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S. HRG. 111–202

PATENT REFORM IN THE 111TH CONGRESS: LEGISLATION AND RECENT COURT DECISIONS

HEARING

BEFORE THE

COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

TUESDAY, MARCH 10, 2009

Serial No. J–111–9

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PATENT REFORM IN THE 111TH CONGRESS: LEGISLATION AND RECENT COURT DECISIONS

TUESDAY, MARCH 10, 2009

U.S. SENATE,
COMMITTEE ON THE JUDICIARY,
Washington, D.C.

The Committee met, pursuant to notice, at 10:05 a.m., in room SD–226, Dirksen Senate Office Building, Hon. Patrick J. Leahy, Chairman of the Committee, presiding.

Present: Senators Leahy, Feinstein, Cardin, Whitehouse, Klobuchar, Kaufman, Specter, Hatch, Kyl, and Coburn.

OPENING STATEMENT OF HON. PATRICK J. LEAHY, A U.S. SENATOR FROM THE STATE OF VERMONT

Chairman LEAHY. Good morning. I am glad we are having this hearing because, as we all know, intellectual property is critical to our Nation's economy. It drives our contemporary economy. It is certainly going to fuel the future. Industries that rely on intellectual property protection accounted for roughly half of all U.S. exports and represented an estimated 40 percent of U.S. economic growth in 2006. That was the last year in which our economy grew in all four quarters. Many of the jobs and expansion that can help us begin to recover from this economic recession are going to have their origin in the patent- and copyright-based industries. These range from computers and software programs, to new agriculture products, to our movies and our music.

My own State is a significant exporter, and the majority of that is in intellectual property areas. Even without that, I would still be an ardent supporter of strong protection and enforcement of intellectual property rights. Last year, I led the bipartisan effort to pass the Prioritizing Resources and Organization for Intellectual Property Act to enforce laws against stealing America's intellectual property. The Chamber of Commerce estimates that IP theft costs American companies $250 billion a year; it also costs our economy 750,000 jobs.

Several of us on this Committee are former prosecutors, and like my fellow former prosecutors, I know firsthand how important it is to have a full arsenal of legal tools to ensure that justice is done. In Vermont, Hubbardton Forge makes beautiful, trademarked lamps, sold all over the world. The Vermont Teddy Bear Company, like IBM, also relies heavily on intellectual property. SB Electronics needs patents for its film capacitor products. Burton's

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snowboards and logo are protected by trademarks and patents. Every State in the Nation has such companies, and every community in the United States is home to creative, inventive, and productive people. All Americans suffer when their intellectual property is stolen; they suffer when counterfeit goods displace sales of their legitimate products, and they suffer when counterfeit products actually harm them, as sometimes happens with fake pharmaceuticals or faulty electrical products. We saw it even with counterfeit brake pads on cars.

We worked together with 21 Senate cosponsors, Republicans and Democrats, our House counterparts. We moved that bill from introduction in July to the President's desk in October. It was probably about the fastest moving bill in the Congress last year.

This year, we are working to make additional progress by modernizing the United States patent system. Last week, I joined with Senator Hatch and, in the House, Chairman Conyers and Mr. Smith to reintroduce the bipartisan, bicameral Patent Reform Act of 2009, S. 515. This Committee was able to report patent reform legislation in the last Congress, and the House passed a companion bill. I think this year we need to enact it to help our economy.

It has been over 50 years since significant reforms were made to the Nation's patent system, and today's hearing is the eighth this Committee has held on patent reform since 2005. But we have seen a number of positive movements. Recent decisions by the United States Supreme Court and the Federal Circuit have moved the law in the direction of our legislation and reflect the growing sense that questionable patents are too easily obtained and are too difficult to challenge. Senator Specter has made constructive suggestions about a "gatekeeping" role for the court in damage calculations. There is much work to be done, but I am optimistic that if we continue to work together, we will find the right language. We may be closer to reaching consensus on language than ever before.

The Patent Reform Act of 2009 promotes innovation and will improve our economy. We will work with the administration to help pull the economy out of the recession. But while you do that, it means that we in Congress have to do what we can. Certainly in the area of intellectual property, anything we can do of a positive nature helps.

Senator Specter.

STATEMENT OF HON. ARLEN SPECTER, A U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator SPECTER. Thank you, Mr. Chairman, and I join you in welcoming this distinguished array of witnesses to help us shed some light on this very important subject.

I congratulate Chairman Leahy and former Chairman Hatch on their leadership on this very important subject. The Chairman correctly notes the tremendous importance of intellectual property, innovation, a very important item on our balance of trade and on the productivity in the United States. And I do agree that it would be highly desirable to legislate in this field and to modernize the patent laws.

We worked at it very hard last year and could not come to a conclusion essentially on the question of damages. There has been an

ongoing controversy, really summarized with the high-tech and entertainment industry arguing that the entire market value methodology is undesirable. There ought to be apportionment of damages, and traditional manufacturing and pharmaceuticals are in the other direction.

We have a case that is now pending, as you all know, in the Court of Appeals for the Federal Circuit captioned *Alcatel-Lucent* v. *Gateway*, which is going to take up the scope of entire market value. We have been struggling with that difference of view, and it is of critical importance that whatever we do legislatively, we get it right. And if it takes a little more time, we are going to have to spend the time.

Chairman Leahy and Senator Hatch and I spent a lot of time in his hideaway last year going over these matters, trying to find the magic words. And we did not find them. And in the absence of finding them, the conclusion was that we did not move ahead.

If we make a mistake and create litigation for a protracted period of time, that is obviously undesirable. No one wants that to happen. So we are struggling with it, and we look to this panel, you six witnesses, to give us some special insights to show us which way to go.

Thank you, Mr. Chairman.

Chairman LEAHY. Thank you very much.

Our first witness—unless, Orrin, you want to say anything. Go ahead.

STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM THE STATE OF UTAH

Senator HATCH. Well, thank you, Mr. Chairman and former Chairman Specter. I appreciate both of you, and I appreciate the leadership you have provided on this bill.

You know, we have been working on patent reform now for three Congresses, and this is the Committee's seventh hearing on patent reform. And I believe Senator Leahy and Senator Specter have covered the materials. I will not take any more time.

I just am personally appreciative because I think we really do need to reform the patent laws, and we want to get it right, no question about it. And there are many, many different points of view on this. But I just want to tell you how much I have appreciated working with both of you on this, and others as well on the Committee.

Thanks, Mr. Chairman.

Chairman LEAHY. Well, I think that work demonstrates it is not a Republican or Democratic bill. We are going to have to do something. We cannot be in the 21st century with a 50-year-old system, and we will bring it up-to-date.

Steve Appleton is the Chairman and CEO of Micron Technology. He joined Micro in 1983 and became Chairman and CEO in 1994. In addition to his work with Micron, Mr. Appleton serves on the Board of Directors for the Semiconductor Industry Association and National Semiconductor, Inc. He received his Bachelor's degree as well as an honorary doctorate from Boise State University.

Mr. Appleton, good to see you again. Thank you for being here. Go ahead.

STATEMENT OF STEVEN R. APPLETON, CHAIRMAN AND CEO, MICRON TECHNOLOGY, INC., BOISE, IDAHO

Mr. APPLETON. Chairman Leahy, Ranking Member Specter, and members of the Committee, thank you for allowing me to testify today, and thank you, Senator Hatch, for the special invitation to appear.

I am here today on behalf of Micron Technology and also on behalf of the Coalition for Patent Fairness. The coalition includes a broad range of companies and trade associations in various industries. Before I say anything else, I want to emphasize the need for patent reform is urgent, and we strongly support Senate bill 515.

Let me begin by telling you a little bit about Micron. From a three-person startup in 1978, Micron has become one of the world's largest and most innovative providers of advanced semiconductor memory solutions. We are a global company with headquarters in Boise, Idaho. In the U.S., we have large manufacturing facilities in Utah, Virginia, and Idaho, and design centers and sales offices throughout the country. Although there were at one time 11 major U.S. memory manufacturers, today Micron is the sole remaining company.

Micron produces leading-edge memory chips, including D–RAM and NAM memory, as well as imaging chips that are used in almost every digital device in the world. In more recognizable terms, these products range from the jump drive to the memory card in your digital still camera, to the main memory in your computer, to the actual camera in your cell phone.

As one of the most innovative companies in the world, Micron is a significant stakeholder in the patent system. Micron holds over 18,000 U.S. patents, and independent studies have ranked our portfolio as one of the strongest. In fact, to give you a sense of our creative talent, of the top ten patent holders throughout the world that are still living—throughout the world that are still living—three of those inventors work at Micron.

So to emphasize again, Micron is clearly in support of a strong patent system. But, unfortunately, the current patent system is now becoming a hindrance to innovation. Micron and other technology companies, regardless of size, are the victims of a growing wave of patent litigation. The reality is that the laws relating to patent enforcement have not kept up with the highly complex advances in technology that have emerged in the last couple of decades. Congress could not possibly have envisioned today's high-tech products and systems when they last revised the Patent Act in the 1950s.

Technology products can be very complex. I am holding up a one-gigabit memory chip that you can hardly probably see. It is about the size of my fingernail. On this chip we can store over 1 billion bits of information. There are thousands of patents that relate to this one memory device.

Now, let's use the BlackBerry or another smartphone, as another example. The BlackBerry has a memory chip similar to the one I showed. It also has a display, keyboard, software, a camera, and other significant chips. Each of these components and functions are covered by hundreds or thousands of patents.

The difficulty is that the current patent litigation system too easily allows damages to be assessed on the value of the whole product rather than the contribution of the patent. If we assume thousands of patents relate to this device, the resulting damages under current law would result in an amount that would exceed the total amount of revenue derived from the product. And to add insult to injury, nearly all of the patent claims brought against our technology companies are filed by plaintiffs who do not make or sell any of the products they are attacking, and in many cases, using patents they purchased from some third-party entity. We often refer to those companies as "patent trolls" or I think what is known as more politically correct, "non-practicing entities."

The increase in patent litigation costs are largely a result of the proliferation of the non-practicing entity business model. Balance needs to be restored by requiring that damages are based on the value of the investor's contribution to the product. Although there are a number of other concerns with the current patent system, in consideration of time limitations I want to point out the impact it has on jobs.

Our ability to innovate is being hindered more each day by these patent lawsuits. Last year alone, Micron spent over $30 million defending against unnecessary patent lawsuits. That amount could have been spent instead on nearly 450 well-paying jobs at our company. A study being released today by distinguished economist Everett Ehrlich shows that in the technology sector alone, 100,000 jobs would be created over 5 years if Congress fixes the damages standard. If we do nothing, he concludes that our economy could lose as many as 150,000 jobs over the same period.

The fact is our outdated patent system is slowing development of new products and services and the new jobs they would create. The longer we wait to address these widely acknowledged problems, the more we will drain the innovation potential of industry and deprive our economy of the resulting job creation and growth. It is time for Congress to pass the Patent Reform Act of 2009.

Thank you.

[The prepared statement of Mr. Appleton appears as a submission for the record.]

Chairman LEAHY. Thank you very much.

Our next witness is Philip Johnson. He is the Chief Intellectual Property Counsel for Johnson & Johnson. He advises top company management on patent matters related to its 200-plus operating companies worldwide. Is that correct, 200?

Prior to joining Johnson & Johnson in 2000, Mr. Johnson spent 27 years in private law practice, and he has testified both before the House and Senate Judiciary Committees on this issue. He received his Bachelor's from Bucknell and his law degree from Harvard.

Mr. Johnson, go ahead, please.

STATEMENT OF PHILIP S. JOHNSON, CHIEF INTELLECTUAL PROPERTY COUNSEL, JOHNSON & JOHNSON, NEW BRUNSWICK, NEW JERSEY

Mr. JOHNSON. Thank you, Chairman Leahy, Ranking Member Specter, and distinguished members of the Committee. I am ap-

pearing here today on behalf of Johnson & Johnson and also the 21st Century Coalition for Patent Reform, a coalition of nearly 50 companies who are actively competing in 19 different industry sectors.

We agree with the Committee and with you, Mr. Chairman, that patent reform is all about jobs. Within Johnson & Johnson, we conservatively estimate that the jobs of about 60,000 of our 118,000 employees depend upon our patents. We estimate that over their 20-year lives, each of our patents preserves and protects well over 100 job-years.

During the past 3 years, Johnson & Johnson companies have invested an average of $7.5 billion a year in R&D, or $15 million on average for each patent granted. These R&D expenditures resulted in well-paying jobs for thousands of people throughout the United States.

We want to preserve and enhance the patent system's incentives to invest heavily in R&D so we can keep these jobs and hopefully create many, many more. But to do so in this challenging economic environment, we need to make it clear to inventors and to investors alike that the promise of the patent system will be kept. They need to know it will protect the deserving inventions that come out of R&D and that the resulting U.S. patents will serve as a solid foundation upon which to build future businesses. To accomplish these goals, we need to strengthen, not weaken, the value of American patents.

We can do this by improving the quality of the original patent examination so that the patents issued by our Patent Office are readily and reliably enforceable against those who do not respect them. This should be accomplished by harmonizing our patent system with the rest of the world and by giving our Patent Office a reliable source of adequate funding to get the job done right. S. 515 goes a long way toward accomplishing these goals.

But we should not stop there. A balance should be struck between the public's interest in questioning a patent's validity and the public's desire to induce continued investment in the patented technology. A system that overly favors continuing third-party patent challenges destroys the quiet title that is needed to stimulate further investment.

Our coalition believes that S. 515 comes close to striking the proper balance. It allows an initial period for post-grant opposition, followed by life-of-the-patent re-examinations. But contrary to how S. 515 is now written, our coalition believes that such re-examinations should be limited, as they are now in the current law, to questions based upon prior patents in printed publications. Allegations of prior use or sale are ill-suited for re-examination as patentees will not have the discovery and testimonial tools needed to fairly defend against such belatedly raised claims.

When it comes to patent damages, it makes no sense to base reasonable royalty awards on less than all of the patented invention and less than the patentee has shown was infringed. During the original examination, opposition, re-examination, and then the validity and infringement phases of the trial, all of the elements of the patent's claims are deemed essential. Having thus proven enti-

tlement to protection on the entirety of what is claimed, there is no justification for awarding damages on anything less.

Valuation of what the invention contributes, however, is quite a different matter. Here the question is what a license to use the invention, as the infringer has, was worth. This is best addressed, as the law does now, by discerning what a willing licensee would have paid for a license and what a willing patentee would have accepted at the time just before the infringement began. Where the licensor is a non-practicing entity with no other competitive interest in the field, application of the well-established *Georgia Pacific* factors will normally include consideration of the value of using the invention by comparing it to not using the invention, or to using its closest non-infringing substitute. Such a business-based approach is far preferable to any mechanistic approach, especially one that would systemically undervalue reasonable royalty damages by subtracting out prior-art elements.

The 21st Century Coalition appreciates the invitation to provide our views and looks forward to working with the Committee to improve S. 515 so it will easily and quickly be enacted.

Thank you very much.

[The prepared statement of Mr. Johnson appears as a submission for the record.]

Chairman LEAHY. Thank you.

Our next witness is David Kappos, who is Vice President and Assistant General Counsel for Intellectual Property Law and Strategy at the IBM Corporation. Among his many responsibilities at IBM, he manages its patent and trademark portfolios, is responsible for protecting and licensing IBM's intellectual property worldwide. He received his Bachelor's degree from the University of California-Davis; his law degree from the University of California-Berkeley.

Please go ahead.

STATEMENT OF DAVID J. KAPPOS, VICE PRESIDENT AND ASSISTANT GENERAL COUNSEL, INTELLECTUAL PROPERTY LAW AND STRATEGY, INTERNATIONAL BUSINESS MACHINES CORPORATION, ARMONK, NEW YORK

Mr. KAPPOS. Well, good morning, Chairman Leahy, Ranking Member Specter, and members of the Judiciary Committee. My name is Dave Kappos. I am IBM's chief intellectual property lawyer. I am grateful for the opportunity to testify before this Committee in support of patent reform.

Patent reform is urgently needed. It is achievable, and failure to act will harm our Nation's economy at a time we can ill afford it.

IBM invests more than $6 billion a year in research and development and generates about $100 billion in revenue annually providing products and services to our customers. We have been the leading assignee of issued patents in the United States for 16 consecutive years, and we earn about $1 billion annually in intellectual property-related income. IBM is, therefore, uniquely positioned to promote a balanced patent system that will benefit patentees in all industries and producers and the public. IBM is not a member of any of the coalitions formed to advocate on behalf of particular industries; rather, IBM believes these interests are reconcilable and meaningful compromise can be achieved so that the patent sys-

tem will meet the needs of innovators in all industries, most importantly serve the best interests of the American public.

The nature of innovation has changed. Today we benefit from inventions made possible through highly collaborative and interconnected technologies. Many of the products consumers demand are complex, including contributions from multiple innovations, and incorporate hundreds or thousands of patented inventions. At the same time, many new innovations require investments of unprecedented size to achieve a new single product protected by a single patent. For the United States to remain competitive, our patent system must accommodate all of these innovation models, yet our patent laws have not been significantly updated for over 50 years.

While progress has been made in recent years through judicial reform in areas such as obviousness, injunctions, willfulness, most recently venue, in patent litigation, much remains to be done to restore the balance of our patent system.

The problem of poor-quality patents persists. Uncertain patent rights create speculation and lead to excessive litigation. IBM supports S. 515's approach to improving patent quality, enabling prompt challenge of questionable patents without resorting to litigation and without subjecting patentees to undue periods of uncertainty.

A particular point of contention remains the appropriate standard for reasonable royalty damages determinations. As with other issues that have been resolved, despite competing interests, IBM believes this issue is reconcilable and a balanced solution can be achieved. In IBM's experience, the current legal standard for determining reasonable royalty damages does not provide the certainty needed for modern business to operate effectively. As a result, the precious time of skilled scientists and engineers is too often spent defending against costly and time-consuming litigation instead of creating innovations that drive economic growth.

In reforming the law in this area, we must, nevertheless, be mindful of the fundamental importance of ensuring that patentees are appropriately compensated, or the patent system will fail to provide the incentive innovators require. IBM believes the Supreme Court provided critical guidance in its recent unanimous *Quanta* decision. In addressing the related issue of patent exhaustion, the Court focused on the essential features of the invention to determine if the patentee had received full compensation. An approach using the *Quanta* standard as a starting point will provide the guidance needed to properly compensate the inventor by focusing the damages inquiry appropriately.

For the United States to maintain innovation leadership, our patent system must be in the future what it has been in the past: the best in the world. The need to act is urgent. The goal is achievable, and failure to act will harm our Nation's interests. We urge passage of the Patent Reform Act of 2009.

Thank you.

[The prepared statement of Mr. Kappos appears as a submission for the record.]

Chairman LEAHY. Thank you very much.

Senator Coburn had to leave for something else. He asked if I would put his statement and his questions in the record. Of course,

that will be done. His statement will be in the record, and his questions will be provided to the witnesses.

The next witness is Taraneh Maghamé. She is Vice President for Patent Policy and Government Relations at the San Jose-based Tessera Incorporated. At Tessera, she is responsible for advising company management on various intellectual property and patent issues, as well as handling the government relations activities related to intellectual property law and policy. Prior to joining Tessera, she served as senior counsel at Hewlett-Packard, managed intellectual property litigation at Compaq Computer Corporation, worked in private practice. Ms. Maghamé received her law degree from the Georgetown University Law Center. With full, open disclosure, so did I.

Please go ahead.

STATEMENT OF TARANEH MAGHAMÉ, VICE PRESIDENT, TESSERA, INC., SAN JOSE, CALIFORNIA

Ms. MAGHAMÉ. Thank you, Chairman Leahy, Senator Specter, and members of the Committee.

