relative strength or weakness of a single patent is of far lesser concern – similar to a real estate investment fund manager's relative concern for the value of a single holding in his or her portfolio. Therefore, large firms have, by now, accumulated strength in numbers, and a measured weakening in an individual patent's protection will have little aggregate impact on the general purpose of a large firm's patent portfolio. Small firms, by contrast, rely on a small number of very specific patents that each specifically protects the essential components of the small firm's technology offering. A diminishment in the strength of these patents has an extraordinary and disproportionate impact on a small firm patent owner.

Second, large firms by definition enjoy an advantage of scope and scale in the marketplace. While the prior analysis estimated the CPF's "benefit" is mitigation of a "one-sixth of one percent innovation tax," this hardly seems worth their aggregate effort. Instead, some have suggested that the proposed patent changes would actually result in a net increase in litigation and litigation related expenses. For instance, because apportionment would require juries to ignore market-based factors, it would encourage infringers to pursue litigation rather than agree to the patent holder's standard licensing terms because a jury would be instructed in a manner that would award a below-market royalty. In addition, apportionment would necessitate additional expert testimony, also increasing the cost of litigation. Post-Grant Review contemplates an adversarial, quasi-judicial process with many of the features and costs of court-based litigation. This would impose a third, expensive layer of administrative invalidity litigation on top of the existing administrative reexamination procedures (which are much narrower in scope) and already expensive court-based litigation. In fact, one might be led to believe that the entire purpose behind certain patent "reform" proposal is actually to drive up the cost of intellectual property ownership. In questioning the wisdom of assuming litigation ensures a fair outcome, Professor Merges said "The facts strongly indicate that, by spending more, a party can increase its chance of winning. If the plaintiff's chance of winning did not depend on its expenditures, plaintiffs would not spend so much and the same is true for defendants. Litigation provides many opportunities to spend more in ways that increase one's chance of winning, and the higher the stakes, the more of those spending opportunities will be worthwhile."[48] When one recognizes that the CPF membership holds over $215 billion in cash in their collective treasuries, adding $145 billion in operating cash flow each year, the proportionate benefits to the well-resourced would be well understood.

Furthermore, large firms are most often multinational firms, and therefore, repeal of Section 271(f) is of particular benefit to their multinational business models. According to an article written by Bruce Lehman, the former Commissioner of the USPTO, "Section 271(f) was enacted specifically to close a gap in the existing patent law identified by the Supreme Court in *Deepsouth Packing Co. v. The Laitram Corp.* (1972). In *Deepsouth*, the Court held that §271(a)'s proscription against the unauthorized making of a patented invention within the United States did not extend to the export of the constituent parts for assembly abroad.... The Court declined to broaden the interpretation of the patent statute. According to the legislative history, §271(f) was then enacted [by Congress] as part of the Patent Law Amendments of 1984 to "prevent copiers from avoiding U.S. patents by supplying components of a patented product in this country so that the assembly of the components may be completed abroad."[49] Lehman wrote that Rep. Robert Kastenmeier (D-Wis.), who chaired the House Judiciary Committee's intellectual property panel, said in October 1984 that "the bill provides that a product's patent cannot be avoided through the manufacture of component parts within the United States for assembly outside the

[47] "How to Keep Others From Ripping Off Your Ideas," *Knowledge@Wharton*, August 30, 2000. Available at: http://knowledge.wharton.upenn.edu/createpdf.cfm?articleid=240
[48] Ibid at note 29.
[49] Lehman, Bruce, et al., "Overseas Stretch," *Legal Times*, July 11, 2005, pp. 2-3. Available at: http://www.akingump.com/docs/publication/772.pdf

United States."[50] The offshoring of U.S. manufacturing is a well documented trend. Just this week, Intel reported that it is making plans to open a $2.5 billion semiconductor fabrication facility in Dalian, China.[51] While the CPF claims that 271(f) repeal is designed to slow the trend towards offshoring, common sense and legislative history suggests just the opposite may be the case. And, when one considers the critical importance that American technology leadership (and, in particular, state-of-the-art microprocessors) hold to our national security, one suggests that a far closer review of 271(f) repeal is warranted.[52]

Finally, large firms are also, by definition, incumbents in the marketplace. Called by Peter Drucker "one of the two greatest economists of this century,"[53] Joseph Schumpeter in 1942 described the essential feature of capitalism as a "perennial gale of creative destruction." Dr. David J. Bryce, Assistant Professor of Organizational Leadership and Strategy at Brigham Young University, described Shumpeter's view: "Economic progress delivers the rising standard of living enjoyed by the US and much of the world. New goods and services, new technologies, new methods of production, and new forms of organization are repeatedly introduced and adopted, leading to a continual refreshing and upgrading of the status quo. Creative destruction is the norm of well-functioning capitalist society, not the exception. It revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one."[54]

In the innovation economy, even the smallest firms have the capacity to be disruptive. That is because, as Michael Porter explained, "Close linkages with buyers, suppliers, and other institutions contribute importantly not only to the efficiency but to the rate of improvement and innovation. While extensive vertical integration (for example, in-house productions of parts, services or training) may have once been the norm, a more dynamic environment can render vertical integration inefficient, ineffective and inflexible."[55] Therefore, by leveraging the twin powers of information technology and intellectual property, small firms today can establish close linkages with buyers, supplier and other institutions in what Harvard Business School Professor Clayton Christiansen called a "value network."[56] They can collaborate with other specialty firms and service providers, they can access capital from a variety of angel and venture capital sources, they can access new research from universities, they can reach their suppliers and customers more directly, and they can communicate, translate and exchange ideas among them all -- with confidence that their ideas retain their value and can be transferred and protected by strong patents.[57] They can do so more effectively than large firms, and it is through this advantage that small, disruptive firms can unseat incumbents. These linkages rely upon strong patents and strong patent enforcement.

These robust networks create powerful regional clusters that drive employment and economic growth in local economies–the Silicon Valley and New England[58] regions being most notable. And these networked growth engines are the aspiration of countless of regional economic development agencies,

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[50] Ibid, p. 3.
[51] Dean, Jason, "China Clears Intel Chip Plant, Marking a Potential Milestone," *The Wall Street Journal,* March 14, 2007, p. A4. Available at:
http://online.wsj.com/article/SB117377461012135302.html?mod=technology_main_whats_news
[52] "Report of the Defense Science Board Task Force," Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, February 2005
[53] Drucker, Peter, "Modern Prophets: Schumpeter and Keynes?" Available at:
http://www.peterdrucker.at/en/texts/p_drucker_proph_en.pdf
[54] Bryce, David J., "The Role of IP Protection in Economic Progress", 2007 (unpublished paper)
[55] Porter, Michael, "Clusters and Competition", *On Competition*, (Boston: Harvard Business School Publishing, 1998)
[56] Christiansen, Clayton, The *Innovator's Dilemma*, (New York, HarperBusiness, 2000)
[57] See, e.g., Kieff, F. Scott, Coordination, Property, and Intellectual Property: An Unconventional Approach to Anticompetitive Effects and Downstream Access," 56 Emory L.J. 327 2006.
[58] Ibid at note 14.

technology development centers, and municipalities.[59] A next-door example of the importance of this effort to our New Hampshire neighbor, the Dartmouth Regional Technology Center in Lebanon, New Hampshire is attached to my testimony.

But Professor F. Scott Kieff, in his article on intellectual property coordination also warned, "[Just as] stronger [patent] enforcement can facilitate the good type of coordination that increases competition and access, such as coordination among entrepreneurs, inventors, and venture capitalists to facilitate commercialization of new ideas. [P]aradoxically, the reforms urged by IP critics can end up facilitating the different, bad type of coordination that decreases competition and access. This bad effect is the coordination among large, established businesses to keep out competitors."[60]

Sixty years ago, Schumpeter articulated a similar concern. He said that if market-based incumbents become big and powerful enough, they would be motivated to clog the flow of threatening change that might end of their incumbency. "By wielding power first in the market, and then in the halls of Congress, powerful firms would strike at the institutional structures that stood in the way of further extension of their power."[61] Patents are precisely the institutional structure that stands in the way of big firm power. "By seeking to sustain their own survival in this way, those few firms would, Schumpeter argued, undermine the whole of the capitalist system. In the end, if such dynamics were allowed to persist, capitalism would fail and be replaced by a kind of socialism in its wake."[62]

And, in eerily similar fashion, Hernando de Soto concluded his chapter on the mystery of capital on a similarly dour note. He laments the fact that despite the wonderful successes brought by the real property system, Western society risks losing its blueprint for prosperity. He observes, "Once the vast machine of capitalism was firmly in place and its masters were busy creating wealth, the question of how it all came into being lost its urgency. Like people living in the rich and fertile delta of a long river, the advocates of capitalism had no pressing need to explore upstream for the source of their prosperity....everyone forgot that the reason for the delta's rich life lay far upriver, in its unexplored headwaters. Widely accessible legal property systems are the silt from upriver that permits modern capital to flourish."[63]

Whether by the strategic design of incumbents or a failing institutional memory, Kieff, Schumpeter and de Soto each raise a discomforting prophecy for us all.

Preserving the Mystery of (Intellectual) Capital

Last April, Gerald F. Masoudi[64] of the Dept. of Justice's Antitrust Division, made a compelling presentation in which he too identified innovation and our nation's "dynamic efficiency" as the key engines of our economic growth. He dismissed the utility of "static efficiency" in which companies' innovative efforts are concentrated on incremental adjustment to existing products in favor of "dynamic efficiency, a growth driver that refers to technology gains that result from entirely new ways of doing business."[65] Expressly referencing the teaching of Schumpeter, Masoudi credited creative destruction as "competition from the new commodity, the new technology, the new source of supply, the new

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[59] See, e.g., Marceau, Jean, "Why Can't We All Have a Silicon Valley", Australian Review of Public Affairs, December 15, 2005. Available at: http://www.australianreview.net/digest/2005/12/marceau.html
[60] Kieff at p. 329.
[61] Bryce at p. 2.
[62] Ibid.
[63] de Soto at p. 67
[64] G. Masoudi, "Intellectual Property and Competition: Four Principles for Encouraging Innovation," Digital Americas 2006 Meeting, Intellectual Property and Innovation in the Digital World, Sao Paolo, Brazil, April 11, 2006. Available at http://www.usdoj.gov/atr/public/speeches/215645.htm
[65] Masoudi, p. 14

organization . . .which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives."[66] Instead of bowing to the wishes of the incumbents, these new commodities, new technologies, new sources of supply, and new organizations ought to be precisely the focus our nation's intellectual property law. Mr. Masoudi concluded by describing the essential elements of pro-growth, intellectual property competition:

1. Predictable, enforceable property rights; and
2. Participation in the innovation process through licensing and collaboration as a means to maximize confidence and creativity.

Mr. Masoudi's points clearly echo the guidance of de Soto and Schumpeter, and they guide my appeal for your support of an intellectual property regime with the following features:

- A system that supports the USPTO and keeps America's patent law largely in tact;
- A system that focuses on increasing patent quality, certainty, and efficiency;
- A system that encourages respect for patents and discourages patent infringement;
- A system that rewards invention, not incumbency;
- A system that protects our technology future, not our past.

In particular, I ask your support for the following:

- Continued full funding and a permanent end to fee diversion at the USPTO;
- Support for reforms and programs at the PTO that continue to increase patent quality, examiner experience and examiner retention;
- A close look at international economic and national security implications which would result from revisions to Section 271(f);
- General restraint in the face of calls for wholesale patent reform measures;
- Opposition to First to File, Post-Grant Review, and Apportionment provisions.

With this, you would preserve de Soto's blueprint for prosperity for our nation's future through the mystery of capital and property rights. You would assist in preserving an intellectual property regime that addresses the needs of small firms and the ecosystem in which universities, angel and venture capitalists, and small firms operate. These constituents, and this ecosystem, are those who need the strong protection of patents the most.

And even more importantly, you would help preserve the dynamic efficiency of our nation. In "The Competitive Advantage of Nations", Michael Porter said, "A nation's competitiveness depends on the capacity of its industry to innovate and upgrade. Government's proper role is as a catalyst and challenger; it is to encourage – or even push – companies to raise their aspirations and move to higher levels of competitive performance, even though this process may be inherently unpleasant and

[66] J. Schumpeter, *Capitalism, Socialism and Democracy*, 84 (1942), cited in Masoudi, p. 14

difficult…Policies that convey static, short-term cost advantages but that unconsciously undermine innovation and dynamism represent the most common and most profound error in government industrial policy.[67]

I ask your help in making sure our nation's interests in innovation and the economic dynamism that comes from small firms and strong patent protection are preserved.

Thank you for your time and the invitation to participate with you today. I look forward to working with the Committee in any way that I can be helpful.

[67] Porter, Michael, "The Competitive Advantage of Nations", *On Competition*, (Boston: Harvard Business School Publishing, 1998)

March 2007

An Innovation Alliance* White Paper

Everyone involved in patent reform acknowledges the strategic importance of the nation's innovation ecosystem and the vital role played by our constitutionally created and congressionally codified patent system. Everyone favors constructive reform, and no member of the patent community wants to harm U.S. innovation's critical dynamic. But differences abound among the various sectors in the U.S. patent community over the best way to ensure the system's continued contribution to U.S. economic leadership. Even within the IT sector, there are deep divisions concerning the right formula for successful reform. Vertically integrated manufacturers and distributors of IT products and services are pushing patent reforms designed to lessen the risk and impact of infringement litigation. In contrast, smaller firms and other IT specialists fear that measures of this type would diminish the enforceability and value of all patents and disproportionately disadvantage patent holders that license their innovations for subsequent downstream utilization.

The innovation ecosystem is inhabited by many different operating models, each of which is designed to maximize efficient economic performance and all of which are critical to the innovation value chain. As Congress considers major structural changes to our patent system, it is important to keep in mind that tomorrow's innovation is at stake. Our innovative ecosystem will continue to yield new and improved technologies only if its many and varied components are allowed to operate economically. Those who choose or are required to license their inventive efforts are no less important than those who manufacture and sell their products to the public. Collectively, they all play a collaborative part in our nation's innovation, and none of them should be sacrificed.

* * *

Introduction: Certain Patent Reform Proposals Would Undermine American Innovation

The Innovation Alliance supports patent reforms that would improve patent quality without diminishing patent rights and the strength of the U.S. patent system. Our country's history is replete with examples of technological pioneers that cultivated and developed new ideas and worked hard to become global market leaders. The future growth of our economy will rely upon that same drive and inspiration in the many small businesses and independent inventors that comprise much of today's innovative economy. What unites us all is a passion for new ideas and confidence that we will ultimately reap the rewards of our investments in innovation.

Economic growth depends upon the continued strength and reliability of the U.S. patent system, which has recognized and protected the rights of inventors for more than two centuries. Our country's Founders understood that property rights are as essential to the fruits of the mind as they are to the fruits of the land. Just as a deed creates legal incentives to cultivate and improve a plot of land, patent rights create incentives to invest in the development and commercialization of an idea. Patent certainty and reliability enables the collaborative

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* The Innovation Alliance is a coalition of established and emerging U.S. technology companies that believe any changes to the U.S. patent laws should be narrowly focused on improving patent quality, enhancing certainty, and preserving market-based valuations of patents. Innovation Alliance members agree that patent reform measures should not disadvantage emerging, pro-innovation, patent-dependent businesses and their surrounding ecosystem.

development and funding required to nurture basic research through its upstream refinement to its downstream commercialization for the public benefit. That same certainty enables others to confidently invent around, or incrementally improve, published, patented technology. Thriving innovation is the key to a sound economy. It benefits the public while enhancing our nation's security and economic leadership.

As patents become more significant to U.S. industry, congressional interest in the operation of our nation's patent system has increased. As the United States becomes a high-technology, knowledge-based economy,[1] the commercial and social significance of patents is at a premium. An increasing recognition of the value and importance of patents to our nation's economy has nevertheless been accompanied by calls for significant reforms to the current system, many of which are aimed at addressing perceived deficiencies in the operation of the patent regime. While experts differ on whether major alterations in existing law are in fact necessary, both houses of Congress are expected to consider legislation in 2007 that would overhaul the U.S. patent system and implement the most sweeping reforms since the nineteenth century.[2]

With so much at stake, The Innovation Alliance must call attention to, and express deep concerns with, certain proposed measures that would significantly weaken the foundation of our patent system, which is respected and emulated around the world. Legislation aimed at so-called trolls should not be allowed to inflict "collateral damage" on other legitimate patentees whose public purpose or private sector business models require patent reliability and enforceability. Since patent reform was first introduced in Congress, the U.S. Supreme Court has become deeply engaged in its own adjustments to the U.S. patent system. Decisions made recently, and oral arguments and bench responses in other pending cases, suggest that more significant adjustments may be coming shortly. Prudence in pursuit of fairness suggests that Congress examine the impact of these recent substantive changes before congressional rebalancing begins.

Of particular concern are (i) fundamental changes to the well-established principles used to calculate damage awards; (ii) the addition of a costly new post-grant opposition system that would undermine a patent's enforceability potentially throughout its life; and (iii) undue restrictions on continuation practice that would prematurely truncate the patent prosecution process. As explained more fully below, these drastic structural reforms would combine to destabilize America's incentive-based system of innovation and encourage a weakening of patent rights worldwide.

The proposed mandatory *"apportionment"* test would eliminate the deference given market-based royalties and other relevant factors when calculating damages and instead encourage juries to value patents based on an artificial and arbitrary parsing among patented and non-patented product components. In addition, previous House and Senate versions of apportionment would require a jury to substitute its judgment for that of the USPTO in determining which parts of the patented invention are "inventive" and thus relevant to the damages award. In effect, this would result in a legal and logical conundrum where features of a valid and thus inventive patent claim could be deemed non-inventive and de facto invalid for purposes of a damages calculation. There is simply no justification for such a radical departure

[1] CRS, Report to Congress, *Patent Reform: Innovation Issues*, January 17, 2007.
[2] CRS, Report to Congress, *Patent Reform: Innovation Issues*, January 17, 2007

from existing principles of patent law and market economics. Under existing case law, courts already have discretion to "apportion" damages where appropriate, but rightly calculate a reasonable royalty according to a broad range of factors that may impact the patent's market value, including existence of a licensing history. Any other standard would potentially undervalue patents and encourage and reward infringers. Moreover, to the extent that apportionment is deemed appropriate, a jury rightly looks to the value of the entire invention since all claims at issue have been found valid and thus inventive. When coupled with the Supreme Court's recent *eBay* decision,[3] which significantly limits a patentee's right to enjoin ongoing infringement, the proposed mandatory apportionment rule would eviscerate the remedies that have driven patent-based innovation for more than two centuries. In doing so, this measure would encourage infringers and even existing licensees to reject negotiated, market-based royalties in pursuit of a more favorable jury award, thus increasing the prevalence, cost and uncertainty of litigation.

A second area of concern that threatens the strength and stability of our patent regime is the proposed "post-grant opposition" system, which would subject patent owners to an additional layer of administrative litigation on top of existing administrative and judicial processes for challenging a patent's validity. Although characterized as a check on patent quality and a means of reducing patent litigation, a post-grant opposition system is unlikely to accomplish either goal. Post-grant review would encompass a quasi-judicial proceeding with judges, experts, discovery, cross-examination and other costly aspects of litigation. However, it would lack the many safeguards of existing judicial and administrative reexamination procedures that protect patent owners against unwarranted, duplicative and abusive post-grant challenges. As a result, the proposed post-grant opposition system would encourage patent litigation and significantly increase the costs, delays and uncertainty of patent ownership. Moreover, the threat of expansive opposition litigation would significantly undermine a patent's value and enforceability if such procedures were available throughout a patent's life, as contemplated by the so-called "second window."

Additionally, this surge in complex post-grant proceedings will further strain an already over-burdened and under-funded USPTO staff. With a portfolio of some 400,000 patent applications per year, the USPTO is struggling to perform its core examination functions, as evidenced by application pendency periods of 30-40 months. Unless coupled with significant additional resources, a post-grant system will inevitably divert funding from the examination corps, potentially resulting in even greater delays and, most importantly, diminished patent quality. To guard against these negative effects, we urge Congress to consider improvements to the existing post-grant system of *inter partes* reexamination in lieu of a new, duplicative and potentially burdensome administrative review process. Should Congress ultimately decide to supplement or replace *inter partes* reexamination with an opposition process, we ask that it do so only after the USPTO has demonstrated that it can effectively perform its core examination responsibilities. Even at that point, it is imperative that Congress provide USPTO with the additional resources necessary to manage the significant demands of a new quasi-judicial opposition process.

We also ask that Congress and the USPTO refrain from legislative and/or regulatory measures that would drastically alter continued examination practice to the detriment of both

[3] *eBay Inc. v. MercExchange*, 547 U.S. ___ (2006).

patent applicants and users. Of particular concern is any measure, whether regulatory or legislative, that would impose severe and unprecedented limitations on continuation practice, a critical and necessary part of the patent examination process. Continuing applications help to define and clarify the proper scope of a patent and its claims, thus ensuring that a patent confers adequate protection, certainty and notice to the public. With increasingly complex technologies, a patent application may require several written communications between the examiner and the applicant before the invention and its relationship to the prior art are clearly understood. This iterative process necessarily results in the filing of one or more continuation applications. Arbitrary quantitative restrictions on continued examination filings, such as those recently proposed by the USPTO, would diminish the clarity of patent claims and prematurely truncate the prosecution process. As a result, the proposal would, contrary to the objectives of patent reform, reduce patent quality, increase administrative appeals and escalate the costs and delays of patent examination. Although some small percentage of applicants may abuse the existing continuation practice, the USPTO's proposed changes would wield a sledgehammer to target a few bad actors and, in the process, harm all inventors. These concerns and others are set forth in comments filed by numerous patentees, both large and small, in opposition to the USPTO's continuation proposal.

The Innovation Alliance Supports Reforms that Would Improve Patent Quality without Diminishing Patent Rights

The Innovation Alliance does not oppose patent reform; however, the necessity and efficacy of each proposed reform must be measured against the overarching goals of motivating and rewarding innovation, increasing patent quality and fairness, and reducing litigation uncertainty and costs. The solution is not to gut the patent rights critical to these and other innovations, but instead to bolster the system with measures that will improve *pre-grant* patent quality.

Patent quality is best achieved by pre-grant measures that provide examiners with the resources, training and information needed to properly assess whether an invention is, in fact, novel, non-obvious and useful. A recent study by the National Research Council also demonstrates that increases in patent examination resources yield important reductions in post-grant litigation, further underscoring the critical importance of such measures.[4] To its credit, the USPTO has taken several steps in recent years to improve pre-grant quality, including by the hiring of thousands of new examiners and strengthening of its training programs.[5] The results are promising. In December 2006, the USPTO reported a significant decrease in the patent allowance rate to a record low of 54 percent -- a dramatic drop from the 2000 rate of 70 percent. In addition, the USPTO in 2006 achieved its lowest error rate in 20 years -- 3.5 percent. Of course, to maintain this trend, it is imperative that the USPTO continue to receive the resources necessary to evaluate an escalating number of patent applications. And to that end, what is most needed is legislation to permanently end patent fee diversion. Although we recognize the political considerations that have thwarted past efforts to end this ill-advised practice, patent reform legislation stands little chance of achieving positive and concrete improvements without addressing vital resource issues.

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4 Patents in the Knowledge-Based Economy, Wesley M. Cohen and Stephen A. Merrill, Editors, Committee on Intellectual Property Rights in the Knowledge-Based Economy, National Research Council (2003).

5 In addition, the USPTO just announced a revolutionary beta program to identify the most relevant prior art through the use of peer review system. Innovative approaches of this type should be encouraged.

In that same vein, increased USPTO resources will yield quality gains only if examiners have the information and incentives to recognize and reject claims for obvious or non-novel inventions. The Innovation Alliance thus supports measures that would foster an environment of cooperation between patent examiners and applicants and increase the prior art available to examiners. These include, for example, proposals to increase third-party submissions and mandate universal publication of all patent applications. Similarly, clarification of the willfulness standard and inequitable conduct defense would benefit all participants in the patent system, provided that they appropriately balance the interests of patent owners and users and preserve disincentives against infringement. At the same time, the USPTO should reconsider policies that potentially encourage patent examiners to issue questionable patents, including quotas or other benchmarks that tie compensation to the number of applications processed.

Of course, even if we improve the quality of issued patents, disputes will inevitably arise, as in any system of property rights. However, The Innovation Alliance takes issue with exaggerated claims that patent litigation is out of control or inherently unfair to patent users. Having experienced patent litigation as both defendants and plaintiffs, our members share the frustrations of all Americans that litigation is expensive, distracting and time-consuming. At the same time, we are grateful for a strong statutory framework and stable judicial system that protect and enforce the rights of patent holders. Indeed, the strength and stability of America's patent regime have created powerful incentives for entities of all size, structure and focus to collaborate through market-based agreements, helping to fuel a dynamic and prolific innovation ecosystem and decreasing the likelihood and cost of litigation.

The Innovation Alliance has yet to see any credible evidence that patent litigation is any more prevalent or prone to abuse than other high-stakes commercial litigation. Indeed, the Administrative Office of the Courts, the administrative arm of the Federal Judiciary Branch, reported modest increases in patent litigation over the past five years -- i.e., a 12 percent increase in cases filed between 2001 and 2006 -- and an actual decrease in patent cases since the peak year of 2004. This increase is attributable to a range of factors, most notably the growing number of patents issued in recent years and their relative commercial significance to our knowledge-based economy. Significantly, the number of trademark and copyright cases filed throughout this period has consistently exceeded the number of patent cases. A recent study affirms the findings of the Judicial Branch that patent owners have become more judicious in using patents to enforce their IP rights and thus are bringing cases less often. [6]

The Innovation Alliance supports reforms designed to reduce litigation costs and uncertainty. It is, however, a mistake to characterize efforts to weaken the enforceability of legitimate patents as litigation reforms. Not only would such measures undercut the rights of all patent owners to protect a few corporate giants from potential infringement litigation, they would ultimately increase the number of lawsuits by encouraging infringers to seek court-ordered rather than market-based solutions. In contrast, several of the other proposed reforms -- for example, elimination of the best mode requirement -- correctly target subjective aspects of the patent

6 PricewaterhouseCoopers, 2007 Patent and Trademark Damages Study found that intellectual property rights remain important but enforcement actions are declining (p.7). The continuation of this trend is subject to change as the Supreme Court's MedImmune decision (MedImmune, Inc. v. Genentech, Inc., 549 U.S. ___ (2007), may encourage more patent actions and a declining dollar may result in foreign entities attempting to introduce infringing products into the US market (p.11).

system that increase litigation costs, while leaving intact the rights and remedies of legitimate patent owners. Measures of this type would heighten the fairness, predictability and efficiency of patent litigation for all stakeholders.

* * *

Mandatory Apportionment: Diminishing the Value of Patent Rights and Discouraging Investments in Innovation

A hallmark of America's patent system is the recognition that issued patents are property rights whose infringement merits strong remedies, including the right to prevent future violations and obtain adequate damages for past infringements. These remedies form the foundation of any system of property rights, but are particularly critical to patent owners - especially small and medium-sized innovators - that typically have no other means to protect their inventions. Patents owned by members of The Innovation Alliance represent years of research and billions of dollars in investments. However, once disclosed to the world, as the patent system requires, our innovations can be copied by any competitor. For this bargain to work properly, a patent right must be enforceable and have meaningful remedies associated with that enforcement.

Since the codification of the U.S. patent system, the guarantee of strong remedies has given patent owners the leverage necessary to secure fair royalties from free-riders, including larger, better-financed competitors, and the confidence to share their inventions with the rest of the world. Consider, in contrast, an America without a strong patent system. Most small inventors, which comprise an estimated 40 percent of patent owners, would lack the financial wherewithal to make their vision a reality, and many established companies would reduce investments in research and carefully guard the secrecy of their inventions. Our system of innovation would, in turn, take a giant step backwards, and the American economy would suffer.

Under Section 284 of the Patent Act, the minimum permissible measure of compensatory damages is the "reasonable royalty for the use made of the invention by the infringer, together with interest and costs." In cases where the patent owner can demonstrate a pattern of negotiated licenses, this market-based "established royalty" rate serves as the *minimum* baseline for damages awarded to the patentee. Any lesser damage award would fail to make the patentee whole and encourage infringement.

In cases lacking an established royalty, courts have long considered a variety of factors to determine the royalty the parties would have agreed to in a hypothetical negotiation. Indeed, in the seminal case *Georgia-Pacific Corp. v. U.S. Plywood Corp.*,[7] the district court identified *15* factors as potentially relevant to a determination of reasonable royalties. Among these 15 factors is the "portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements" -- the so-called "apportionment" test -- which forms the basis of the previous House and Senate proposal on damages. Other factors include, for example, royalty rates paid by the infringer for licenses to similar patents; the commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; the duration of the patent and term of the license; the established profitability of the patented product; and the testimony of qualified experts.

7 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

Once the patent is deemed valid and infringed, the court's objective is to give due consideration to all relevant market factors and predict with as much accuracy as possible the royalty the parties would have decided at the negotiating table. However, for this hypothetical negotiation to achieve an equitable outcome, it is imperative that courts retain the discretion and flexibility to determine which subset of the 15 *Georgia-Pacific* factors is relevant to a particular patent, and the relative weight to be given each factor. Of course, this process of using hindsight to replicate a hypothetical negotiation is necessary and appropriate only in the absence of a market-tested royalty rate. Where a pattern of established royalties exist, the market has already spoken, and there is no need to "apportion" the infringed-upon patent or consider other factors. In fact, doing so would encourage juries to substitute their judgment for that of the market -- a result that would violate the spirit and letter of U.S. patent law and weaken the property rights inherent in patented inventions.

It is this aspect of the proposed mandatory apportionment test that is most troubling and most at odds with *Georgia-Pacific* and the thousands of cases that have applied its flexible, market-based approach to damages. Although they differ in their particulars, both the House and Senate bills from the 109th Congress would mandate apportionment of damages in all cases and elevate this one factor above all others, including evidence of a market-established royalty rate. [8] Such a standard would be extremely harmful, jeopardizing the ability of innovators to sustain a licensing-based business model and cycle of innovation.

By encouraging juries to ignore the full range of relevant factors that impact a patent's market value, a mandatory apportionment test will increase the cost and uncertainty of enforcing patent rights and, in turn, diminish the value of all patents. Among other effects, a patentee will be forced to sue on each and every patent infringed by the product -- as opposed to the subset of patents most relevant to the product -- so that other features of the product will not be used against it in a damages determination. This is especially true for a patentee that owns a large number of patents that cover specific devices or standards. In addition, instead of using the industry standard royalty as the basis for a damages calculation, a jury will be instructed to parse the "realizable value" of the "inventive contribution" of the patents, as distinguished from other features of the device.

What this means in practice is anyone's guess, particularly since the terms "realizable value" and "inventive contribution" have no defined meaning under the Patent Act or case law. Assuming the undefined term "inventive contribution" is intended to mean something other than the patented invention, the apportionment proposal would arguably require a jury to reevaluate a patent claim (after finding it to be valid and enforceable) to determine which portion is truly "inventive." Once again, the jury's judgment would reign supreme, displacing that of the patent examiner and necessitating a costly and time-consuming battle of the experts. Such a standard

[8] Congressional sponsors of comprehensive patent legislation have yet to introduce their proposed bills for the 110th Congress but have indicated that the new bills will be very similar to proposals introduced and debated during the 109th Congress. Both houses of the 109th Congress considered patent reform bills. With respect to the House of Representatives, H.R. 2795 was originally introduced on April 4, 2005. Titled the "Patent Reform Act of 2005," H.R. 2795 was then subject to a Chairman's Substitute Amendment on July 26, 2005. Efforts in the House of Representatives were complemented by a distinct "Patent Reform Act of 2006," S. 3818, that was introduced in the Senate on August 3, 2006. Although neither of the bills resulted in enacted legislation, they may contribute to further discussion of patent reform in the 110th Congress.

would lead to considerable confusion and complexity and jeopardize the established rights of all U.S. patent owners.

Given the likelihood that mandatory apportionment will produce an artificially low valuation of the patent, potential infringers and even existing licensees will have greater incentives to risk litigation rather pay, or continue paying, the standard licensing fee. No longer will the market be the arbiter of a technology's value; instead, a paid expert and jury will be. Many small innovators will lack the resources to defend their patent rights against abusive tactics of this type. Larger, better-funded companies will have little incentive to pay a fair royalty to a smaller patentee, or even execute a license, knowing that a jury will be forced to parse the value of a little-known or understood patented technologies among "inventive" and non-inventive components. This is precisely the predicament that faces Innovation Alliance members AMBERWAVE and IMMERSION -- two small U.S. companies that recently licensed their technologies to larger, better-funded companies that had, at first, been unwilling to pay a licensing fee.

When coupled with the heightened *eBay* standard for injunctive relief, a mandatory apportionment test would further weaken and destabilize our system of patent rights and jeopardize the very existence of smaller firms with an innovation and licensing based business model. Since *eBay*, courts are increasingly reluctant to award permanent injunctions to patent holders (historically, the first line of defense against infringement), unless the infringement undermines competition for the patentee's product. In cases where a patent holder licenses the right to practice its patented technology to others, but does not practice the technology itself (as is often the case with small inventors that lack the resources and infrastructure to manufacture their innovations), courts have, since *eBay*, shown a greater reluctance to award permanent injunctive relief. As a result, a small inventor will in many cases be forced to permit ongoing use of its patented technology pursuant to a court-imposed compulsory license (without the benefit of important standard non-royalty license terms such as confidentiality) and a jury-dictated royalty. In the post-*eBay* world, it is thus all the more important that Congress preserve the ability of patent holders to obtain adequate damages for patent infringement, as this will be the only viable remedy in many cases. Indeed, now that a post-*eBay* jury may be deciding the royalty rate both for past infringement and future compulsory licenses, it is essential that it retain the discretion to consider all relevant market factors.

To illustrate the point further, consider this real property analogy. Suppose a trespasser decides to take up residence in a property owner's apartment building. Under the *eBay* decision, one's ability to evict (or enjoin, in the case of patents) that convicted trespasser stands in doubt. Now the only question is how much the trespasser will pay in rent (damages). Under the *Georgia-Pacific* standard, a jury would, at a minimum, award the $500 in monthly rent that the owner currently charges other tenants for comparable apartments. But under the mandatory apportionment test, a jury will be encouraged to ignore existing rents in favor of an artificial process of apportioning the value of one's property. What if the jury decides that the "apportioned" value of the trespasser's apartment is only $300 per month. Certainly, all other tenants would demand a similar reduction in rent, diminishing significantly the commercial value of the building and the property owner's ability to maintain, improve and finance the property. Patents are no different -- unless supported by strong property rights and remedies, patented technologies will diminish in commercial value, and patent holders will lose access to financing and critical incentives to invest in ongoing innovation.

Of course, proponents argue that mandatory apportionment is necessary to protect against inflated damages in cases where a patent represents a trivial component of a complex system. What they neglect to mention, however, is that *Georgia-Pacific* already permits apportionment in such cases. Under *Georgia-Pacific* factor 13, a jury may take into consideration the "portion of the realizable profit that should be credited to the *invention* as distinguished from non-patented elements" when determining a reasonable royalty rate. Consistent with this decision, the Federal Circuit's model jury instructions permit consideration of the "portion of the profit that is due to the patented invention, as compared to the portion of the profit due to other factors." Apportionment, however, is not appropriate in all cases. In particular, courts have long held that the parsing of a patent's value is sensible only if the patent represents a relatively insignificant and separable part of the overall product. In contrast, where a patent is responsible for all or substantially all of the product's market value, apportionment is unnecessary and inappropriate.

None of these nuances and complexities are reflected in the proposed mandatory apportionment test, which would primarily protect the interests of large, established firms with a vertically integrated business model, to the detriment of smaller and arguably more innovative firms that rely upon their patents to generate licensing revenue and venture capital financing. The *Georgia-Pacific* factors, in contrast, are technologically neutral and thus accommodate all industries, business models and types of patented inventions, without favoring or disadvantaging the interests of any one sector. Unlike the proposed mandatory apportionment test, the full *Georgia-Pacific* analysis is sufficiently flexible to apply in all situations, resulting in appropriate damage awards for a wide variety of technologies and royalty arrangements.

Furthermore, the law already provides safeguards to prevent excessive damage awards. Patent owners, for example, bear the burden of proving the monetary amount necessary to compensate for acts of infringement and are not eligible to receive remote or speculative damages. There is simply no credible evidence that such safeguards are insufficient to prevent inflated damages, or that the current method of calculating damages is inherently unfair to patent users. Citing this lack of evidence, the ABA Intellectual Property Section has publicly opposed a mandatory apportionment amendment, noting that the proposed language "would have undesirable consequences."

Post-Grant Opposition: Jeopardizing Investments in Pre-Grant Patent Quality, Increasing Litigation Costs and Destabilizing Patent Rights

The proposed "post-grant" opposition system is, unfortunately, another example of a well-intentioned but ill-conceived measure that could significantly undermine patent rights without any countervailing benefit. The proposed system would create new quasi-judicial procedures within the USPTO for resolving post-issuance challenges to patent validity. Although both the House and Senate versions of post-grant share the worthy goals of improving patent quality and decreasing litigation, each proposal, as drafted in prior bills, could have the opposite effect. Of particular concern is the fact that the USPTO lacks the resources to administer a European-style opposition system, which would require it to oversee the equivalent of a judicial trial to resolve questions of validity. The USPTO is already struggling to manage a growing workload of over 400,000 patent applications per year, resulting in significant backlogs and ever-increasing pendency periods. Without a significant increase in USPTO resources, the introduction of a post-grant system would strain an already over-burdened office, leading to even

further examination delays and potentially diminished patent quality. In Europe, for example, opposition proceedings prolong already lengthy pendency periods by an average of three to five years, significantly curtailing the commercial life of the patent.

Although the previous House and Senate bills attempted to alleviate certain deficiencies of an opposition system -- for example, by requiring completion of the proceeding within 12 to 18 months of its commencement -- they altogether failed to address this fundamental issue of resources. Similarly, each failed to address adequately the inefficiencies, delays and potential abuses that would inevitably result from introducing a new administrative reexamination procedure on top of existing *ex parte* and *inter partes* post-grant processes. Although characterized as a means of reducing patent litigation costs, the proposed post-grant opposition system would merely shift litigation costs to the administrative arena. Moreover, because the opposition process would lack existing safeguards against frivolous or duplicative invalidity challenges, while also increasing the expense and difficulty of defending patent rights, it would significantly increase a patent owner's litigation risks and costs and undermine the enforceability of all patent rights.

Although improvements to existing judicial and administrative reexamination procedures may be warranted, proponents of an expansive post-grant opposition system have yet to explain why a wholly new and potentially duplicative layer of administrative litigation is necessary. Clearly, an opportunity to reexamine questionable patents is an important component of a properly functioning patent system, but such procedures must also strive to preserve the value and enforceability of the vast majority of meritorious patents. In federal court, for example, only accused infringers and licensees have the necessary standing to challenge a patent's validity; and a challenger must prove invalidity by clear and convincing evidence. At the same time, however, the challenger can seek to invalidate the patent on any substantive or procedural ground and invoke the full arsenal of evidentiary tools available at trial. In combination, these factors permit an exhaustive judicial review of questionable patents, but also discourage frivolous litigation.

The current administrative system of *inter partes* reexamination, introduced in 1999, is designed as a relatively quick and low-cost alternative to litigation in cases where invalidity can be established on the basis of published prior art. As its name suggests, reexamination requires the examiner to take a fresh look at a patent claim and, on the basis of prior patents and printed publications, determine whether the claim fails to satisfy the statutory conditions of patentability. A challenger may request reexamination throughout the life of the patent, provided that it demonstrates a substantial new question of patentability. However, because an unsuccessful challenger is generally estopped from asserting invalidity in a subsequent civil trial or *inter partes* proceeding, patentees are effectively shielded from the risk of abusive or duplicative reexamination. As with existing judicial procedures, this system of *inter partes* reexamination attempts to create an effective check on patent quality without diminishing the value and stability of patent rights generally.

In contrast, the proposed post-grant opposition system would combine aspects of a judicial and administrative reexamination process, but eliminate or substantially dilute existing safeguards that have effectively discouraged misuse of the system. In the process, it would create a quasi-judicial system of administrative litigation that heavily tips the balance in favor of the challenger's interests; increases incentives to litigate; and disproportionately shifts litigation

costs to the patent owner. Unlike a civil proceeding, a post-grant opposition system would invite challenges by any party adversely affected by a patent. And it would facilitate invalidation by eliminating the patent's presumption of validity and reducing significantly the challenger's evidentiary burden. In addition, the challenger would be free of constraints designed to reduce the cost, scope and potential abuses of administrative reexamination. For example, the proposed opposition process would, unlike existing administrative procedures, allow challengers to demand discovery, hearings, cross-examination and other aspects of litigation that quickly escalate the cost and complexity of defending a patent. At the same time, the proposed opposition system would significantly relax the estoppel effect of an unsuccessful challenge, thus permitting the challenger to "try again" in a subsequent litigation or administrative proceeding and negating an important deterrent against the harassment, waste and delays of redundant proceedings.

Patent owners would bear the brunt of these increased litigation costs, particularly if expansive opposition litigation is permitted for any issue of patentability throughout the life of the patent. In contrast, a competitor or free rider - relieved of robust evidentiary requirements and the risk of estoppel - would have every incentive to seek opposition, regardless of the patent's strength. Such a system would inevitably invite abuse, allowing corporate giants to misuse opposition litigation as a means of blocking patents that frustrate their business interests. Indeed, by stripping a patent holder of the protections that guard against baseless challenges, an open-ended opposition threat would effectively destroy a patent's statutory presumption of validity and cast a permanent cloud over its legitimacy and enforceability. This uncertainty will undoubtedly undermine a patent holder's ability to negotiate fair licensing terms and secure financing. Such a result would be particularly devastating for start-ups and other smaller firms whose very survival is often dependent on early stage venture capital and licensing revenue.

Indeed, if the experience of other countries is any guide, the United States should exercise great caution before introducing a post-grant opposition system. Less than 10 years after adopting such a system, Japan, Korea, Taiwan, and China have all recently abolished post-grant patent opposition procedures in favor of a streamlined invalidation proceeding that permits a centralized process for administrative reexamination. The Japanese Patent Office has publicly acknowledged that repeated attacks against a patent under duplicative administrative and judicial opposition systems have imposed undue burdens on patentees, resulting in increased costs and delays. Similarly, Taiwan concluded that its post-grant opposition system unfairly benefited infringers to the detriment of all patent owners.

Although proponents of an opposition system contend that existing *inter partes* reexamination procedures are overly restrictive in certain respects, and thus underutilized by challengers, such claims merely argue for improvements to the existing system, not the creation of a costly, duplicative and resource-intensive opposition process. For example, the USPTO has recommended amendments that would extend *inter partes* reexamination procedures to all enforceable patents (eliminating the existing bar on *inter partes* reexamination of patent applications filed before enactment of an *inter partes* process). Incremental and carefully-tailored amendments to the existing *inter partes* process merit serious consideration before wholesale adoption of an expansive new system of administrative litigation. As a result of improvements of this type, the USPTO has experienced a gradual but marked increase in *inter partes* reexamination proceedings since 2000 (i.e., 120% increase in *inter partes* requests from 2004 to 2005). Thus, there is every reason to believe that further incremental improvements to

the *inter partes* system could address any remaining deficiencies and greatly expand usage of existing administrative procedures.

Even if post-grant opposition is ultimately deemed to be a necessary and preferable alternative to *inter partes* reexamination, implementation of a new opposition proceeding should not occur until USPTO has demonstrated its ability to perform core examination functions in a timely manner and is given the resources to manage the significant demands of a new system of administrative litigation. Even at that time, opposition proceedings should be limited to a single window of review (i.e., within 12 months of issuance) to ensure that patent owners enjoy clear title over their inventions throughout the lives of their patents.

Conclusion

Given the critical importance of our patent system to American innovation and economic leadership, it is imperative that patent reforms be carefully tailored to achieve necessary improvements and, in all cases, to promote and protect investments in innovation. The over-arching goal of patent quality is ill-served by measures that would destabilize our current system of patent rights and remedies and, in turn, jeopardize the global leadership of this country's most innovative industries. In this respect, The Innovation Alliance takes issue with certain corporate giants that would weaken patent rights to reduce their own litigation costs and promote their particular business models. No doubt their businesses can survive such a trade-off, but we are far less sanguine about the future prospects of the many thousands of innovative firms that live or die on the strength of their patent portfolios. Moreover, by creating uncertainty as to the validity and enforceability of patent rights, we stand to encourage, not discourage, costly litigation.

If our shared objective is to improve patent quality while preserving incentives to innovate, we should instead pursue reforms that enhance patent examination resources and capabilities within the USPTO and make it harder for questionable patents to survive scrutiny. The USPTO has already taken important steps to achieve these goals, hiring thousands of new examiners, instituting new training programs and committing annually to performance benchmarks. But it needs Congress's support in the form of a predictable flow of resources and hence a permanent end to fee diversion. In addition, Congress should continue to pursue constructive but narrowly tailored reforms that would increase access to prior art and lessen the subjective aspects of litigation. Carefully structured measures of this type would ultimately fortify the health of our patent system without endangering the rights of American's most innovative firms.

In contrast, there is simply no justification for legislation that would artificially constrain damage awards through mandatory apportionment, particularly now that injunctive remedies are increasingly unavailable to patent owners. In the wake of *eBay*, Congress should take pause before adopting unprecedented reforms that would further weaken the entire patent system; favor the interests of large corporations to the detriment of smaller innovators and licensing-based business models; and ultimately jeopardize America's competitive advantage in today's knowledge-based economy. Such measures would serve no other purpose than to protect the interests of large corporations against infringement claims, no matter how meritorious. Similarly, a post-grant opposition system, unless accompanied by adequate resources and safeguards, will subject patent owners to unwarranted delays, costs, uncertainty and harassment,

without offsetting benefits to patent quality. If the United States is to remain the world's leading innovation-based economy, we cannot destabilize and weaken patent rights with measures of this type.

The Innovation Alliance thus urges Congress to eliminate mandatory apportionment from any patent reform package or alternatively to codify all of the *Georgia-Pacific* factors, including the existence of an established royalty rate, as recently proposed by the Intellectual Property Owners Association. Moreover, we ask that Congress consider improvements to the existing *inter partes* reexamination process in lieu of a new post-grant opposition system, and ensure that any such opposition system is coupled with adequate resources and safeguards to prevent abuses and achieve the ultimate goal of improved patent quality.

In closing, we urge Congress to keep in mind the likely domino effect of proposed patent amendments on intellectual property rights worldwide. The U.S. economy has long benefited from the strongest intellectual property laws in the world. America's system of patent rights and remedies is universally recognized as the gold standard, and, as such, it has given us the moral authority and credibility to fight for stronger protection of U.S. innovations in other markets. Maintaining that authority is critical in today's increasingly competitive global economy. America's leadership in this knowledge-based economy is critically dependent upon the ideas and innovations that constitute our most valuable natural resources and our most desirable exports. If the United States weakens patent rights and remedies at home, our ability to press foreign countries to respect American intellectual property will be greatly diminished. Indeed, we will embolden other countries to adopt even more damaging policies that could jeopardize the continued preeminence of America's most productive industries. This is a slippery slope, and we must be careful.

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March 26, 2007

Hon. Paul W. Hodes
United States House of Representatives
506 Cannon House Office Building
Washington, DC 20515

COMMENTS ON CONGRESSIONAL DELIBERATIONS AND POTENTIAL LEGISLATION REGARDING PATENT REFORM, THE SO-CALLED "PATENT FAIRNESS" INITIATIVE, 2007

Dear Congressman Hodes:

As you know from previous conversations and participation by your staff in a Dartmouth conference September, 2006 on the "funding gap" in commercializing early-stage technology innovations, challenges are manifold in moving scientific and technology discoveries from basic science into economic development and social benefit. We continue to examine the elements of greatest challenge in this pathway, and will be in contact in the future regarding initiatives now being examined by our working group.