Tessera is like thousands of other small to mid-sized companies across the United States whose technologies help make consumer products faster, better, and cheaper. Based on San Jose, with offices in Charlotte, North Carolina, it is a publicly traded corporation with more than 400 employees, nearly 300 of which are engaged in research and development. Since our founding in 1990 by three former IBM technologists, our core mission has been to develop innovative technologies, especially in the field of semiconductor packaging.

Last year, we spent 461.6 million in R&D. If you have a cell phone that fits in your pocket, like the one that Mr. Appleton was showing you, then you are using Tessera technology.

In short, Tessera is in the business of innovation and, by licensing its innovations, has made them widely available to millions of consumers. None of this would have been possible without a strong patent system to protect our inventions and reward our innovators. We hold over 900 U.S. patents or patent applications. Maintaining a strong system is essential to our continued success.

The R&D and licensing model that has made Tessera successful is not unique in our country. In fact, small companies generate most of America's innovation and employ more than 80 percent of its workers. Many of these would not exist but for a strong patent system and cannot survive without such a system.

Tessera supports improvements to our patent system, provided the changes strengthen the system and do not diminish the value of patents. We oppose legislation that, while well intended by its supporters, will diminish the value or enforceability of valid patents.

I would like to make three points about the damages section of the bill.

First, the chief argument we hear for the changes in damages law is that Congress needs to stop frivolous lawsuits that are based on bad patents. But bear in mind that damages are awarded only after a patent holder proves in court that a patent is valid and infringed. That is, it is the opposite of a bad patent. Thus, the law-

suits in which patent holders get to this point are in almost all cases by definition non-frivolous. The proposed change does not cure the purported disease.

Second, we are told that Congress should step in because runaway juries are making extraordinarily large damages awards—an assertion that is supported by anecdotes rather than any serious data. Patent cases make up about 1 percent of the cases filed in our Federal courts; 95 percent of the cases are resolved before trial. According to data gathered by Professor Janicke of the University of Houston, the median damages award over the past 4 years in cases where an award is actually made after trial has been $5 million. If all patent infringement cases resolved at trial are taken into account, this number drops to $2 million—not an insignificant amount, but clearly not indicative of runaway juries.

The third and most troubling topic is the impact of the bill on the American economy. It is troubling that in this time of grave economic uncertainty, Congress is looking to change the basic economic structure of our patent system, which today supports a highly beneficial component of the U.S. economy. As noted in the recent book entitled "The Invisible Edge," thanks to America's high-performance innovation economy protected by our patent system, the lion's share of the world's economic value generated by IP now flows to American companies and workers. American IP provides one of the strongest surpluses in our balance of trade accounts.

For example, in 2007, America's IP exports—that is, royalties and license fees we receive from other countries—amounted to $62 billion. The simple fact is that weakening our patent laws would cause a massive and irreversible transfer of wealth from U.S. to foreign manufacturers.

It is vital to understand that the interests of the U.S. economy are increasingly different from the interests of the world's largest global companies. Unlike giant multinationals, which can innovate anywhere in the world, the U.S. economy needs local innovation to thrive. And American innovation, far more often than not, occurs at small companies.

Many of the concerns that led some giant multinational companies to call for a weakening of patent protections have been addressed by the Supreme Court and the Federal Circuit in recent years. In several key decisions, the balance of power between patent holders and patent users has shifted. Standards of patentability and patent rights and remedies have been tightened and narrowed.

The recent court decisions embody comprehensive patent reforms. We urge Congress to allow the judicial reforms to ripen and not to rush legislation before the full import of these decisions is understood.

In closing, Tessera, along with the Innovation Alliance, of which it is a founding member, looks forward to continuing to work with Congress to achieve reform that improves the quality, efficiency, and procedural predictability of the U.S. Patent Office. Our Nation's economic recovery and continued global competitiveness depend upon a strong and predictable PTO.

In our effort to provide constructive comment on this issue, we have made proposals to improve the Patent Office, including meas-

ures to enhance patent quality by devoting greater examination resources to complex applications and to improve the current inter partes re-examination system. We also believe that PTO should be empowered to forgive educational loans carried by its professionals in exchange for 5 years or more of service in order to improve retention rates. Investment in the PTO is an investment in America's economic future.

Thank you.

[The prepared statement of Ms. Maghamé appears as a submission for the record.]

Chairman LEAHY. Thank you very much.

Our next witness is Herbert Wamsley. He is the Executive Director of the Intellectual Property Owners Association based here in Washington. He has held this position since 1983. He is also the editor of the IPO Daily News, a publication that summarizes every precedential patent and trademark opinion of the U.S. Court of Appeals for the Federal Circuit. Prior to his work with the IPO, he served for 18 years in the U.S. Patent and Trademark Office in a number of positions, including Chief of Staff to the Director, and was Director of Trademark Examining. He also received his law degree from the Georgetown University Law Center.

Good to have you here.

STATEMENT OF HERBERT C. WAMSLEY, EXECUTIVE DIRECTOR, INTELLECTUAL PROPERTY OWNERS ASSOCIATION, WASHINGTON, D.C.

Mr. WAMSLEY. Thank you, Mr. Chairman. I appreciate the opportunity to be here today to speak on behalf of the Intellectual Property Owners Association, or IPO. Our members include companies and industries ranging from information technology to consumer products to pharmaceuticals and biotechnology. We are proud to say that all four of the companies on the panel today—Micron, Johnson & Johnson, IBM Corporation, and Tessera—are members of our association. Now if we can just get them to agree.

[Laughter.]

Chairman LEAHY. Please let me know when that happens. It would make my and Senator Hatch's life a lot easier.

Mr. WAMSLEY. We congratulate the Chairman on introducing S. 515 to continue this critically important effort.

I want to say that information technology, pharmaceuticals, biotechnology are among the most important industries in America, and these are the industries that we often think of as the cutting edge, most sophisticated technologies. They are very important members of our association.

I do want to put in a word for some other industries. I for one am tired of hearing that American jobs and the older manufacturing technologies such as automobiles, aircraft, trains, and consumer products, to name a few, are gone forever.

Last week, the AFL–CIO Executive Council had this to say about the automobile industry: "The automobile industry accounts for fully one-quarter of all American manufacturing jobs and output. The industry represents a complex integration of advanced manufacturing processes, technologies, and materials, and is a critical driver of innovation across every manufacturing subsector."

In last week's statement, the AFL–CIO also put in a strong plug for the American patent system. America must have an automobile industry and an aircraft industry and a train industry. We were the world leaders in these industries for 100 years, and there is no reason to give up that leadership.

Mr. Chairman, the way to create jobs in these industries is so obvious—so obvious—world leading innovation. The patent system, made more effective through legislation along the lines of S. 515, can help these traditional manufacturing industries as well as the high-tech, pharmaceutical, and biotech to leap forward in innovation, leading to more jobs in U.S. industry and new strength in the economy.

IPO strongly supports patent reform and a majority of the provisions in the bill. I will comment very briefly on several sections of the bill.

First of all, we need to keep in mind that two major developments have occurred since Congress began working on patent reform. The courts have rendered decisions that have altered the patent system significantly, and we need to review the legislation in light of that.

Second, the budgets in patent departments of many U.S. companies have been slashed drastically, and we believe companies will file fewer patent applications this year. And that needs to be kept in mind.

IPO members are divided over the hotly debated issue of patent damages. We support the first-to-file rule, first-inventor-to-file rule. We have supported the reform of the law of willful infringement and treble damages. It needs to be reviewed in light of the court's subsequent decision in the *Seagate* case. We generally support establishing a new procedure for a post-grant review in the PTO that can be requested within 12 months.

We think S. 515 is going in the right direction. We have some concern about one provision on the post-grant review and inter partes reexamination having to do with public use and on sale.

We have supported changes in the venue statute. We would to see a simpler approach. And, again, there has been recent case law on the subject that should be reviewed.

We do not favor the section on interlocutory appeals. We do not favor giving the USPTO Director authority to set by rule the user fees established by statute. We support adding a provision to the bill on inequitable conduct, and we understand that this topic will receive further consideration from the Committee.

And, finally, we favor the section in the previous bill that was designed to prohibit permanently the diversion of PTO user fees to unrelated Government programs and urge reinsertion in the bill of that section, which included extensive annual reporting and notification requirements to the Appropriations Committee.

Thank you.

[The prepared statement of Mr. Wamsley appears as a submission for the record.]

Chairman LEAHY. Thank you very much.

Mark Lemley is the William H. Neukom Professor of Law at Stanford Law School. And just as an aside, Bill Neukom is a friend

and in past incarnation testified before this Committee on different occasions.

Mr. Lemley teaches intellectual property, computer, and Internet law, patent law, and antitrust. An experienced litigator, he has written extensively on these subjects. He has been before Congress at least a half a dozen times before this. He has received numerous accolades, including being named California Lawyers Attorney of the Year in 2005, one of the 100 Most Influential Lawyers in the Nation by the National Law Journal in 2006. Professor Lemley received his Bachelor's degree from Stanford University and his law degree from the University of California at Berkeley.

Good to have you back here with us. Please go ahead.

STATEMENT OF MARK A. LEMLEY, WILLIAM H. NEUKOM PROFESSOR OF LAW, STANFORD LAW SCHOOL, STANFORD, CALIFORNIA

Mr. LEMLEY. Thank you, Mr. Chairman.

Unlike the rest of the economy these days, it seems, patent litigation is still a booming business. As data from the Stanford IP Litigation Clearinghouse shows, patent owners sued more defendants in 2007 and 2008 than ever before, even though the total number of suits remained constant. Patent plaintiffs won the highest median damages awards ever in 2007. Further, research using clearinghouse data demonstrates the majority of the most litigated patents—the ones that are litigated over and over again—are owned by entities that do not make any product but that simply enforce patents.

Now, there is nothing inherently wrong with either the growth in patent lawsuits or in patent enforcement by non-practicing entities. But a number of the patent rules have given those plaintiffs unfair advantages in litigation, allowing them to enforce dubious patents in favorable jurisdictions, and to use the rules of patent remedies to obtain more money than their inventions were actually worth. Many of those problems resulted from troublesome judicial decisions interpreting the Patent Act, not from the Patent Act itself.

Since Congress began debating patent reform 4 years ago, the courts have acted to fix a number of these problems—problems that were the focus of initial congressional reform. In the *eBay* case, the Supreme Court solved the damages problem in one fell swoop for us, creating a rule that allows industry-specific and case-specific application. In the *KSR* case, the Supreme Court ratcheted up the standard for obviousness, making it easier to weed out bad patents. In the *MedImmune* case, the Court expanded the use of declaratory judgment jurisdiction, and that, coupled with the *Volkswagen* case in the Fifth Circuit and the *TS Tech* case in the Federal Circuit have made the problem of forum shopping less significant. It has not gone away, but it is at least more possible for patent defendants to file in other jurisdictions, and it is easier for courts to transfer cases out of jurisdictions where there is little or no relationship between the parties in the lawsuit. Finally, in the *Seagate* case, the Court effectively solved the problem of abuse and overuse of willfulness.

I think other areas are likely being solved. Inequitable conduct is an example. While there have been cases in which the courts have applied an overbroad rule of inequitable conduct, Federal Circuit decisions in the last year or two—most notably, the *Star Scientific* v. *R.J. Reynolds* case—have drawn an increasingly careful line on inequitable conduct, making it clear both that the law properly does punish people who mislead the Patent Office, but also that it is not appropriate to punish people for statements that might be read to be misleading in the absence of actual proof.

The biggest remaining problem to solve, I think, is damages. The problem is, as has been identified by a number of witnesses in this panel, that courts do not apportion damages based on the contribution of the patentee to the defendant's technology. Instead, the legal rules that we have, the multifactor *Georgia Pacific* test, are open to manipulation. And they are dependent on the way you draft your patent claims.

It should not be the rule that you get more money for the invention of an intermittent windshield wiper if you claim a car with an intermittent windshield wiper on it than if you just claim the intermittent windshield wiper. That makes no sense. It is true that one has a car and one does not, but you did not invent the car. All you invented was the intermittent windshield wiper, and so your contribution, the value you add to the technology, is the value of that windshield wiper. But to get that right, courts have to have an ability to figure out not just what it is you contributed, but what it is that other people contributed to the success of the defendant's product.

The right rule I think is not a rule that weakens patent damages inherently. It is not a rule that strips away anything that the patentees contributed. The right rule is a rule that makes sure that patentees get paid, but that what they get paid is, in fact, proportional to what they contributed to the product.

We have got a number of problems in the court system that allow the damages calculations to go awry. One is the application of the entire market value rule in reasonable royalty cases. That rulemakes sense in the context of lost profits. If my theory is if you had not infringed, I would have sold this product, well, then I would have made all the sales and I would have sold the whole car. But if I am not selling a product, then it does not make sense to say that the entire market value of that product comes from my technology, however important it might be. And doing so leads to a windfall, because once you give 100 percent of the profits from the product to patent owner number one, patent owner number two comes along and says, well, all right, I did not invent the intermittent windshield wiper, but I added a feature to the tires, or I added a feature to the engine, and you have got to pay them, too.

So a patent damages rule for reasonable royalty cases that makes sense, that avoids giving a windfall to patentees, I think has to be one that figures out what it is the patentee actually contributed. It is not subtraction of concept. It is not stripping away anything from the patentee. It is asking what did they give us that we did not have before and compensating them on that basis.

Now, I have a number of other views about particular provisions in the bill. I have indicated some in my written testimony. I think

first to file, post-grant opposition are good ideas. I, like Herb, am concerned about interlocutory appeal because of the delay and the possibility that we will lose settlements of patent cases that we currently have. But rather than go into those in detail, I think I would probably rather reserve time and let the Senators ask questions.

Thank you.

[The prepared statement of Mr. Lemley appears as a submission for the record.]

Chairman LEAHY. Thank you very much.

Mr. Appleton, when Senator Hatch and I introduced the Patent Reform Act last week, I said the Patent Reform Act is about jobs, about innovation; it is also about consumers. You discuss preliminary findings indicating modernizing our patent system would create 100,000 jobs. Would you like to elaborate on that, please?

Mr. APPLETON. Sure. I think, by the way, the study will be available and probably more appropriate for specific detail for other companies in some of that analysis. But if you take Micron as an example, as I noted, we had spent just last year alone about $30 million in patent litigation. And in some ways, my perspective is that it is almost one of wealth redistribution as opposed to wealth creation. And, by the way, I will note, you know—you had noted earlier—I do not remember if it was Senator Specter or yourself, but I am still trying to figure out when you transition from a traditional manufacturer to a modern manufacturer, because my entire career has been in manufacturing, which is now 27 years, and we invest billions per year, and we employ lots of people. In fact, 30 minutes from here, we have a big site, in Manassas. And I do not know if we are traditional manufacturer anymore or a modern manufacturer, but we make lots of product in this country. For us, we invest in both research and development and we invest in manufacturing sites. And when we have to divert dollars to litigation that we think is not appropriate, we cannot take those dollars and reinvest them into R&D. And a good example is we were in litigation with Rambus for 10 years, and there was a ruling in Delaware recently that their document destruction was so great around all of their patents and how they acquired the knowledge, et cetera, that the judge ruled that it just simply not enforceable. Those patents were not even enforceable by virtue of the conduct around getting those patents. But yet we spent money for 10 years on this litigation, and we did not have that money available to reinvest in R&D. In our particular case, that $30 million alone would have been another 450 to 500 jobs for us.

Chairman LEAHY. Thank you. I get the point.

Mr. Kappos, we have opponents of the Patent Reform Act say that companies relying on patents would be harmed by the legislation, so let me ask you this: IBM continues to receive more patents than any other company. I think nearly 400 patents were issued to IBM inventors in Vermont. To put that in perspective, we have a population of 660,000 people. So what do you think patent reform would do to the value of your company? Would it decrease the value, as some opponents say, or would it increase the value?

Mr. KAPPOS. Thank you for that question, Senator Leahy. Unquestionably for IBM, patent reform will increase the value of our company in a number of ways.

Number one, we are an innovation company. We are a technology company at our core. We have inventors making inventions and filing patent applications in every single State represented in this Committee, and many of them. We are fully dependent on the patent system, both to commercialize products in the U.S. and all over the world. We are fully dependent on the patent system in order to license our technologies also.

We believe that there is a tremendous opportunity in S. 515 to increase the value of our company by enabling us, number one, to make more innovative products and services, to get more value from the patent system, and then, last, to avoid the costly waste that we have to make currently on defending abusive litigation.

And just one more comment on that, if I can. In addition to what Mr. Appleton mentioned, abusive litigation costs us tremendously in employee time. In every State represented in this Committee today, we have employees who are spending their time not inventing and not innovating, but defending litigation, helping outside counsel, and it is just a waste of our time.

Chairman LEAHY. And your company depends on R&D, you mentioned. How much do you spend each year on R&D?

Mr. KAPPOS. About $6 billion.

Chairman LEAHY. And, Professor Lemley, let me ask you, also following up on that, you argued in reading your testimony that the current patent rules give plaintiffs unfair advantage in litigation, including allowing them to obtain more money than their inventions are actually worth. You used some examples.

Do you want to elaborate a little bit on those rules that give that unfair advantage and what courts should be doing if they wanted to measure the actual value of an invention?

Mr. LEMLEY. Certainly. I think part of the reason that courts have been reluctant to do it, despite the fact that one of the 15 *Georgia Pacific* factors says you could look at this information if you wanted to, is that it is hard, and neither judges nor, of course, patent owners particularly want this information into the court. So if you have a 3-week jury trial, the jury is focused for 3 weeks on the inventor, on the inventor's story, on the contribution the inventor makes to that product. But the jury never hears about the other contributions to that product. They do not hear about other patents that might have to be licensed. And as a result, it is quite easy for a plaintiff's lawyer to get up and say: Look, the defendant's product is a car. Look, the defendant's product is Microsoft Windows. All I want is 1 percent. That does not sound unreasonable. And, indeed, it does not sound unreasonable unless there are 7,000 different patents that have to be added together at 1 percent each, as turns out to be the case with 3G wireless cell phone technology, for example.

So allowing in information about the defendant's contributions, allowing in information about other patents to try to figure out what the appropriate measure or balance of the patent damages is I think would be a big step in the right direction.

Chairman LEAHY. Thank you.

Senator Specter.

Senator SPECTER. Thank you, Mr. Chairman.

The critical factors, it seems to me, if we are to succeed with legislation, is the issue of the damages. I think we can handle inequitable conduct and venue and second window and the other issues that are presented if we could come to grips and agreement on the damage formulation.

There have been a number of terms used. "Essential features" is a comment which was made by Mr. Kappos. Other comments or definitions, "innovatable features." Another is "specific contribution over prior art." And I would like you today to run the gauntlet here and ask you what language you would suggest, and I would ask you beyond your testimony today to think about it and communicate with the Committee, me personally, with what language you would like to have.

Now, I heard your testimony, Mr. Appleton. You would like to have some apportionment. What language would you offer?

Mr. APPLETON. Well, as probably one of the only non-attorneys sitting at this table here, I am not sure that I am the best person for the technical language in the bill. But, conceptually——

Senator SPECTER. Well, we are starting with you.

Mr. APPLETON. Yes.

Senator SPECTER. We will judge whether you are the best person.

[Laughter.]

Mr. APPLETON. That is what my mother always told me as well.

The simple concept that the inventor is due the value that they actually contribute to the product is a good concept. And whether you define it as apportionment or whether it gets defined as a percentage of the value——

Senator SPECTER. You have answered the question: value actually contributed.

Mr. Johnson.

Mr. JOHNSON. I would say that in the simplest form, where you do not have competing considerations where the damages are involving taking sales, either by proof of lost profits or the like, that what you are looking at is indeed the value contributed by the invention, but that is the entirety of the invention as compared to its closest non-infringing substitute.

Senator SPECTER. Value contributed by the invention.

Mr. JOHNSON. Compared to its closest non-infringing substitute.

Senator SPECTER. Well, that would permit some apportionment then.

Mr. JOHNSON. Well, not exactly apportionment. In the example that was given by Professor Lemley about the windshield wiper, there is not only——

Senator SPECTER. Something less than the entire car.