In the interim, the progress of the patent reform deliberation in Congress prompts me to forward you a few comments regarding the so-called "fairness" or "anti-troll" initiative which has become part of this broader reform process.

The multi-faceted patent revision process contains many changes which appear well-advised and supportive of technology innovation, and have been amply analyzed elsewhere. Those of us involved in the early stages of developing new innovations are becoming increasingly concerned, however, by some of the proposals put forward by the "anti-troll" coalition. It is always a danger to allow one interest group to paint another as opposed to fairness, and that danger appears real in the present instance.

Regrettably, small companies and technology innovators are worried they will not have standing in the current deliberations to make their concerns known to policymakers. As is often the case, small business, individual inventors, and academic research institutions for whom patenting and commercialization are not a core focus of their missions, risk being marginalized by the well-organized and amply-funded campaigns of larger enterprises which tend to be licensees of technologies developed by innovators, or unfortunately at times, users of technologies developed by others without coming to terms on rights to practice.

As larger companies and venture investors have increasingly moved out of the early stage space, preferring to license or buy developed technology rather than invest in early stage development, the importance of enhancing the marketability and profitability of early stage ideas has become all the more critical. This is the key focus of our continuing "Funding Gap" initiative, in which your staff has participated previously. Anything which potentially reduces the enforceability and marketability of patented innovations will only serve to widen the "Gap" and further inhibit the movement of new ideas across it, into the marketplace.

As details and proposals emerge in the coming deliberations, I strongly encourage you to look carefully for evidence that there is a balance of voices at the table, in particular that small business and research institutions are adequately represented and heard. By nature, neither will be as well-organized or rich in resources to engage in the debate.

In addition I encourage you and all involved to search diligently for ways to improve fairness and restrict unfair exploitation of the patent system without impairing the interests of legitimate innovators who need all the help they can get in offering adequate returns to investors and licensees. There is no reason on earth why these objectives need be exclusive of each other, and any attempts by the "anti-troll" movement to merge the two has the risk of appearing opportunistic and self-serving.

If we can be of further help as this discussion develops, of course contact us at any time.

Respectfully yours,

Gregg Fairbrothers
Chair, Dartmouth Regional Technology Center
Convener, Dartmouth Funding Gap Conference and Working Group
Adjunct Professor of Business Administration, Tuck School of Business, Dartmouth College
Founding Director, Dartmouth Entrepreneurial Network

The Testimony of
Emily Ward
Associate General Counsel, Patents
eBay Inc.
Before the House Small Business Committee
March 29, 2007

Chairwoman Velasquez, Ranking Member Chabot and members of the Committee, my name is Emily Ward, and I am the Associate General Counsel for Patents at eBay Inc. I would like to thank the committee for this opportunity to discuss the importance of patent reform to small business. Sensible patent reform that curbs abusive licensing demands and abusive litigation would benefit all small businesses that depend upon every conceivable type of technology tool to run their business – whether computer hardware, software, cell phones, blackberries, printers, or online websites. Patent reform is an important issue for small business entrepreneurs across America who increasingly use the Internet to compete in the 21st Century economy.

Technology Enabling Small Businesses

Software, cell phones, computers, blackberries, and online services are enabling small business people to operate independently and with unprecedented efficiency. For example, millions of small businesses use Internet technology every day to sell their products and services to consumers across the nation and around the world, and the eBay marketplace is critical to hundreds of thousands of small businesses across America. In fact, as much as technology is important for big businesses to operate today, it may be even more important for small businesses. Technology helps to level the playing field, enabling small businesses to succeed in our highly competitive economy. Patent reform is important to small businesses across the board because abusive patent litigation is having the real world effect of driving up the cost of the wide range of technologies that small businesses use.

Abuses and Inefficiencies in the Current Patent System Raise Technology Costs and Harm Small Businesses

Small business people are entrepreneurs, risk takers, and innovators that operate in a highly competitive environment with tight margins. The significant legal costs that the current patent system imposes on technology companies are passed along to technology users in the form of higher prices. These costs hit small businesses particularly hard.

Dramatic innovations in communications and Internet technology over the past fifteen years—such as in wireless phones, personal digital assistants, and the famous Internet shopping cart—have helped small business. Yet many of these technologies have been targeted by patent licensing businesses that do not make any commercial products themselves but simply write patent applications or purchase patents so that they may seek licensing fees. The weight of these licensing costs and the risk of more huge judgments and settlements, like the one in the Blackberry case last year (which settled for $612.5M), can drive up the cost of these technologies in ways that drastically hurt small

businesses' bottom lines. Furthermore, small businesses producing goods and services often partner with larger businesses. When these larger businesses pay hundreds of millions of dollars due to frivolous licensing demands or patent lawsuits, that cost is also borne either directly or indirectly by small business partners and customers.

Small businesses have suffered by being directly targeted by patent licensing entities as well. For example, a patent licensing entity called Pan IP sued about 50 small businesses, including a New York ski shop, two electronic stores, and a pie company, a New Jersey plumbing supply company, an Oregon fabric store, and an Indiana chocolate shop (among many other defendants) for alleged patent infringement. The patent licensing fees that the plaintiff was seeking were large enough to potentially be financially crippling to a small business (around $25K). However, average costs to defend patent lawsuits are even more staggering. This leaves small businesses in the difficult conundrum of whether to pay patent licensing entities or legal defense costs (or frequently both), and whether they can they stay in business after paying these staggering costs.

Inequities in the Current Patent System Need to Be Addressed

The U.S. patent system currently imposes significant legal costs on businesses and is quite unpredictable. We believe that modest reforms in the current system to fix problems and inequities are very important and would benefit the overwhelming majority of small businesses.

One major inequity in current patent litigation involves the unpredictability and potential unfairness of damage calculations. For example, under current law, the value of a patent can be greatly inflated in damage awards (or settlements) by allowing a patentee whose patent covers only a small component of a larger product to obtain or claim damages based on the entire value of the larger product. This is a problem for all businesses, but is especially risky for small e-commerce businesses because their websites could be accused of infringing potentially hundreds or thousands of software patents. The owner of a patent covering a very minor feature of a website (for example, a minor improvement in user interface technology) should not be able to extract royalties for a business owner's entire website. Common sense must be restored to damage calculations.

Yet another major inequity is the forum shopping available under virtually nationwide venue in patent cases.[1] For example, patent licensing entities know of and frequently file lawsuits in plaintiff-friendly venues. However, the burden on business defendants to defend patent lawsuits in venues across the country, particularly when those businesses may have just had minimal Internet sales in that district, can be tremendous.

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[1] *See* 28 U.S.C. § 1400(b); *see also VE Holding Corp.* v. *Johnson Gas Appliance Co.*, 917 F.2d 1574, 1583 (Fed. Cir. 1990); Professor Kimberly A. Moore, *Forum Shopping Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. Rev. 889, 891 (2001) (large-scale empirical analysis of patent cases concluding that "despite the creation of the Federal Circuit, choice of forum continues to play a critical role in the outcome of patent litigation" and that patent cases are "consolidated in a few select jurisdictions").

Another major inequity in current patent law involves "willfulness" claims. If a defendant is found liable for willful infringement, then damages may be multiplied up to three times the actual damages. However, the current legal standard for willfulness is very low: a defendant may "willfully infringe" a patent by simply being aware of that patent. This awareness may even be satisfied by the filing of a patent infringement complaint or notice letter. Businesses that innovate and operate successfully in the technology marketplace frequently receive letters that are "invitations to license" one or more patents. If a business does not take a license in response to such a demand letter, it may be subject to a potential three-fold increase in damages in a patent lawsuit because it "willfully infringed" the patents. Worse still, these licensing demand letters often contain multiple patents, each of which can involve dozens or even hundreds of separate claims under which the plaintiff can sue. Such letters are also frequently vague and cursory and often contain lists of dozens of patent numbers with no specificity as to the products or services that are claimed to be infringing.

One defense to a charge of willfulness is for a defendant to obtain an opinion letter of counsel for each claim of each patent. These opinion letters can cost $20,000 to $50,000 per patent - or more. The recipient of such an "invitation to license" letter often cannot afford to obtain outside counsel opinions in response to each licensing request, as it would put the recipient out of business. The recipient must therefore roll the dice and guess which cases are headed towards litigation. Nor are outside counsel opinions a perfect defense as juries frequently find willful infringement despite such outside counsel opinions.[2] In short, just by sending a vague letter to a business, a potential plaintiff can place enormous pressure on the potential defendant to settle.

To at least begin to level the playing field, patent willfulness should be changed to be consistent with willfulness in other areas of the law, where treble damages for willful conduct is rightly reserved for only egregious cases.

Addressing these and other problems and abuses in the patent system will help the vast majority of small business people who rely on technology to compete in the global competitive environment. Leveling the playing field to address these abuses will help small business. This would be beneficial for entrepreneurs, workers, consumers, and the U.S. economy as whole.

Conclusion

For all these reasons, we believe that sensible patent reform that addresses inequities in the current system would benefit small businesses that increasingly rely on technology to compete in the global marketplace. Patent reform will help ensure that the overall costs of technology used by small businesses do not unnecessarily increase because of abusive patent litigation or a faulty patent system.

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[2] See Professor Kimberly A. Moore, "*Empirical Statistics on Willful Patent Infringement*," 15 Fed. Cir. B.J. 227 (2004) (Juries found willfulness in 55.8% of the cases where there was an outside counsel opinion; compared to 56.1% of the cases where there was no outside counsel opinion. In bench trials, the courts found willfulness in 44.8% of the cases where there was an outside counsel opinion compared to 84.2% of the time where was no outside counsel opinion.).

House Small Business Committee Hearing
March 29, 2007
Patent Reform
Impact on Small Venture-backed Companies

John Neis, CFA
Managing Director
Venture Investors
University Research Park
Madison, Wisconsin

Chairwoman Velazquez, Ranking Member Chabot and Members of the Committee, my name is John Neis and I am a managing director at Venture Investors, an early stage venture capital firm based in Madison, Wisconsin. I am also a member of the National Venture Capital Association (NVCA) based in Arlington Virginia. It's my privilege to be here today and to have the opportunity to share my views and the views of the venture capital community on the patent system and the opportunity for reform.

My partners and I have worked together for over two decades to identify, finance, and assist seed and early-stage entrepreneurial and innovative companies, primarily in the mid-west. We have a team of seven partners, each focusing on certain industry sectors. I am part of the team that operates largely in the biotechnology and medical device spaces classified as life sciences but many of our intellectual property challenges are shared by my other partners who are investing in information technology and alternative energy. Our investment strategy is to identify and commercialize industry-leading technologies, developed by some of our nation's top scientists and research institutions.

Venture Capital Investment is A Vital Ingredient for Innovation

The National Venture Capital Association, of which I am a member, represents the interests of more than 480 venture capital firms in the United States, which collectively account for more than 85% of global venture capital investment. Venture capitalists invest in small, emerging growth companies that strive to commercialize innovation and bring cutting edge technologies to the market in an efficient manner. In doing so, venture capitalists have built companies that accounted for 10 million jobs or 9 percent

of private sector employment and $2.1 trillion in revenues or 17 percent of US GDP in 2005. [1] Companies that received their start with venture capital dollars include: Genentech, Amgen, Intel, Cisco, Google, Medtronic, Microsoft, and eBay. At one time, all of these market leaders were small companies with big ideas.

Venture capitalists invest in these types of small companies across all industry sectors but we have a particular interest in information technology, communications, and life sciences. Within the last year, the industry has begun to explore investment in alternative energy, a sector that shows tremendous promise for innovation going forward. In addition to providing early stage funding to young businesses, venture capitalists also take an active role in guiding nascent companies through their start-up and expansion phases and accordingly have a unique perspective on the hurdles that emerging businesses confront and the environments that promote or stifle growth and innovation.

Given this role that we play across a diverse set of industries and at various points in a company's life cycle, venture capitalists have the unique opportunity to observe the impact of patent system changes across a broad range of companies. The implications are complex, and differ among stakeholders depending upon the size of the company, the industry dynamics, and the competition within the overall ecosystem. While we all agree that there are abuses of the patent system and improvements could and should be made, we believe it is absolutely critical that any reform proposals are thoroughly vetted by legislators who are fully apprised of the consequences associated with each change to the system. There are already examples of reform proposals that, at first glance, appear to be reasonable but could be unintentionally devastating for small venture backed companies at a critical time in their existence. In making any effort towards meaningful reform, we want to avoid exchanging one set of problems for another.

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[1] *See* Global Insight, *Venture Impact: The Economic Impact of Venture Capital Backed Companies to the US Economy* (2007).

Small Companies Need Protection

The complexity of reform does not elude us. As we considered aspects of legislation previously proposed, we found ourselves at odds with stakeholder groups with which we are so often aligned. One particular dichotomy we saw was between what software and life science investors need from reform efforts. However, as we engaged in the reform process further, we discovered that there is an equally important dichotomy between large and small companies, which will be the focus of my comments today. **At the center of our concerns lies the fact that the cost of defending against infringement is disproportionately burdensome for the small venture backed company while the benefit of infringing relative to the cost is disproportionately attractive to a large company.** This Committee is particularly aware that small business is the economic backbone of this country. It is where the overwhelming majority of job growth and innovation occurs. We must be certain not to tilt the playing field further against the interests of these smaller growth engines.

Our young, emerging companies are disadvantaged relative to the larger Goliaths in so many ways – sales and marketing presence, service and support, ability to bundle ancillary products, customer confidence – that often the only competitive advantage they possess is the sustainability of their intellectual property. And our companies need the ability to defend themselves when their patents are willfully infringed.

If the Goliaths can simply obtain a license under reasonable terms, this, combined with all their other advantages, would enable them to crush our companies in the market. If our companies believe that they can create more market value by becoming a meaningful competitor rather than a licensing house, they should have the right to make that strategic decision and have access to the tools to defend their intellectual property. Yet, certain proposals, while well intentioned, erode the ability of small companies to defend their patents at a cost that is devastating to their ongoing viability. Our companies may still win the litigation battle but, given the deep pockets of these Goliaths, lose the marketplace war while the battle is being fought.

I would like to provide several examples of these types of unintended consequences.

Post-Grant Opposition Threatens to Create Harmful Uncertainty

The goal of post-grant opposition --invalidating flawed patents – is a noble one and is one that we share. The reexamination process was originally intended as a mechanism to achieve this goal, and recent improvements have aided its effectiveness. However, we have concerns about the infinite uncertainty and substantial costs a post-grant opposition process would create for small company patent holders and their investors. Those concerns are compounded by the prospect of an already overburdened Patent & Trademark Office taking on yet another complex review process.

Adding an open-ended second process -- rather than fixing the process that is supposed to function earlier in the patent application cycle -- weakens the presumption of validity of a patent, thereby increasing the risk for a venture backed company. As a venture capitalist, when making investment decisions we must measure these risks accordingly and would be less likely to fund an innovation that could be endlessly challenged, regardless of how frivolous that challenge may be. This uncertainty would be extended with the addition of a "second window". A company that has a valuable and legitimate patent may not be able to get venture funding if that patent is going to be challenged again and again. Such challenges distract management – at a time when they should be focused on building the company.

Secondly, patents are often granted to venture backed companies early in their development when they have limited financial resources to fight these oppositions. Under this new regime, a patent applicant, who has already paid for an examination and received a patent grant, must now incur the cost of defending it against any deep pocketed party who wants to challenge it. The post-grant review clearly favors large companies who would be in a position to use these proceedings to delay patent issuances to venture backed companies, whose survival would be vulnerable to such delays. Essentially, it provides the infringer the opportunity to become the plaintiff. Clearly this scenario would favor a large corporation over a thinly capitalized, early stage company.

If a post-grant opposition procedure is to be adopted, it should allow only a single window with a short, predictable duration of approximately six months. Petitioners for cancellation should be required to identify themselves and should be required to file all issues regarding patentability known to the petitioner and all material information known that supports its argument of unpatentability. The request by the petitioner should be required to provide specific reasons as to why they are seeking the cancellation and provide the evidence that supports the request. If a party elects to challenge a patent issuance through this process, they should not be permitted to again raise these or other issues that they had knowledge of at that time in any subsequent proceeding before the PTO or a court. If you are going to create a new process that imposes additional cost, time, and distraction before certainty of patent issuance, these steps would at least protect the patentee from having to repeatedly defend the patent based on the same arguments.

Current Calculation of Damages is Appropriate and Working

One area that we feel does not need reforming is the calculation of damages. The current system, in which the full impact of a patented feature on a product is considered, is an appropriate one. For decades, courts have refined damages calculations to properly reflect the value of patented components. The system works. Courts are familiar with the concept of "whole market value" and "causation" as well as "convoyed sales." Patentees have never been systematically overcompensated, nor are they currently.

The apportionment of damages proposal, which limits damages to only the patented feature does not recognize that in a competitive environment, the sale of a whole product is often dependent upon the presence of a patented improvement. For example, the damage apportionment concept is particularly troubling to medical device companies whose discrete improvements to a product may shift the sale of the entire system to the inventor of that improvement. This shift occurred in the case of the addition of 'motion tolerance' to pulse oximeter systems and, to some extent, when 'rapid exchange' capability was added to angioplasty balloons.

Arbitrarily denying courts the ability to base computations on the entire market value of a product will lead to equally arbitrary results as judges grope for the hypothetical price of an unsold feature. Consideration of a non-exclusive license to make the determination is just as unacceptable because it is effectively using a standard of compulsory licensing as a measure for damages when a company may need to maintain exclusive control for strategic reasons. This is an area of reform that is best left alone.

Prior- User Rights Would Promote Trade Secrets and Slow Innovation

The concept of prior-user rights is tantamount to compulsory licensing without compensation. Its adoption and especially the defense extending to "substantial preparation for commercial use" is an invitation to bad behavior and therefore to greater dispute and increase in the cost, duration and complexity of patent infringement litigation.

The patent system works by giving an inventor a temporary exclusive right to use or license to others the invention in exchange for publishing the invention so that others can learn from it. Currently, entities that suppress, conceal, or abandon a scientific advance are not entitled to patents or other intellectual property rights. It is the sharing of a trade secret that earns a property right.

The most common rationale offered for prior-user rights is that because of the costs of patent protection, U.S. companies must choose carefully what they patent because it is impractical to patent every minor innovation in a product or process. Advocates often raise the specter that a company that neglects to patent some small change in an important product could be prevented from using the innovation if someone later patented the idea. However, companies don't have to file patents on every minor invention in order to protect themselves. If something is of marginal value, all companies have to do is publish it. Then it can't be patented and used against them. It is understandable that many lawyers for large corporations might covet prior-user rights. But prior-user rights gut the core concepts of the U.S. patent system, because they slow

the dissemination of knowledge by promoting the use of trade secrets and destroy the exclusivity that allows new players to attract startup financing.

Prior-user rights would harm small business startups as it would add the threat that after taking the sizable risks of R&D and market testing, a company could face the prospect of a market Goliath suddenly following up with a no-royalty product. Moreover, the litigation costs of challenging the validity of prior-user rights will favor those with deep pockets.

Venue Proposals Should Address Speed of Resolution

While litigation outcome is important, speed of resolution is often equally or more important. It is often difficult for a portfolio company to get customer traction in the market when engaged in litigation, especially if faced with tough competition from the infringer during the litigation. Further, litigation can block or discount values at financing events, initial public offerings, or acquisitions. Small companies deserve the right to speedy resolution.

Most of my portfolio companies are based in the Western District of Wisconsin, a noted "rocket docket" where litigation outcomes are often known within a year of filing. Reform to venue shopping probably won't hurt my portfolio companies because this is likely to be one of their available venues. Many of my venture capital colleagues may not be so fortunate. I was an investor in another portfolio company engaged in litigation in the Northern District of California and it took nearly a decade to resolve the case. A large foe was trying to bleed our company into bankruptcy, and for a large company, these victories by attrition are all too often a reality.

Clearly a system under which high rates of judgments by a particular court are overturned should be modified. However, constraints on venue shopping shouldn't limit the ability to find a venue where the cloud of uncertainty can be removed in a reasonable time frame. Reform provisions should provide some flexibility, while

retaining the ability to seek another venue if there is evidence that it may be difficult to obtain a timely ruling.

Strong Deterrents for Bad Behavior Must Remain

Many of the reforms considered over the last year have focused on rebalancing the incentives once two parties have entered litigation. As I stated earlier, some reform is clearly necessary and appropriate in this area. However, as a small venture capital fund with a history of successfully backing early stage companies that have gone head to head with some very large public companies, we can attest that fundamental aspects of the litigation system such as the twin threats of treble damages and injunctive relief are essential protective shields for young companies and vital to investing in these kinds of deals. Those tools are purposefully severe and must remain so in order to insure the cost of infringement is a true deterrent for a large entrenched competitor rather than a mere cost of doing business.

We hope that Congress will tread very carefully in this area and avoid changes that could make a large company that is unable to obtain a license decide to simply infringe to effectively get, at worst, an involuntary grant of a license while simultaneously saddling their cash strapped, undermanned venture capital backed competitor with an expensive distraction. This is an invitation for increased incidents of willful infringement that greatly increases the risk and cost of investing in innovative young companies.

Small Company Resources Are Best Directed at Innovation, Not Litigation

Fundamentally, I believe that we all seek the same outcome: reforms that strengthen patent quality while decreasing the incentives to engage in frivolous litigation that drive up costs at the back end of the patent process. For small, venture backed companies, the critical component to achieving that outcome is doing so in a manner that eliminates ambiguity about patent validity as quickly as possible, and in a manner that avoids unnecessary costs.

What is easily lost in the technical jargon and sparring that has so far surrounded the patent reform debate is the fact that small businesses – particularly small, venture backed companies – are actually small. Many of the companies supported by my firm have fewer than 20 employees in the first few years of their existence. Lawyers – whether they are helping to file patents or simply helping to establish sound corporate governance practices at a nascent firm – charge as much as $600/hour for their time and expertise. A freshly minted PhD – often critical to the company's path to success - makes the equivalent of $60/hour or less. While I have nothing against lawyers, only the investment in the PhD is going to help my companies grow to become the next Google, the next Intel, or the next Genentech.

As the pace of technological development in traditional high-tech spaces has advanced and as drug development costs have skyrocketed, large entrenched companies have increasingly employed an acquisition strategy to keep their development pipelines full. As the backers of many of the leading-edge companies breaking into new markets, venture capitalists and their portfolio companies have benefited from this acquisition quest. Given this trend, from the venture capitalists' perspective, money spent by Google, Intel or Roche in frivolous patent litigation is not only a drag on the US economy – it is money that could be better spent acquiring young companies that are moving technology in new directions. Yet reforms that force those young companies to spend their scarce dollars on JDs rather than PhDs in order to defend their technology against those same companies are equally absurd. The capitalist marketplace is already a Darwinian environment where only the toughest and best young companies can force the large combatants to make room for their existence. The patent system should not unfairly change the odds of the bet.

The Road Ahead Should be Focused on Quality

With that framework in mind, what are the steps that can be taken to improve the patent system as a whole?

Most in the venture community would agree that part of the problem in getting quality patents out of the system has been the lack of information available to patent examiners

– or, put another way, the inputs available within the system. Efforts at litigation reform will ultimately fail if we do not address the fundamental problem of ensuring only truly novel and non-obvious patents are issued. And, while we support increasing funding for the PTO generally as well as providing better compensation to attract more examiners, those steps alone are not sufficient. Throwing more money at the same system is never a winning solution. We hope that Congressional reform efforts will address these points.

When venture capitalists encounter such systemic problems with our portfolio companies, we throw out the business plan and write a new one. We are encouraged by reports that the PTO may be taking a step in that direction. Reported plans to use the power of the Internet to access technical experts is a radical idea that can creatively offer a way to balance the information disadvantage that patent examiners face. While this is only a pilot project and may encounter unexpected difficulties, we feel it is a step that could offer tremendous promise and would offer our support to explore the concept.