Mr. JOHNSON. Well, the entire car is improved. It is a better car because it has an improved windshield wiper.

Senator SPECTER. So you want the damages for the entire car?

Mr. JOHNSON. I want the damages for the value that the car has increased because it includes a windshield wiper——

Senator SPECTER. OK, value increased.

Mr. JOHNSON. Yes.

Senator SPECTER. Mr. Kappos? And pardon me for interrupting, but I have got four more witnesses.

Mr. KAPPOS. OK. I will be quick. I would comment first that this is a multi-part problem with a multi-part solution. Gatekeeping, as is in the proposed legislation, is clearly part of the solution and it is very positive. I do not believe there are any particular magic words that are perfect, but I do believe that the essential features concept that was articulated in the *Quanta* case is very powerful.

Senator SPECTER. You are sticking with essential features. OK. Ms. Maghamé.

Ms. MAGHAMÉ. We do not agree with the essential features language. I think it causes a whole slew of other problems to try to use that language. We believe that the gatekeeper approach, not necessarily as it is worded currently in the bill, but one which allows the judge to give better guidance with respect to what factors should be used in determining reasonable royalty, because all of these concerns that have been raised——

Senator SPECTER. So you like the gatekeeper concept.

Ms. MAGHAMÉ. Gatekeeper concept, more direction from the judge, correct.

Senator SPECTER. Mr. Wamsley, I had to step out during your testimony. I am sorry to have missed it. But give us the kernel of the magic words.

Mr. WAMSLEY. Well, Senator Specter, while you were out of the room, I claimed all these people as my members and explained that they do not agree. So I am in kind of a bad place here.

But, you know, I would say while I do not think there is a magic phrase, and I am a little skeptical of my good friend Mr. Kappos finding the language "essential features" in the *Quanta* case, I think that to get the language worked out here, we are going to have to elaborate on what—maybe right in the statutory language—on what the invention is. We are going to have to define the invention, because some people talk about——

Senator SPECTER. What the invention is, you have to define the invention. Well, you have restated my question. Now, how about the answer?

Mr. WAMSLEY. Well, the question I would ask then is——

Senator SPECTER. No, no. No questions. Answers.

[Laughter.]

Mr. WAMSLEY. I am answering the question with a question. We have to decide whether we're talking about the claimed invention. We have in the U.S. Patent and Trademark Office and in the patent possessive a multi-billion-dollar industry in America grappling with the claimed invention. But when we get to determining patent damages, it seems we get away from the claimed invention, and we're trying to define the invention in a different way, and I think we need to try to come up with a definition——

Senator SPECTER. I have got one more witness. I have to read that over to understand what you said.

Mr. Chairman, I ask you to direct the witness, Mr. Wamsley, to answer——

[Laughter.]

Chairman LEAHY. I think the Senator from Pennsylvania is probably the best cross-examiner around here. He can handle that OK.

Senator SPECTER. Mr. Lemley.

Mr. LEMLEY. Two specific answers with statutory language. "Value actually contributed" I think is a good standard, but the other thing I think that needs to be done is to make it clear that the "entire market value" rule applies only in lost profits and not reasonable royalty cases.

Senator SPECTER. Well, thank you all. There is a lot of talent in this room besides the people at the witness table. I would exclude those of us on the dais. But there is a lot of talent, and I would ask that question to everybody here. There are a lot of high-priced lawyers and specialists in this room, and if you have a suggestion on the language, this Committee would be very appreciative.

Thank you, Mr. Chairman.

Chairman LEAHY. Thank you, Senator Specter.

Senator Feinstein.

Senator FEINSTEIN. Thank you very much, Mr. Chairman.

Mr. Chairman, I want to say to you that I held some meetings with the patent attorneys involving the different groups. My State is very much affected by this bill. There are conflicting interests that are major and strong, and, you know, everybody is so genteel here, but I will tell you, they were like tigers coming out of a cage. And the differences were very crisp and very pronounced.

This was, I think, almost 2007. We tried to solve some of the issues, and I sent out a page and a half of draft language on damages. Not one high-tech company responded. It was sent out in April 2007. Intel agreed with it. Amgen, their lawyer, agreed. University of California, the provost, agreed. The 21st Century Coalition agreed. The CEO of Nektar Therapeutics. But high-tech seems to feel that they're going to get whatever they want out of this bill.

For my vote, we have to take care of the universities. I have got great universities in my State. Their patents are extraordinarily important to them. I have great biotech. Their patents are extremely important to them. And I have great high-tech, but no one element of this, in my view, should rule the roost.

I think there needs to be some amendments to this bill. I would like to send this—the language that was sent out April 7, 2007—I would like to send it out again. I would very much appreciate it if people could do me the courtesy of at least responding and not ignoring it. And there is language on damages, on inequitable conduct, and post-grant review. You know, if you do not like it, please say so. If you like it—oh, and venue as well.

But I must tell you, as somebody who likes to solve problems, I feel very concerned because what appears publicly is not what you hear behind the scenes when these groups come in and these companies come in one by one by one, or you get their counsel. Mr. Johnson was present at one meeting. I mean, wasn't it—it was quite novel.

Mr. JOHNSON. Yes, it was, Senator.

Senator FEINSTEIN. This is a very serious matter from my point of view, and, candidly, I am not going to vote for a bill unless there can be reconciliation between the various interests. And that is where I am on it, and I will leave you with that. But if I have a minute, let me ask a question.

On damages, in the most simple terms, high-tech was worried about patent trolls and abusive lawsuits; biotech/pharma, the universities, and small inventors were worried about rules that would limit the value of their patents. So my question of you: Does anybody here have a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?

My suggestion was to require the judge to serve as the gatekeeper, meaning that he has to determine which of the *Georgia Pacific* factors go to the jury, and leave all of the *Georgia Pacific* factors for him to choose from.

So I would like to go right down the line and have some comments on this, and I hope it would be publicly what you say to people privately. Mr. Appleton, do you want to start?

Mr. APPLETON. Thank you, Senator. I think that, first of all, the intent—and I think people get very emotional about this because they care a lot about it. Obviously, it is a passionate subject. And as you so noted, there is the individual contributor and trying to get fair compensation for their invention, and there is the company that has products that have thousands of patents that are applicable to it, and therein lies some of the difficulty.

We have never been opposed to the individual getting fair compensation for their patent, and I think that the Chairman so noted that in our particular case, it is the value of the contribution that is the most important thing to measure. And however we get at a measurement of that I think will be far superior to what happens today.

Senator FEINSTEIN. So you would agree with the gatekeeper concept and the *Georgia Pacific* factors all being before the judge and allowing him to select those that are most applicable to the case at issue.

Mr. APPLETON. We believe the gatekeeper concept can work.

Senator FEINSTEIN. OK. Mr. Johnson.

Mr. JOHNSON. We strongly supported development of the gatekeeper and think that if there is substantial evidence, the judge should allow the *Georgia Pacific* factor that is supported by substantial evidence to go to the jury upon motion of a party, they should exclude those factors where there is not substantial evidence or where the theory is not cognizable at law.

Senator FEINSTEIN. So use the term "substantial evidence."

Mr. JOHNSON. Yes. I think the difference there is that the judge should not sit and decide for the jury how they should decide the case. But he should be sure that the evidence—if it is substantial and in keeping with cognizable law—should go to the jury on that basis.

Senator FEINSTEIN. Could we just quickly go down?

Chairman LEAHY. Quickly.

Senator FEINSTEIN. Quickly. Mr. Kappos, quickly.

Mr. KAPPOS. OK, sure. Thank you. So I would comment that the gatekeeper concept is a positive one. No question about that. It will be helpful.

As I mentioned before, I believe that an approach that keys off of the *Quanta* decision is good because it does enable focus on the economic value contributed by the invention. So take those words,

we are actually not so far apart. I have heard several other people say "economic value."

Senator FEINSTEIN. Ms. Maghamé.

Ms. MAGHAMÉ. Yes, we support that position, and we do not believe that additional language like "economic value" should be added. We think everything is covered in the factors. We just need to make sure that there is significant evidence, substantial evidence, as Mr. Johnson said, to support the factors that go to the jury.

Senator FEINSTEIN. Thank you.

Mr. Wamsley.

Mr. WAMSLEY. Yes, I agree there is support among a lot of the industry, and maybe all of the industries, on the gatekeeper concept. So I think that is a good starting point.

When we get beyond that to "essential features" or "claimed invention," as I was saying to Senator Specter, I do not have the answer.

Senator FEINSTEIN. Mr. Lemley.

Mr. LEMLEY. I believe it is an important step, but I think it is only a partial step. I think it needs to be coupled with more specific language on how one does apportionment and coupled with restrictions on the entire market value rule.

Senator FEINSTEIN. Thank you.

Thank you very much, Mr. Chairman.

Chairman LEAHY. Senator Hatch.

Senator HATCH. Well, thank you, Mr. Chairman, and I appreciate the work that you are doing on this and all other members of the Committee as well. And we appreciate this illustrious panel for coming and sharing your thoughts with us here today.

Mr. Wamsley, since you represent a pretty large swath of inventors and intellectual property owners, let me just ask you this question, because it is a matter of great concern. I am aware that the USPTO is currently experiencing serious financial difficulties. USPTO has collection projections that are extremely sobering.

Under the worst scenarios, the agency projects a loss of up to $130 million in lost collections for fiscal year 2009. I recognize the importance of getting patent applications examined and granted, which in turn produce high-paying, high-quality jobs.

Where is the wisdom of having an omnibus bill that takes close to $12 million worth of fees from the agency's fees, mind you, that are paid by the applicant and should go directly to the expeditious prosecution of the application? Not only are we not willing to once and for all end fee diversion, but now we are trying to take more money from the agency when they have got a serious financial situation on their hands.

I would just like your viewpoint on that.

Mr. WAMSLEY. Well, we support the proposal for a revolving fund that has been made in the past to try to put a lockbox around the fees.

I do not have the latest number from the Patent Office, but with the declining income they have right now, it may be that Congress will have to look at a fee increase. We would be concerned about the effect of a fee increase on our members during this time, but it is something that should be considered. But we believe that is

a decision that should be made by the Congress if there is a fee increase. That is the way it works now. The main fees are set by statute.

But, in any event, the Patent and Trademark Office needs to have access to every penny of its user fees.

Senator HATCH. Thank you. This is a particularly distinguished panel. I wish I had time to ask all of you questions.

Mr. Johnson and Mr. Kappos, you both have strong opinions about how we should address the damages provision. Mr. Johnson, you stated that the recent Supreme Court decision in *Quanta* is not the answer, if I understand what you said, because the case deals with the doctrine of patent exhaustion. Mr. Kappos, you recognize the *Quanta* case deals with patent exhaustion, but state that it provides critical guidance needed to properly compensate the inventor by focusing the damages inquiry appropriately.

Now, Mr. Johnson, why can't the *Quanta* case be used as a starting point, as Mr. Kappos suggested? I understand that you believe Congress should wait for the Federal Circuit to issue an opinion in the *Lucent* case. Obviously, if the law were clearer, there would not be any need for a delay. But I believe the legislative body should be providing clear direction on what the law is, especially when the underlying law is not clear.

So I would like your best advice on this, both of you.

Mr. JOHNSON. Senator, the problem with using an essential features approach is that it results in a subtraction from what is claimed, what the Patent Office has granted as the definition of the invention. After the definition of the invention as approved by the Patent Office has survived all of the post-grant challenges and has been used in the test for validity and has, in fact, been used to prove infringement, essential features elements would award damages only on a portion of what was proved.

Now, you might ask Mr. Kappos, if I could suggest, would he be happy if the plaintiffs in his cases were able to prove infringement against him by showing only that he used the essential features? Usually not. And the lack of parallelism makes it very unfair to patent owners because they are held to a higher standard to prove liability, and then instead of getting what they are entitled to, it would be taken away by parsing the invention down to something less.

That is not to say they should be overcompensated, but it is to say that redefining the patent claim to be something smaller than it is is not the right methodology to use.

I think on the broader concept, there is much more agreement, but that broader concept does not—the right way to do it is not to redefine the invention.

Senator HATCH. OK. Thank you.

Mr. Chairman, could I just ask a question of Mr. Appleton?

Chairman LEAHY. Of course.

Senator HATCH. It will be a short question.

Mr. Appleton, I appreciated your comments about the post-grant review provision and that you accept the current approach as a reasonable compromise. But could you tell me why you preferred what you called the "stronger post-grant review provision" that we had in the prior bill last year or last Congress?

Mr. APPLETON. I am having a little bit of trouble hearing you, Senator.

Senator HATCH. Sorry. This microphone is not working well, but I was wondering—you know, you have agreed to the post-grant review. You have said you can accept that. But could you tell me why you thought the prior post-grant review language was better that we had in the last bill?

Mr. APPLETON. Well, I would have to go back and recall the last bill to think about it. I think predominantly it had stronger language about the process of the post-grant review, and we think that it would have, I think, a more in-depth process of looking at that post-grant review, and as a result be a more robust process.

Senator HATCH. Sure, OK.

Thank you, Mr. Chairman. I appreciate it.

Chairman LEAHY. Thank you very much, Senator Hatch.

Senator Klobuchar.

Senator KLOBUCHAR. Thank you very much, Mr. Chairman. Thank you to all the witnesses. I come from Minnesota, a State that cares about our patent system. We gave the world everything from the pacemaker to the Post-it Note. And so like Senator Feinstein, we have many different interests in our State when it comes to this.

One of the questions, as I listened to all this, we have not really discussed the fact that we are in something of an economic crisis here, and I was just wondering if the changing economy has changed any of your positions, if it has the potential of bringing people closer together on this issue, and just your view of the effect of the economy on this issue. Maybe, Mr. Appleton and Mr. Johnson, you want to answer that question.

Mr. APPLETON. Thank you, Senator, and we have a design center, by the way, in Minneapolis as well.

I think what the current economy has done more than anything else, it has brought focus——

Senator KLOBUCHAR. If you have designed something that begins with a P, I will bring it up with pacemaker.

[Laughter.]

Mr. APPLETON. I think that the current economy has more than anything else brought focus to the dollars that are spent around our companies, and in particular, the dollars that we now spend on patent litigation as opposed to being able to spend those in a manufacturing plant or on R&D.

As we try to readjust for the economics of the company—in other words, we are all trying to restructure to deal with falling demand and a tough environment—what becomes more apparent is that the dollars that are attributed to this issue are rising in comparison to the rest of our expenditures. And that is how it gets highlighted.

Senator KLOBUCHAR. Mr. Johnson.

Mr. JOHNSON. I think it has made a tremendous difference in how we look at it because it highlights the fact that the patent system drives jobs. It is important to look at the efficiency of the system, the cost of litigation and the like. But that is dwarfed by the amount of private capital that the patent system can attract to generate new jobs.

We had experience like this back in the 1970s when we were in a malaise, and Congress passed several pieces of legislation, including the ones establishing the Federal Circuit, and the result of that was that business realized patents were going to be valuable. They invested a tremendous amount of additional capital in R&D, and we had a sustained period of prosperity. We can do the same now and we need to do the same now because markets are shrinking, it is riskier than ever. What we need to do is step forward and tell American business that they can count on investing in R&D because their investments will be protected and lead to fairer returns in the long run.

Senator KLOBUCHAR. And are you concerned that any of these changes could lead to more foreign companies coming in and infringing?

Mr. JOHNSON. Absolutely. Some of the damages provisions that have been proposed have been cited in some articles published in China and India where they look forward to growth in jobs because they think it will be easier to come in and copy our patented American technology. And that concerns me greatly because, much as we would like the global economy to grow, we really would like the American economy to grow. We think that is critical for everyone.

Senator KLOBUCHAR. Mr. Lemley, you talked about some of the court decisions, like the *Volkswagen* case with the venue issue, and I just wanted a response from maybe you, Mr. Appleton, or someone, if you think that Mr. Lemley pointed out that he felt that that helped to resolve some of those issues related to that. Do you think that that is true? Or do we need to do more?

Mr. APPLETON. OK. Can you be more specific in your question?

Senator KLOBUCHAR. Well, Mr. Lemley pointed out a court decision, a recent court decision, that talked about how it placed some limitations—maybe you want to describe it more—on the forum issue, which made it more difficult for people to bring cases in a certain area, and they had to show more connection to the area. Is that right?

Mr. LEMLEY. Yes, the cases in question are a Fifth Circuit en banc case called *Volkswagen* and then a Federal Circuit case called *TS Tech*, both of which make it clear that courts in the Fifth (Couple,) most notably the Eastern District of Texas, the largest patent forum, have an obligation to transfer cases out to other jurisdictions if there is no strong connection to the forum.

Senator KLOBUCHAR. And I was unfair to ask you, the non-lawyer, this very legal question. I really did not mean to set you up. I can see that Mr. Kappos wants to answer as well.

Mr. KAPPOS. I would be glad to help with that. Our observation coming off of the *Volkswagen* case and the Federal Circuit cases and district court cases that are going on on top of it is that does point the venue statute in the right direction, interpretation of venue. And we think that law can further develop by court decisions in a positive direction, reducing the need for legislation in that area.

Senator KLOBUCHAR. That is good. And I guess just along those lines, my last question would be of you, Mr. Wamsley. You know, you are in a difficult position with such dynamic members with differing points of view, and I appreciate your association's willing-

ness to work with this Committee to try to find some potential consensus language. Have you seen instances—I am trying to get us there with the forum issue, but have you seen instances where your members have been able to agree on some of these things that should lead you to believe that we could try to develop the kind of consensus that Senator Feinstein was referring to?

Mr. WAMSLEY. On a note of optimism, Senator, I believe that damages at this point still seems to be the intractable issue. And I believe that every one of these other issues can be worked out. Some of them, I believe with a little more discussion, there will be a consensus that we still need the provision in the bill. A couple of the issues, possibly venue would be one, in light of the recent court cases, we don't need anymore.

But as you can see, until we can find the answer on damages, we cannot get all these others to fall in line. But I think they can.

Senator KLOBUCHAR. I understand. And, again, where I am coming from here is just the economic difficulties we are facing right now. The more that we can do to try to put American interests first here and to try to make sure that we do everything we can to try to come up with a consensus that would help our business community as a whole and American innovation would be a good thing. So thank you to all of you.

Chairman LEAHY. Thank you.

Senator Kyl.

Senator KYL. Thank you, Mr. Chairman. I think all of us share Senator Klobuchar's concerns, and I would also associate myself with Senator Feinstein's comments. My objective, like Senator Feinstein's, is not to take sides, but to try to get a rational and equitable result that is good for American industry.

As most of you know, I introduced my own legislation to try to bridge some of the differences, and I think Mr. Wamsley is correct that a lot of it boils down to the question of damages. That is the intractable, very difficult situation.

I also wanted to comment that I think most of us share Senator Hatch's view that we have to find a good source of funding for the Patent Office in order to protect all of our industry.

My question, first of all, is actually for Mr. Kappos and Mr. Lemley since you have endorsed the essential features standard. One of the benefits of using case law is the precedential value of the application of articulated law in the cases to specific facts, and this is a very fact-intensive kind of dispute that we are involved in here. So I am concerned, since there has been an acknowledgment that the *Quanta* computer case had nothing to do with valuation of a patent or damages, calculation of damages, that it is easily used for this purpose.

Are there any cases—I would address that, first of all, to the two of you. Are there any cases in either the Federal Circuit or other Federal circuits or the district courts or the Supreme Court that use the essential features test to calculate damages in patent infringement cases? Do you know of any?

Mr. KAPPOS. Sure. I would be glad to help with that question.

First of all, I would say that the *Quanta* case in the exhaustion doctrine does actually deal with valuation of a patent. It is all about determining whether the patent holder has been paid his or

her due for the patent, which is fundamentally a question of valuation.

Going beyond *Quanta*, though, you only have to look within the last few days for a Federal Circuit case, the *Nortron* decision out of the Federal Circuit, that involves assessing whether a person who was alleged to be an inventor actually was an inventor. And in that case, the Federal Circuit again looked at the claim and the portions of the claim that the inventor claimed to have invented and whether those were central to the invention or not, and judged that the person was not an actual inventor.

I do not believe the words "essential features" were used in that case, but that is application of the essential features doctrine very clearly without using those precise words.

If you go back in time, there are many Supreme Court cases, Federal Circuit cases, and other cases that use the essential features doctrine. This is not a new doctrine. It is well known in the law.

Senator KYL. If I could, I asked my staff to see if they could find any, and I have got a pretty good staff, and they could not. So I would appreciate your citations for the record, if you would, please. You said there are many cases that use the essential features doctrine for calculating damages. My staff could find none. So if you have those citations, it would be useful. Would you please provide them to us?

Mr. KAPPOS. Sure. We would be happy to do that.

Senator KYL. Are there any other comments on that point?

[No response.]

Senator KYL. Let me just ask how it would relate to the *Georgia Pacific* list that does have a substantial amount of case law, applying it to different fact patterns. If you had an essential features doctrine set forth in the statutory law, if we were to adopt that as a baseline standard for valuing a patent, how would it affect the use of the *Georgia Pacific* factors? And I would just ask maybe starting with Mr. Johnson and then down through Mr. Kappos.

Mr. JOHNSON. Well, it would not be good for the application of *Georgia Pacific* at all. One of the problems in talking about this, as you point out, is it is factually very complex. And it is easy to think about a simple example, but in the real world there are not simple examples. And the beauty of the *Georgia Pacific* approach is it takes into account the business realities that we face out in a complex world. If you start pulling out one factor and try to write some type of statutory language, you might handle the particular problem that you have in mind but create a myriad of other problems, which right now are being handled very well by the case law.

Senator KYL. Are you saying there would be essentially a conflict between the factors set forth in the *Georgia Pacific* case if you were to also overlay that with an essential features method for calculating——

Mr. JOHNSON. Absolutely.

Senator KYL. Would that be correct, Mr. Kappos?

Mr. KAPPOS. Well, let me take a different view of that. I do not think that application of essential features does violence to *Georgia Pacific* at all. I think essential features runs across a number of the factors in the *Georgia Pacific* case, including the famous appor-

tionment factor that has been much debated, but not only that factor.

Senator KYL. Mr. Wamsley, what do you think?

Mr. WAMSLEY. Well, I think essential features—obviously, we have a disagreement. Going back to whether it is the claimed invention, which is the definition in the patent document, often a very technical definition, or whether it is parts of that claimed invention that are essential features, I do not think the *Georgia Pacific* case really addresses that, and I do not have the answer.

As far as going beyond the gatekeeper language, there has been some talk about trying to codify the 15 features of the *Georgia Pacific* case by actually putting them in the statute then perhaps grafting something else onto it. But that is so complex that I do not think that is a promising approach.

Senator KYL. Mr. Chairman, the time flies when you are having fun. If any of the other witnesses had a comment on that, that would be fine with me.

Chairman LEAHY. Please go ahead. I am trying to be very flexible with time on this subject.

Senator KYL. Sure. Thank you.

Mr. Lemley, you did not have a chance yet.

Mr. LEMLEY. If I may, Senator, I am not sure whether essential features is the right answer or not. I will say that I think the *Georgia Pacific* factors as something that is simply handed to the jury does not work. It does not work because if you give the jury a 15-factor test with no explanation of the factors, which is the way it normally works, the jury has the freedom to do essentially whatever it wants.

So more specific guidance I think both in the form of a gatekeeper role, but also in the form of the language that Senator Specter elicited from most of us, the value actually contributed, would be substantially——

Senator KYL. The more traditional guidance I think—I mean, I think everybody is unanimous with respect to that.

Mr. LEMLEY. Absolutely. And then I agree with you, Senator, that allowing that sort of general language to then be articulated in court decisions is the right way to go.

Senator KYL. Thank you, Mr. Chairman. I will not indulge my colleagues with—but I did have some other questions for the record, and, in particular, I skipped over you, Ms. Maghamé, but you are the only witness that represents a small startup company, and I really wanted to get your views on how all of this would affect you. I will ask those questions for the record unless the Chairman would let you give me a 30-second answer.

Chairman LEAHY. You have got a question. I want to submit my further questions for the record, but if you want to ask one, go ahead.

Senator KYL. Well, just if you had a thought as to how applying an essential features kind of damage calculation would have on small startup companies like the ones that you represent?

Ms. MAGHAMÉ. Well, I do not see that essential features language to be any different than what we have seen in the bills before in terms of prior art subtraction, inventive contribution. I think it causes all the same problems, and I think essential fea-

tures does not add anything to the *Georgia Pacific* calculation that can be done using the factors that are supported by the evidence, as we discussed in the concept of the gatekeeper language.

Basically what it would do is it would, as I mentioned in my opening statement, diminish the value of patents by artificially reducing the damages that would be awarded.

Senator KYL. Mr. Chairman, I thank you for holding this hearing, and I want to thank each of the panelists. And I would like to submit some questions to you. I appreciate that what we derive from all of this is that these are very complex and difficult questions, that there has to be some room for agreement here, and that we need to work together to try to find that with the good work and advice of the experts you have assembled here.

Thank you.

Chairman LEAHY. Thank you, and you know we have talked about *Georgia Pacific*. I think at a Federal Trade Commission hearing on patent reforms we heard from a professor at the University of Houston questioned why we are allowing the court to use the 15-factor *Georgia Pacific* test. He said that may be why we are getting such erratic results. Senator Klobuchar was here earlier, but a University of Minnesota Law School professor also said it is time to update that.

I think, Mr. Appleton, you wanted to add something further on the question of valuing patents, putting an economic value. Am I correct?

Mr. APPLETON. Yes, I think just to emphasize, I think clearly the damages, as already noted by Mr. Wamsley, is the significant issue for us.

You know, with respect to Senator Feinstein's asking earlier about the gatekeeper language and does that work, our coalition, I think for the record, historically has been opposed to prior language, but predominantly because it did not have enough guidance or parameters around contribution of the patent to whatever the product was. And, you know, we still feel that way. Whether you call them a gatekeeper or whether it is a judge or some other entity making those decisions, clearly we think something can work so long as there was sufficient guidance around that it needed to be in relationship to the contribution of the patent to the value of the product.

Chairman LEAHY. Mr. Appleton, you also said in your testimony that nearly 90 percent—and tell me if I am reporting this correctly. With the increase in the number of licensing demands and lawsuits against technology companies, 90 percent of those demands are coming from non-practicing entities. Is that correct?

Mr. APPLETON. Yes, that is correct.

Chairman LEAHY. And our patent law and patent system was put together long before anybody thought up a business model based on patent infringements from those types of entities. Is that not correct?

Mr. APPLETON. Yes, that is correct.

Chairman LEAHY. Is it time to update?

Mr. APPLETON. That is correct. We need to update, and I think in concert with what Mr. Lemley said, that often in this case, the majority in our particular case of the patent litigation come from

companies that do not make our products, have never made our products, and have often been using patents that they have acquired with which to go after patent litigation.

Chairman LEAHY. I will withhold my time. Senator Whitehouse has rejoined the panel.

Did you have questions, Senator?

Senator WHITEHOUSE. Very briefly.

Chairman LEAHY. Then I know Senator Feinstein will have questions following you.

Senator WHITEHOUSE. First of all, let me thank you, Chairman, for holding this hearing. This is a very important piece of legislation of those who have lived through it. You have lived through it longer than I have, but over the past 2 years, we certainly saw a lot of heavy slugging being done, and I am glad we are taking it up again under your leadership.

I would like to ask Mr. Appleton and Mr. Kappos if you could describe what you think this bill would do in terms of the atmosphere for innovation in the tech sector and if there is any way you are capable of quantifying that, even if it is a little or a lot, versus the hard number. I would appreciate kind of a scaling answer to the question as well as the description of what the sort of atmospheric change would be.

Mr. APPLETON. Thank you, Senator. As I had noted earlier, I apologize, in your absence, we I think from two different perspectives and others on the panel have responded in this way:

First of all, we had noted that last year alone we had spent over $30 million on just patent litigation, and I would note that I am a member of the High-Tech CEO Council which is comprised of the eight leading American technology companies, and that includes IBM and Motorola, Intel, HP. And, collectively, when we looked at this data, last year alone, the ten of us combined spent over $300 million on patent litigation. Clearly, those dollars do not go into manufacturing jobs. We are a large manufacturer in the United States. They do not go into research and development. And I would note that probably over 95 percent of all of our research and development by Micron is done here in the United States. But those dollars are simply not available. They are going to attorneys and litigation.

Senator WHITEHOUSE. Is that your litigation expense number?

Mr. APPLETON. That is just our litigation expense number.

Now, in addition to that, when we do the calculations on the jobs that would be created if just we had those dollars, we would have created another 450 to 500 jobs by having those dollars available for us to invest in our manufacturing or R&D operations. And that number gets very large, according to other studies. In fact, I had noted earlier there was a study that was released today that goes to that issue, and we would be happy to submit that as well for your review.

Senator WHITEHOUSE. Thank you.

Mr. Kappos.

Mr. KAPPOS. Yes, thank you, Senator Whitehouse. I would just add to that that I believe that for IBM the atmosphere for innovation will be clearly improved by S. 515. It will leave us with more opportunity to innovate, more opportunity to create and capture

that innovation. By adding clarity to the patent system, it will increase the value of patents in aggregate, not decrease the value of patents. And by increasing the value by having clarity around the system, it will make it possible for us to capture more value out of innovation and not less value out of it. So I think that there is a win all around.

Now, relative to quantifying numbers of jobs, that is, of course, a very hard thing to do. I think Mr. Appleton already provided the best data I know of, which is measured in many thousands of jobs across the country.

Then the last thing I would comment on that I noticed for IBM is the time that employees spend supporting wasteful litigation, much of which could be liberated. In addition to all the litigation time that Mr. Appleton mentioned, if we can get our employees innovating, creating inventions, rather than spending time assisting lawyers in defending litigation, we will be a long ways ahead.

Senator WHITEHOUSE. And in the context of international competition, how does that play out?

Mr. KAPPOS. In the case of IBM, we do the vast majority of our innovating right here in the U.S., essentially across all 50 States, many thousands of inventions, I think probably more than represented by all the other companies on this dais combined. And in doing that, the vast majority of it is in the U.S., so that the value of additional innovation for us largely comes right back into this country.

Senator WHITEHOUSE. And that would confer an advantage to U.S.-based companies in international competition, correct?

Mr. KAPPOS. Absolutely.

Senator WHITEHOUSE. Thank you, Chairman.

Chairman LEAHY. Thank you very much, Senator Whitehouse.

Senator Feinstein, you said you had one more question you wanted to ask?

Senator FEINSTEIN. I do, Mr. Chairman.

Chairman LEAHY. Please go ahead.

I am just reading the 15 *Georgia Pacific* factors. I actually think they are pretty good, and I think it is you, Mr. Johnson, I am going back to something you said in 2007 about an inhaler for—what was it?——

Mr. JOHNSON. I believe it was an insulin inhaler.

Senator FEINSTEIN. Okay. That just by changing a few molecules, you can aerosolize insulin, which then means that somebody does not have to make injections perhaps several times a day. Now, that is an enormous advance for insulin users for diabetes.

If you compare that with the windshield wiper, the intermittent windshield wiper, I mean, maybe that is a huge thing. I do not think it is. But I understand the high-tech concern that somebody comes along and over-emphasizes the value of their little addition, and it differs from your industry's concerns because it is the health and welfare of people, and very often the slightest change makes a major difference.

So it seems to me, as I look at these *Georgia Pacific* factors—which I actually think we should codify. I think they are excellent. Then it is sort of set, and maybe give the judge the choice. But there clearly ought to be one factor that points out the relative dif-

ferences that can happen, particularly in medicines, which increase greatly their value as opposed to something that is part of a microchip and relatively minor.

I would love to have some commentary on that. Maybe I am all wet, but that is the way I look at it.

Mr. JOHNSON. Senator, the fact that a small change can have a major difference is not limited to biotechnology or medicines. A small change can have a dramatic effect in all fields. It can also have a very minor effect in all fields. It depends on the invention, and it depends on the setting.

You are absolutely right. You gave us two very good examples. But, for example, a small change in semiconductors that perhaps increased their speed by 10 times could, in fact, have a very big financial impact.

So it seems to me that the best thing to do is to look at the economic impact of that change. It may, indeed, not be very large in the windshield wiper added to the car, and, in fact, in real life, the amount of damages awarded were less than $1 per car. They were——

Senator FEINSTEIN. Let me just quickly—because I got your point and it is a good point. So you would say that number six of the *Georgia Pacific* factors is adequate?

Mr. JOHNSON. I am sorry. I do not have them memorized by number.

Senator FEINSTEIN. "The effective selling the patented specialty in promoting sales of other products . . .; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales."

Mr. JOHNSON. Yes, I believe——

Senator FEINSTEIN. Is that sufficient?

Mr. JOHNSON. I believe that that is one of the factors that should be considered. Yes, I agree with you, the *Georgia*—depending on the competitive setting, one or more of the *Georgia Pacific* factors need to be considered, and I think normally it is more than one.

Senator FEINSTEIN. I see a couple of others. So you all feel that is adequate?

Ms. MAGHAMÉ. If I may, Senator?

Senator FEINSTEIN. Please.

Ms. MAGHAMÉ. I was just looking at the factors, and I think even number 9, the utility and advantage of the property, and a number of other factors, which is exactly why we have been advocating for the flexibility that you are talking about and we totally agree with; because I think the key here is—two points I would like to make.

First of all, when we are talking about determining the contribution, we also need to be conscious of the fact that there is a royalty rate that is associated. Whether you take the entire market value or the value of some component, you still need to use a percentage of that, and that is why I have an issue with the premise of——

Senator FEINSTEIN. Just quickly, because others want to——

Ms. MAGHAMÉ. Sure.

Senator FEINSTEIN. Would you give the judge the ability to decide which factors to submit to the jury?

Ms. MAGHAMÉ. Yes, because those factors need to be supported.

Senator FEINSTEIN. Would everybody agree with that or not? Everybody looks nonplussed.

Mr. JOHNSON. If supported by substantial evidence, I think they should go to the jury.

Senator FEINSTEIN. If supported by substantial—and who would determine the substantial——

Mr. JOHNSON. Well, in the typical case, you would have an expert or a party propound their damages contentions, and then it would be subject to a motion to keep one or more of the contentions from going to the jury. The judge would look at the contentions, see if they are supported by substantial evidence; and if they are not, the judge would exclude those from going to the jury.

Senator FEINSTEIN. Thank you.

Thank you, Mr. Chairman.

Chairman LEAHY. Thank you.

Senator Cardin, did you have any questions?

Senator CARDIN. No, Mr. Chairman. I just really want to thank you for conducting this hearing. This is an extremely important subject, and you have been extremely patient in allowing for the record to continue to develop. And I am hopeful that we can move legislation, and I hope that we get it right. And I think today's hearing will help us achieve those goals.

Chairman LEAHY. Thank you. I have talked with both Republicans and Democrats in the Senate, and I think there is a consensus we will move legislation this year, the earlier the better. I have also talked with the White House with the broad outlines of what we are talking about, and I am convinced the President will sign it. I do not think we can continue with a 50-year-old system. There are a number of good things in it, but a lot has to be brought into this century. Along with that are ways to find out how the office can also pay for itself and do this.

So we will keep the record open if anybody wishes to add—Ms. Maghamé?

Ms. MAGHAMÉ. If I may, can I make one point?

Chairman LEAHY. You wish to add. You do not want to wait for the record. Go ahead.

Ms. MAGHAMÉ. One point I would like to make because I think it is so critical on the jobs issue. That has been kind of our focus in this hard economic time. I am interested to see the study that Mr. Appleton refers to that they have commissioned, but would hope that other studies that have come out recently also be taken into account in terms of what an apportionment-based system of damages could do in terms of loss of manufacturing jobs.

Chairman LEAHY. I understand that, but I also understand that we are going to—I wear another hat, and that is as Chairman of the Foreign Operations Subcommittee on Appropriations. And I am adding money and pushing hard for the Department of State to have more experts in our embassies around the world on intellectual property matters. We have agricultural attaches, we have our intelligence people, our military attaches, we have others—all important. But I think if we are going to continue our ability to compete with the rest of the world, we have also got to be able to take steps on intellectual property and enforcing our own laws abroad, but also getting our trading partners to understand that it is in

their best interests to have a system that actually works to enforce not only our patents but for us to enforce theirs.

At a time of a worldwide economic crisis—and it is—there is a tendency, I believe, for countries and for leaders in the countries to develop short-term protectionism. In my mind, that is the worst thing we could possibly do, certainly for the largest economic engine in the world, in the United States. Protectionism can come in many different ways. It can come, among other things, by other countries using their courts and their patent forums to block us because they feel we are not being consistent, or can at least make that claim. At the same time, we have got to be able to say not only are we consistent in what we do, but we expect the same from the people we trade with.

That is not something that is going to be settled today by any means, but we have to have a very clear law in our country. We have got to have something where it is inventors who are protected and not just litigators. And it has got to be done in such a way that we continue to innovate. But then we have got to be able to protect our innovations worldwide, as other countries can be expected to protect theirs.

We have a number of countries that will enforce their own intellectual property laws when it suits them, and not otherwise. I think of one major trading partner who made a big thing of having bootlegged—whether it is movies or recordings or computer programming, they make a big thing of having—out in front of the factory, having road graders go and crush all this to say, "See how we are enforcing," while the 18-wheelers are in the back of the place loading up with their latest shipment of the exact same bootlegged equipment. That has got to stop. In the long term, it is in their best interests to stop it. It is all ours to do it.

I realize that is not the subject of what we are doing here, but I just want—you know, it is—to ensure we will get—there will be new patent legislation with these hearings and why I appreciate so much all of you testifying, is that we know that there are differing views of what should be in there. But ultimately there has to be just one piece of legislation, and we are trying every way we can to hear all of you. But then we have got to make sure that overseas our patents are also protected, our patents and our copyrights and our trademarks are all protected, because every one of you has represented and spoken and worked with people whose patents are not just used here in the United States, they are used worldwide. And we have a lot of inventors in my State. We have a lot of companies that are heavily involved—in fact, I think on a per capita basis we export more than any State in the Union. But I know how much they are frustrated by countries that do not uphold our patents and try to point to loopholes in our patent laws. We will close those loopholes, but then they are going to have to do the same.

We stand in recess.

[Whereupon, at 11:55 a.m., the Committee was adjourned.]

[Questions and answers and submissions for the record follow.]

QUESTIONS AND ANSWERS

Steven R. Appleton, Chairman and Chief Executive Officer, Micron Technology, Inc.

On behalf of the Coalition for Patent Fairness

Responses to Questions for the Record

Hearing on The Patent Reform Act of 2009

Senate Committee on the Judiciary

March 10, 2009

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Response of Steven R. Appleton, Micron Technology, Inc., to Written Questions

Questions posed by Senator Feinstein

1. Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO?

   Yes. I believe strongly that legislation is essential for three reasons: to improve the quality of patents issued by the PTO and to present meaningful post-issuance opportunities to challenge the validity of patents that should never have been issued; to realign patent damages law to reflect the true economic value of an inventor's contribution; and to modify the litigation system in order to allow defendants a fair opportunity to fight unjustified claims in a forum having a reasonable relationship to all parties to the suit.

2. Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed to be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?

   As the hearing demonstrated, damages calculation remains a critical, unresolved issue. Existing case law has muddled the distinction between awards based on a patent holder's lost profits, and those based on a reasonable royalty. Court-created standards used to quantify reasonable royalties are both numerous and loosely defined, and are too often presented as a do-anything-you-want grab-bag to uncomprehending juries. Legislative clarification of the standard for calculating reasonable royalty damages is critical in order to eliminate the confusion inherent in the current system. Because the courts created the present quandary, we should not expect them to implement a permanent solution, nor can this economy afford the wait.