Conclusion

The U.S. must continue to be the leader among all nations in promoting and insisting on sound, strong, and consistent intellectual property protections for those who need it most. Congress must act to address the pressing need for updated revisions and improvements to our patent system but should do so carefully and thoughtfully. Finding common ground among the many divergent groups involved in the patent debate will be a difficult task. But by insisting that all interested parties participate in the process, the goal of reaching a fair and reasonable reform for all parties will more likely be met. Improving the quality of the patent system and the patents that it produces is critical to our nation's innovation leadership. However, so is protecting the smallest of companies that have contributed so substantially to that leadership. Thank you for the opportunity to share these thoughts with you.

The Importance of Patent Reform to Small Businesses
Before the U.S. House of Representatives
Committee on Small Business
March 29, 2007

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Small businesses play a role in the technological advancement and economic growth of the United States.[1] Several studies commissioned by U.S. federal agencies have concluded that individuals and small entities constitute a significant source of innovative products and services.[2] Studies have also indicated that entrepreneurs and small, innovative firms rely more heavily upn the patent system than larger enterprises. Larger companies are said to possess alternative means for achieving a proprietary or property-like interest in a particular technology. For example, trade secrecy, ready access to markets, trademark rights, speed of development, and consumer goodwill

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[1]National Science Board, Science and Engineering Indicators, 1993 (Dec. 8, 1993), 185. *See also* CRS Report RL30216, *Small, High Tech Companies and Their Role in the Economy: Issues in the Reauthorization of the Small Business Innovation (SBIR) Program*, by Wendy H. Schacht.

[2]For example, the National Academy of Engineering concluded that "small high-tech companies play a critical and diverse role in creating new products and services, in developing new industries, and in driving technological change and growth in the U.S. economy." *National Academy of Engineering, Risk & Innovation: The Role and Importance of Small High-Tech Companies in the U.S. Economy* (Washington: National Academy Press, 1995), 37. This assessment was founded on the ability of small firms to develop markets rapidly, generate new goods and services, and offer diverse products. The study also concluded that small businesses were less risk adverse than larger, established corporations and were often better positioned to exploit market opportunities quickly. A National Science Foundation report found that entrepreneurs and small firms are six times as effective as larger firms in utilizing research and development expenditures to generate new products. *National Science Board, Science and Engineering Indicators, 1993*, (Dec. 8, 1993), 185. Anderson, Anne, "Small Businesses Make it Big in the SBIR Program," *New Technology Week* (June 6, 1998), p. 2.

may to some degree act as substitutes to the patent system.[3] However, individual inventors and small firms often do not have these mechanisms at their disposal. As a result, the patent system may enjoy heightened importance with respect to these enterprises.[4]

The U.S. patent system have long acknowledged the role, and particular needs, of independent inventors, small firms, and universities. For example, the patent statute calls for each of these entities to receive a 50% discount on many USPTO fees.[5] As the USPTO is currently entirely funded by the fees it charges its users,[6] this provision effectively calls for larger institutions to subsidize the patent expenditures of their smaller competitors.

Beyond potentially diminished financial resources vis-a-vis larger concerns, however, observers have disagreed over whether small business has particular needs with respect to the patent system, and if so whether those needs should be reflected in patent law doctrines. With respect to the proposed system of "prior user rights,"[7] for example, some observers state that such rights would particularly benefit small entities, which may often lack a sophisticated knowledge of the patent system.[8] Others disagree, stating that smaller concerns rely heavily on the exclusivity of the patent right, and that the adoption of prior user rights would advantage large enterprises.[9] Similar debates have occurred with respect to other patent reform proposals, perhaps reflecting the fact that the community of small businesses is itself a diverse one.

This statement briefly reviews patent reform topics that appear to be of particular interest to small businesses, including adoption of a first-inventor-to-file priority principle, recognition of prior user rights, expansion of post-grant administration revocation proceedings, and renewed emphasis

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[3]Sally Wyatt & Gilles Y. Bertin, Multinationals and Industrial Property 139 (Harvester 1988).

[4]Douglas Hawkins, "Importance and Access of International Patent Protection for the Independent Inventor," 3 *University of Baltimore Intellectual Property Journal* (1995), 145.

[5]35 U.S.C. § 41(g) (2006).

[6]CRS Report RS20906, *U.S. Patent and Trademark Office Appropriations Process: A Brief Explanation*, by Wendy H. Schacht.

[7]Under a rule of "prior user rights," when a conflict exists between an issued patent and an earlier user of the patented technology, the validity of the patent is upheld but the prior user is exempted from infringement. See Pierre Jean Hubert, "The Prior User Right of H.R. 400: A Careful Balancing of Competing Interests," 14 *Santa Clara Computer and High Technology Law Journal* (1998), 189.

[8]See Gary L. Griswold & F. Andrew Ubel, "Prior User Rights — A Necessary Part of a First-to-File System," 26 *John Marshall Law Review* (1993), p. 567.

[9]See David H. Hollander, Jr., "The First Inventor Defense: A Limited Prior User Right Finds Its Way Into U.S. Patent Law," 30 *American Intellectual Property Law Association Quarterly Journal* (2002), 37 (noting the perception that prior user rights favor large, well-financed corporations).

upon measuring the inventor's contribution when measuring damages for patent infringement.

First Inventor to File

Currently under discussion is a shift in the U.S. patent priority rule from the current "first-to-invent" principle to the "first-inventor-to-file" principle.[10] Within the patent law, the priority rule addresses the circumstance where two or more persons independently develop the identical or similar invention at approximately the same time. In such cases the patent law must establish a rule as to which of these inventors obtains entitlement to a patent.[11]

In the United States, when more than one patent application is filed claiming the same invention, the patent will be awarded to the applicant who was the first inventor in fact. This conclusion holds even if the first inventor was not the first person to file a patent application directed towards that invention.[12] Under this "first-to-invent" system,[13] the timing of real-world events, such as the date a chemist conceived of a new compound or a machinist constructed a new engine, is of significance.

In every patent-issuing nation except the United States, priority of invention is established by the earliest effective filing date of a patent application disclosing the claiming invention.[14] Stated differently, the inventor who first filed an application at the patent office is presumptively entitled to the patent. Whether or not the first applicant was actually the first individual to complete the invention in the field is irrelevant. This priority system follows the "first-inventor-to file" principle.

A simple example illustrates the distinction between these priority rules. Suppose that inventor A synthesizes a new chemical compound on August 1, 2007, and files a patent application on November 1, 2007 claiming that compound. Suppose further that inventor B independently invents the same compound on September 1, 2007, and files a patent application on October 1, 2007. Inventor A would be awarded the patent under the first-to-invent rule, while Inventor B would obtain the patent under the first-inventor-to-file principle.

Under the current U.S. first-to-invent rule, the majority of priority disputes in the United

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[10]H.R. 2795, § 3.

[11]*See* Roger E. Schechter & John R. Thomas, *Principles of Patent Law* § 1.2.5 (2d ed. 2004).

[12]In addition, the party that was the first to invent must not have abandoned, suppressed or concealed the invention. 35 U.S.C. § 102(g)(2) (2006).

[13]*See* Charles E. Gholz, "First-to-File or First-to-Invent?", 82 *Journal of the Patent and Trademark Office Society* (2000), 891.

[14]*See* Peter A. Jackman, "Adoption of a First-to-File System: A Proposal," 26 *University of Baltimore Law Review* (1997), 67.

States are resolved via "interference" proceedings conducted at the USPTO.[15] An interference is a complex administrative proceeding that ordinarily results in the award of priority to one of its participants. These proceedings are not especially common. One estimate is that less than one-quarter of one percent of patents are subject to an interference.[16] This statistic may mislead, however, because the expense of interference cases may lead to their use only for the most commercially significant inventions.

The patent community has witnessed an extensive and sometimes emotional debate on the relative merits of the first-to-invent and first-inventor-to-file principle. Supporters of the current first-to-invent principle in part assert that the first-inventor-to-file system would create inequities by sponsoring a "race to the Patent Office." They are also concerned that the first-to-file system would encourage premature and sketchy technological disclosures in hastily-filed patent applications.[17]

Supporters of the first-inventor-to-file principle in part assert that it provides a definite, readily determined and fixed date of priority of invention, which would lead to greater legal certainty within innovative industries. They also contend that the first-inventor-to-file principle would decrease the complexity, length and expense associated with current USPTO interference proceedings. Rather than being caught up in lengthy interference proceedings in an attempt to prove dates of inventive activity that occurred many years previously, they assert, inventors could continue to go about the process of innovation. Supporters also observe that U.S. industry already organizes its affairs on a first-inventor-to-file basis in order to avoid forfeiture of patent rights abroad.[18]

The effect of a shift to the first-inventor-to-file rule upon individual inventors, small firms, and universities has been debated. Some observers state that such entities often possess fewer resources and wherewithal than their larger competitors, and thus are less able to prepare and file patent applications quickly. Others disagree, stating that smaller concerns are more nimble than larger ones and thus better able to submit applications promptly. They also point to the availability of provisional applications,[19] asserting that such applications allow small entities to secure priority rights readily without a significant expenditure of resources. A quantitative study of interference proceedings by Gerald Mossinghoff, a former Commissioner of the USPTO, also suggested that the

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[15]35 U.S.C. § 135 (2006).

[16]*See* Clifford A. Ulrich, "The Patent Systems Harmonization Act of 1992: Conformity at What Price?," 16 *New York Law School Journal of International and Comparative Law* (1996), 405.

[17]*See* Coe A. Bloomberg, "In Defense of the First-to-Invent Rule," 21 *American Intellectual Property Law Quarterly Journal* (1993), 255.

[18]*See* Bernarr A. Pravel, "Why the United States Should Adopt the First-to-File System for Patents," 22 *St. Mary's Law Journal* (1991), 797.

[19]35 U.S.C. § 111(b) (2006).

first-to-invent rule neither advantaged or disadvantaged small entities vis-a-vis larger enterprises.[20]

The role of the U.S. Constitution is sometimes debated within the context of the patent priority principle. Article I, section 8, clause 8 of the Constitution provides Congress with the authority: "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Some observers suggest this language suggests, or possibly even mandates, the current first-to-invent system. Others conclude that because the first-inventor-to-file only awards patents to individuals who actually developed the invention themselves, rather than derived it from another, this priority system is permissible under the Constitution.[21]

In analyzing the propriety of these positions, it should be noted that under well-established U.S. law, the first-inventor-in-fact does not always obtain entitlement to a patent. If, for example, a first-inventor-in-fact maintained his invention as a trade secret for many years before seeking patent protection, he may be judged to have "abandoned, suppressed or concealed" the invention.[22] In such a case a second-inventor-in-fact may be awarded a patent on that invention. Courts have reasoned that this statutory rule encourages individuals to disclose their inventions to the public promptly, or give way to an inventor who in fact does so.[23] As the first-inventor-to-file rule acts in a similar fashion to this longstanding patent law principle, conflict between this rule and the Constitution appears unlikely.

Prior User Rights

The patent reform debate has also considered the expansion of the "first inventor defense" established by the American Inventors Protection Act of 1999. As currently found at 35 U.S.C. § 273, an earlier inventor of a "method of doing or conducting business" that was later patented by another may claim a defense to patent infringement in certain circumstances. Though has been devoted towards broadening this defense by allowing it to apply with respect to any patented subject matter.

The impetus for this provision lies in the rather complex relationship between the law of trade secrets and the patent system. Trade secrecy protects individuals from misappropriation of valuable information that is useful in commerce. One reason an inventor might maintain the

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[20]Gerald J. Mossinghoff, "The U.S. First-to-Invent System Has Provided No Advantage to Small Entities," 84 *Journal of the Patent and Trademark Office Society* (2002), 425.

[21]*See generally* Charles R.B. Marcedo, "First-to-File: Is American Adoption of the International Standard in Patent Law Worth the Price?," 18 *American Intellectual Property Law Association Quarterly Journal* (1990), 193.

[22]35 U.S.C. § 102(g)(2) (2006).

[23]*See Del Mar Engineering Labs. v. United States*, 524 F.2d 1178 (Ct. Cl. 1975).

invention as a trade secret rather than seek patent protection is that the subject matter of the invention may not be regarded as patentable. Such inventions as customer lists or data compilations have traditionally been regarded as amenable to trade secret protection but not to patenting.[24] Inventors might also maintain trade secret protection due to ignorance of the patent system or because they believe they can keep their invention as a secret longer than the period of exclusivity granted through the patent system.[25]

The patent law does not favor trade secret holders, however. Well-established patent law provides that an inventor who makes a secret, commercial use of an invention for more than one year prior to filing a patent application at the PTO forfeits his own right to a patent.[26] This policy is based principally upon the desire to maintain the integrity of the statutory proscribed patent term. The patent law grants patents a term of twenty years, commencing from the date a patent application is filed.[27] If the trade secret holder could make commercial use of an invention for many years before choosing to file a patent application, he could disrupt this regime by delaying the expiration date of his patent.

On the other hand, settled patent law principles established that prior secret uses would not defeat the patents of later inventors.[28] If an earlier inventor made secret commercial use of an invention, and another person independently invented the same technology later and obtained patent protection, then the trade secret holder could face liability for patent infringement. This policy was based upon the reasoning that once issued, published patent instruments fully inform the public about the invention, while trade secrets do not. As between a subsequent inventor who patented the invention, and thus had disclosed the invention to the public, and an earlier trade secret holder who had not, the law favored the patent holder.

The American Inventors Protection Act of 1999 reconciled these principles by providing an infringement defense for an earlier inventor of a method of doing business that was later patented by another. By limiting this defense to patented methods of doing business, Congress responded to the 1998 Federal Circuit opinion in *State Street Bank and Trust Co. v. Signature Financial Group*.[29] That judicial opinion recognized that business methods could be subject to patenting, potentially exposing individuals who had maintained business methods as trade secrets to liability for patent

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[24]Restatement of Unfair Competition § 39.

[25]Friedman, David D. "Some Economics of Trade Secret Law," 5 *Journal of Economic Perspectives* (1991), 61, 64.

[26]35 U.S.C. § 102(b) (2006). *See* Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts, 153 F.2d 516 (2d Cir. 1946).

[27]35 U.S.C. § 154 (2006).

[28]W.L. Gore & Associates. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983).

[29]149 F.3d 1368 (Fed. Cir. 1998).

infringement. As originally enacted, then, he first inventor defense was arguably a focused provision directed towards a specific group of potential patent infringers.

As presently codified at 35 U.S.C. § 273, the first inventor defense is subject to several additional qualifications. First, the defendant must have reduced the infringing subject matter to practice at least one year before the effective filing date of the application. Second, the defendant must have commercially used the infringing subject matter prior to the effective filing date of the patent. Finally, any reduction to practice or use must have been made in good faith, without derivation from the patentee or persons in privity with the patentee.

Legislation proposed in the 109th Congress would have expanded upon the first inventor defense by allowing it to apply to all patented subject matter. The effect of this legislative proposal would have been to introduce "prior user rights" into U.S. law. A feature of many foreign patent regimes, prior user rights are seen as assisting small entities, which may lack the sophistication or resources to pursue patent protection. The provision of prior user rights would allow such entities to commercialize their inventions when they used the subject matter of the invention prior to the patent's filing date, even when they themselves did not pursue patent rights. For this reason, a more expansive prior user rights regime has also been tied to adoption of the first-inventor-to-file priority system.[30]

Proponents of prior user rights also assert that the new legislation would support investment in technological innovation. Under this view, firms would not longer be required to engage in extensive defensive patenting, but rather would be able to devote these resources to further innovation. In addition, some commentators observe that many U.S. trading partners, including Germany and Japan, currently allow prior user rights. As a result, U.S. firms that obtain patent rights in certain foreign nations may face the possibility that a foreign firm may enjoy prior user rights in that invention. Foreign firms with U.S. patents do not currently face this possibility with respect to U.S. firms, however. Under this view, adoption of prior user rights in the United States would "level the playing field" for U.S. industry.[31]

Proposals to adopt prior user rights have attracted critics, however. Some observers believe that under such a regime individuals, aware that they could rely upon prior user rights, would be discouraged from disclosing their inventions through the patent system. Others have stated that prior user rights reduce the value of patents and therefore make innovation less desirable. The role of the U.S. Constitution is sometimes debated within this context as well. Article I, section 8, clause 8 of the Constitution provides Congress with the authority: "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Some commentators suggest this language suggests, or

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[30]*See* Gary L. Griswold & F. Andrew Ubel, "Prior User Rights–A Necessary Part of a First-to-File System," 26 *John Marshall Law Review* (1993), 567.

[31]Paul R. Morico, "Are Prior User Rights Consistent with Federal Patent Policy?: The U.S. Considers Legislation to Adopt Prior User Rights," 78 *Journal of the Patent and Trademark Office Society* (1996), 572.

possibly requires, a system of exclusive patent rights, rather than patent rights that are mitigated by prior user rights.[32]

Post-Grant Opposition Proceedings

Legislation before the 109th Congress would have introduced post-grant opposition proceedings into U.S. patent law. Oppositions, which are common in foreign patent regimes, are patent revocation proceedings that is usually administered by authorities from the national patent office. Oppositions often involve a wide range of potential invalidity arguments and are conducted through adversarial hearings that resemble courtroom litigation.

Although the U.S. patent system does not currently include oppositions, the U.S. patent system has incorporated a so-called reexamination proceeding since 1981. Some commentators have viewed the reexamination as a more limited form of an opposition. Under the reexamination statute, any individual, including the patentee, a competitor, and even the USPTO Director, may cite a prior art patent or printed publication to the USPTO. If the USPTO determines that this reference raises a "substantial new question of patentability" with respect to an issued patent, then it will essentially reopen prosecution of the issued patent.

Traditional reexamination proceedings are conducted in an accelerated fashion on an *ex parte* basis. Following the American Inventors Protection Act of 1999, an *inter partes* reexamination allows the requestor to participate more fully in the proceedings through the submission of argument and the filing of appeals. Either sort of reexamination may result in a certificate confirming the patentability of the original claims, an amended patent with narrower claims or a declaration of patent invalidity.

Congress intended reexamination proceedings to serve as an inexpensive alternative to judicial determinations of patent validity.[33] Reexamination also allows further access to the legal and technical expertise of the USPTO after a patent has issued.[34] However, some commentators believe that reexamination proceedings have been employed only sparingly and question their effectiveness.[35]

Some observers have expressed concern that potential requesters are discouraged from commencing *inter partes* reexamination proceedings due to a statutory provision that limits their

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[32]*See* Robert L. Rohrback, "Prior User Rights: Roses or Thorns?," 2 *University of Baltimore Intellectual Property Review* (1993), 1.

[33]Mark D. Janis, "Inter Partes Reexamination," 10 *Fordham Intellectual Property, Media & Entertainment Law Journal* (2000).

[34]Craig Allen Nard, "Certainty, Fence Building and the Useful Arts," 74 *Indiana Law Journal* (1999), 759.

[35]*See* Schecheter & Thomas at § 7.5.4.

future options. In order to discourage abuse of these proceedings, the *inter partes* reexamination statute provides that third-party participants may not later assert that a patent is invalid "on any ground that [they] raised or could have raised during the inter partes reexamination proceedings."[36] Some believe that this potential estoppel effect disinclines potential requesters from use of this post-grant proceeding.

Many observers have called for the United States to adopt an opposition system in order to provide more timely, lower cost, and more efficient review of issued patents.[37] Such a system could potentially improve the quality of issued patents by weeding out invalid claims. It might also encourage innovative firms to review issued patents soon after they are granted, thereby increasing the opportunity for technology spillovers.[38] Concerns have arisen over oppositions because they too may be costly, complex, and prone to abuse as a means for harassing patent owners.[39] A successful opposition proceeding will require a balancing of these concerns.

Patent Damages Reform

A fundamental premise of the patent system is that the market most effectively assesses the worth of inventions.[40] Reliance upon market mechanisms allows the government to promote innovation with relatively modest effort and expense, particularly in comparison with the reward-based systems that are the chief alternatives to patents.[41] As Judge Giles S. Rich explained:

> [I]t is one of the legal beauties of the system that what is given by the people through their government–the patent right–is valued automatically by what is given by the

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[36]35 U.S.C. § 315(c) (2006).

[37]*See* National Research Council of the National Academies, *A Patent System for the 21st Century* (2004), 96.

[38]*Id.* at 103.

[39]Mark D. Janis, "Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law," 11 *Harvard Journal of Law and Technology* (1997), 1.

[40]*See e.g.*, Daniel J. Gifford, *How do the Social Benefits and Costs of the Patent System Stack up in Pharmaceuticals?*, 12 *Journal of Intellectual Property* 75 (2004) (Due to the workings of the patent system, "the extent to which they are, in fact, rewarded for their inventive activity is determined by the market."); Nuno Pires de Carvalho, *The Primary Function of Patents*, 2001 *University of Illinois Journal of Law, Technology & Policy* 25 ("Patents have the primary function of serving as metering devices for society to measure an invention's value, thus allowing patentees to stipulate competitive prices for inventions and, consequently, on the products and services that embody them"); H.I. Dutton, *The Patent System and Inventive Activity During the Industrial Revolution*, 1750-1852 at 26 (1984) ("Patents at least let the market decide.").

[41]*See* Michael Abramowicz, *Perfecting Patent Prizes*, 56 *Vanderbilt Law Review* 5, 121 (2003) (noting views that the patent system enjoys the "ability to induce innovation with a relatively small amount of governmental involvement and expense.").

> patentee. His patent has value directly related to the value of his invention, as determined in the marketplace.[42]

Consistent with this orientation, the patent law aspires to fix damages for infringement at market-based rates that are intended to compensate the patent proprietor for the infringement.[43]

As suggested by the $1.52 billion damages award Alcatel-Lucent recently obtained against Microsoft, evidence is mounting that judicial determinations of damages for patent infringement have begun to exceed market rates. This problem appears to be due in part to the combination of the increasing popularity of the patent system and the growing sophistication of technology. In the twenty-first century, the number of issued patents has reached a level virtually unimaginable to an earlier generation. By an order of magnitude, the number of extant patents has never been higher than it is today.[44] Contemporaneously, technologies have grown more complex. Even everyday consumer products, ranging from cellular telephones to automobiles, commonly incorporate hundreds or thousands of individual components.[45] These trends have resulted in an environment where high technology products increasingly embody not merely a single or handful of patented inventions, but hundreds or even thousands of them.

Within this milieu, the prospect that high technology firms must obtain licenses from multiple patent holders in order to market their products has become a virtual certainty. Yet case law and empirical evidence alike reveal that the courts are inclined towards awarding damages that may far exceed an individual patent's contribution to an infringing product. To name ten such recent cases:

> In *Bose Corp. v. JBL, Inc.*,[46] the claimed invention consisted of a particular type of "loudspeaker enclosure"–essentially a cabinet in which a stereo loudspeaker sits. In particular, the patented loudspeaker enclosure featured a "port tube" that allowed some of the acoustic energy inside the cabinet to be released with proper attention to phase relationships, in order to eliminate port noise and increase bass

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[42]Application of Kirk, 376 F.2d 936, 964 (CCPA 1967) (Rich, J., dissenting).

[43]*See, e.g.*, Integra Lifesciences I, Ltd. v. Merck KgaA, 331 F.3d 860, 870 (Fed. Cir. 2003) ("Royalties, like lost profits, are compensatory damages, not punitive."), *rev'd on other grounds*, 545 U.S. 193 (2005); Riles v. Shell Exploration & Prod. Co., 298 F.3d 1302, 1312 (Fed. Cir. 2002) ("Compensatory damages, by definition, make the patentee whole, as opposed to punishing the infringer.").

[44]U.S. Pat. & Trademark Office, *U.S. Patent Statistics, Calendar Years 1963-2005* (2005), available at http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm. *See* John R. Allison & Mark A. Lemley, *The Growing Complexity of the United States Patent System*, 82 *Boston University Law Review* 77, 78 (2002).