   Venue is a second issue as to which there remains substantial disagreement. Today's rampant forum shopping is unjustified and unfair and litigation occurs in forums far removed from the location of witnesses, documents and parties. The Federal Circuit's recent decisions in this area are an incomplete solution and provide no lasting guidance on where the "clearly more convenient forum" is. In addition, those who exploit patent infringement claims are already devising schemes to circumvent these guidelines (by, for example, setting up shell companies in jurisdictions in which they wish to file lawsuits). Only Congress can address the issue comprehensively. In addition, the Federal Circuit itself declared that patent venue is not a question unique to patent law and, hence, the venue law of the regional circuit should govern every case. That approach guarantees widely divergent results that depend on the forum in which the case is originally brought. Congress must legislate here to ensure uniform venue standards that apply nationwide to all cases arising under the patent laws.

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Although the Federal Circuit has addressed the issue of willfulness, Senator Leahy's bill recognizes the often transitory duration of judicial solutions. The bill codifies the salient provisions of this recent case law to ensure a more lasting duration. There appears to be consensus regarding this issue.

Micron recognizes a general consensus on adoption of a first-to-file patent system, but believes the bill lacks a key protection that is included in other first-to-file systems – prior user rights. The addition of this feature is essential to ensure that conversion to the first-to-file system cannot be used as a trap; without it, inventors will be forced to file patents for anything that might possibly be patentable in order to preserve their rights against a subsequent inventor who happens to be the first to file an application.

Inequitable conduct and best mode continue to be contentious issues. We do not believe that any change in current law is necessary or appropriate with respect to these topics.

Post grant review appears close to resolution. We support adoption of the House approach. It is particularly important that this new administrative process not be limited to considering only written documentation of prior art. The areas in which patent quality appears to have been especially poor are the ones in which there is relatively little prior art. Limiting the post-grant process to written prior art – and not permitting consideration of evidence that the claimed invention was in use or on sale – will therefore make it less useful in the very areas in which it is most needed. There may be some other modifications of the bill's language on post-grant review that are necessary to ensure that the process have its intended effect.

Micron strongly supports a permanent end of fee diversion and believes there is a general consensus on this point.

Finally, there is a consensus that the applicant quality submission provision will impose significant burdens on applicants without providing compensating benefits.

3. Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?

   Micron believes that a system of general rules that apply uniformly across all patents and all industries is strongly preferable to a system that provides special exemptions to "favored" industries. That said, Micron is open to exploring whether there is a way to distinguish among different industries.

4. Please provide comments on whether Senator Feinstein's legislative language is workable.

   I have attached a copy of a letter sent to Senator Feinstein in March 2009 by the Coalition for Patent Fairness that addresses her proposed legislative language in detail.

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5. Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from?

   Micron believes that judges have always had the responsibility to be a "gate-keeper" of the evidence that finds its way to the jury. Hence we support the gate-keeper idea, but believe that clarification of the Georgia Pacific standard is a critical complement to that procedural reform. Impartial experts agree that the Georgia Pacific standard provides no real guidance; without clarification of that standard, parties will "game" the gatekeeper system by providing enough evidence about enough different factors to require the judge to put a broad array of factors before the jury – which still will lack any guidance about how to apply the particular factors and how the factors relate to one another. And, because the confusion will continue, so will the exploitation of that confusion by parties filing unjustified infringement lawsuits. That means that the drain of resources away from research and development and job creation will continue.

6. If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any other policies where there is a compromise solution and not address damages?

   As I discussed in my testimony, the current economic crisis makes it essential that Congress act to stop the diversion of billions of dollars into litigation and unwarranted settlements and away from research and development and job creation. Failure to address this issue will not just mean many thousands of jobs lost today, but will also hinder America's technological leadership in the future.

7. Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you support this new language? If not, why not?

   Micron generally supports the House approach. We believe it appropriately balances all of the relevant interests in creating a process that enables the PTO to apply its expertise to an assertion that a patent should not have been issued. In that connection, it is important that the administrative process not be limited to considering only written documentation of prior art. The areas in which patent quality appears to have been especially poor are the ones in which there is relatively little prior art. Failure to allow consideration of evidence that the claimed invention was in use or on sale will make the post-grant process much less effective in eliminating unjustified patents, and could in addition result in duplicative proceedings.

8. Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued?

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Yes, if fee diversion is prevented and the fees for post-grant proceedings are sufficient to cover related costs. Numerous other administrative agencies oversee similar types of proceedings and there is no reason why PTO cannot do so as well.

9. What is needed to address the backlog at PTO?

In addition to near-term implementation of the provisions of the bill discussed above, confirmation of a PTO Commissioner with demonstrated management experience who will focus on reforming the agency's procedures to make them more efficient and effective.

Question posed by Senator Hatch

More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the Patent Code, which currently allows reasonable attorney's fees in *exceptional* cases. Section 505 of the Copyright Statute gives courts the *discretion* to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Do you think this would have any kind of deterrent effect on weeding out weak claims?

It seems clear to me that increasing the economic costs/risks associated with a course of action would result in fewer people deciding to pursue that course of action. It is not clear to me how much of an effect that principle would have on patent litigation based on weak patents. The possibility that a judge *might possibly* award fees to a prevailing defendant will certainly give some plaintiffs sufficient incentive to settle rather than litigate, but others would remain willing to roll the dice.

Questions posed by Senator Coburn

1. S. 1145, the precursor to S. 515 (the Patent Reform Act of 2009) included Section 15, which would have provided for a legislative end to diversion of USPTO user fees. Do you and the organization you represent support the concept of a permanent end to USPTO fee diversion?

Both Micron , and the Coalition for Patent Fairness, strongly support ending fee diversion. The PTO needs assured access to sufficient resources to end the backlog on applications, which harms our country's competitiveness.

2. If the answer to question #1 was generally "yes," do you and the organization you represent support a provision like Section 15 to also be added to S. 515?

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Yes, we believe an end to fee diversion should be included in the legislation enacted by Congress. In addition, PTO should be given authority to set fees through a rulemaking process.

3. Section 15 of S. 1145, mentioned above, included the following accountability and transparency provisions: Section 15(d) Annual Report, Section 15(e) Annual Spending Plan, Section 15(f) Annual Audit, and Section 15(g) Annual Budget. Do you believe that the aforementioned provisions provide adequate accountability and transparency so that you and your colleagues in your related field will have enough information to review PTO management of your fees and alert Congress with concerns? If not, what other accountability and transparency provisions do you think should be added?

   These provisions should enable effective oversight of PTO spending.

4. This bill is a big fight about winners and losers and there are high stakes involved. How does Congress strike the proper balance to protect intellectual property but also protect the ability to create innovative products and industries?

   Current law is deterring innovation one of the key areas in which the United States has led the world – technology innovation. Companies that are world leaders in innovation, including in patent grants, are being forced to cut back on research and development in order to meet their skyrocketing litigation costs. Innovation is being hurt today, and will continue to suffer, unless Congress clarifies the damages standard for reasonable royalty. The clarification that we seek, moreover, will not harm legitimate claims – it simply forces courts to consider the value of the invention apart from the context in which it is claimed in the patent and thereby prevents use of the current rules to coerce unjustified settlements.

5. What changes would you suggest be made to provisions in S. 515 related to post grant review?

   The post-grant provision should be clarified so there is no change in current law regarding the ability of administrative proceedings to continue while a related judicial action is pending on appeal. Otherwise, huge inefficiencies will be introduced into the process, with administrative proceedings stopping, but then perhaps starting again if a case is reversed on appeal.

6. Do you think PTO has the capability to administratively manage the provisions in S. 515 related to post grant review?

   Yes. Numerous federal agencies oversee administrative adjudicatory proceedings and there is no reason why the PTO could not do so as well.

7. What issues should the Senate address in S. 515 related to enhancing patent quality that is not addressed in S. 515?

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Enacting a bill that addresses all of the key areas covered in S. 515, and adds the prohibition on fee diversion discussed above, will go a very long way toward promoting a significant increase in patent quality.

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QUESTIONS FOR THE RECORD
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

Questions for all witnesses:

1. Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO?

Mr. Johnson's Answer:

Yes. Legislation that would ensure that the USPTO was adequately funded (so that it could develop and implement long-range plans to address the quality and pendency challenges it faces) and make the patent laws more objective and transparent by eliminating the subjective issues (adoption of first-inventor-to-file, elimination of the "best mode" requirement) would improve the patent system and the quality of patents being issued.

2. Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed to be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?

Mr. Johnson's Answer:

Some of the issues in S. 1145 have been obviated by judicial decisions –

Venue – remedied by the Fifth Circuit's decision in *In re Volkswagen of America, Inc.* and the Federal Circuit's decision in *In re TS Tech Corp.* holding that cases must be transferred to locales where there is a considerable nexus to the forum, and

Willfulness – obviated by the Federal Circuit's decision in *In re Seagate* that abandoned the former "duty of care" standard in favor of the higher "objectively reckless" standard.

And other issues in S. 1145 may soon be resolved by judicial decisions –

Damages – clearly the most toxic issue in S. 1145, it may be moving toward resolution. While the Coalition for 21st Century Patent Reform remains of the mind that the case has not been made for changing the law on reasonable royalty damages, we are willing to support the adoption of "gatekeeper" provisions to ensure that district court judges have clear guidance on the application of the law. However, as noted by Senator Specter, this entire issue could be eliminated by the Federal Circuit when it delivers its

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opinion in *Lucent Techs. Inc. v. Gateway, Inc.* later this year. Thus, one way or the other, an acceptable solution to this issue seems possible.

Inequitable conduct – the need to address the abuses of the "inequitable conduct" defense in patent litigation is undeniable for the reasons expressed by the National Academies: the defense injects unnecessary cost, complexity and uncertainty in patent infringement lawsuits. As with the damages issue, however, the Federal Circuit is acutely aware of this problem as recently acknowledged by Judge Linn in his concurring opinion in *Larson Manufacturing Co. v. Aluminart Products Ltd.* and will very likely address this issue in the near future.

Some highly desirable proposals enjoying widespread user support, such as ending fee diversion and eliminating best mode, could only be categorized as issues by virtue of their not yet being included in the bill, but hopefully this will be corrected in markup.

Some proposed changes that were opposed by almost all users, such as patent marking and applicant quality submissions, have been dropped from the bill and thus are no longer issues. Still other proposals for reforming the patent law such as first-inventor-to-file and post-grant review remain in the bill and are, with a few modifications, broadly supported.

This leaves only interlocutory appeals as an issue. Because giving litigants an unfettered right to bring interlocutory appeals on all claims construction rulings would compound and delay already-complex patent litigation, it remains an issue. Nonetheless, a right to bring interlocutory appeals could be envisioned if appropriately limited.

3. Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?

Mr. Johnson's Answer:

The TRIPS treaty, to which the United States is a signatory, requires non-discrimination in the application and enjoyment of patent rights.[1] Even without the TRIPS prohibition, discrimination in our patent laws by industry or business model would serve as a dangerous precedent to other countries that would quickly enact legislation discriminating against products and technologies originating in the United States. Accordingly, although it might be possible to write provisions that would discriminate based on different industries or business models that would be consistent with our obligations under TRIPS, to do so would be unwise and contrary to our national interest.

4. Please provide comments on whether Senator Feinstein's legislative language is workable.

[1] Article 27 requires that "patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced."

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Mr. Johnson's Answer:

Yes, Senator Feinstein's proposed language is an eminently workable approach to solving the reasonable royalty damages issue.

5. Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from?

Mr. Johnson's Answer:

Our Coalition is willing to support the gate-keeper approach in order to ensure that the jury is instructed only on damages factors that are legally cognizable and supported by substantial evidence. When substantial evidence as to one or more of such factors is proffered, we believe that the Seventh Amendment precludes a judge from deciding to withhold it from the jury based upon his/her own weighing of its probative value. The gate-keeper language suggested by Senators Feinstein and Specter meet these criteria.

6. If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any other policies where there is a compromise solution and not address damages?

Mr. Johnson's Answer:

Promptly adopting first-inventor-to-file, eliminating the best mode requirement, expanding the opportunity for the public to submit information to patent examiners, and ensuring adequate and stable funding for the USPTO should be priority items for reforming our patent laws. Other provisions should only be included if broadly supported compromises could be agreed upon, but the search for such compromises should not delay the enactment of the provisions needed now to allow the Office do its job better.

7. Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you support this new language? If not, why not?

Mr. Johnson's Answer:

We did find that the post-grant review in H.R. 1908 as passed was preferable to that contained in S. 1145 as reported, as well as S. 515 as introduced. H.R. 1908 would have expanded the basis for reexamination to include written statements of the patent owner filed in a proceeding before a Federal court or the Patent and Trademark Office in which the patent owner had taken a position on the scope of one or more patent claims. The post-grant review was limited to the twelve-month period following patent grant.

While S. 515 generally follows the same scheme, it would expand reexamination to allow challenges on the grounds of "public use or sale" in the United States more than 1 year

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prior to the date of the application for a patent in the United States. Allowing such challenges to be raised many years after a patent has been issued will severely disadvantage patentees. Adding prior public sale or use challenges in reexamination proceedings initiated many years after the alleged acts took place will not provide a fair proceeding for patent owners.

8. Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued?

Mr. Johnson's Answer:

The backlog at the USPTO's Board of Patent Appeals and Interferences has grown dramatically in the last several months as more applicants are appealing what they perceive to be ill-founded rejections by patent examiners. In addition, the history of the handling of reexamination proceedings by the Office does not bode well for taking on the new post-grant and reexamination responsibilities contained in S. 515. Since the Office has not demonstrated an ability to handle these responsibilities, there is obviously concern about its ability to handle the revised administrative review procedures – whether it manifests itself in a reduction of quality or in increased pendency.

9. What is needed to address the backlog at PTO?

Mr. Johnson's Answer:

There are two actions that are fundamental to addressing the backlog at the USPTO:

a) The selection of a knowledgeable and experienced manager to lead the Office. This person must not only have a solid grasp of patent operation, but he or she must have experience in managing a large, complex organization. Familiarity with IT issues, human resource issues, and political and diplomatic skills are also very desirable.
b) The Office must be given the resources necessary to master the challenges it faces. This means that the fee revenue of the Office must be quarantined for use only by the Office to process the applications for which it was paid.

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THE HONORABLE ORRIN G. HATCH
U.S. Senate Judiciary Committee
"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
March 10, 2009

Question for the panel:

More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the Patent Code, which currently allows reasonable attorney's fees in *exceptional* cases. Section 505 of the Copyright Statute gives courts the *discretion* to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Mr. Johnson's Answer: Our Coalition believes that strengthening the current attorney fees provision, as for example by incorporating language similar to the Copyright Act, would discourage frivolous suits, and encourage meritorious ones. It was to deter such behavior that we suggested incorporating language along the lines of the "loser pays" provision that you proposed in S. 3818. Such a provision would be particularly beneficial to individual inventors and small businesses that have smaller, meritorious claims that are often not brought because the cost of attorney fees eats up most, if not all, of the recoveries they might reasonably expect. In addition, it may be helpful to make the award of attorney fees mandatory in certain kinds of cases, such as cases where inequitable conduct is alleged.

Question for the panel:

Do you think this would have any kind of deterrent effect on weeding out weak claims?

Mr. Johnson's Answer: Yes, it would definitely reduce the institution of suits based on weak claims. In an effort to provide a quantitative response to your question, I conducted a survey of patent attorneys practicing within Johnson & Johnson, and those in private practice at some of the patent-oriented law firms we retain. In response to the question, "What do you think the impact would be of requiring courts to award attorneys fees to the prevailing party in every instance where inequitable conduct is pled?" 88% of the responses received indicate there would at least be "some reduction" in inequitable conduct pleading, while 46% of the responders answered there would be at least a "considerable" reduction in such pleading.

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Question for the panel:

In this current fiscally difficult climate, is there something more that we could do to keep our patent system strong? As you know, people either are not filing or choosing not to prosecute existing patent applications.

I don't need to tell you what that does to the revenue stream at the USPTO, and consequently, what impact that will have on our economy.

What are your thoughts on restoring the USPTO with monies that were lost due to the past practice of fee diversion?

Wouldn't that send a strong signal that our country recognizes the vital role that IP and research and development play for all sectors of our economy?

What are your thoughts?

Mr. Johnson's Answer: There is indeed something more that could be done to keep our patent system strong, and ensuring that the USPTO has adequate resources to carry out its responsibilities would be high on that list.

It would be very fitting if, in addition to including anti-diversion language in S. 515 to ensure that the Office could retain and use all of its fee revenues for the purposes for which they were paid, Congress restored the $750 million in fee income that it withheld from the USPTO for the twelve year period from 1992 through 2004. Many of the current problems experienced by the Office can be directly traced to its inability to hire the examiners needed to keep pace with the increasing workload during that period and to its inability to make the necessary investments in its infrastructure. Moreover, restoring these diverted funds at this juncture, when the USPTO is experiencing a drop in fee revenues due the economic downturn, would mitigate the adverse consequences that would otherwise occur.

Finally, the restoration of the diverted funds would send a strong signal to our trading partners that patent systems are not to be used as cash cows.

Question for Mr. Phil Johnson, Johnson & Johnson:

For years I have been arguing if we are serious about enacting comprehensive patent law reform then we must take steps to ensure that the inequitable conduct doctrine is applied in a manner consistent with its original purpose: to sanction true misconduct and to do so in a proportional and fair manner. Inequitable conduct reform is core to patent reform, as it dictates how patents are prosecuted years before litigation. The inequitable conduct defense is frequently pled, *rarely* proven, and *always* drives up the cost of litigation tremendously.

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Under current law, any perceived transgression of the patent owner is being painted as *fraud*. If an inequitable conduct claim wins, a valid patent will be held entirely void, and the infringer walks away without any liability. There is virtually no downside for the infringer to raise this type of attack. This is why inequitable conduct challenges are raised in nearly every patent case.

1. How do inequitable conduct claims add complexity and expense to your litigation proceedings?

Mr. Johnson's Answer: The assertion of an inequitable conduct claim substantially increases the cost and length of a patent litigation. Defendants eager to assert such a claim begin by taking far-reaching documentary and testimonial discovery, which results in the collection of vast amounts of information. Because the USPTO does not want applicants to submit less relevant or cumulative information, there is always much more information collected in discovery than was, or should have been, submitted to the USPTO. Defendants then analyze the differences between the information collected and that submitted, and develop contentions that certain of the information not submitted was material to the examination (and should have been submitted), and/or that certain of the information not submitted was inconsistent statements made by the patentee to the USPTO (and was thus withheld).

Because a successful showing of inequitable conduct also requires proof of a specific intent to mislead or deceive the USTPO, additional evidence is also sought on this issue. On very rare occasions, direct evidence of specific intent is found, as for example in a contemporaneous writing or the like, in which case the likelihood of success of this defense is increased. But in the overwhelming majority of cases, there is no such direct evidence, leaving defendants to resort to circumstantial evidence, or to inferences that the materiality of the information itself supports an inference of specific intent.

To defend against such allegations often involves the hiring of expensive experts, extensive motion practice, and a prolonged or separate trial directed to the inequitable conduct allegation. Because the transactions at issue have always taken place in the distant past, the involved witnesses almost always have no present recollection of their states of mind at the time.[1] They are therefore left to defend themselves by referring to their standard practices or routines at the time, and their present day beliefs that they never had a specific intent to deceive or mislead the USPTO.

In the event the court finds inequitable conduct, post-trial motions inevitably follow, as does an appeal to the Federal Circuit.

[1] There is no statute of limitations on allegations of inequitable conduct. It is thus not unusual for the inequitable conduct trial to take place 10 to 15 or more years after the alleged withholding or misstatement. In Hatch-Waxman cases it is not unusual for inequitable conduct trials to take place as much as 20 years after the relevant time period.

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In the event inequitable conduct is established, the case is normally deemed "exceptional" and attorney fees are awarded to the defendant. On the other hand, if the patent owner successfully defeats a claim of inequitable conduct, the case is not normally deemed "exceptional" and no attorney fees are awarded.

Question for Mr. Phil Johnson, Johnson & Johnson:

> I've heard that people have a real fear of an inequitable conduct claim in future patent litigation.
>
> How real is that fear?
>
> How does it impact your patent application prosecution?

Mr. Johnson's Answer: Patent attorneys who have been active in preparing and prosecuting patent applications have a very real fear of being *falsely* accused of having perpetrated inequitable conduct. In our survey, 45% of the responding attorneys reported that they worried "a lot, but not every day" or "every day" about such false accusations, while an additional 40% reported that they worried "some, from time to time, but not a lot," about them.

This fear stems from the fact that most of these attorneys know, or know of someone in the profession, who has been falsely accused. Studies of such allegations in connection with Hatch Waxman ANDA-related cases indicate that generic manufacturers accuse over 75% of branded products of being protected by patent(s) alleged to have been inequitably procured. Of Johnson & Johnson's drug products challenged in ANDA-related litigation, about 60% of these products have faced inequitable conduct accusations, even though none of these IC allegations has ever been successful.

Assertions of ill-founded allegations of unprofessional conduct are a disservice to the patent system, to our judiciary, and to the patent profession. They serve to undermine public confidence in the patent system, and bring years of needless heartache to honest practitioners who work hard to do their jobs right in a very difficult and technically complex field.

In the same survey, about half of the responding attorneys estimated that, because of the existence of the inequitable conduct doctrine, a substantial amount (10-20%) or more than a substantial amount (20%-50+%) of work is created beyond that which is fairly necessary for a complete, high quality patent examination. This additional work relates to the citation of cumulative or less relevant prior art that is nonetheless submitted for fear that, if not submitted, a later litigant will contend that its withholding is an IC violation. These additional citations bog down the patent examination process, and make it more difficult for all involved to improve the quality of patent examinations.

In addition to adding work to prosecution, the existence of the inequitable conduct doctrine chills attorneys' willingness to volunteer their views on the significance of cited references, which

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views would likely also improve the patent examination process. The concern is that later litigants may allege that the expression of such views somehow misled the examiner away from other pertinent portions of these references, from other references, or from other disclosures in the prior art. If such views are never volunteered, they can never be second-guessed by later litigants.

The existence of the inequitable conduct doctrine, which is a creation of the courts, also stands as a hurdle to the ability of the USPTO to manage its docket of patent applications.

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Post-Hearing Questions for the Record
Submitted to All Witnesses
From Senator Tom Coburn

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
Before the Senate Judiciary Committee
March 10, 2009

Senator Coburn's Question:

1. S. 1145, the precursor to S. 515 (the Patent Reform Act of 2009) included Section 15, which would have provided for a legislative end to diversion of USPTO user fees. Do you and the organization you represent support the concept of a permanent end to USPTO fee diversion?

Mr. Johnson's Answer: Yes. Ensuring adequate, predictable funding for the USPTO is perhaps the single most important step Congress could take to enhance patent quality and begin to bring the backlog under control. It would enable the Office to develop a long-range strategic plan to address these problems, something it has not been able to do with year-to-year budgeting necessitated under the existing appropriations process.

Senator Coburn's Question:

2. If the answer to question #1 was generally "yes," do you and the organization you represent support a provision like Section 15 to also be added to S. 515?

Mr. Johnson's Answer: Yes.

Senator Coburn's Question:

3. Section 15 of S. 1145, mentioned above, included the following accountability and transparency provisions: Section 15(d) Annual Report, Section 15(e) Annual Spending Plan, Section 15(f) Annual Audit, and Section 15(g) Annual Budget. Do you believe that the aforementioned provisions provide adequate accountability and transparency so that you and your colleagues in your related field will have enough information to review PTO management of your fees and alert Congress with concerns? If not, what other accountability and transparency provisions do you think should be added?

Mr. Johnson's Answer: While the adequacy of the actual reports can only be judged once they have been prepared, the requirements of paragraphs (d) through (g) provide a sound starting point.

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Senator Coburn's Question:

4. This bill is a big fight about winners and losers and there are high stakes involved. How does Congress strike the proper balance to protect intellectual property but also protect the ability to create innovative products and industries?

Mr. Johnson's Answer: Congress should move promptly to enact those provisions of the pending patent reform bills that will strengthen the ability of the USPTO to promptly issue valid patents. This includes the elimination of subjective elements in US patent. This would be achieved through adopting the first-inventor-to-file system, eliminating the "best mode" requirement, providing that USPTO fee revenues will only be available to process patent and trademark applications, and expanding the opportunity for the public to submit information to the USPTO before examination. Other proposals, those which have proven to be very controversial, should not be allowed to delay the enactment of those broadly supported reforms listed above that will enhance patent quality. Rather, such controversial reform proposals should be subjected to further hearings and reflection to determine whether proposals broadly acceptable to all stakeholders can be found.

Senator Coburn's Question:

5. What changes would you suggest be made to provisions in S. 515 related to post grant review?

Mr. Johnson's Answer: Section 5 of S. 515 should be amended to eliminate the possibility of challenging patents in reexamination on the basis of prior public use or sale. Allowing challenges on the basis of public uses or sales that allegedly occurred many years before patent grant, without guaranteeing the right of the patent holder to take discovery and cross examine witnesses, would be unfair to for patent owners and allowing such discovery would unreasonably delay the conclusion of such proceedings.

In addition, proposed new § 328 in Section 5 should be amended to retain the presumption of validity set forth in 35 U.S.C. 282 to challenges under the new post-grant procedures in S. 515, and proposed new § 329 in Section 5 should be amended to allow patentees to propose a reasonable number of substitute claims for each challenged claim.

Senator Coburn's Question:

6. Do you think PTO has the capability to administratively manage the provisions in S. 515 related to post grant review?

Mr. Johnson's Answer: While the Office has a competent and dedicated staff of patent professionals, the demands that the new post-grant review procedures would place on them should not be underestimated. The Board of Patent Appeals and Interferences has recently experienced a growth in the backlog of cases, and the Office has struggled with timely processing of reexaminations for many years. Limitations on government salaries will make it difficult to attract and retain the number of skilled patent attorneys that will be needed to

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implement all of the responsibilities that S. 515 will add. This will also depend on the selection of an appropriately qualified individual as Director.

In all events, Congress should ensure that post-grant opposition proceedings do not begin until the USPTO has the present capability to implement them successfully. The USPTO has had, and is having, difficulty in successfully instituting workable *inter partes* proceedings. *Inter partes* reexamination proceedings are exemplary – since 1999 when Congress enacted the authorization to conduct these proceedings, not one contested proceeding has been completed, and the times estimated for such proceedings exceed six years. Successful implementation of the proposed post-grant opposition system is dependent upon first successfully implementing the first-inventor-to-file provisions of S. 515, a process that itself can only fairly be applied to patent applications first filed under this new set of patentability rules is implemented. In the meantime, the USPTO should direct its principal focus to improving its examination quality, to reducing its examination backlog and to resolving the problems stemming from the sharp decrease in funds resulting from the current, sharp drop in application filings.

Senator Coburn's Question:

7. What issues should the Senate address in S. 515 related to enhancing patent quality that is not addressed in S. 515?

Mr. Johnson's Answer: The single most important omission in S. 515 that will impact patent quality is the absence of the provision that you successfully had added to S. 1145 – the anti-diversion language that would guarantee that the USPTO could retain and use its fee revenues for the purposes for which they were paid. While we have noted a number of perfecting amendments in our answers to the preceding questions, this is clearly the most important "missing piece."

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QUESTIONS FOR THE RECORD
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

Questions for all witnesses:

1. Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO? Yes

2. Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed to be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?

   In a number of areas such as venue and willfulness, progress has been made through judicial reform to restore balance to our patent system. However, numerous issues remain unresolved. Given the pressing need for reform to ensure that our patent system promotes economic growth and helps create jobs, Congress must act. S. 515 addresses the issues that most urgently warrant reform.

3. Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?

   IBM believes a balanced solution for reasonable royalty damages can be achieved and recommends the approach outlined in David J. Kappos' letter to Members of the Judiciary Committee, dated March 19, 2009, a copy of which has been made part of the hearing record. IBM's proposal calls for creation of a framework consisting of a strong gatekeeper provision, guidance based on the accepted legal principle set forth in the Supreme Court's unanimous Quanta decision[1], and application of the entire market value rule (EMVR) only where the invention is "**the** basis for customer demand" for the entire product.

4. Please provide comments on whether Senator Feinstein's legislative language is workable.

   Senator Feinstein has made two legislative proposals for determining damages: (1) a gatekeeper provision plus codification of the so-called 15 Georgia-Pacific factors[2] and (2) a gatekeeper provision plus language that states, in part, that "[a] reasonable royalty shall reflect the economic value fairly attributable to the infringer's use of the claimed invention as embodied in the infringing product or process at the time of the

[1] Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109 (U.S. 2008)
[2] Georgia-Pacific v. Unites States Plywood Corp., 318 F. Supp. 116 (S.D.N.Y. 1970)

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infringement." . . "the court will direct the jury to consider any other specific relevant factors or methodologies" . . . [based on the evidence] . . . including . . . the entire market rule, convoy sales, or comparable licensing." The "gatekeeper" language is an improvement over existing law. However, the additional language in both provisions is not acceptable.

Under proposal (1), codifying the Georgia Pacific factors will not address overcompensation of patentees for the use of an inventive component contained in a complex multi-component product. Professor Paul Janicke, in a recent presentation at a Federal Trade Commission hearing, described the current standard for determining reasonable royalty damages as the "The *Georgia Pacific* grab bag", stating it "could cause runaway juries" and it places "[n]o controls on how the logic should go". In addition, codifying the Georgia Pacific factors necessarily excludes courts from considering other relevant factors.

Proposal (2) would improperly focus damages awards on what has been claimed in the patent rather than what was invented, by codifying the term "claimed invention". This is an inflexible approach that will harm certain industries, especially the information technology (IT) industry. In the IT industry claims are often drafted to include, in addition to the invention, other non-necessary elements included for the purpose of aligning the claim language with products incorporating the invention as a component. In contrast, the flexible "essential features" formulation derived from Quanta would achieve appropriate compensation for different types of inventions, regardless of how they are claimed. Also, the phrase "the entire market rule, convoy sales, or comparable licensing" standing alone is problematic because it elevates these factors or methodologies without defining them.

The approach outlined in Mr. Kappos' March 19th letter provides sufficient guidance to properly compensate the inventor for the value of the invention, while at the same time giving courts the discretion and flexibility to consider the appropriate facts and circumstances in reaching a reasonable royalty determination.

5. Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from? See response to question 4.

6. If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any other policies where there is a compromise solution and not address damages? IBM believes a balanced solution for reasonable royalty damages can be achieved. See response to question 3.

7. Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you support this new language? If not, why not?

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IBM supports S. 515's approach to post-issuance administrative review proceedings to allow the public to bring forward relevant information about whether a patent was properly issued. S. 515's approach will increase the quality of patents and will provide a low cost alternative to litigation. The bill provides the ability to challenge a patent in a post-grant review proceeding for one year following issuance based on a broad array of grounds related to patentability. The public can bring forward relevant information after one year through an "improved" version of the existing Inter Partes reexamination proceeding. The improved Inter Partes reexamination proceeding will no longer prevent a challenger from going to court at a later time on an issue that was not raised in the proceeding. The grounds for bringing information forward under Inter Partes reexamination are much narrower than under post-grant review, minimizing any concern about harassment.

8. Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Yes. Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued? No.

The U.S. Patent and Trademark Office (PTO) successfully manages several administrative review proceedings, including Ex Parte reexamination, Inter Partes reexamination, and Interference proceedings, as well as "ordinary" patent prosecution and appeals by applicants to the Board of Patent Appeals and Interferences. IBM believes the PTO will be able to successfully administer the post grant review and "improved" Inter Partes reexamination proceedings in S. 515. Inter Partes reexamination proceedings should remain unchanged from the perspective of the PTO, and the PTO currently administers Interference proceedings that contemplate the submission and consideration of a broad range of evidence in determining the fact-intensive question of priority of invention.

9. What is needed to address the backlog at PTO?

Passage of meaningful patent reform legislation and careful, creative management at the PTO will address the backlog. There are two crucial reforms in S. 515 that enable the public to assist the PTO in making patentability determinations. These reforms encourage the public to come forward with relevant information about a patent or application not previously discovered or disclosed. The first reform is the post-grant review/Inter Partes reexamination solution described above. The second, "preissuance submissions by third parties", creates an opportunity for the public to submit prior art to the PTO during patent prosecution along with commentary regarding the relevance of the prior art to the patent application under consideration. This important and broadly supported change will be highly effective in raising patent quality.

As shown by the success of the PTO's current Peer Review pilot program, the fundamental shift in modern industries toward collaborative innovation can be harnessed to review patent applications. Collaborative communities are thriving today and their collective knowledge can be directed to bring forward prior art information relevant to

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the examination process. The Peer Review program could simply be expanded if this reform is enacted. The pilot has already proven its effectiveness in helping examiners and improving patent quality. Approximately one third of the patent applications in the pilot have been rejected by examiners based on at least one reference submitted to the PTO through the pilot.

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THE HONORABLE ORRIN G. HATCH
U.S. Senate Judiciary Committee
"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
March 10, 2009

Question for the panel:

More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the Patent Code, which currently allows reasonable attorney's fees in *exceptional* cases. Section 505 of the Copyright Statute gives courts the *discretion* to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Do you think this would have any kind of deterrent effect on weeding out weak claims? IBM supports measures that would reduce spurious claims in patent cases. The threat of awarding attorney's fees would likely deter some of these claims. IBM defers to the judgment of the Senate as to how best to address this issue in legislation.

Question for the panel:

In this current fiscally difficult climate, is there something more that we could do to keep our patent system strong? As you know, people either are not filing or choosing not to prosecute existing patent applications.

I don't need to tell you what that does to the revenue stream at the USPTO, and consequently, what impact that will have on our economy.

What are your thoughts on restoring the USPTO with monies that were lost due to the past practice of fee diversion?

Wouldn't that send a strong signal that our country recognizes the vital role that IP and research and development play for all sectors of our economy?

What are your thoughts?

IBM recognizes the potential impact of a reduced revenue stream at the U.S. Patent and Trademark Office (PTO). Passage of meaningful patent reform legislation and careful, creative management at the PTO will address this issue. First, S. 515 would grant the PTO the authority to adjust fees to "reasonably compensate the Office for the services performed". Second, there are two crucial reforms in S. 515 that enable the public to assist the PTO in making patentability determinations. These reforms encourage the public to come forward with relevant information about a patent or application not previously discovered or disclosed. The first reform is the post-grant review/Inter Partes reexamination solution. The bill provides the ability to challenge a

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patent in a post-grant review proceeding for one year following issuance based on a broad array of grounds related to patentability. The public can bring forward relevant information after one year through an "improved" version of the existing Inter Partes reexamination proceeding. The improved Inter Partes reexamination proceeding will no longer prevent a challenger from going to court at a later time on an issue that was not raised in the proceeding. The grounds for bringing information forward under Inter Partes reexamination are much narrower than under post-grant review, minimizing any concern about harassment.

The second, "preissuance submissions by third parties", creates an opportunity for the public to submit prior art to the PTO during patent prosecution along with commentary regarding the relevance of the prior art to the patent application under consideration. This important and broadly supported change will be highly effective in raising patent quality.

As shown by the success of the PTO's current Peer Review pilot program, the fundamental shift in modern industries toward collaborative innovation can be harnessed to review patent applications. Collaborative communities are thriving today and their collective knowledge can be directed to bring forward prior art information relevant to the examination process. The Peer Review program could simply be expanded if this reform is enacted.

Question for Mr. David Kappos, IBM Corporation:

Mr. Kappos, the Patent Reform Act of 2009 provides for preissuance submissions of prior art by third parties. It is my understanding that you have had some experience with this concept through your work with the USPTO on the Peer Review Pilot.

IBM worked with NY Law School Professor Beth Noveck to create and organize the project, provided the original seed funding, and continues to serve on the project steering committee. We fully support the project.

Could you give us your thoughts on the pros and cons of the Peer Review Pilot?

The patent examination process assumes that examiners are aware of and fully comprehend all "prior art" worldwide. This assumption is not correct – no one person can possibly be in possession of all knowledge. Particularly in view of the accelerating growth of the knowledge base, the assumption does not even hold true for limited fields of technology.

The current U.S. patent system discourages third party submissions of prior art to patent examiners. The system makes it difficult for interested parties to learn of published patent applications, charges a fee for submissions, and does not permit submission of any explanatory language or markings – even yellow highlighting. As a result, the USPTO receives fewer than 100 such submissions per year.

The Peer Review project solves all of the above problems, increases transparency of the patent system, and helps examiners to learn of and understand the best prior art. Public collaboration is employed to improve the quality of patent examination. Fewer meritless patent claims issue, relieving the public of the need to divert resources away from innovation to defend

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against those claims. The value of patents is enhanced because of greater confidence in robust patent examination.

There are no cons. All concerns that were raised at the project outset have been addressed successfully and have not proven problematic. The pilot has clearly validated the project.

The program is voluntary; what has been the level of participation?

Approximately 30-35 patent applicants have voluntarily placed a total of 125-150 patent applications into the pilot. The level of participation is acceptable, especially given the fact that the pilot is only available to applications in limited subject matter areas (i.e., software, computer architecture, and business methods). More importantly, a sufficient number of patent applications in the pilot have now been examined to validate the project. Approximately one third of the patent applications in the pilot have been rejected by examiners based on at least one reference submitted to the USPTO through the pilot. More importantly, the majority of those rejections are based on non-patent prior art, even though only about 5% of prior art typically cited by examiners is non-patent prior art.

Over 60,000 visitors have visited the project web site and about 2500 of those visitors, from over 150 countries, have registered to peer review patent applications. The collaborative community that forms to peer review a patent application is typically 5-10 people.

Should some more incentives be provided to increase participation?

Patent applicants should be required to participate. Incentives for peer participation are probably not needed, because ample competitive incentives exist that will drive peer participation. And, not all patent applications must receive collaborative peer review for project success. Many applications are filed with appropriate claims, already cite the most relevant prior art, and are robustly examined by competent examiners. Many others are simply so unimportant from a competitive perspective that they will have no impact and attract no interest.

Should the program be extended to all technologies (beyond computer arts and business methods)?

Yes. All technologies would benefit. At minimum, the program should be extended to those technologies where examination challenges such as identifying applicable prior art are known to exist.

Do you think the current incentives are sufficient for less crowded technologies?

Although the program will benefit some technologies more than others, it will be universally beneficial.

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Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Response to Questions by Professor Mark A. Lemley, Stanford Law School

Thank you Chairman Leahy and members of the committee for your continued interest in this important issue, and for your questions. My answers are below.

Questions from Senator Feinstein

1. *Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO?*

Yes. The PTO operates under an enormous backlog, and individual examiners operate under great time pressure. I believe legislation is appropriate that enables the PTO to allocate its scarce resources more effectively, focusing on the patent applications that are most important. S. 515 does three things that would help. First, it expands opportunities for competitors to participate in the process through inter partes reexamination and post grant opposition. Second, it permits the submission of prior art by third parties during patent prosecution, allowing the PTO to expand its pilot "peer to patent" program of outside peer review of applications. Third, it gives fee-setting authority to the PTO.

Two additional changes would be appropriate. First, the provision of S. 515 limiting patent searches to U.S. citizens is inconsistent with the thrust of the rest of the bill, and should be discarded. Second, Congress should explore the possibility of creating a two-tiered patent system, allowing patent applicants with important inventions to invest in additional scrutiny by the PTO and receive a stronger patent in return. I detail this latter possibility in more detail in a recent article. Doug Lichtman & Mark Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 **Stan. L. Rev.** 45 (2007).