[45]*See* Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 *Virginia Law Review* 1575, 1591 (2003).

[46]274 F.3d 1354, 1361 (Fed. Cir. 2001).

response. When assessing damages against an adjudicated infringer, however, the trial court allowed the royalty base to consist of the entire loudspeaker system, rather than just the infringing port tube.

The court of appeals in *Code-Alarm, Inc. v. Electromotive Technologies Corp.*[47] allowed the value of the entire vehicle alarm system to serve as the royalty base, rather than the single component (a motion sensor) that was patented.

In *Fonar Corp. v. General Elec. Co.*,[48] the patented invention was limited to a specific imaging feature incorporated into an Magnetic Resonance Imaging (MRI) machine. The court nonetheless upheld a jury's damages award consisting of a royalty based upon the value of an entire accused MRI machine.

The infringed patent in *Hem, Inc. v. Behringer Saws, Inc.*[49] claimed a "feed table," a mechanical device for moving workpieces, such as sections of wood, towards a saw, drill, or other machine tool. The jury awarded infringement damages based not just upon sales of feed tables, however, but upon the adjudicated infringer's sales of unpatented saws as well.

In *Interactive Pictures Corp. v. Infinite Pictures, Inc.*,[50] the court of appeals affirmed the inclusion of all of the patent proprietor's products in the royalty base, rather than merely the infringing image viewing system.

Lucent Techs., Inc. v. Newbridge Networks, Inc.[51] involved the infringement of a patented data networking device. With respect to damages, the court allowed two unpatented software programs—designated as 4602 and 46020—to be included in the royalty base, even though they were not physically part of the patented device, and were not even necessary for the patented device to operate.

The Federal Circuit overturned the damages award in *Micro Chemical, Inc. v. Lextron, Inc.*,[52] relating to a microingredient weighing machine that included the patented invention. Overturning the district court , the court of appeals authorized a royalty award based on sales of the unpatented microingredients because it was

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[47]114 F.3d 1206, 1997 WL 311542, at *3 (Fed. Cir. 1997) (nonprecedential opinion)

[48]107 F.3d 1543, 1552-53 (Fed. Cir. 1997).

[49]2003 WL 23213578 (N.D. Okla. 2003).

[50]274 F.3d 1371, 1384 (Fed. Cir. 2001).

[51]168 F. Supp. 2d 181 (D. Del. 2001).

[52]318 F.3d 1119 (Fed. Cir. 2003).

reasonably foreseeable that the patentee would have profited from sales of the microingredients had the infringement not occurred.

The patentee in *State Contracting & Engineering Corp. v. Condotte*[53] was awarded reasonable royalties based upon the amount of an entire construction contract, rather than merely upon the cost of the patented soundwall.

In *Symbol Technologies v. Proxim*,[54] the court awarded damages based upon a 6% royalty based upon the infringement of two patents relating to the IEEE 802.11 wireless local area networking standard (commonly known as WiFi). Because hundreds of issued patents and pending applications cover the 802.11 cluster of standards, the royalty obligations of any firm selling WiFi products could be many multiples of the product's sales price.

In *Tec Air, Inc. v. Denso Manufacturing Michigan Inc.*,[55] a suit involved a patented method and device for balancing a fan inside an assembly, the court of appeals upheld a damages award based upon sales of entire radiator and condenser assemblies.

Damages awards that dramatically exceed the commercial value of a patented invention conflict with the fundamental patent law norm that the marketplace is the best evaluator of an invention's worth. This theoretical imbalance manifests itself through a number of deleterious practical consequences. First, excessive damages awards may promote patent litigation. A rational patent proprietor may be unwilling to make fair royalty demands in the boardroom when they are able to obtain significantly higher damages awards in the courtroom.

Second, the gap between the damages awarded for patent infringement and the marketplace value of a patented invention may also encourage speculation in patents. So-called trolls–entrepreneurial speculators who prefer to acquire and enforce patents rather than engage in research, development, manufacturing, or other socially productive activity–may be animated in part by the reality that patent damages awards may exceed profits that can be obtained in the marketplace.[56] Put differently, overly generous damages awards may encourage firms to play the patent game, rather than engage in manufacturing, marketing, or other more socially productive activity.

Third, the failure to apportion patent damages may cause the scope of patent protection

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[53]346 F.3d 1057, 1072 (Fed. Cir. 2003).

[54]2004 WL 1770290 (D. Del. 2004).

[55]192 F.3d 1353, 1362 (Fed. Cir. 1999).

[56]Amy L. Landers, "Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law," 46 *Santa Clara Law Review* 307, 343-47 (2006).

routinely to extend beyond the scope of its claims. At times, of course, the scope of the claim does not adequately reflect the marketplace value of the inventor's contribution, due either to claim drafting or commercial marketing decisions. In such circumstances courts appropriately apply the Entire Market Value Rule. Yet when the Entire Market Value Rule effectively becomes the default damages principle, rather than one that applies under only particular circumstances, the actual scope of patent protection may greatly exceed the claim scope that has been sought and obtained. Failure to apportion damages may cause a patent effectively to cover contributions that lie within the public domain, as well as technology that has been patented by third parties or even by the infringer. Current patents remedies practice too quickly disregards a host of patentability and infringement doctrines–including, among others, novelty, nonobviousness, enablement, claim construction, and the doctrine of equivalents–that attempt to achieve a just balance between promoting innovation and preserving competition.[57]

These three factors contribute to an additional point of concern: The imposition of unreasonable royalty burdens upon high technology manufacturers.[58] Modern products and processes commonly embody numerous patented inventions, with some incorporating on the order of one thousand or more. Overly generous damages awards with respect to just a fraction of these patents may impose infringement liability upon manufacturers that dramatically exceeds the profits the infringer made. Such an outcome fails to recognize that the patent system serves not just to promote innovation, but also to encourage the dissemination of new products and processes to the marketplace.[59]

The decline of apportionment principles may also be due to an affirmative judicial desire to award a prevailing patent proprietor supracompetitive rates as damages. Under this rationale, although courts state that damages award are intended only to compensate patent proprietors for the infringement, they are nonetheless sympathetic to patent proprietors who prevail in litigation but leave the courtroom with market-oriented rates. For example, in the influential decision in *Panduit*

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[57]*Id.* at 362-63; Eric E. Bensen, "Apportionment of Lost Profits in Contemporary Patent Damages Cases," 10 *Virginia Journal of Law & Technology*. 8, at *14 (2005). *See also* Rite-Hite, 56 F.3d at 1556 (Nies. J., dissenting) ("To constitute legal injury for which lost profits may be awarded, the infringer must interfere with the patentee's property right to an exclusive market in goods embodying the invention of the patent in suit. The patentee's property rights do not extend to its market in other goods unprotected by the litigated patent.").

[58]Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking* , Stanford Law and Economics Olin Working Paper No. 324 (May 31, 2006) (identifying the problem of "royalty stacking").

[59]*See, e.g.,* Michael R. Taylor & Jerry Cayford, *American Patent Policy, Biotechnology, and African Agriculture: The Case for Policy Change*, 17 Harv. J. L. & Tech. 321, 340-41 (2004) (observing that one aspiration of the patent system is "facilitating the practical use of inventions, including their production, application, and commercialization."); Suzanne T. Michel, *The Experimental Use Exception to Infringement Applied to Federally Funded Inventions*, 7 HIGH TECH. L.J. 369, 391 (1992) (identifying goals of the patent system as "promoting invention, . . . encouraging the development and commercialization of the invention and . . . encouraging public disclosure of the invention.").

Corp. v. Stahlin Brothers Fibre Works, Inc.,[60] Chief Judge Markey explained that:

> Except for the limited risk that the patent owner, over years of litigation, might meet the heavy burden of proving the four elements required for recovery of lost profits, the infringer would have nothing to lose, and everything to gain if he could count on paying only the normal, routine royalty non-infringers might have paid. As said by this court in another context, the infringer would be in a "heads-I-win, tails-you-lose"position.[61]

Under this view, failure to augment damages insufficiently compensates patent proprietors who are forced to litigate. It may also encourage infringers to refuse to license voluntarily.[62]

The reasoning in *Panduit* suffers from several flaws. First, Congress has also stipulated that prevailing patent proprietors may be entitled to the award of a permanent injunction prohibiting future infringement.[63] Unless the adjudicated infringer can readily shift its manufacturing and distribution facilities to an alternative technology, the imposition of an injunction is likely to be a costly and even fatal event for that enterprise. The availability of an injunction provides an additional incentive for private bargaining, regardless of the award of damages for past infringement.

Second, this line of reasoning ignores the reality that the patent system relies upon stubborn defendants in patent cases to weed out invalid patents.[64] The punishment of adjudicated infringers through high damages awards would not only discourage private efforts to maintain patent quality, it is also inconsistent with congressional directives expressed within the Patent Act. Notably, Congress has provided for the award of enhanced damages,[65] as well as the award of attorney fees

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[60]575 F.2d 1152 (6th Cir. 1978).

[61]*Id.* at 1158 (citation omitted).

[62]*See* Raymond P. Niro & Paul K. Vickrey, "The Patent Troll Myth," 7 *Sedona Conference Journal* 153, 157 (2006).

[63]35 U.S.C. § (2006). *See* eBay Inc. v. MercExchange L.L.C., ___ U.S. ___, 126 S.Ct. 1837 (May 15, 2006).

[64]*See* Stuart Minor Benjamin & Arti K. Rai, "Who's Afraid of the APA? What the Patent System Can Learn from Administrative Law," 95 *Georgetown Law Journal* 269 (2007); Joseph Scott Miller, "Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents," 19 *Berkeley Technology Law Journal* 667 (2004); John R. Thomas, "Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties," 2001 *University of Illinois Law Review* 305.

[65]35 U.S.C. § 284 (2006) ("the court may increase the damages up to three times the amount found or assessed.").

in "exceptional cases."[66] Congress is of course free to expand upon the circumstances in which courts may award punitive damages. Notably, earlier patent statutes called for the automatic award of punitive damages,[67] and one bill introduced in the 109th Congress called for the award of attorney fees to prevailing patent holders.[68] Absent statutory amendments, however, judicial award of punitive damages or attorney fees through the guise of compensatory damages flies in the face of congressional intent.

Because overly generous damages awards may ultimately impede the process of technological innovation and dissemination that the patent system is meant to promote, current legislative reform proposals directed towards infringement remedies appear appropriately focused. In recognition of the concerns of high technology manufacturers, the 109th Congress featured two bills that in part concerned the apportionment of patent damages. In the House of Representatives, the proposed Patent Reform Act of 2005[69] would have accounted for apportionment as follows:

> In determining a reasonable royalty in the case of a combination, the court shall consider, if relevant and among other factors, the portion of the realizable profit that should be credited to the inventive contribution as distinguished from other features of the combination, the manufacturing process, business risks, or significant features or improvements added by the infringer.[70]

An alternative Patent Reform Act of 2006 was later introduced before the Senate.[71] The proposed Senate bill would have addressed apportionment as follows:

> In determining a reasonable royalty consideration shall be given to–
>
> (A) the economic value that should be attributed to the novel and non-obvious feature or features of the invention, as distinguished from the economic value attributable to other features, improvements added by the infringer, and the business risks the infringer undertook in commercialization;
>
> (B) the terms of non-exclusive marketplace licensing of the invention; and

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[66]35 U.S.C. § 285 (2006) (allowing for the award of attorney fees in "exceptional cases"). *See* Mathis v. Spears, 857 F.2d 749, 753-54 (Fed. Cir. 1988).

[67]The Patent Act of 1800 stipulated an award of "a sum equal to three times the actual damage sustained by such patentee." Act of 1800, 2 Stat. 37. *See* Nike, Inc. v. Wal-Mart Stores, Inc., 138 F.3d 1437, 1440 (Fed. Cir. 1998).

[68]The Patent Reform Act of 2006, § 5(b), S. 109-3818.

[69]H.R. 109-2795.

[70]*Id.* at § 12.

[71]S. 109-3818.

(C) other relevant factors in applicable law.[72]

The substance of both of these formulations derive from factor 13 of the *Georgia-Pacific* analysis. Although the differences between the two bills are subtle, they are significant. The House bill would have required consideration of apportionment "if relevant"–a statutory reform that may have simply confirmed existing law.[73] By requiring that apportionment "shall" be considered in reasonable royalty cases, the Senate bill would have presented a more robust reform proposal.

In addition, the Senate bill appears to have addressed concerns over the precise wording of the House bill.[74] With its use of the seemingly innocuous terms "combination" and "inventive contribution," the House bill awakened memories of older case law from a period that was entirely less favorable to patents. Some decades past, the term "combination patent" was not only a pejorative, it also invoked more stringent validity criteria–ones that seemed inevitably to result in an invalid patent.[75] The distinct wording of the Senate bill undoubtedly eased some concerns among the patent bar about the unintended invocation of unwelcome patenting standards from an earlier era.

The notion that patent damages should be based upon the value of the inventor's contribution stands among the more venerable damages doctrines in all of patent jurisprudence.[76] In an era where apportionment concerns are more cogent than ever, courts have treated this doctrine with surprising neglect. The resulting trend towards overly generous damages awards may allow patentees to obtain

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[72]*Id.* at § 5(a).

[73]*See* Landers, *supra* note 56, at 368.

[74]*See* William C. Rooklidge, "Reform of the Patent Laws: Forging Legislation Addressing Disparate Interests," 88 *Journal of the Patent & Trademark Office Society* 9, 20 (2006)

[75]*See, e.g.*, Great A&P Tea Co. v. Supermarket Equip. Co., 340 U.S. 147, 152-53 (1950) (counseling special scrutiny of the validity of "combination patents"). The Federal Circuit would subsequently explain that:

> The reference to a "combination patent" is equally without support in the statute. There is no warrant for judicial classification of patents, whether into "combination" patents and some other unnamed and undefined class or otherwise. Nor is there warrant for differing treatment or consideration of patents based on a judicially devised label. Reference to "combination" patents is, moreover, meaningless. Virtually *all* patents are "combination patents," if by that label one intends to describe patents having claims to inventions formed of a combination of elements. It is difficult to visualize, at least in the mechanical-structural arts, a "non-combination"invention, i.e., an invention consisting of a *single* element. Such inventions, if they exist, are rare indeed.

Stratoflex Inc. v. Aeroquip Corp., 713 F.2d 1530, 1540 (Fed. Cir. 1983).

[76]See, e.g., Sheldon v. Metro-Goldwyn Pictures Corp., 309 U.S. 390, 396 (1940) (finding "many cases" addressing the issue of apportionment); 3 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 1062, at 344 n.7 (1890) (describing apportionment as an "indisputable" damages principle).

proprietary interests in products they have not invented, encourage litigation, promote patent speculation, place unreasonable royalty burdens upon producers of high technology products, and ultimately impede the process of technological innovation and dissemination that the patent system is meant to foster. By better aligning the patent system's aspirations with its practical workings, reinvigoration of apportionment principles may stand among the more significant contributions by current patent reformers.

Statement of Kevin W. Kirsch
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On

The Implications of Recent Potential and Implemented Judicial and Legislative Patent Reform on Small Businesses

Before the Committee on Small Businesses
House of Representatives
Congress of the United States

March 29, 2007

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Chairman Velázquez, Ranking Member Chabot and Members of the Committee,

I am a patent attorney, registered to practice before the United States Patent & Trademark Office, and my practice presently focuses on patent litigation. I have represented numerous small and large businesses in patent litigation matters throughout the United States. I am a peer reviewed AV Rated attorney and a partner with the law firm, Taft, Stettinius & Hollister LLP ("Taft")[1]. I previously led the Legal Services Department for Luxottica Retail (LensCrafters, Pearl Vision, Sunglass Hut and Things Remembered, among other companies), was a partner with Oppenheimer Wolff & Donnelly LLP, and was of counsel with Stradling Yocca Carlson & Rauth, a leading high technology law firm in Newport Beach, California. I am admitted to practice before the State Courts of California, the United States District Courts of California (Southern, Central and Northern), the United States Court of Appeals for the Ninth Circuit and the Court of Appeals for the Federal Circuit.

FUNDING FOR THE PATENT OFFICE

According to the 21st Century Intellectual Property Coalition, some $650 million was diverted from the Patent Office to unrelated programs during the twelve year period prior to 2004. This practice appears to have at least temporarily stopped, commencing in 2004 with legislation in the House and Senate that allows the Patent Office to keep the funds it collects. The one common voice from all sides of the issues presented on patent reform is that proper funding of the Patent Office is essential to provide resources to timely and adequately vet patent applications so that quality patents issue.

RECOMMENDATIONS FOR PATENT REFORM INITIATIVES

Before addressing the impact on small businesses of recent Supreme Court decisions and the pending patent reform initiatives set forth in H.R. 2975, I would like to share with the Committee some thoughts on two possible patent reform initiatives.

From a patent litigator's perspective, the largest issue confronting the current system is the pervasive uncertainty created by a systemic flaw in the system of patent procurement that allows patents to issue with undefined and ambiguous terms and a

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[1] My present firm, Taft, was founded in 1924 by the merger of two firms, one of which had been practicing law in Cincinnati since 1885. Taft currently has approximately 218 attorneys. Taft represents a diverse group of clients including businesses and individuals engaged in manufacturing, banking, finance, insurance, distribution, television and radio, professional sports, health care, advanced technology, energy, transportation and real estate. Taft's Patent Practice serves clients ranging from Fortune 500 companies, to hospitals, universities and other research institutions, to individual authors, artists, inventors, scientists and entrepreneurs, involving many different industries and technologies, including, for example, complex/industrial machinery, gas turbine engine components and systems, medical/surgical devices and procedures, electrical and computer systems, software applications, Web applications, business method applications, prosthetic devices and systems, chemical compositions and related applications, automotive components, hazardous duty apparel and general commercial devices and products

system of jurisprudence ill-equipped to adequately treat patent cases. Although the Patent Statute requires patent applicants to claim their inventions with specificity, patent applicants are not required during the application process to define the terms in the patent claims in such a manner so as to educate the public as to the intended meaning of such claim terms. For example, when a claim term recites that signal A is "multiplexed together" with signal B, did the applicant intend that (1) signals A and B are multiplexed together with each other on the same signal line or (2) signals A and B are multiplexed together at the same time? As such, many patents are inherently ambiguous at their point of issuance.

When litigated, these patents are then put forward for interpretation to a District Court Judge, with typically no relevant technical background and no training in patent law. The Judge is charged with the daunting responsibility of construing the meaning of each of the asserted claims, which could far more easily have been defined by the patentee during the procurement process. The construed terms are then presented to a jury at trial charged with the responsibility of rendering a verdict whether a particular product or process, method of doing business, software program, et cetera, infringes one or more of the construed claims of the asserted patent and charged with rendering a verdict on a host of possible defenses asserted by the alleged infringer.

Is there any greater evidence of the need for definition of each of the claim terms by the patentee during the procurement process than the hundreds of millions of dollars and countless jurist hours spent related to claim construction hearings each year? Short of trial, the claim construction hearing is the most significant event in patent litigation. During a claim construction hearing, attorneys spend hours, if not days, presenting arguments and evidence to a District Court judge regarding the meaning of typically five to ten claim terms. The judge then spends hours, if not days, writing lengthy opinions regarding what five to ten claim terms mean. Despite brilliant jurists, quality attorneys and excellent law clerks assisting the judges in crafting the opinions, the reversal rate at the Federal Circuit on claim construction approaches forty percent. Further, the Federal Circuit basically repeats the entire claim construction process as it treats appellate review of claim construction de novo.

In addition to the extraordinary economic and opportunity cost lost by the claim construction process, the inherent uncertainty caused by the ambiguity in the meaning of terms subverts one of the primary purposes of the patent system. With an almost forty percent reversal rate, how can alleged infringers receive actual notice of what is disclosed and claimed in a patent until after the Federal Circuit rules on the meaning of the claims?

What if we could cure the single most problematic aspect of patent cases, remove the confusion associated with claim terms and set District Court judges free from the daunting task of interpreting the languages of patents? One possible solution to the confusing and ambiguous nature of some claim language would be to (1) require applicants for patents to define terms in the claims of the patents at the time of the filing of the application or at a very early stage of the patent application process, (2) require the

examiner to review and reject the proposed definitions until such time as they are written in plain English and "allowed" and (3) hold the patentee to the "allowed" definitions during litigation. The process may also involve the patent examiner identifying claim terms for definition by the application at an early stage of the examination process.

While not having a retroactive effect and while not completely eliminating disputes as to the meaning of patent claims (since the parties may then revert to arguing as to what the definitions mean), this process may lead to fewer patent disputes (since the public will have a much better understanding of exactly what is covered by the patent claims); and may also lead to more streamlined and efficient patent litigations.

Another area ripe for reform concerns the way patents are litigated. With rare exceptions, District Court judges do not wish to preside over patent cases. District Court judges are uncomfortable dealing with the technology, do not fully understand patent law and understandably do not appreciate the high rate of reversal associated with patent cases. A system of District Court judges, preferably patent attorneys, positioned throughout the country dedicated primarily to patent cases with the support of special clerks with technology backgrounds, preferably patent attorneys, would appear to present a far better alternative to the current system.[2]

In addition, patent cases should be tried to the bench rather than a jury. Is it really fair to ask a juror to decide whether Patent A on a subtle nuance of semi-conductor MOSFET Capacitor technology when viewed in light of Patent B on another subtle nuance of semi-conductor MOSFET Capacitor technology renders obvious Patent C, which is being asserted against a semi-conductor chip manufacturer?

Finally, under these circumstances, it would also be beneficial to give actual deference to the special District Court judge's claim construction and decisions, rather than allowing the Federal Circuit to start fresh with each case that goes up for review.

THE IMPLICATIONS OF RECENT JUDICIAL AND LEGISLATIVE PATENT REFORM ON SMALL BUSINESSES

The recent promulgation of various legislative initiatives and judicial activism aimed at patent reform appears to be a possible overreaction to a phenomenon created by a unique set of events and a perceived increase in the issuance of "weak patents" by the USPTO. Unfortunately, a number of the recent Supreme Court cases and some of the proposals in H.R. 2795 will likely have a negative impact on small businesses and individual inventors. The patent system is a strong resource for small businesses and

[2] Representative Darrell Issa's patent litigation pilot program (HR5418) is a possible step in the right direction. The Bill would change the random case assignments in district courts so that judges who opt in would be more likely to hear patent cases. The opt-in judge then would be positioned with a law clerk with technical expertise.

individual inventors, a vehicle into markets which would otherwise be unavailable. Legislation which could disparately impact small business should be heavily scrutinized.

A. What Led To The Recent Calls for Patent Reform

In 1998, the Court of Appeals for the Federal Circuit rejected the prior perceived bar on the patentability of methods for doing business and held in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades," and was, thus, appropriate subject matter for patent protection in the United States.

The *State Street* decision rejected the prior "business method exception" to patentability, stating:

> The business method exception has never been invoked by this court, or the CCPA, to deem an invention unpatentable. Application of this particular exception has always been preceded by a ruling based on some clearer concept of Title 35 or, more commonly, application of the abstract idea exception based on finding a mathematical algorithm. Illustrative is the CCPA's analysis in *In re Howard*, 394 F.2d 869, 157 USPQ 615 (CCPA 1968), wherein the court affirmed the Board of Appeals' rejection of the claims for lack of novelty and found it unnecessary to reach the Board's section 101 ground that a method of doing business is 'inherently unpatentable.' (citation omitted)

State Street, 149 F.3d at 1375. Prior to the *State Street* decision, it was the general understanding in the patent community that business methods could not be patented.

The *State* Street decision opened the gates for the filings of patent applications on methods of doing business. Simultaneous to the *State Street* decision, the internet boom and emerging growth business eras were in full swing. E-commerce was quickly gaining momentum as companies launched into the next wave of untapped markets. Further, companies were receiving venture capital financing based on pending patent applications and mediocre business plans. This resulted in intense, additional pressure to file patent applications. Many of the patent applications filed for such "dot com" companies pertained to the internet business model associated with such companies. Thus, many of these patent applications filed for the "dot com" companies were considered to be business method patent applications.