2. *Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed ta be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?*

Of the issues listed here, courts have largely solved the venue, inequitable conduct, applicant quality submission, and willfulness problems. Senator Leahy's bill would solve the damages and first to file problems, and take a partial step towards instituting post-grant review. I don't believe there is need for change in the law with respect to interlocutory appeal, marking, or best mode, though I have no objection to changes in the latter two areas. The one area remaining to be addressed by legislation is fee diversion.

3. *Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?*

4. *Please provide comments on whether Senator Feinstein's legislative language is workable.*

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5. *Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from?*

6. *If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any ather policies where there is a compromise solution and not address damages?*

I address these four questions together, as they all relate to the rule on damages.

I am a strong believer in creating unitary rules that give courts the flexibility to treat different industries and business models differently in appropriate circumstances. Indeed, I have published a book this week arguing for just such an approach. **Dan L. Burk & Mark A. Lemley, The Patent Crisis and How the Courts Can Solve It** (Univ. Chicago Press 2009). In the particular case of damages, I believe apportionment *is* that middle ground. It applies only to reasonable royalties, and as a result cannot hurt industries like pharmaceuticals that rely on lost profits damages. And even within reasonable royalty cases, it applies only to industries like information technology that have significant apportionment issues.

Georgia-Pacific factors. Senator Feinstein's "Discussion Draft Language on Damages," dated March 10, 2009, would codify the fifteen well-known *Georgia-Pacific* factors, and couple that codification with a procedural mechanism allowing district judges to identify in advance the factors supported by relevant evidence and to limit the jury's consideration to only those factors.

While I believe that such a "gatekeeper" rule would be some improvement on the current system, I do not think that, standing alone, it would solve the problems that result from the courts' failure to apportion damages in reasonable royalty cases. "Relevance" is a very broad standard in the law of evidence, and I expect that parties can find enough evidence to meet that threshold in most cases. More important, the problem with the *Georgia-Pacific* factors is that, by treating apportionment is merely one factor among 15, it discourages any focus on apportionment issues, instead leaving the jury largely to its own devices. The Federal Circuit may go some way toward fixing this problem in the pending *Alcatel v. Gateway* case this year; I urge Congress not to take action (such as codifying *Georgia-Pacific*) that might short-circuit that judicial process.

Apportionment rule and procedures. A second "Discussion Draft Language on Damages," this one dated April 7, 2007, includes similar procedural mechanisms for gatekeeping, but makes it clear that in reasonable royalty (but not lost profits) cases, the royalty "shall reflect the economic value fairly attributable to the infringer's use of the claimed invention." This language is, I think, a step in the right direction, because it incorporates the "apportionment principle" I discussed in my testimony. However, I do worry that the phrase "the claimed invention" could be misinterpreted by courts to permit a patentee to claim damages based on well-known prior art features that are claimed in the invention, but which the patentee did not invent. The inventor of the intermittent windshield wiper should be able to capture the value added by that wiper, but should not be able to capture a share of the value of the whole car merely by claiming the invention as "a car containing an intermittent windshield wiper." At the hearing, Senator Specter pressed the witnesses on precise language to include, and there seemed to be widespread agreement on basing a royalty calculation on the "value actually contributed by the patentee over noninfringing alternatives."

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The April 2007 discussion draft also includes language permitting evidence regarding the entire market value rule and convoyed sales. As I indicated at the hearing, and in the article I attached to my testimony, I think that evidence of the defendant's sales of unpatented components makes sense in the context of lost profits, but has no place in a reasonable royalty analysis. I would modify the last sentence of section (a)(1) by changing the opening phrase to read "In determining lost profits damages," thus making it clear that the statutory change is not intended to lock the entire market value rule into reasonable royalty calculations, where patentees would be paid for value they did not contribute.

Finally, on the question of whether we can just leave damages out of the bill, I am reluctant to do so. The lack of apportionment is the key remaining problem of patent abuse in courts today. It is possible that the Federal Circuit or the Supreme Court will solve that problem in *Lucent v. Gateway*, but we cannot count on that happening. And if it doesn't, I fear that Congress might not return to patent reform for many years.

7. *Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you suppart this new language? If not, why not?*

As I indicated in my written testimony, I think post-grant opposition will be effective only if it includes a "second window" for addressing newly-relevant patents.

8. *Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued?*

I believe the PTO can handle the burden of post-grant opposition, assuming that it is adequately funded. The PTO has an experienced cadre of trial judges at the Board of Patent Appeals and Interferences who will no longer be required to hear interference disputes once first-inventor-to-file is in force. It makes sense to use those judges to hear post-grant opposition cases. If those judges, rather than existing examiners, hear post-grant opposition cases, the process will not take examiner time, and so should not exacerbate the problem of bad patents.

9. What is needed to address the backlog at PTO?

This is a complex problem. I think a number of different things are required, including limits on continuation applications, changes in the way patent examiners are rewarded and in the way cases are allocated, information submission by third parties, two-tiered patent prosecution of the kind I mentioned above, the ability to raise application and maintenance fees, work-sharing with foreign patent offices, and possibly some form of deferred examination system. Some of these are things Congress can mandate, or at least facilitate, but many are things that will have to be solved within the PTO.

Questions from Senator Hatch

1. *More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the*

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Patent Code, which currently allows reasonable attorney's fees in exceptional cases. Section 505 of the Copyright Statute gives courts the discretion to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Do you think this would have any kind of deterrent effect on weeding out weak claims?

I support this proposal. Even-handed fee shifting has worked well in the Copyright Act, allowing both plaintiffs and defendants to be adequately compensated for the expenses they incurred in defeating weak claims or defenses. I do think that fee-shifting should not be automatic. Rather, as it is in the Copyright Act, it should be within the discretion of the district court to award fees, with a focus on weak claims or weak defenses.

2. *In this current fiscally difficult climate, is there something more that we could do to keep our patent system strong? As you know, people either are not filing or choosing not to prosecute existing patent applications.*

I don't need to tell you what that does to the revenue stream at the USPTO, and consequently, what impact that will have on our economy.

What are your thoughts on restoring the USPTO with monies that were lost due to the past practice of fee diversion?

Wouldn't that send a strong signal that our country recognizes the vital role that IP and research and development play for all sectors of our economy?
What are your thoughts?

I support legislation that would end fee diversion. The PTO needs adequate resources to cope with the growing backlog without giving in to applicant demands and allowing bad patents.

Questions from Senator Coburn

1. S. 1145, the precursor to S. 515 (the Patent Reform Act of 2009) included Section 15, which would have provided for a legislative end to diversion of USPTO user fees. Do you ond the organization you represent support the concept of a permanent end to USPTO fee diversion?

I support legislation that would end fee diversion. The PTO needs adequate resources to cope with the growing backlog without giving in to applicant demands and allowing bad patents.

2. If the answer to question #1 was generally "yes," do you and the organization you represent support a provision like Section 15 to also be added to S. 515?

Yes.

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3. Section 15 of S. 1145, mentioned above, included the following accountability and transparency provisions: Section 15(d) Annual Report, Section 15(e) Annual Spending Plan, Section 15(f) Annual Audit, and Section 15(g) Annual Budget. Do you believe that the aforementioned provisions provide adequate accountability and transparency so that you and your colleagues in your related field will have enough information to review PTO management of your fees and alert Congress with concerns? If not, what other accountability and transparency provisions do you think should be added?

This is not my area of expertise, and I will defer to others on this issue.

4. This bill is a big fight about winners and losers and there are high stakes involved. How does Congress strike the praper balance to protect intellectual property but also protect the ability to create innovative products and industries?

This is *the* hard problem in patent law. I think the patent system generally does a good job of balancing between initial inventors, who want strong patent protection, and improvers, who want freedom from undue constraint. I think the major exception to that adequate balance today is in the area of damages, where the system is out of balance in favor of patent owners. S. 515 would help set that balance right.

5. What changes would you suggest be made to provisions in S. 515 related to post grant review?

As I indicated in my written testimony, I think post-grant opposition will be effective only if it includes a "second window" for addressing newly-relevant patents.

6. Do you think PTO has the capability to administratively manage the provisions in S. 515 related to post grant review?

I believe the PTO can handle the burden of post-grant opposition, assuming that it is adequately funded. The PTO has an experienced cadre of trial judges at the Board of Patent Appeals and Interferences who will no longer be required to hear interference disputes once first-inventor-to-file is in force. It makes sense to use those judges to hear post-grant opposition cases. If those judges, rather than existing examiners, hear post-grant opposition cases, the process will not take examiner time, and so should not exacerbate the problem of bad patents.

7. What issues should the Senate address in S. 515 related to enhancing patent quality that is not addressed in S. 515?

Two additional changes would be appropriate. First, the provision of S. 515 limiting patent searches to U.S. citizens is inconsistent with the thrust of the rest of the bill, and should be discarded. Second, Congress should explore the possibility of creating a two-tiered patent system, allowing patent applicants with important inventions to invest in additional scrutiny by the PTO and receive a stronger patent in return. I detail this latter possibility in more detail in a recent article. Doug Lichtman & Mark Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 **Stan. L. Rev.** 45 (2007).

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RESPONSES OF TARANEH MAGHAMÉ TO POST-HEARING QUESTIONS FOR THE RECORD OF SENATOR FEINSTEIN
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

Questions for all witnesses:

1. **Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO?**

   A necessary step towards improving the patent system and the quality of patents is to improve the USPTO, and legislation can be used to partly achieve this goal. For example, legislation to ensure that the PTO is adequately funded to properly perform its job of issuing quality patents is an essential part of this effort. Other improvements may also be made through legislation, but the issue of patent quality needs to be addressed primarily through the regulations and processes implemented at the USPTO. The Patent Public Advisory Committee ("PPAC") has made a number of recommendations in its most recent report that are designed to address this issue. As a general matter we endorse the PPAC recommendations. Please see answer to Question 9, below, and the attached PPAC 2008 Annual Report.

2. **Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed to be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?**

   The decisions issued over the last couple of years have gone a long way to address many of these issues. More specifically, it is now more difficult for innovators to obtain and enforce patent rights (particularly in the case of software and business method inventions), and even after winning at trial, to secure injunctive relief and increased damages for willful infringement. At the same time, recent Supreme Court and Federal Circuit decisions have considerably improved the litigation landscape for patent users. Not only is it easier for patent users to defend against infringement claims and remedies, users are better able to avoid venue in the Eastern District of Texas and other districts that lack a meaningful connection to the case. These judicial decisions have addressed virtually all of the substantive issues that originally prompted calls for patent legislation, including remedies, venue and patentability standards. When viewed as a whole, these decisions represent the most comprehensive package of court-made patent reforms in decades, eliminating the need for sweeping legislative changes.

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3. **Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?**

   We believe the middle ground can be reached on the damages issues by using the gatekeeper approach, without restricting the ability of the judge or jury to consider all relevant Georgia Pacific factors, as supported by the evidence, in determining a reasonable royalty damage award.

4. **Please provide comments on whether Senator Feinstein's legislative language is workable.**

   Senator Feinstein spoke at the hearing about using the Georgia Pacific factors and combining them with a "gatekeeper" approach. We believe such an approach would be reasonable and workable. However, an amendment later filed by Senator Feinstein in preparation for the Committee markup was not consistent with this approach. The amendment used an "economic value" test in determining reasonable royalties, as follows: "A reasonable royalty shall reflect the economic value fairly attributable to the infringer's use of the claimed invention as embodied in the infringing product or process at the time of the infringement." We do not believe that this approach is workable as it does not allow the flexibility required, and provided for under Georgia Pacific, to determine fair compensatory damages for infringement once a valid patent has been found to infringe. The amendment's proposed "economic value of the infringer's use of the invention" language could be misconstrued in a manner that undermines the overarching objective of existing reasonable royalty rules, namely to compensate a patent holder for the full extent of its losses as measured by the market value of its invention. Even though the language makes clear that other factors may be given consideration, a court would likely interpret the amended Section 284 as Congress's endorsement of this particular factor as being more important than others. With this economic value test, reasonable royalties would function less as a measure of compensatory damages and more as a kind of accounting of profits remedy - two entirely different concepts. When applied to a patented invention, this economic value test would not only undermine the patent holder's ability to recover the full extent of its losses at trial, it would impact the value of the patent moving forward - i.e., the court's below market valuation of reasonable royalty damages would dictate and lower any future royalties that the patent holder could achieve. Thus, we submit that Senator Feinstein's initial approach of using a gatekeeper approach to determine which of the Georgia Pacific factors should be applied in each case is the appropriate means of addressing the damages issue.

5. **Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from?**

   We support the concept of requiring the judge to serve as a "gatekeeper," but also believe it is important to preserve flexibility in calculating appropriate reasonable royalty

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damages. The factors set forth in the Georgia Pacific case provide such flexibility by allowing the judge or jury to consider various factors, to the extent applicable, in formulating fair and reasonable damages. Adding the "gatekeeper" approach, we believe, would improve the process by ensuring that the jury considers only those factors that are supported by the evidence presented at trial.

6. **If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any other policies where there is a compromise solution and not address damages?**

We strongly support legislation that helps the Patent and Trademark Office improve their processes, reduce their backlog, and ensure that quality patents are issued (See Question 1, above). We are also supportive of not including a damages provision in the bill as we believe the Federal Circuit and the Supreme Court have and will continue to address this issue, as well as many others, as discussed in Question 2, above.

We believe the following measures would enhance patent quality by devoting greater examination resources to complex applications, increasing access to prior art, facilitating communication between examiners and applicants, tying compensation incentives to quality examination, and improving the current inter partes reexamination system.

- Permanently end fee diversion.
- Define and categorize patent applications according to their complexity (e.g., based on subject matter and number of claims) and adjust examination review times and resources accordingly.
- Mandate higher application fees for more complex applications.
- Improve and expand the process by which third parties submit relevant information to the USPTO.
- Implement within the USPTO a web-based unitary search system for all patents and non-patent documents, including English translations of foreign-language patents and patent applications.
- For all complex and highly complex applications, permit applicants to convene an examiner interview before a first office action.
- Expand the USPTO's quality review program to include at least 10 percent of all allowed applications and 10 percent of complex and highly complex applications.
- Adjust examiner compensation structures and production goals to encourage maximum efficiency of examination and simultaneously reduce both erroneous rejections and erroneous allowances.
- Improve the current inter partes reexamination system by implementing measures that promote efficiency, predictability and fairness, including clarifying (but maintaining) the existing estoppel standard and requiring USPTO to adhere to specified deadlines.

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7. **Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you support this new language? If not, why not?**

We do not support this language. The proposed hybrid post-grant opposition ("PGO") and inter partes system would (i) unleash a wave of administrative litigation with many of the costs and complexities of judicial litigation, (ii) invite serial and harassing validity challenges throughout the life of a patent, and (iii) effectively eliminate the statutory presumption of validity essential to a patent's enforceability. Such a system, when combined with recent judicial patent decisions, would further weaken and destabilize patent rights and increase dramatically the risks and costs of patent ownership. As a practical matter, small innovators would, as a result, find it increasingly difficult to attract the capital investments necessary to fund R&D and commercialization efforts, and to bring patent users to the negotiating table.

Beyond these ill effects, PGO would further strain the resources of an already over-burdened and under-funded USPTO. Even the USPTO has acknowledged that PGO in the form proposed last Congress would overwhelm its offices with a wave of opposition challenges. Until the effects of *KSR*, *Bilski* and other cases are fully known, it would be far more prudent to focus on improvements to existing *inter partes* reexamination procedures without creating an extremely costly opposition system.

8. **Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued?**

The PTO is currently over-burdened. Rather than improve the quality of patents pre-grant, the proposed expanded post-grant administrative proceedings would impose additional burden on the PTO, lead to greater bureaucracy, less certainty, further delay in securing a valid patent, and expose emerging or patent-dependent companies and employers to meritless or commercially motivated challenges by deep-pocketed rivals. Because of the drain on its scarce resources, this would also negatively impact the PTO's ability to process applications, which is counterproductive when the real concern is the issuance of quality patents.

9. **What is needed to address the backlog at PTO?**

The Patent Public Advisory Committee ("PPAC") issued its latest report in December 2008. In that report, PPAC expressed great concern with regard to this problem, and that the PTO had not taken sufficient steps in trying to resolve the backlog issue over the prior year. PPAC found that there was a critical pendency issue that could be resolved if certain proposals were implemented, stating:

"The pendency/backlog has been growing for over a decade and in the Committee's

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opinion has reached truly unacceptable levels in 2008. The Committee realizes that the Office has faced numerous difficulties in reducing this problem, including budget diversion in earlier years, and that it has taken dramatic steps to improve the situation, such as the hiring of 1,200 new examiners in the last three years. The hiring increase has placed significant pressures on the Offices resources budget, plant and equipment as well as on skilled personnel. While the Committee believes that the Office has done a spectacular job in hiring the new examiners and developing and implementing the training academy, the hoped-for objectives of this increased hiring and improved training have not yet been achieved The Committee firmly believes that conquering the pendency/backlog problem will not be achieved unless and until the Office makes a very public commitment to reducing average pendency across all applications to 24 months within the next 24 months. Only the Office is in the position to understand all of the actions that can be taken to achieve 24 month pendency for all applications over the next 24 months, but strongly encourages the Office to consider ALL available options to achieve this goal. The Committee also desires that the Office to commit to a longer range (3 year) plan and timeline to drive to an ultimate pendency goal of 18 months from filing to final disposition of the application including all counterpart continuing applications."

We agree with the PPAC position and believe implementation of their specific proposals would help in reducing pendency and backlog. A copy of the PPAC report is attached for your reference.

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Responses of Taraneh Maghamé to Post-Hearing Questions of
THE HONORABLE ORRIN G. HATCH
U.S. Senate Judiciary Committee
"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
March 10, 2009

Question for the panel:

More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the Patent Code, which currently allows reasonable attorney's fees in *exceptional* cases. Section 505 of the Copyright Statute gives courts the *discretion* to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Do you think this would have any kind of deterrent effect on weeding out weak claims?

Answer:

Amending the Patent Code's attorney's fees provision to reduce the threshold for recovery of fees from "exceptional" to discretionary in all cases may deter frivolous patent infringement cases. However, it would be prudent to first develop a public record identifying and demonstrating the extent of frivolous patent litigation before enacting such a change in the law, so that the legislation would be based on comprehensive evidence rather than on troubling anecdotes. Congress would need to balance the scope of the problem and relative benefit gained against the potential that such a change in the law might deter the filing of meritorious cases by independent inventors or other small patent holders. We would certainly be willing to work with you and the Committee to craft an appropriate proposal should the facts demonstrate the need for such a change in the law.

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Question for the panel:

In this current fiscally difficult climate, is there something more that we could do to keep our patent system strong? As you know, people either are not filing or choosing not to prosecute existing patent applications.

I don't need to tell you what that does to the revenue stream at the USPTO, and consequently, what impact that will have on our economy.

What are your thoughts on restoring the USPTO with monies that were lost due to the past practice of fee diversion?

Wouldn't that send a strong signal that our country recognizes the vital role that IP and research and development play for all sectors of our economy?

What are your thoughts?

Answer:

We endorse as a general matter the comprehensive recommendations of the USPTO's Patent Public Advisory Committee (PPAC) set forth in the PPAC 2008 Annual Report. A copy of that report is being submitted with my response to these written questions, for your reference. It is critical for the PTO to have adequate funding to properly perform its function, which in turn is "a key driver" of the nation's "domestic and global economic power." PPAC 2008 Annual Report, p.35. Addressing the financial problems of the PTO will send a strong message that we value their role in protecting our innovation economy as a whole. Among the multiple proposals for improving the PTO and enhancing patent quality, the most important is to permanently end fee diversion.

The following measures would enhance patent quality by devoting greater examination resources to complex applications, increasing access to prior art, facilitating communication between examiners and applicants, tying compensation incentives to quality examination, and improving the current inter partes reexamination system.