This combination of events led in significant part to a "gold rush" to the patent office. In 1998, there were approximately 256,666 patent applications filed. In 2005, there were approximately 409,532 patent applications filed (approximately 60% more applications!; number excludes PCT applications). Contrary to popular belief, this large increase in patent applications did not result in a similar increase in patents issued. In fact, in 1998 there were approximately 140,574 patents issued. In 2005, there were approximately 165,485 patents issued. (See USPTO 1998 and 2005 Annual Reports.)

The challenge to the USPTO to effectively respond to this enormous escalation of applications may have allowed some patents of dubious merit to slip through the cracks. The patent examiners were at a tremendous disadvantage during the few years following the *State Street* decision in part because the examiner did not have a sufficient understanding of the state-of-the-art in many of these newly patentable "business method" technologies. The Patent Office has since made an enormous effort to train examiners in these areas and build resources for conducting these examinations. Today, the prosecution of business method patents takes anywhere from five to six years and is subject to relatively intense scrutiny. The patent office has special procedures for reviewing business method patents, including a two tier review process and far better databases to review.

B. Recent Judicial "Patent Reform" (Actual and Anticipated)

In possible response to the concern over the perceived increase in issuance of "weak patents," the Supreme Court has taken on a more active role recently in patent reform and appears to be trending toward taking on more patent cases. The Supreme Court has chipped away at patents in its recent decisions, eliminating the "automatic" permanent injunction awarded to successful patentee litigants, eliminating the notion that a patent confers *per se* market power, opening the door for licensees in good standing to commence declaratory judgment actions challenging the validity or enforceability of the object of the license, and will likely soon be significantly increasing the difficulty to establish patent claims are non-obvious and reducing the difficulty to challenge patent claims on grounds of obviousness by eliminating what Justice Scalia described as "gobbledygook" from the current "obviousness" test. The recent cases taken together demonstrate what is arguably a judicial trend against the power and enforceability of a patent.

The Elimination of the "Automatic" Permanent Injunction: Prior to *eBay v. MercExchange, LLC*, 126 S. Ct. 1837 (2006), the Court of Appeals for the Federal Circuit ("CAFC") required lower courts to issue a permanent injunction in patent cases in the absence of "exceptional circumstances" warranting a departure from the rule. In *eBay*, the Supreme Court rejected this presumption and required courts to use the traditional test for analyzing the appropriateness of injunctive relief: the plaintiff must now establish (1) irreparable harm, (2) remedies at law are inadequate, (3) the remedy in equity is warranted after considering the balance of hardships between the plaintiff and the defendant and (4) the public interest is not disserved by the issuance of the injunction.

Id. at 1839. The *eBay* decision makes it unlikely that a non-competitor company will obtain injunctive relief due to the probable absence of irreparable injury. *eBay* has further substantially reduced the likelihood that an injunction will issue on a patent covering only a small portion of the product accused of infringing.

eBay will be a deterrent to patentees contemplating commencing an infringement action as it will potentially remove an important piece of leverage for a patentee in negotiating resolution of these disputes. Due to the extraordinarily high cost of litigating patent disputes,[3] this single factor could tilt the balance against initiating actions, especially for companies with limited resources. Further, a company with significant resources may be more inclined to test the determination of a patentee absent the threat of injunction. However, the restriction on the threat of injunctions arguably benefits the public consumer who unwittingly purchased a potentially infringing product, safeguards against the shutdown or recall of entire product lines over potentially insignificant component parts, restricts patent holders who invest in patents like commodities to financial reward and increases the efficiencies of litigation and licensing negotiations.

The Elimination of Patent's *Per Se* Market Power: Prior to the Supreme Court's decision in *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, 547 U.S. 28 (2006), there was an automatic presumption that the limited monopoly rights afforded by a patent created a *per se* presumption of market power when asserting a violation of antitrust law caused by the tying of patent products with non-patented products. *ITW* sold patented ink containers with non-patented ink and refused to allow its customers to allow other companies, including Independent Ink to sell ink refills for the patented containers. The CAFC found the tying to be an antitrust violation. The Supreme Court reversed because it found that patents did not confer *per se* market power.

The Anticipated Elimination of the Teaching Suggestion and Motivation Prong of Non-Obviousness: The Supreme Court heard oral argument in *Teleflex, Inc. v. KSR International Co.*, 119 Fed. Appx. 282 (Fed. Cir. 2005), *cert. granted,* 126 S. Ct. 2965 (U.S. June 26, 2006) (No. 04-1350), in November 2006, which challenged whether two prior art references could be combined to render obvious a patent claim under 35 U.S.C. § 103, without some teaching, suggestion or motivation ("TSM") to combine the references. What TSM means has never been clearly defined and has been interpreted in many different ways, perhaps most infamously by Justice Scalia during oral argument when he referred to the TSM prong of the obviousness standard as "Gobbledygook." His characterization of the standard may provide some insight regarding how at least some members of the Supreme Court view TSM. What is clear, however, is that millions of patents have issued by the PTO employing the TSM standard. If the TSM prong is eliminated or substantially modified by the Supreme Court, it potentially will place every patent that issued under that standard in jeopardy.

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[3] According to a 2003 survey by American Intellectual Property Law Association the average cost of patent litigation was $2 million. Patent World 2004.

Depending on how the Court rules, the holding may *de facto* eliminate at least some part of the presumption of validity over millions of already issued patents under the old standard which arguably made it easier to obtain the patent. The Court's anticipated decision in *KSR* will likely make it far more difficult and costly to obtain a patent and may open a floodgate of challenges to existing patents, each of which negatively impact small businesses and individual inventors.

Licensees in Good Standing Now Have Standing to Challenge the Validity or Enforceability of the Patent. Prior to the recent decision in *MedImmune, Inc. v. Genentech, Inc.*, 127 S. Ct. 764 (2007), the Supreme Court, in *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969), held that a licensee in good standing did not have standing to bring a declaratory judgment action challenging the validity or enforceability of a patent. *MedImmune* has changed this bar to asserting such a challenge by holding that a licensee does not have to breach the agreement before commencing suit. *MedImmune*, 127 S. Ct. at 777. There are many consequences that flow from such a decision. Many licenses are granted to end or avoid a lawsuit on both sides. The price for the license is lowered presumptively by the patentee to avoid the challenge to the validity and enforceability of the patent during litigation. Under *MedImmune*, settlement may not bring ultimate resolution, but rather only fix a cap on the payments owed in the event of an unsuccessful, subsequent challenge. *MedImmune* will tax the abilities of a licensor's attorney to craft licensing agreements to attempt to contractually safeguard against licensees challenging the patent immediately after executing the agreement.

The Attack on the Doctrine of Equivalents By Prosecution History Estoppel. Although the Supreme Court's decision in *Festo Corp. v Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002), goes back a few years, this seminal case, perhaps more than any other, highlights the impact of the judiciary on patent reform. The Supreme Court in *Festo, supra,* essentially eliminated infringement of a particular claim element under the doctrine of equivalents if any narrowing change is made to that element during the prosecution of the patent. The doctrine of equivalents played an important role in safeguarding against immaterial deviations from the literal words of a claim to avoid infringement. Because almost any amendment can be argued to be narrowing, the use of the doctrine of equivalents is challenged in most every instance where an amendment has been made to the claim prior to issuance.

Each of the foregoing decisions by the Supreme Court has resulted in a loss of patent strength. Such reduction in power of patents would appear to have a disparately greater negative impact on small businesses, which rely in part on the power of their intellectual property assets to prevent larger companies from capturing their ideas and capturing market share due to significantly greater resources.

C. Proposed Legislative Patent Reform Initiatives

In the 109th Congress (regular session ended September 30, 2006), two major bills regarding patent reform, H.R. 2795 (entitled "Patent Reform Act of 2005") and S.

3818 (entitled "Patent Reform Act of 2006") were respectively introduced in the House of Representatives and the Senate. Although neither bill was passed during the 109th Session and both expired when that Congress adjourned on December 9, 2006, one or more similar new bills are expected to be introduced and discussed in the current 110th Congress. Almost all major issues regarding patent reform seem to be included in H.R. 2795 (a major difference between H.R. 2795 and S. 3818 is that the former includes elimination of the best mode requirement while the latter does not), so this discussion focuses on H.R. 2795.

A number of the proposed initiatives in H.R. 2795 could have a disparate impact on small businesses and individual inventors.[4]

1. From First to Invent to First to File

Proposed H.R. 2795 changes the U.S. patent system from a first-to-invent system to a first-to-file system. Logically, a first-to-invent system benefits small inventors due to the limited resources of the small inventor. A larger entity will typically have a more efficient infrastructure established to evaluate the unique nature of the invention, perform patentability studies and analyze the possible commercialization of the invention. The larger entity will typically work with larger firms with more patent attorneys which will typically result in faster turn around on the applications. Further, many smaller inventors need to be selective in the ideas they patent due to cost considerations and may wish to wait a longer period of time before paying for a patent application and the cost of prosecution. As such, switching to a first-to-file system could result in the unfortunate loss of rights based predominantly on financial means.

Arguably, however, the adoption of the provisional application process mitigates against the need for the first-to-invent rule to safeguard small businesses. Provisional applications can and have been filed at minimal cost simply by attaching power points or similar disclosures. While this is not necessarily a best practice strategy, if the disclosure is sufficient to describe the invention, it may be sufficient to support claims in the subsequent non-provisional application claiming priority. Further, the United States is currently the only country in the world that adopts a first-to-invent system, so adoption of H.R. 2795 would bring the United States in conformance with the rest of the world. Further, adoption of first-to-file would remove a highly complicated and expensive component of patent litigation. In addition, the USPTO would no longer be required to

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[4] Some of the proposed initiatives which appear on their face to negatively impact small businesses and individual inventors are either moot or duplicative of existing case law. For example, the proposed amendments to injunction appear to have been mooted by the Supreme Court's decision in *eBay*, supra, and the limitations on damages proposal appears to be merely duplicative of one of the *Georgia-Pacific* Corp. *v. United States Plywood Corp.*, 318 F. Supp. 1116 (SD NY 1970) factors: The portion of the realizable profit that should be credited to the invention as distinguished from any non-patented elements, manufacturing process, business risks or significant features or improvements added by the infringer.

expend resources on patent interference proceedings to determine who first made the invention-at-issue.

2. Elimination of the Best Mode Requirement

Patent applications are currently required to "set forth the best mode contemplated by the inventor of carrying out his invention." This requirement is unique to U.S. patent law. H.R. 2795 eliminates it. The limited monopolies granted to patent holders are given in exchange for knowledge how to practice the claimed invention the best way known to the inventor. The best mode requirement does not require the patentee to disclose the actual objective best mode, but rather what the patentee believes is the best mode at the time of the filing of the patent application. There are times where the difference between the best mode and an alternative embodiment may make an enormous difference on the efficacy of the product covered by the claims. While the elimination of the best mode requirement does not appear to present a negative impact on small businesses and individual inventors, to allow any company the benefit of the monopoly granted by patents while simultaneously allowing them to maintain the best mode of practicing the invention as a trade secret appears to challenge the policy in granting the patents.

3. Inequitable Conduct

H.R. 2795 changes the doctrine of inequitable conduct by (1) providing statutory authorization for the USPTO Director to issue regulations governing applicants' duty of candor; (2) providing the USPTO with authority to prosecute violations of the doctrine; (3) limiting the circumstances under which the defense of inequitable conduct could be raised before the courts; and (4) limiting a finding of equitable conduct only in circumstances when the USPTO examiner relied upon the alleged misconduct.

The proposed changes to the rules on inequitable conduct will likely have a positive impact on small businesses and individual inventors as it may reduce the cost of litigation and increase the strength of patents. However, the proposed rules would appear to remove important safeguards which protect the integrity of the system. For example, under the proposed rules, inequitable conduct cannot be found absent the invalidation of a claim in the patent. This would appear to potentially eliminate challenges to the enforceability of a patent where, for example, the wrong inventor is intentionally listed, where intentionally false and misleading statements to overcome prior art references are made or where test results are intentionally altered or fabricated to obtain a patent. Each of these situations presents situations potentially ripe for findings of unenforceability.

Inequitable conduct is further an equitable issue, decided by a judge during a separate bench trial or as part of a jury trial. Judges with significant experience evaluating the credibility of witnesses appear to be presumptively better suited to analyze the intent to deceive prong of the inequitable conduct defense than representatives within the USPTO. So, while inequitable conduct can often be an expensive part of litigation, it plays an important rule in maintaining the integrity of patent procurement and appears

best decided by the judiciary. One possible reform that could curb much of the purported abuse of this doctrine would be to require that inequitable conduct be pled in an action before a court only upon a motion to amend the pleadings in the action.

4. Continuation Applications

H.R. 2795 permits the USPTO Director to limit the circumstances under which a continuation application can receive the filing date of an earlier application. Under the newly proposed rules, the USPTO is attempting to limit the ability to claim priority, only allowing for a priority claim to be made one time. In other words, an application cannot claim priority back to an application if another application has already claimed such priority.

Further, under the proposed rules, applicants for patents will be allowed only one continuation application as a matter of right. The new rules require applicants who file multiple continuing applications from the same initial application to show that the third and following applications in the chain are necessary to advance prosecution. In particular, the proposed rules require that any second or subsequent continuing application show to the satisfaction of the Director that the amendment, argument or evidence could not have been submitted during the prosecution of the initial application or the first continuing application.

These proposed modifications may have a disparate impact on small businesses and individual inventors. This new rule would require patent applicants to attempt to include all possible claims in the original application, or at least in the first continunation to avoid any loss of rights and to avoid having to make any statements that could give rise to an estoppel or disclaimer. Small businesses and individual inventors may not have the funds to pay for the thorough level of claim drafting contemplated by these new regulations and may want to test the commercialization of the invention prior to expending the additional cost at the point of the filing of the original application. There also does not appear to be a strong justification for restricting the number of patent applications which can claim priority back to another application. This could lead to an early member of a family becoming prior art as to a later member.

5. Willful Infringement

H.R. 2795 adds several clarifications and changes to the law of willful infringement as follows: First, treble damages for patent infringement could only be awarded if (1) the infringer received specific written notice from the patentee and continued to infringe after a reasonable opportunity to investigate, (2) the infringer intentionally copied from the patentee with knowledge of the patent, or (3) the infringer continued to infringe after an adverse court ruling. Second, as a defense to treble damages, the infringer could argue that it had an informed, good faith belief that the patent was invalid or unenforceable. Third, H.R. 2795 permits pleading willful

infringement only after a court finds that the patent is not invalid, enforceable, and infringed.

Willfulness is an important leverage tool for patentees in litigation. This provision will take some of the edge off of the tool by bifurcating the issue of willfulness, which will possibly allow for the preservation of the attorney client privilege upon the assertion of opinion of counsel as a defense until the second phase of the case. There are sound policy consideration stemming around the preservation of the attorney client privilege that warrant consideration of the third part of this provision, which essentially sets up a bifurcated trial on the issue of willfulness following the first phase of the trial. However, this type of bifurcation will significantly increase the cost of those cases proceeding to both phases. It will of course reduce the cost of those cases which end after phase one.

6. Post-Issuance Opposition Proceedings

H.R. 2795 establishes post-grant opposition proceedings.[5] This proposal could have a disparate economic impact on small businesses and individual inventors. The procedure is vastly different from reexamination proceedings in that it allows a far broader range of invalidity challenges, allows for discovery including depositions and allows for multiple submissions. The proceeding further has a lower burden of proof to invalidate claims (preponderance of the evidence rather than clear and convincing evidence) and the proceeding assumes when evaluating invalidity the "broadest reasonable construction of the claim," which is inconsistent with case law requiring courts to intepret claims to preserve their validity. Further, there appears to be no limit on the number of opposition proceedings that can occur at any time. It also does not appear that the opposition will be stayed unless the patentee has commenced a patent infringement suit during the same time window that the opposer has to bring the proceeding. A savy entity filing the opposition will wait until the last date possible to prevent the stay. This could create a situation where the patentee is forced to litigate the invalidity issue in Court and in this proceeding simultaneously.

There is little advantage to a patentee from involvement in this proceeding as it places the patent at risk with a lower burden of proof, allows possibly expensive discovery and does not allow a possible outcome of infringement. Oppositions often involve a wide range of potential invalidity arguments and are conducted through adversarial hearings that resemble courtroom litigation, but because they limit discovery and involve a lower burden of proof, oppositions are cheaper and faster than lawsuits.

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[5] H.R. 2795 also eliminates some limitations that the current Patent Act puts on protest proceedings. In particular, under H.R. 2795, any person is able to submit patent documents and other printed publications to the USPTO for review, while only interested individuals can use the proceedings under the current law. This is a far less burdensome process than the post–grant procedure as it is limited to patents and printed publications and does not appear to be inter-partes. Nevertheless, it could result in delay of the issuance of a patent while the examiner considers a submitted reference.

CONCLUSION

Thank you, Chairman Velázquez, Ranking Member Chabot and Members of the Committee once again for inviting me to make these remarks about patent reform. I look forward to assisting this Committee in any way possible with its understanding of the unique issues presented by H.R. 2795 and other patent reform initiatives and activities.

Statement of Roger Cochetti

Group Director, U.S. Public Policy

Computing Technology Industry Association

On The Importance of the Patent System on Small Business

Before the House Small Business Committee

March 29, 2007

On behalf of the Computing Technology Industry Association, CompTIA, I wish to thank Chairwoman Velazquez and Ranking Member Chabot for holding this hearing to better explore the effects of the U.S. patent system on American small businesses. We look forward to working with this Committee and with the Congress in the future on this important topic.

CompTIA is the largest computer industry trade association in the United States. While our 22,000 members include most of the largest hardware, software and services vendors in the industry, we are perhaps best known for the many thousand so called, value-added-resellers or VARs who make up 75% of our membership. These typically-small computer companies are the backbone of America's Information economy.

VARs are the principle source of computer support for America's small business. An average VAR might have 6 employees and manage the computer systems for 100 small businesses. In this respect, VARs are the IT departments of America's small businesses. Without them, many small businesses simply could not function. An estimated 32,000 American VARs computer-enable millions of American small businesses today; selling some $43 billion dollars worth of computer hardware, software and services.

In this way, VARs –and their small business customers- are dependent upon a steady stream of innovative hardware and software products from IT vendors. While VARs may or may not hold patents themselves, they are critically dependent upon a robust and well functioning patent system to sustain their important segment of American small business and to improve the performance of their small business customers.

The U.S. patent system is, and will be, vitally important to American technological innovation now and in the future. Patents are the engine of technology growth in that they allow firms to simultaneously protect their inventions and share them with their partners and potential clients. For a small start-up stage venture, patents can be critical to securing all-important venture financing. For large technology vendors, patents provide the infrastructure to collaborate and develop complex technology products. Even non-patent holders benefit as all technology companies, including VARs and technology workers, are dependent upon the commercial availability of a steady

stream of technology innovation to promote the sales of new products and services. A streamlined patent system that improves patent quality, harmonizes global practices and reduces patent litigation expense will expand the technology product pipeline and permit new innovative products to reach the marketplace all of which is critical to the business success of CompTIA's members, but most particularly our VAR members.

It is well known that small business drives innovation and economic growth in America. What's more, various studies show that small businesses are more innovative and rely more heavily on patent protections than larger firms. For example, the National Academy of Engineering study found that "small high-tech companies play a critical role in creating new products and services, in developing new industries, and in driving technological change and growth in the U.S. economy."[1] Additionally, a 2003 report from the Small Business Administration Office of Advocacy noted that "small patenting firms produce 13-14 time more patents per employee than large patenting firms." The study also found that "patents for small firms are more technically important on average than those for large firms."[2]

There are often misperceptions by small businesses about the patent system, however. Many small businesses are simply not aware of how the patent system can benefit them. Particularly in the area of complex technology products, patent protection is the preferable method of intellectual property protection regardless of firm size. In the case of software, copyright protection only protects the underlying code—the actual ones and zeros—it does not protect the innovative ideas behind the code. As a result, without patent protection, a larger, better funded competitor may well have the ability to co-opt a smaller firm's technological invention (potentially without infringing on its software patent.) Patents are in fact, the "equalizer" for small firms vis a vis larger, better-funded firms, providing small firms leverage against their larger competitors and providing a mechanism to obtain valuable licensing revenues. For this reason we believe that enhanced education and outreach to small businesses about the value of patents in addition to technical assistance to small businesses and individual inventors would greatly help to reduce misperceptions about patents and the U.S. patent system.

CompTIA applauds recent efforts by the U.S. Patent Trademark Office (USPTO) to launch a small business education campaign. Since 2005, USPTO has provided education and outreach to small and independent inventors to assist them with protecting their innovations. This program, and other like it, should be strengthened and other agencies should consider taking similar steps. We in CompTIA have recently

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[1] *Risk & Innovation: The Role and Importance of Small High-Tech Companies in the U.S. Economy*, National Academy Press, 1995

[2] *Small Serial Innovators: The Small Firm Contribution to Technical Change*, CHI Research Inc., under contract to the U.S. Small Business Administration, Office of Advocacy, 2003

begun an effort to better understand how to the federal government can encourage small businesses to expand their proper use of the patent system.

First and foremost, CompTIA supports efforts to end fee diversion at the USPTO. This would go a long way to improving the U.S. patent system by allowing the PTO to hire quality examiners in the numbers necessary to both improve the quality of granted patents and begin to end the significant pendency issues facing the system today. The PTO is currently overwhelmed by the increasing numbers of patent applications filed. As a result, it is critical that the office receive the funding necessary to do its job. Fees paid by patent holders must not be diverted into general government funds; effectively making the USPTO a "revenue center" for the government. An adequately-funded PTO is the first place that Congress should look to improve the U.S. patent system for firms large and small.

CompTIA and its members believe that the U.S. patent system is fundamentally sound and works to promote the kind of innovation that is critical to VARs and to the economy as a whole. That said, CompTIA believes that periodic reform of the system is important to ensuring that technology industry innovation that drives the information economy continues to flourish. To this end, CompTIA supports patent system reforms in three key areas. These are: improving patent quality, reducing the costs of patent litigation and harmonizing global patent practices. As noted earlier, we also believe that educational and outreach efforts to small business need to be significantly strengthened.

CompTIA supports reforms that aim to improve the quality of issued patents and simplify the administration of patent laws. Improving patent quality is perhaps the most important area for patent system reform. Enhancing patent re-examination proceedings, allowing third parties to submit prior art during the examination process and the creation of a post-grant opposition proceeding that allows interested parties to "weed out" bad patents (before they can be used offensively to extract licensing revenues or subject firms to unmeritorious litigation expense) are important reforms that will benefit technology firms large and small and thereby strengthen the flow of new inventions.

The high cost of patent litigation may discourage patent holders from bringing meritorious claims against infringers or may encourage firms to license patents of dubious quality rather than contest them in court. CompTIA supports efforts to reform patent law to make litigation less costly and complex by modifying the patent law doctrine of willful infringement and inequitable conduct. In addition, we support the creation of an administrative, post-grant opposition proceeding at the USPTO that could serve as a less costly alternative in litigation in many cases as well as reforms to apportion damages to the actual value that the patented component adds to the overall product.

Differences in national laws are among the difficulties faced by U.S. inventors large and small when they seek to obtain and enforce patent rights overseas. CompTIA supports efforts to modify U.S. patent law in order to comply with international standards. Specifically, we endorse the adoption of a first-inventor to file priority system, a post-grant opposition proceeding, the publication of all pending patent applications.

In conclusion, Madame Chairman and Members of the Committee, CompTIA's small business members support Congressional efforts to strengthen the U.S. patent system because they recognize that preserving the availability -and improving the quality- of patents as well as streamlining the application and enforcement process is critical to their livelihood. For this reason we thank the Committee again for holding this hearing today and we stand ready to work with you and other members of Congress as this important issue moves forward.

INNOVATION ALLIANCE
Improving Patent Quality • Promoting Innovation

PRESS RELEASE

FOR IMMEDIATE RELEASE
March 29, 2007

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Innovation Alliance Applauds House Small Business Committee for Considering Patent Reform's Impact on America's Entrepreneurs

Urges Efforts to Enhance Patent Quality

Washington, D.C. – The Innovation Alliance, a coalition of entrepreneurial companies seeking to enhance America's innovation environment and competitiveness through improved patent quality, today praised House Small Business Committee Chairwoman Nydia Velazquez (D-NY) and Ranking Member Steve Chabot (R-OH) for turning congressional attention to the need for prudent patent reform for the continued health of America's small businesses. The Alliance believes that patent reform should be narrowly focused on improving patent quality to protect American entrepreneurs and innovation.

Bryan Lord, Vice President and General Counsel for AmberWave, a founding member of the Innovation Alliance, testified before the full House Small Business Committee. Mr. Lord's comments emphasized a need for caution in pursuing patent reform.

"Many of the nation's largest entrenched firms are advocating sweeping changes to our country's patent laws," stated Lord. "We fear that these proposed changes would have the net effect of chilling innovation by making patents more difficult to defend, easier to infringe, as well as having other unintended consequences."

In conclusion, Mr. Lord said, "The wholesale patent changes being promoted by some would have a very negative impact on university technology transfer, angel and venture capital investing, and small patent-dependent technology companies such as AmberWave."

The Innovation Alliance advocates reforms that first target the root problem of many of the recent headline-grabbing patent litigation cases – patent quality. Specifically, the Alliance supports changes to U.S. patent laws that are narrowly focused on improving patent quality, enhancing certainty and preserving market-based valuations of patents. Furthermore, patent reform measures should not disadvantage emerging, pro-innovation, patent-dependent businesses and their surrounding ecosystem.

To learn more about the Innovation Alliance and its members, please visit www.innovationalliance.net.

The Innovation Alliance is a coalition of entrepreneurial companies seeking to enhance America's innovation environment by improving the quality of patents granted and protecting the integrity of the U.S. patent system.

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The U.S. patent system is recognized as the world's strongest intellectual property rights regime and a key driver of American innovative leadership. As Congress, the Administration and the federal courts weigh fundamental changes to this system, it is paramount to recognize that our nation's future economic growth is dependent upon a thriving community of research institutions, entrepreneurial companies of all sizes, and venture capital firms working together to implement innovation in the knowledge economy. To support this ecosystem, we must maintain a patent system that protects both emerging companies, whose business models are patent dependent, and larger organizations that seek relief from frivolous litigation.

Innovators, patent owners and stakeholders from a diverse range of industries have formed the Innovation Alliance ("the Alliance") to educate policymakers on the critical importance of maintaining a strong patent system that supports innovative enterprises of all sizes. Alliance members strongly favor targeted, balanced reform, as opposed to the massive restructuring sought by others of a system that has largely served us well for decades.

Innovation Alliance members believe that any changes to our patent laws should be narrowly focused on ***improving patent quality***, ***enhancing certainty***, and ***preserving market-based valuations of patents.*** Alliance members agree that patent reform measures ***should not disadvantage emerging, pro-innovation, patent-dependent businesses and their surrounding ecosystem***. Specifically, the Innovation Alliance believes that:

- The patent system is not fundamentally broken or in need of sweeping reform, but can and should be improved through a legislative focus on improving patent quality. Frivolous litigation can be reduced through improving patent quality by: (a) fully funding the U.S. Patent and Trademark Office (PTO); (b) allowing the PTO to retain all of its user fees; and (c) encouraging the PTO to invest in additional human and other resources.

- Existing law concerning the determination of a patent's value and calculation of damages when a patent has been infringed provides courts appropriate flexibility to reach a fair conclusion on damages assessment. Maintaining that flexibility is critical for small companies and licensors to be able to protect their patents against larger, well-financed competitors.

- The PTO is currently over-burdened and Congress should not adopt legislation that imposes additional responsibilities on this organization. For example, the creation of a broad post-grant opposition procedure would lead to greater bureaucracy, less certainty, further delay in securing a valid patent, and expose emerging companies to meritless or commercially motivated challenges by deep-pocketed rivals. In contrast, more rigorous pre-grant scrutiny would improve patent quality, enhance predictability, and minimize opportunities and incentives for abuse of a new post-grant administrative procedure.

- Proposals to limit the ability of applicants to amend pending patent applications (so-called continuation applications), are overly restrictive and not only disadvantage smaller innovators, but may ultimately result in increased litigation.

Patent reform is often characterized as nothing more than a technical exercise. Nothing could be further from the truth. Fundamental alteration of litigation practice can have a tremendous impact on thinly capitalized, emerging companies that have fueled the nation's economic growth and which – across industries – rely heavily on intellectual property rights to attract venture capital, grow businesses and enter markets dominated by large players. A patent process that focuses on rigorous review prior to the granting of an application will better limit patent abuse than extensive litigation reform that could inadvertently disadvantage new market entrants and innovators. The Alliance is committed to working with policymakers on reforms that improve patent quality, preserve incentives to innovate and are sensitive to emerging patent-dependent business models.

Not Patently Obvious:

The Innovation Alliance's Position on Proposed Patent Reform Legislation

March 2007

www.InnovationAlliance.net

Not Patently Obvious:
The Innovation Alliance's Position on Proposed Patent Reform Legislation
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Everyone involved in patent reform acknowledges the strategic importance of the nation's innovation ecosystem and the vital role played by our constitutionally created and congressionally codified patent system. Everyone favors constructive reform, and no member of the patent community wants to harm U.S. innovation's critical dynamic. But differences abound among the various sectors in the U.S. patent community over the best way to ensure the system's continued contribution to U.S. economic leadership. Even within the IT sector, there are deep divisions concerning the right formula for successful reform. Vertically integrated manufacturers and distributors of IT products and services are pushing patent reforms designed to lessen the risk and impact of infringement litigation. In contrast, smaller firms and other IT specialists fear that measures of this type would diminish the enforceability and value of all patents and disproportionately disadvantage patent holders that license their innovations for subsequent downstream utilization.

The innovation ecosystem is inhabited by many different operating models, each of which is dened to maximize efficient economic performance and all of which are critical to the innovation value chain. As Congress considers major structural changes to our patent system, it is important to keep in mind that tomorrow's innovation is at stake. Our innovative ecosystem will continue to yield new and improved technologies only if its many and varied components are allowed to operate economically. Those who choose or are required to license their inventive efforts are no less important than those who manufacture and sell their products to the public. Collectively, they all play a collaborative part in our nation's innovation, and none of them should be sacrificed.

* * *

The Innovation Alliance is a coalition of established and emerging U.S. technology companies that believe any changes to the U.S. patent laws should be narrowly focused on improving patent quality, enhancing certainty, and preserving market-based valuations of patents. Innovation Alliance members agree that patent reform measures should not disadvantage emerging, pro-innovation, patent-dependent businesses and their surrounding ecosystem.

Executive Summary

Certain Patent Reform Proposals Would Undermine American Innovation

The Innovation Alliance supports patent reforms that would improve patent quality without diminishing patent rights and the strength of the U.S. patent system. Our country's history is replete with examples of technological pioneers that cultivated and developed new ideas and worked hard to become global market leaders. The future growth of our economy will rely upon that same drive and inspiration in the many small businesses and independent inventors that comprise much of today's innovative economy. What unites us all is a passion for new ideas and confidence that we will ultimately reap the rewards of our investments in innovation.

Economic growth depends upon the continued strength and reliability of the U.S. patent system, which has recognized and protected the rights of inventors for more than two centuries. Our country's Founders understood that property rights are as essential to the fruits of the mind as they are to the fruits of the land. Just as a deed creates legal incentives to cultivate and improve a plot of land, patent rights create incentives to invest in the development and commercialization of an idea. Patent certainty and reliability enables the collaborative development and funding required to nurture basic research through its upstream refinement to its downstream commercialization for the public benefit. That same certainty enables others to confidently invent around, or incrementally improve, published, patented technology. Thriving innovation is the key to a sound economy. It benefits the public while enhancing our nation's security and economic leadership.

As patents become more significant to U.S. industry, congressional interest in the operation of our nation's patent system has increased. As the United States becomes a high-technology, knowledge-based economy,[1] the commercial and social significance of patents is at a premium. An increasing recognition of the value and importance of patents to our nation's economy has nevertheless been accompanied by calls for significant reforms to the current system, many of which are aimed at addressing perceived deficiencies in the operation of the patent regime. While experts differ on whether major alterations in existing law are in fact necessary, both houses of Congress are expected to consider legislation in 2007 that would overhaul the U.S. patent system and implement the most sweeping reforms since the nineteenth century.[2]

With so much at stake, The Innovation Alliance must call attention to, and express deep concerns with, certain proposed measures that would significantly weaken the foundation of our patent system, which is respected and emulated around the world. Legislation aimed at so-called trolls should not be allowed to inflict "collateral damage" on other legitimate patentees whose public purpose or private sector business models require patent reliability and enforceability.

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[1] CRS, Report to Congress, *Patent Reform: Innovation Issues*, January 17, 2007.

[2] CRS, Report to Congress, *Patent Reform: Innovation Issues*, January 17, 2007

Since patent reform was first introduced in Congress, the U.S. Supreme Court has become deeply engaged in its own adjustments to the U.S. patent system. Decisions made recently, and oral arguments and bench responses in other pending cases, suggest that more significant adjustments may be coming shortly. Prudence in pursuit of fairness suggests that Congress examine the impact of these recent substantive changes before congressional rebalancing begins.

Of particular concern are (i) fundamental changes to the well-established principles used to calculate damage awards; (ii) the addition of a costly new post-grant opposition system that would undermine a patent's enforceability potentially throughout its life; and (iii) undue restrictions on continuation practice that would prematurely truncate the patent prosecution process. As explained more fully below, these drastic structural reforms would combine to destabilize America's incentive-based system of innovation and encourage a weakening of patent rights worldwide.

The proposed mandatory *"apportionment"* test would eliminate the deference given market-based royalties and other relevant factors when calculating damages and instead encourage juries to value patents based on an artificial and arbitrary parsing among patented and non-patented product components. In addition, previous House and Senate versions of apportionment would require a jury to substitute its judgment for that of the USPTO in determining which parts of the patented invention are "inventive" and thus relevant to the damages award. In effect, this would result in a legal and logical conundrum where features of a valid and thus inventive patent claim could be deemed non-inventive and de facto invalid for purposes of a damages calculation. There is simply no justification for such a radical departure from existing principles of patent law and market economics. Under existing case law, courts already have discretion to "apportion" damages where appropriate, but rightly calculate a reasonable royalty according to a broad range of factors that may impact the patent's market value, including existence of a licensing history. Any other standard would potentially undervalue patents and encourage and reward infringers. Moreover, to the extent that apportionment is deemed appropriate, a jury rightly looks to the value of the entire invention since all claims at issue have been found valid and thus inventive. When coupled with the Supreme Court's recent *eBay* decision,[3] which significantly limits a patentee's right to enjoin ongoing infringement, the proposed mandatory apportionment rule would eviscerate the remedies that have driven patent-based innovation for more than two centuries. In doing so, this measure would encourage infringers and even existing licensees to reject negotiated, market-based royalties in pursuit of a more favorable jury award, thus increasing the prevalence, cost and uncertainty of litigation.

A second area of concern that threatens the strength and stability of our patent regime is the proposed "post-grant opposition" system, which would subject patent owners to an additional layer of administrative litigation on top of existing administrative and judicial processes for challenging a patent's validity. Although characterized as a check on patent quality and a means of reducing patent litigation, a post-grant opposition system is unlikely to accomplish either goal.

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[3] *eBay Inc. v. MercExchange*, 547 U.S. __ (2006).

Post-grant review would encompass a quasi-judicial proceeding with judges, experts, discovery, cross-examination and other costly aspects of litigation. However, it would lack the many safeguards of existing judicial and administrative reexamination procedures that protect patent owners against unwarranted, duplicative and abusive post-grant challenges. As a result, the proposed post-grant opposition system would encourage patent litigation and significantly increase the costs, delays and uncertainty of patent ownership. Moreover, the threat of expansive opposition litigation would significantly undermine a patent's value and enforceability if such procedures were available throughout a patent's life, as contemplated by the so-called "second window."

Additionally, this surge in complex post-grant proceedings will further strain an already over-burdened and under-funded USPTO staff. With a portfolio of some 400,000 patent applications per year, the USPTO is struggling to perform its core examination functions, as evidenced by application pendency periods of 30-40 months. Unless coupled with significant additional resources, a post-grant system will inevitably divert funding from the examination corps, potentially resulting in even greater delays and, most importantly, diminished patent quality. To guard against these negative effects, we urge Congress to consider improvements to the existing post-grant system of *inter partes* reexamination in lieu of a new, duplicative and potentially burdensome administrative review process. Should Congress ultimately decide to supplement or replace *inter partes* reexamination with an opposition process, we ask that it do so only after the USPTO has demonstrated that it can effectively perform its core examination responsibilities. Even at that point, it is imperative that Congress provide USPTO with the additional resources necessary to manage the significant demands of a new quasi-judicial opposition process.

We also ask that Congress and the USPTO refrain from legislative and/or regulatory measures that would drastically alter continued examination practice to the detriment of both patent applicants and users. Of particular concern is any measure, whether regulatory or legislative, that would impose severe and unprecedented limitations on continuation practice, a critical and necessary part of the patent examination process. Continuing applications help to define and clarify the proper scope of a patent and its claims, thus ensuring that a patent confers adequate protection, certainty and notice to the public. With increasingly complex technologies, a patent application may require several written communications between the examiner and the applicant before the invention and its relationship to the prior art are clearly understood. This iterative process necessarily results in the filing of one or more continuation applications. Arbitrary quantitative restrictions on continued examination filings, such as those recently proposed by the USPTO, would diminish the clarity of patent claims and prematurely truncate the prosecution process. As a result, the proposal would, contrary to the objectives of patent reform, reduce patent quality, increase administrative appeals and escalate the costs and delays of patent examination. Although some small percentage of applicants may abuse the existing continuation practice, the USPTO's proposed changes would wield a sledgehammer to target a few bad actors and, in the process, harm all inventors. These concerns and others are set forth in comments filed by numerous patentees, both large and small, in opposition to the USPTO's continuation proposal.

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The Innovation Alliance Supports Reforms that Would Improve Patent Quality without Diminishing Patent Rights

The Innovation Alliance does not oppose patent reform; however, the necessity and efficacy of each proposed reform must be measured against the overarching goals of motivating and rewarding innovation, increasing patent quality and fairness, and reducing litigation uncertainty and costs. The solution is not to gut the patent rights critical to these and other innovations, but instead to bolster the system with measures that will improve *pre-grant* patent quality.

Patent quality is best achieved by pre-grant measures that provide examiners with the resources, training and information needed to properly assess whether an invention is, in fact, novel, non-obvious and useful. A recent study by the National Research Council also demonstrates that increases in patent examination resources yield important reductions in post-grant litigation, further underscoring the critical importance of such measures.[4] To its credit, the USPTO has taken several steps in recent years to improve pre-grant quality, including by the hiring of thousands of new examiners and strengthening of its training programs.[5] The results are promising. In December 2006, the USPTO reported a significant decrease in the patent allowance rate to a record low of 54 percent -- a dramatic drop from the 2000 rate of 70 percent. In addition, the USPTO in 2006 achieved its lowest error rate in 20 years -- 3.5 percent. Of course, to maintain this trend, it is imperative that the USPTO continue to receive the resources necessary to evaluate an escalating number of patent applications. And to that end, what is most needed is legislation to permanently end patent fee diversion. Although we recognize the political considerations that have thwarted past efforts to end this ill-advised practice, patent reform legislation stands little chance of achieving positive and concrete improvements without addressing vital resource issues.

In that same vein, increased USPTO resources will yield quality gains only if examiners have the information and incentives to recognize and reject claims for obvious or non-novel inventions. The Innovation Alliance thus supports measures that would foster an environment of cooperation between patent examiners and applicants and increase the prior art available to examiners. These include, for example, proposals to increase third-party submissions and mandate universal publication of all patent applications. Similarly, clarification of the willfulness standard and inequitable conduct defense would benefit all participants in the patent system, provided that they appropriately balance the interests of patent owners and users and preserve disincentives against infringement. At the same time, the USPTO should reconsider policies that potentially encourage patent examiners to issue questionable patents, including quotas or other benchmarks that tie compensation to the number of applications processed.

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[4] *Patents in the Knowledge-Based Economy*, Wesley M. Cohen and Stephen A. Merrill, Editors, Committee on Intellectual Property Rights in the Knowledge-Based Economy, National Research Council (2003).

[5] In addition, the USPTO just announced a revolutionary beta program to identify the most relevant prior art through the use of peer review system. Innovative approaches of this type should be encouraged

Of course, even if we improve the quality of issued patents, disputes will inevitably arise, as in any system of property rights. However, The Innovation Alliance takes issue with exaggerated claims that patent litigation is out of control or inherently unfair to patent users. Having experienced patent litigation as both defendants and plaintiffs, our members share the frustrations of all Americans that litigation is expensive, distracting and time-consuming. At the same time, we are grateful for a strong statutory framework and stable judicial system that protect and enforce the rights of patent holders. Indeed, the strength and stability of America's patent regime have created powerful incentives for entities of all size, structure and focus to collaborate through market-based agreements, helping to fuel a dynamic and prolific innovation ecosystem and decreasing the likelihood and cost of litigation.

The Innovation Alliance has yet to see any credible evidence that patent litigation is any more prevalent or prone to abuse than other high-stakes commercial litigation. Indeed, the Administrative Office of the Courts, the administrative arm of the Federal Judiciary Branch, reported modest increases in patent litigation over the past five years -- i.e., a 12 percent increase in cases filed between 2001 and 2006 -- and an actual decrease in patent cases since the peak year of 2004. This increase is attributable to a range of factors, most notably the growing number of patents issued in recent years and their relative commercial significance to our knowledge-based economy. Significantly, the number of trademark and copyright cases filed throughout this period has consistently exceeded the number of patent cases. A recent study affirms the findings of the Judicial Branch that patent owners have become more judicious in using patents to enforce their IP rights and thus are bringing cases less often.[6]

The Innovation Alliance supports reforms designed to reduce litigation costs and uncertainty. It is, however, a mistake to characterize efforts to weaken the enforceability of legitimate patents as litigation reforms. Not only would such measures undercut the rights of all patent owners to protect a few corporate giants from potential infringement litigation, they would ultimately increase the number of lawsuits by encouraging infringers to seek court-ordered rather than market-based solutions. In contrast, several of the other proposed reforms -- for example, elimination of the best mode requirement -- correctly target subjective aspects of the patent system that increase litigation costs, while leaving intact the rights and remedies of legitimate patent owners. Measures of this type would heighten the fairness, predictability and efficiency of patent litigation for all stakeholders.

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[6] PricewaterhouseCoopers, *2007 Patent and Trademark Damages Study* found that intellectual property rights remain important but enforcement actions are declining (p.7). The continuation of this trend is subject to change as the Supreme Court's *MedImmune* decision (*MedImmune, Inc v Genentech, Inc.*, 549 U.S. ___ (2007), may encourage more patent actions and a declining dollar may result in foreign entities attempting to introduce infringing products into the US market (p.11).

Mandatory Apportionment: Diminishing the Value of Patent Rights and Discouraging Investments in Innovation

A hallmark of America's patent system is the recognition that issued patents are property rights whose infringement merits strong remedies, including the right to prevent future violations and obtain adequate damages for past infringements. These remedies form the foundation of any system of property rights, but are particularly critical to patent owners - especially small and medium-sized innovators - that typically have no other means to protect their inventions. Patents owned by members of The Innovation Alliance represent years of research and billions of dollars in investments. However, once disclosed to the world, as the patent system requires, our innovations can be copied by any competitor. For this bargain to work properly, a patent right must be enforceable and have meaningful remedies associated with that enforcement.

Since the codification of the U.S. patent system, the guarantee of strong remedies has given patent owners the leverage necessary to secure fair royalties from free-riders, including larger, better-financed competitors, and the confidence to share their inventions with the rest of the world. Consider, in contrast, an America without a strong patent system. Most small inventors, which comprise an estimated 40 percent of patent owners, would lack the financial wherewithal to make their vision a reality, and many established companies would reduce investments in research and carefully guard the secrecy of their inventions. Our system of innovation would, in turn, take a giant step backwards, and the American economy would suffer.

Under Section 284 of the Patent Act, the minimum permissible measure of compensatory damages is the "reasonable royalty for the use made of the invention by the infringer, together with interest and costs." In cases where the patent owner can demonstrate a pattern of negotiated licenses, this market-based "established royalty" rate serves as the *minimum* baseline for damages awarded to the patentee. Any lesser damage award would fail to make the patentee whole and encourage infringement.

In cases lacking an established royalty, courts have long considered a variety of factors to determine the royalty the parties would have agreed to in a hypothetical negotiation. Indeed, in the seminal case *Georgia-Pacific Corp. v. U.S. Plywood Corp.*,[7] the district court identified *15* factors as potentially relevant to a determination of reasonable royalties. Among these 15 factors is the "portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements" -- the so-called "apportionment" test -- which forms the basis of the previous House and Senate proposal on damages. Other factors include, for example, royalty rates paid by the infringer for licenses to similar patents; the commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; the duration of the patent and term of the license; the established profitability of the patented product; and the testimony of qualified experts.

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[7] 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

Once the patent is deemed valid and infringed, the court's objective is to give due consideration to all relevant market factors and predict with as much accuracy as possible the royalty the parties would have decided at the negotiating table. However, for this hypothetical negotiation to achieve an equitable outcome, it is imperative that courts retain the discretion and flexibility to determine which subset of the 15 *Georgia-Pacific* factors is relevant to a particular patent, and the relative weight to be given each factor. Of course, this process of using hindsight to replicate a hypothetical negotiation is necessary and appropriate only in the absence of a market-tested royalty rate. Where a pattern of established royalties exist, the market has already spoken, and there is no need to "apportion" the infringed-upon patent or consider other factors. In fact, doing so would encourage juries to substitute their judgment for that of the market -- a result that would violate the spirit and letter of U.S. patent law and weaken the property rights inherent in patented inventions.

It is this aspect of the proposed mandatory apportionment test that is most troubling and most at odds with *Georgia-Pacific* and the thousands of cases that have applied its flexible, market-based approach to damages. Although they differ in their particulars, both the House and Senate bills from the 109th Congress would mandate apportionment of damages in all cases and elevate this one factor above all others, including evidence of a market-established royalty rate.[8] Such a standard would be extremely harmful, jeopardizing the ability of innovators to sustain a licensing-based business model and cycle of innovation.

By encouraging juries to ignore the full range of relevant factors that impact a patent's market value, a mandatory apportionment test will increase the cost and uncertainty of enforcing patent rights and, in turn, diminish the value of all patents. Among other effects, a patentee will be forced to sue on each and every patent infringed by the product -- as opposed to the subset of patents most relevant to the product -- so that other features of the product will not be used against it in a damages determination. This is especially true for a patentee that owns a large number of patents that cover specific devices or standards. In addition, instead of using the industry standard royalty as the basis for a damages calculation, a jury will be instructed to parse the "realizable value" of the "inventive contribution" of the patents, as distinguished from other features of the device.

What this means in practice is anyone's guess, particularly since the terms "realizable value" and "inventive contribution" have no defined meaning under the Patent Act or case law. Assuming the undefined term "inventive contribution" is intended to mean something other than

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[8] Congressional sponsors of comprehensive patent legislation have yet to introduce their proposed bills for the 110th Congress but have indicated that the new bills will be very similar to proposals introduced and debated during the 109th Congress. Both houses of the 109th Congress considered patent reform bills. With respect to the House of Representatives, H.R. 2795 was originally introduced on April 4, 2005 Titled the "Patent Reform Act of 2005," H.R. 2795 was then subject to a Chairman's Substitute Amendment on July 26, 2005. Efforts in the House of Representatives were complemented by a distinct "Patent Reform Act of 2006," S. 3818, that was introduced in the Senate on August 3, 2006. Although neither of the bills resulted in enacted legislation, they may contribute to further discussion of patent reform in the 110th Congress.

the patented invention, the apportionment proposal would arguably require a jury to reevaluate a patent claim (after finding it to be valid and enforceable) to determine which portion is truly "inventive." Once again, the jury's judgment would reign supreme, displacing that of the patent examiner and necessitating a costly and time-consuming battle of the experts. Such a standard would lead to considerable confusion and complexity and jeopardize the established rights of all U.S. patent owners.

Given the likelihood that mandatory apportionment will produce an artificially low valuation of the patent, potential infringers and even existing licensees will have greater incentives to risk litigation rather pay, or continue paying, the standard licensing fee. No longer will the market be the arbiter of a technology's value; instead, a paid expert and jury will be. Many small innovators will lack the resources to defend their patent rights against abusive tactics of this type. Larger, better-funded companies will have little incentive to pay a fair royalty to a smaller patentee, or even execute a license, knowing that a jury will be forced to parse the value of a little-known or understood patented technologies among "inventive" and non-inventive components. This is precisely the predicament that faces Innovation Alliance members AMBERWAVE and IMMERSION -- two small U.S. companies that recently licensed their technologies to larger, better-funded companies that had, at first, been unwilling to pay a licensing fee.

When coupled with the heightened *eBay* standard for injunctive relief, a mandatory apportionment test would further weaken and destabilize our system of patent rights and jeopardize the very existence of smaller firms with an innovation and licensing based business model. Since *eBay*, courts are increasingly reluctant to award permanent injunctions to patent holders (historically, the first line of defense against infringement), unless the infringement undermines competition for the patentee's product. In cases where a patent holder licenses the right to practice its patented technology to others, but does not practice the technology itself (as is often the case with small inventors that lack the resources and infrastructure to manufacture their innovations), courts have, since *eBay*, shown a greater reluctance to award permanent injunctive relief. As a result, a small inventor will in many cases be forced to permit ongoing use of its patented technology pursuant to a court-imposed compulsory license (without the benefit of important standard non-royalty license terms such as confidentiality) and a jury-dictated royalty. In the post-*eBay* world, it is thus all the more important that Congress preserve the ability of patent holders to obtain adequate damages for patent infringement, as this will be the only viable remedy in many cases. Indeed, now that a post-*eBay* jury may be deciding the royalty rate both for past infringement and future compulsory licenses, it is essential that it retain the discretion to consider all relevant market factors.

To illustrate the point further, consider this real property analogy. Suppose a trespasser decides to take up residence in a property owner's apartment building. Under the *eBay* decision, one's ability to evict (or enjoin, in the case of patents) that convicted trespasser stands in doubt. Now the only question is how much the trespasser will pay in rent (damages). Under the *Georgia-Pacific* standard, a jury would, at a minimum, award the $500 in monthly rent that the owner currently charges other tenants for comparable apartments. But under the mandatory apportionment test, a jury will be encouraged to ignore existing rents in favor of an artificial process of apportioning the value of one's property. What if the jury decides that the

"apportioned" value of the trespasser's apartment is only $300 per month? Certainly, all other tenants would demand a similar reduction in rent, diminishing significantly the commercial value of the building and the property owner's ability to maintain, improve and finance the property. Patents are no different -- unless supported by strong property rights and remedies, patented technologies will diminish in commercial value, and patent holders will lose access to financing and critical incentives to invest in ongoing innovation.

Of course, proponents argue that mandatory apportionment is necessary to protect against inflated damages in cases where a patent represents a trivial component of a complex system. What they neglect to mention, however, is that *Georgia-Pacific* already permits apportionment in such cases. Under *Georgia-Pacific* factor 13, a jury may take into consideration the "portion of the realizable profit that should be credited to the *invention* as distinguished from non-patented elements" when determining a reasonable royalty rate. Consistent with this decision, the Federal Circuit's model jury instructions permit consideration of the "portion of the profit that is due to the patented invention, as compared to the portion of the profit due to other factors." Apportionment, however, is not appropriate in all cases. In particular, courts have long held that the parsing of a patent's value is sensible only if the patent represents a relatively insignificant and separable part of the overall product. In contrast, where a patent is responsible for all or substantially all of the product's market value, apportionment is unnecessary and inappropriate.

None of these nuances and complexities are reflected in the proposed mandatory apportionment test, which would primarily protect the interests of large, established firms with a vertically integrated business model, to the detriment of smaller and arguably more innovative firms that rely upon their patents to generate licensing revenue and venture capital financing. The *Georgia-Pacific* factors, in contrast, are technologically neutral and thus accommodate all industries, business models and types of patented inventions, without favoring or disadvantaging the interests of any one sector. Unlike the proposed mandatory apportionment test, the full *Georgia-Pacific* analysis is sufficiently flexible to apply in all situations, resulting in appropriate damage awards for a wide variety of technologies and royalty arrangements.

Furthermore, the law already provides safeguards to prevent excessive damage awards. Patent owners, for example, bear the burden of proving the monetary amount necessary to compensate for acts of infringement and are not eligible to receive remote or speculative damages. There is simply no credible evidence that such safeguards are insufficient to prevent inflated damages, or that the current method of calculating damages is inherently unfair to patent users. Citing this lack of evidence, the ABA Intellectual Property Section has publicly opposed a mandatory apportionment amendment, noting that the proposed language "would have undesirable consequences."

Post-Grant Opposition: Jeopardizing Investments in Pre-Grant Patent Quality, Increasing Litigation Costs and Destabilizing Patent Rights

The proposed "post-grant" opposition system is, unfortunately, another example of a well-intentioned but ill-conceived measure that could significantly undermine patent rights without any countervailing benefit. The proposed system would create new quasi-judicial procedures within the USPTO for resolving post-issuance challenges to patent validity.

Although both the House and Senate versions of post-grant share the worthy goals of improving patent quality and decreasing litigation, each proposal, as drafted in prior bills, could have the opposite effect. Of particular concern is the fact that the USPTO lacks the resources to administer a European-style opposition system, which would require it to oversee the equivalent of a judicial trial to resolve questions of validity. The USPTO is already struggling to manage a growing workload of over 400,000 patent applications per year, resulting in significant backlogs and ever-increasing pendency periods. Without a significant increase in USPTO resources, the introduction of a post-grant system would strain an already over-burdened office, leading to even further examination delays and potentially diminished patent quality. In Europe, for example, opposition proceedings prolong already lengthy pendency periods by an average of three to five years, significantly curtailing the commercial life of the patent.

Although the previous House and Senate bills attempted to alleviate certain deficiencies of an opposition system -- for example, by requiring completion of the proceeding within 12 to 18 months of its commencement -- they altogether failed to address this fundamental issue of resources. Similarly, each failed to address adequately the inefficiencies, delays and potential abuses that would inevitably result from introducing a new administrative reexamination procedure on top of existing *ex parte* and *inter partes* post-grant processes. Although characterized as a means of reducing patent litigation costs, the proposed post-grant opposition system would merely shift litigation costs to the administrative arena. Moreover, because the opposition process would lack existing safeguards against frivolous or duplicative invalidity challenges, while also increasing the expense and difficulty of defending patent rights, it would significantly increase a patent owner's litigation risks and costs and undermine the enforceability of all patent rights.

Although improvements to existing judicial and administrative reexamination procedures may be warranted, proponents of an expansive post-grant opposition system have yet to explain why a wholly new and potentially duplicative layer of administrative litigation is necessary. Clearly, an opportunity to reexamine questionable patents is an important component of a properly functioning patent system, but such procedures must also strive to preserve the value and enforceability of the vast majority of meritorious patents. In federal court, for example, only accused infringers and licensees have the necessary standing to challenge a patent's validity; and a challenger must prove invalidity by clear and convincing evidence. At the same time, however, the challenger can seek to invalidate the patent on any substantive or procedural ground and invoke the full arsenal of evidentiary tools available at trial. In combination, these factors permit an exhaustive judicial review of questionable patents, but also discourage frivolous litigation.

The current administrative system of *inter partes* reexamination, introduced in 1999, is designed as a relatively quick and low-cost alternative to litigation in cases where invalidity can be established on the basis of published prior art. As its name suggests, reexamination requires the examiner to take a fresh look at a patent claim and, on the basis of prior patents and printed publications, determine whether the claim fails to satisfy the statutory conditions of patentability. A challenger may request reexamination throughout the life of the patent, provided that it demonstrates a substantial new question of patentability. However, because an unsuccessful challenger is generally estopped from asserting invalidity in a subsequent civil trial or *inter*

partes proceeding, patentees are effectively shielded from the risk of abusive or duplicative reexamination. As with existing judicial procedures, this system of *inter partes* reexamination attempts to create an effective check on patent quality without diminishing the value and stability of patent rights generally.

In contrast, the proposed post-grant opposition system would combine aspects of a judicial and administrative reexamination process, but eliminate or substantially dilute existing safeguards that have effectively discouraged misuse of the system. In the process, it would create a quasi-judicial system of administrative litigation that heavily tips the balance in favor of the challenger's interests; increases incentives to litigate; and disproportionately shifts litigation costs to the patent owner. Unlike a civil proceeding, a post-grant opposition system would invite challenges by any party adversely affected by a patent. And it would facilitate invalidation by eliminating the patent's presumption of validity and reducing significantly the challenger's evidentiary burden. In addition, the challenger would be free of constraints designed to reduce the cost, scope and potential abuses of administrative reexamination. For example, the proposed opposition process would, unlike existing administrative procedures, allow challengers to demand discovery, hearings, cross-examination and other aspects of litigation that quickly escalate the cost and complexity of defending a patent. At the same time, the proposed opposition system would significantly relax the estoppel effect of an unsuccessful challenge, thus permitting the challenger to "try again" in a subsequent litigation or administrative proceeding and negating an important deterrent against the harassment, waste and delays of redundant proceedings.

Patent owners would bear the brunt of these increased litigation costs, particularly if expansive opposition litigation is permitted for any issue of patentability throughout the life of the patent. In contrast, a competitor or free rider - relieved of robust evidentiary requirements and the risk of estoppel - would have every incentive to seek opposition, regardless of the patent's strength. Such a system would inevitably invite abuse, allowing corporate giants to misuse opposition litigation as a means of blocking patents that frustrate their business interests. Indeed, by stripping a patent holder of the protections that guard against baseless challenges, an open-ended opposition threat would effectively destroy a patent's statutory presumption of validity and cast a permanent cloud over its legitimacy and enforceability. This uncertainty will undoubtedly undermine a patent holder's ability to negotiate fair licensing terms and secure financing. Such a result would be particularly devastating for start-ups and other smaller firms whose very survival is often dependent on early stage venture capital and licensing revenue.

Indeed, if the experience of other countries is any guide, the United States should exercise great caution before introducing a post-grant opposition system. Less than 10 years after adopting such a system, Japan, Korea, Taiwan, and China have all recently abolished post-grant patent opposition procedures in favor of a streamlined invalidation proceeding that permits a centralized process for administrative reexamination. The Japanese Patent Office has publicly acknowledged that repeated attacks against a patent under duplicative administrative and judicial opposition systems have imposed undue burdens on patentees, resulting in increased costs and delays. Similarly, Taiwan concluded that its post-grant opposition system unfairly benefited infringers to the detriment of all patent owners.

Although proponents of an opposition system contend that existing *inter partes* reexamination procedures are overly restrictive in certain respects, and thus underutilized by challengers, such claims merely argue for improvements to the existing system, not the creation of a costly, duplicative and resource-intensive opposition process. For example, the USPTO has recommended amendments that would extend *inter partes* reexamination procedures to all enforceable patents (eliminating the existing bar on *inter partes* reexamination of patent applications filed before enactment of an *inter partes* process). Incremental and carefully-tailored amendments to the existing *inter partes* process merit serious consideration before wholesale adoption of an expansive new system of administrative litigation. As a result of improvements of this type, the USPTO has experienced a gradual but marked increase in *inter partes* reexamination proceedings since 2000 (i.e., 120% increase in *inter partes* requests from 2004 to 2005). Thus, there is every reason to believe that further incremental improvements to the *inter partes* system could address any remaining deficiencies and greatly expand usage of existing administrative procedures.

Even if post-grant opposition is ultimately deemed to be a necessary and preferable alternative to *inter partes* reexamination, implementation of a new opposition proceeding should not occur until USPTO has demonstrated its ability to perform core examination functions in a timely manner and is given the resources to manage the significant demands of a new system of administrative litigation. Even at that time, opposition proceedings should be limited to a single window of review (i.e., within 12 months of issuance) to ensure that patent owners enjoy clear title over their inventions throughout the lives of their patents.

Conclusion

Given the critical importance of our patent system to American innovation and economic leadership, it is imperative that patent reforms be carefully tailored to achieve necessary improvements and, in all cases, to promote and protect investments in innovation. The over-arching goal of patent quality is ill-served by measures that would destabilize our current system of patent rights and remedies and, in turn, jeopardize the global leadership of this country's most innovative industries. In this respect, The Innovation Alliance takes issue with certain corporate giants that would weaken patent rights to reduce their own litigation costs and promote their particular business models. No doubt their businesses can survive such a trade-off, but we are far less sanguine about the future prospects of the many thousands of innovative firms that live or die on the strength of their patent portfolios. Moreover, by creating uncertainty as to the validity and enforceability of patent rights, we stand to encourage, not discourage, costly litigation.

If our shared objective is to improve patent quality while preserving incentives to innovate, we should instead pursue reforms that enhance patent examination resources and capabilities within the USPTO and make it harder for questionable patents to survive scrutiny. The USPTO has already taken important steps to achieve these goals, hiring thousands of new examiners, instituting new training programs and committing annually to performance benchmarks. But it needs Congress's support in the form of a predictable flow of resources and hence a permanent end to fee diversion. In addition, Congress should continue to pursue constructive but narrowly tailored reforms that would increase access to prior art and lessen the

subjective aspects of litigation. Carefully structured measures of this type would ultimately fortify the health of our patent system without endangering the rights of American's most innovative firms.

In contrast, there is simply no justification for legislation that would artificially constrain damage awards through mandatory apportionment, particularly now that injunctive remedies are increasingly unavailable to patent owners. In the wake of *eBay*, Congress should take pause before adopting unprecedented reforms that would further weaken the entire patent system; favor the interests of large corporations to the detriment of smaller innovators and licensing-based business models; and ultimately jeopardize America's competitive advantage in today's knowledge-based economy. Such measures would serve no other purpose than to protect the interests of large corporations against infringement claims, no matter how meritorious. Similarly, a post-grant opposition system, unless accompanied by adequate resources and safeguards, will subject patent owners to unwarranted delays, costs, uncertainty and harassment, without offsetting benefits to patent quality. If the United States is to remain the world's leading innovation-based economy, we cannot destabilize and weaken patent rights with measures of this type.

The Innovation Alliance thus urges Congress to eliminate mandatory apportionment from any patent reform package or alternatively to codify all of the *Georgia-Pacific* factors, including the existence of an established royalty rate, as recently proposed by the Intellectual Property Owners Association. Moreover, we ask that Congress consider improvements to the existing *inter partes* reexamination process in lieu of a new post-grant opposition system, and ensure that any such opposition system is coupled with adequate resources and safeguards to prevent abuses and achieve the ultimate goal of improved patent quality.

In closing, we urge Congress to keep in mind the likely domino effect of proposed patent amendments on intellectual property rights worldwide. The U.S. economy has long benefited from the strongest intellectual property laws in the world. America's system of patent rights and remedies is universally recognized as the gold standard, and, as such, it has given us the moral authority and credibility to fight for stronger protection of U.S. innovations in other markets. Maintaining that authority is critical in today's increasingly competitive global economy. America's leadership in this knowledge-based economy is critically dependent upon the ideas and innovations that constitute our most valuable natural resources and our most desirable exports. If the United States weakens patent rights and remedies at home, our ability to press foreign countries to respect American intellectual property will be greatly diminished. Indeed, we will embolden other countries to adopt even more damaging policies that could jeopardize the continued preeminence of America's most productive industries. This is a slippery slope, and we must be careful.

The Innovation Alliance

February 20, 2007

The Honorable Harry Reid
The Honorable Mitch McConnell
U.S. Senate
Washington, DC 20510

Dear Senators Reid and McConnell:

We applaud the U.S. Senate for passing legislation to continue the practice of the last two years of permitting the U.S. Patent and Trademark Office ("USPTO") to keep all of the estimated fees it will collect without diverting any of the estimated fees to the General Fund of the U.S. Treasury.

As a coalition of companies who rely on a well-functioning USPTO, we believe it is essential that the U.S. Congress safeguard user fees for their intended use. Diverting user fees to the General Treasury deprives USPTO of the resources it needs to issue quality patents in a timely manner, which has contributed to the large backlogs of unexamined applications at the USPTO, and has made it difficult for the USPTO to develop longer range plans.

As the U.S. Congress begins to examine changes that might be made to the patent system, one issue on which everyone can agree is the need to adequately fund the USPTO. Fully funding the USPTO to the level of anticipated user fees is a very positive step toward enabling the USPTO to reduce the backlog of cases by appropriately staffing art units and providing the necessary level of training to new and existing examiners. If extended in future years, such funding levels will enable the USPTO to enact longer term initiatives and increase the quality of the patents it issues.

The U.S. patent system is recognized as the world's strongest intellectual property rights regime and a key driver of American innovative leadership. Fully funding the USPTO with the user fees it receives is an essential element of preserving this leadership. Thank you for your efforts to protect USPTO funding in FY 2007.

Agere Systems
AmberWave Systems
Fallbrook Technologies Inc.
Immersion Corporation
InterDigital Communications Corporation
Intermolecular, Inc.
QUALCOMM Inc.
Symyx Technologies
Tessera Technologies

The Innovation Alliance

January 31, 2007

The Honorable Nancy Pelosi
The Honorable John Boehner
U.S. House of Representatives
Washington, DC 20510

Dear Madam Speaker and Republican Leader Boehner:

We applaud the U.S. House of Representatives for passing legislation to continue the practice of the last two years of permitting the U.S. Patent and Trademark Office ("USPTO") to keep all of the estimated fees it will collect without diverting any of the estimated fees to the General Fund of the U.S. Treasury.

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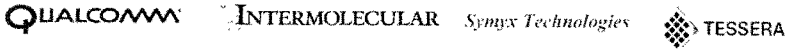

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AmberWave Systems Invited to Testify on Patent Reform and Impact on Small Businesses and Entrepreneurs

AmberWave is one of Five Entities Invited to Submit Testimony to the Committee on Small Business

Salem, N.H. – March 29, 2007 – AmberWave Systems, a leader in the research, development and licensing of advanced technologies for semiconductor manufacturing, is one of five entities who have been invited to testify at a hearing entitled, "The Importance of Patent Reform on Small Business." Other organizations include the U.S. Patent & Treasury Office, Proctor & Gamble, the National Venture Capital Association, and the Innovation Alliance, a coalition of entrepreneurial companies seeking to enhance America's innovation environment and competitiveness through improved patent quality.

The hearing, to be led by House Small Business Committee Chairwoman Nydia Velazquez (D-NY) and Ranking Member Steve Chabot (R-OH), will be driven by the Committee on Small Business of the U.S. House of Representatives and is scheduled for 10 a.m., Thursday, March 29, 2007.

The patent reform measure was originally introduced in 2006, but did not pass. To-date, the patent reform debate has been largely a discussion between "big tech," which wants sweeping changes and "big pharma," which does not. The overall issue of the hearing will focus on the roles technology transfer-oriented firms play in the U.S. economy and how difficult should patents be for companies to obtain, defend and, coincidentally, infringe.

"Many of the nation's largest manufacturing firms are advocating major changes to our country's patent laws," said Bryan Lord, vice president of finance & licensing and general counsel for AmberWave Systems. "These proposed changes would make patents harder and more expensive to obtain, less certain and harder to rely upon after issuance, more difficult and expensive to enforce, and easier and less costly to infringe."

AmberWave, a small business located in Salem, N.H., provides a bridge between promising research within universities around the world and commercialization of the results of that research. AmberWave, which holds more than 180 patents and has raised $91 million in venture capital funding, licenses their products and manufactures them in limited quantities. AmberWave believes the government should proceed with caution in pursuing patent reform and will be testifying about this to the Committee.

"Naturally, these changes would have a severe and negative impact on University technology transfer, angel and venture capital investing, and small patent-dependent technology companies such as AmberWave," Lord added. "I am grateful for the invitation and interest shown by the House Small Business Committee in this very important issue."

About AmberWave Systems
Founded in 1998, AmberWave Systems has become a leader in the research, development and licensing of advanced technologies for semiconductor manufacturing. By funding and guiding university research, AmberWave Systems is bringing new technology developments to fruition through patents and technology licensing. In conjunction with its university research projects, AmberWave Systems conducts its own research, development and limited manufacturing in its semiconductor fabrication facility in Salem, New Hampshire. In addition, AmberWave Systems collaborates with other technology focused companies to further expand and develop its research. For more information about the company, please visit its Web site at http://www.amberwave.com/.

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Summary of Written Testimony of
Bryan P. Lord, VP Finance and Licensing, General Counsel
AmberWave Systems Corporation, Salem, New Hampshire
U.S. House of Representatives Small Business Committee
Hearing on Importance of Patent Reform to Small Businesses, March 29, 2007

AmberWave Systems Corporation is a small firm focused on research and development of advanced materials. It operates a 40,000 sq. ft. research facility in Salem, NH, has 23 employees (over 80% with technical degrees), has a portfolio of over 180 patents, and has raised over $91 million in venture capital funding. AmberWave is a founding member of the Innovation Alliance, an alliance of small, medium and large technology companies who believe in, and rely upon, a strong, pro-innovation patent regime to support their R&D programs.

The United States is the world's most innovative country. Universities, venture capitalists and small firms are a vital reason why. They form an "innovation ecosystem" that is responsible for creating our nation's most thriving innovation centers: Silicon Valley, Austin, Texas, Reston, Virginia, New England's Route 128, and North Carolina's Research Triangle Park to name just a few. In each case, we find a strong research university, a thriving culture of entrepreneurship, and an available pool of venture capital. Hundreds of small businesses are created every year in these technology hotbeds. Participants in this ecosystem rely upon strong and certain patents to protect their ideas in the marketplace and to collaborate with each other.

Patent quality is on the rise while patent litigation is on the decline. The US Patent & Trademark Office is making operational improvements and administrative adjustments to the patent system, and the U.S. Supreme Court is actively reviewing our nation's patent laws (eight cases in last three years). Nevertheless, proponents of patent reform are urging wholesale changes to our nation's patent system, some of which would have an especially adverse impact on small firms:

1. First-to-File: Would limit the free exchange of inventive ideas, force a culture of fear and a race to the patent office mentality, and limit the opportunities for entrepreneurs and venture capitalists to explore ideas with universities in open and creative ways.

2. Post-Grant Review. Would, by encouraging litigation, severely hamper a small-firm's ability to make business plans based upon the certainty of a patent. Venture capital investors would confront an entirely new risk in making investment decisions. This will reduce the amount of capital available for innovation for small firms.
3. Apportionment. Would eliminate the possibility for a judge or jury to consider that a small firm's technical contribution may be an extraordinary contribution to an end product.

In sum, these changes would have the net effect of making patents less certain and easier to infringe. The proponents of change, mainly large technology firms, would benefit from the proposed measures for at least three reasons:

1. Large firms would accumulate strength in patent numbers.
2. Large firms would enjoy a resource advantage in the innovation marketplace.
3. Large firms would gain an upper hand in protecting their incumbency in the marketplace.

AmberWave asks for Congressional support for the following:

- Continued full funding and a permanent end to fee diversion at the USPTO;
- Support for reforms and programs at the PTO that continue to improve patent quality, examiner experience and examiner retention;
- General restraint in the face of calls for wholesale patent reform measures; and
- Opposition to First to File, Post-Grant Review, and Apportionment provisions.

As a small business, AmberWave is grateful for this committee's interest in the patent reform debate, and very much appreciates the opportunity to be heard here today.

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