- Permanently end fee diversion.
- Define and categorize patent applications according to their complexity (e.g., based on subject matter and number of claims) and adjust examination review times and resources accordingly.
- Mandate higher application fees for more complex applications.
- Improve and expand the process by which third parties submit relevant information to the USPTO.

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- Implement within the USPTO a web-based unitary search system for all patents and non-patent documents, including English translations of foreign-language patents and patent applications.
- For all complex and highly complex applications, permit applicants to convene an examiner interview before a first office action.
- Expand the USPTO's quality review program to include at least 10 percent of all allowed applications and 10 percent of complex and highly complex applications.
- Adjust examiner compensation structures and production goals to encourage maximum efficiency of examination and simultaneously reduce both erroneous rejections and erroneous allowances.
- Improve the current inter partes reexamination system by implementing measures that promote efficiency, predictability and fairness, including clarifying (but maintaining) the existing estoppel standard and requiring USPTO to adhere to specified deadlines.

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Response of Taraneh Maghamé to Post-Hearing Question for the Record
Submitted to Taraneh Maghame
From Senator Tom Coburn

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
Before the Senate Judiciary Committee
March 10, 2009

1. You have quite a diverse background and have worked for companies that are on both sides of this current debate. From your unique perspective, what is the proper balance to be struck in S. 515 between the competing claims from various stakeholders?

Answer:

Based on my experience having worked on both sides of this debate, I do believe that the large technology companies that are supporting this bill are trying to address a concern with the drain on their resources due to increased litigation and settlement costs. However, I don't think the way in which they seek to address those concerns are in the interest of other segments of our economy and innovation as a whole. In part due to the increasing complexity of their products and the growth of our distributed innovation system, which in large part has been supported by those same companies, an increase in patent infringement suits is inevitable. However, rather than reducing the value of legitimate patents by introducing concepts like apportionment of damages and post-grant review, we need to strike a balance that benefits all stakeholders by focusing on improving the quality of patents. This legislation does almost nothing to address patent quality – that is, ensuring that the PTO issues quality patents. Improving patent quality needs to occur at the front end – during the initial examination process. We have made a number of proposals in this regard, most of which are more appropriately addressed through the regulations and processes of the PTO (and we agree with the recommendations set forth in the PPAC 2008 Annual Report, submitted herewith). These proposals include:

- Permanently end fee diversion.
- Define and categorize patent applications according to their complexity (e.g., based on subject matter and number of claims) and adjust examination review times and resources accordingly.
- Mandate higher application fees for more complex applications.
- Improve and expand the process by which third parties submit relevant information to the USPTO.
- Implement within the USPTO a web-based unitary search system for all patents and non-patent documents, including English translations of foreign-language patents and patent applications.
- For all complex and highly complex applications, permit applicants to convene an examiner interview before a first office action.

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- Expand the USPTO's quality review program to include at least 10 percent of all allowed applications and 10 percent of complex and highly complex applications.
- Adjust examiner compensation structures and production goals to encourage maximum efficiency of examination and simultaneously reduce both erroneous rejections and erroneous allowances.
- Improve the current inter partes reexamination system by implementing measures that promote efficiency, predictability and fairness, including clarifying the existing estoppel standard and requiring USPTO to adhere to specified deadlines.

With regard to the damages issue, I think all stakeholders will benefit from more certainty and predictability in litigation – but this does not require new formulas for calculating damages. We already have all the tools we need to determine reasonable royalties – what can be added is a process to provide proper direction to the jury as to how to use these tools. That is why I believe the "gatekeeper" approach makes sense. If the judge plays a larger role in ensuring that the factors the jury is considering in calculating damages are supported by the evidence, more certainty will be injected into the process. After all, we recently saw the system work as it should in the *Lucent v. Microsoft* case, where the jury returned a verdict of $1.5B based on flawed jury instructions – the judge immediately set the verdict aside.

Tessera and the Innovation Alliance continue to be willing to work with the Committee to help strike the balance in the bill that takes into account the interests of the various stakeholders.

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Responses of Taraneh Maghamé to Post-Hearing Questions for the Record Submitted to All Witnesses From Senator Tom Coburn

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions" Before the Senate Judiciary Committee March 10, 2009

1. S. 1145, the precursor to S. 515 (the Patent Reform Act of 2009) included Section 15, which would have provided for a legislative end to diversion of USPTO user fees. Do you and the organization you represent support the concept of a permanent end to USPTO fee diversion?

Yes. Both Tessera and the Innovation Alliance support a permanent end to USPTO fee diversion. In fact, we believe the USPTO should be provided whatever funds it needs to be able to properly perform its job of protecting US innovation.

2. If the answer to question #1 was generally "yes," do you and the organization you represent support a provision like Section 15 to also be added to S. 515?

Yes, we support such a provision.

3. Section 15 of S. 1145, mentioned above, included the following accountability and transparency provisions: Section 15(d) Annual Report, Section 15(e) Annual Spending Plan, Section 15(f) Annual Audit, and Section 15(g) Annual Budget. Do you believe that the aforementioned provisions provide adequate accountability and transparency so that you and your colleagues in your related field will have enough information to review PTO management of your fees and alert Congress with concerns? If not, what other accountability and transparency provisions do you think should be added?

We believe these provisions allow adequate accountability and transparency. As a general matter we endorse the comprehensive recommendations of the USPTO's Patent Public Advisory

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Committee (PPAC) set forth in the PPAC 2008 Annual Report. A copy of that report is being submitted with my response to these written questions, for your reference.

4. This bill is a big fight about winners and losers and there are high stakes involved. How does Congress strike the proper balance to protect intellectual property but also protect the ability to create innovative products and industries?

Protecting intellectual property DOES also protect the ability of all industries to create innovative products and continue to grow and succeed. In fact, intellectual property is a cornerstone of such innovation and success and if we fail to protect our intellectual property, all industries will suffer. The US patent system has fueled economic growth for over two centuries. A strong and predictable patent system fosters the collaborative development and funding required to transform basic research into commercially viable technologies and stable, high-paying jobs. According to a study by the Federal Reserve Bank of Cleveland, those states with the greatest percentage of patent ownership also enjoy the highest levels of income and economic prosperity.

One of the most controversial provisions of the Patent Reform Act of 2009 relates to the calculation of reasonable royalties. Bear in mind that no serious data has been presented to support the rhetoric about extraordinarily large damage awards being issued. Regardless, we agree that a balance can be struck on this issue by enacting a "gatekeeper" provision that allows the judge or jury the flexibility to use all appropriate factors to determine a reasonable compensatory damages award in each case, but yet requires the judge to provide better guidance to the jury with regard to this task based on the evidence presented. However, the originally proposed legislation is a cure that is worse than the disease – if enacted, it will devalue patents across the board, creating irreversible damage to all sectors of our economy.

5. What changes would you suggest be made to provisions in S. 515 related to post grant review?

The post-grant review provisions of S.515 would create multiple avenues for challenging a patent's validity without any meaningful protections to prevent abusive or serial attacks. Thus,

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any implementation of a post-grant opposition or expanded inter partes reexamination process needs to be carefully considered, particularly in light of the additional burden it would place on an extremely strained and under-funded USPTO, which is already overwhelmed, in part because of a lack of resources.

In an effort to work with this Committee to craft appropriate language, the Innovation Alliance has prepared the attached proposal with changes to the existing language of S.515.

6. Do you think PTO has the capability to administratively manage the provisions in S. 515 related to post grant review?

No. See response to Question 5, above and, more generally, the PPAC 2008 Annual Report. The PTO is currently overburdened and underfunded. Examiners do not have nearly enough time to review and process applications, resulting in a huge backlog and long pendency. The Central Reexamination Unit, which is now handling all reexaminations, has too few examiners to properly handle this workload. It is difficult to imagine how the PTO could administratively manage any additional post grant reviews, at least until such time that the backlog is cleared and pendency is reduced.

7. What issues should the Senate address in S. 515 related to enhancing patent quality that is not addressed in S. 515?

Patent quality is a central topic addressed in detail in the comprehensive recommendations set forth in the PPAC 2008 Annual Report; we recommend that the Senate endorse the recommendations of the report. Enhancing patent quality needs to occur at the USPTO. Adequate funding is clearly one item that needs to be addressed. Also, the USPTO needs to have better tools and processes for handling patent applications and reexaminations. We believe that the following measures would enhance patent quality by devoting greater examination resources to complex applications, increasing access to prior art, facilitating communication between examiners and applicants, tying compensation incentives to quality examination, and improving the current inter partes reexamination system.

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- Permanently end fee diversion.
- Define and categorize patent applications according to their complexity (e.g., based on subject matter and number of claims) and adjust examination review times and resources accordingly.
- Mandate higher application fees for more complex applications.
- Improve and expand the process by which third parties submit relevant information to the USPTO.
- Implement within the USPTO a web-based unitary search system for all patents and non-patent documents, including English translations of foreign-language patents and patent applications.
- For all complex and highly complex applications, permit applicants to convene an examiner interview before a first office action.
- Expand the USPTO's quality review program to include at least 10 percent of all allowed applications and 10 percent of complex and highly complex applications.
- Adjust examiner compensation structures and production goals to encourage maximum efficiency of examination and simultaneously reduce both erroneous rejections and erroneous allowances.
- Improve the current inter partes reexamination system by implementing measures that promote efficiency, predictability and fairness, including clarifying (but maintaining) the existing estoppel standard and requiring USPTO to adhere to specified deadlines.

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Responses from

Herbert C. Wamsley,

Executive Director, Intellectual Property Owners Association (IPO)
to questions following the March 10, 2009 Senate Judiciary Hearing,
"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"

Submitted: April 2, 2009

QUESTIONS FOR THE RECORD (Sen. Feinstein)
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

Questions for all witnesses:

1. **Do you believe legislation is needed to improve the patent system and the quality of patents being issued by the PTO?**

   Answer: Yes. IPO members believe that a properly-functioning patent system is critical to preserving our nation's leadership in creating new innovations and spurring economic growth, especially important in the current economic downturn. Patent quality, of course, is a complex problem not amenable to any single solution. Confidence in the validity of patents will continue to be lower than desirable until action is taken by Congress and the USPTO to improve the quality of examination, reduce the time it take to examine patent applications, and simplify the process for obtaining patent rights. The USPTO should work in a more collaborative way with the patent user community.

   The current legislation, S.515, includes a number of reforms directed at improving the quality of patents. Sec. 7 of the bill would provide a greater opportunity for the public to submit prior art to the Office that is relevant to pending applications. Sec. 5 would improve the existing reexamination process and establish a more robust post-grant opposition system to provide a quality check on the examination process by allowing the public to challenge patents within a year after a patent is granted. And Sec. 2 would switch the U.S. to a first-inventor-to-file system, simplifying the process of obtaining a patent in the U.S. and seeking protection in other countries.

   These provisions provide a good start to improving patent quality. IPO members believe that continued Congressional oversight and reforms at the agency are also a critical part of reforming the patent system. Equally important is the appointment of a qualified Director of the USPTO at an early date.

2. **Last Congress, after the Committee marked up the bill, there were several meetings held with lawyers and lobbyists for the various industries. At one point, there were approximately a dozen outstanding issues that needed to be resolved – damages, post-grant review, venue, inequitable conduct, fee diversion, first-to-file, interlocutory appeal, markings, best mode, applicant quality submissions, and willfulness. Between the court cases that have come out and the changes to the bill Senator Leahy has introduced, how many of these issues remain unresolved?**

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Answer: Opinions issued by the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit in recent years have certainly altered the patent system, but many issues related to litigation reforms do remain unresolved. We believe only two issues from the list cited, however, have been resolved: applicant quality submission and willfulness.

IPO strongly opposed the applicant quality submissions provision and was pleased to see that it was not included in S.515. The provision would have unnecessarily increased the cost of patent applications, place onerous new burdens on patent applicants and further increased unwarranted charges of inequitable conduct against patent owners.

IPO members believe that the Federal Circuit's decision in *In re Seagate Technology* addressed many of the problems with willful infringement and believe it is unnecessary to include a provision in the current legislation.

3. **Is there a middle ground that could treat these different industries and business models fairly on how judges and juries calculate damages?**

Answer: IPO members represent a broad range of technology companies and various business models and our members have been divided on the issue of damages. The 50-member IPO Board of Directors voted to support legislation that would codify the existing law on damages for calculating a reasonable royalty. We believe, however, that a middle ground can be found in language along the lines of the amendment to S. 515 adopted on April 2, 2009.

4. **Please provide comments on whether Senator Feinstein's legislative language is workable.**

Answer: Yes. Following the March 10 hearing, IPO communicated in a letter to Sen. Feinstein that IPO could support a draft proposal that the Senator circulated. The proposal included a provision providing a "gatekeeper" role for the judge to identify for the record those factors most relevant to the determination of reasonable royalty damages, which we interpreted as based on existing damages law.

5. **Do you support requiring the judge to serve as a "gate-keeper" – meaning there has to be a determination as to which of the Georgia Pacific factors go to the jury – but also leaving all the Georgia Pacific factors available to choose from?**

Answer: Yes, again consistent with past IPO Board resolutions, we believe this type of solution would codify existing law and the discretion of the court to treat cases as appropriate, while requiring the judge to provide guidance to juries faced with a series of complex facts in determining damage awards. This could provide greater consistency in damage awards in patent cases.

6. **If there isn't a fair middle ground, why not pass a bill that includes legislative language that helps the Patent and Trademark Office do their job better and any other policies where there is a compromise solution and not address damages?**

Answer: Our members believe the provisions including those cited above that would improve patent quality at the USPTO and adopt a First-Inventor-to-File are worthwhile reforms in their own right and should be enacted into law. We are optimistic, however, that a consensus position on damages will be found and it will not be necessary for the Senate to decide whether to split up S. 515.

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7. **Last year, my office heard that many of the stakeholders preferred the House approach on post-grant review. Do you support this new language? If not, why not?**

   Answer: IPO supported the House approach to establishing a post-grant review proceeding. In many cases, providing an opportunity to challenge a patent at the USPTO within 12-months after grant may result in removing uncertainty over an owner's rights early in the life of a patent. Post-grant review offers a more robust opportunity for the public to challenge patents at the USPTO and provides a helpful check on the quality of the examination process.

8. **Do you believe the PTO can handle additional responsibilities of a revised administrative review without there being a negative impact on its ability to process applications? Are you concerned that this will only exacerbate the problem of patents being issued that should not be issued?**

   Answer: The USPTO will need adequate time to prepare for managing a large new proceeding. The new Patent Trial and Appeals Board will need to implement new training and hire additional Administrative Patent Judges. The USPTO may have to hire additional lawyers from outside the agency who have patent experience. The challenge facing the examination corps, however, with issuing patents that should not be issued, is a challenge distinct from that of preparing the Board to cope with the new post-grant review proceedings.

9. **What is needed to address the backlog at PTO?**

   Answer: The first thing the USPTO needs is the appointment of a new Director. A qualified Director and Deputy Director with experience with patents and trademarks and also with managing large organizations is critical. Equally important, perhaps, is permanently ending the diversion of USPTO user fees. IPO has strongly supported legislation to ensure that all fees collected by the Office are used to fund its operations and hire additional examiners.

   IPO has also recommended a number of reforms that the USPTO management might implement to address quality including revising employee production goals, hiring, training and retaining the highest quality employees, and more actively engaging the user community when considering new rules. Although, because of the weak economy, we do not favor a fee increase immediately beyond the cost-of-living increases already authorized by 35 U.S.C. 41(f), we support adequate funding to hire whatever number of examiners is needed to reduce the backlog over the next few years while maintaining and improving quality. The economic downturn will cause fewer applications to be filed in 2009, we believe, which may give some help in addressing the backlog. We do not favor deferring the examination of patent applications as a solution to the backlog, because of the uncertainty over patent rights the weakening of incentives for R&D that it would cause.

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QUESTIONS FOR THE RECORD (Sen. Hatch)
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

Question for the panel:

More than ever, I believe we need to discourage weak cases from clogging our judicial system. I believe we should strengthen the current attorney fee provision in the Patent Code, which currently allows reasonable attorney's fees in *exceptional* cases. Section 505 of the Copyright Statute gives courts the *discretion* to award reasonable attorney's fees to the prevailing party.

What are your thoughts on incorporating attorney's fee language, similar to the Copyright Act, into the Patent Code?

Do you think this would have any kind of deterrent effect on weeding out weak claims?

Answer: IPO would support such a provision. We believe it would discourage frivolous patent suits.

Question for the panel:

In this current fiscally difficult climate, is there something more that we could do to keep our patent system strong? As you know, people either are not filing or choosing not to prosecute existing patent applications.

I don't need to tell you what that does to the revenue stream at the USPTO, and consequently, what impact that will have on our economy.

What are your thoughts on restoring the USPTO with monies that were lost due to the past practice of fee diversion?

Wouldn't that send a strong signal that our country recognizes the vital role that IP and research and development play for all sectors of our economy?

What are your thoughts?

Answer: IPO has long supported a permanent end to the diversion of USPTO user fees. We support amending S.515 to ensure that all fees collected by the Office are used to fund its operations while maintaining strong oversight authority for Senate and House appropriators.

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QUESTIONS FOR THE RECORD (Sen. Coburn)
Patent Reform in the 111th Congress: Legislation and Recent Court Decisions
Tuesday, March 10, 2009 at 10:00 a.m.

1. **S. 1145, the precursor to S. 515 (the Patent Reform Act of 2009) included Section 15, which would have provided for a legislative end to diversion of USPTO user fees. Do you and the organization you represent support the concept of a permanent end to USPTO fee diversion?**

   Answer: IPO has long supported permanently ending the diversion of USPTO user fees to unrelated government programs. We supported Section 15 in S.1145 (110th Congress) as reported out of the committee. The loss of some $750 million during the last decade that was withheld during the appropriations process was largely responsible for the significant application backlog at USPTO and exacerbated many other problems currently facing the USPTO.

   Members of IPO have supported providing the Office with adequate funding to enable it to do its job and to make improvements. We are concerned with the potential loss of income the Office may face in coming years due to reduced filings and other factors related to the economic downturn. A first step to addressing these problems should be to ensure that the fees collected at the Office stay at the Office. This step should be taken before any proposals to increase user fees is entertained. Any proposals to increase fees should follow in-depth analysis of which fees should be raised and how such an increase will support the USPTO's quality and pendency goals.

2. **If the answer to question #1 was generally "yes," do you and the organization you represent support a provision like Section 15 to also be added to S. 515?**

   Answer: Yes, creating such a revolving fund is a critical step towards ensuring that the agency has the resources it needs to fund reform efforts.

3. **Section 15 of S. 1145, mentioned above, included the following accountability and transparency provisions: Section 15(d) Annual Report, Section 15(e) Annual Spending Plan, Section 15(f) Annual Audit, and Section 15(g) Annual Budget. Do you believe that the aforementioned provisions provide adequate accountability and transparency so that you and your colleagues in your related field will have enough information to review PTO management of your fees and alert Congress with concerns? If not, what other accountability and transparency provisions do you think should be added?**

   Answer: These provisions ensure that sufficient congressional oversight is maintained and provide needed transparency into the financial situation facing the agency. Effectively addressing the problems facing the USPTO will require innovating thinking from those in the USPTO, on Capitol Hill and in the user community. IPO supports strong and proactive oversight by congressional leaders to ensure that actions of the agency are focused on improving operations and effectively serving the public interest.

4. **This bill is a big fight about winners and losers and there are high stakes involved. How does Congress strike the proper balance to protect intellectual property but also protect the ability to create innovative products and industries?**

   Answer: A well balanced intellectual property system provides technology creators and developers – large and small – with a cost effective way to obtain reliable rights, a robust

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examination of patent applications, early determination of those rights to lessen any uncertainty in the marketplace and appropriate and cost-effective access to the legal system to enforce those rights. Reforms directed toward achieving these objectives will help ensure that patents retain their value and do not impede the efforts of other innovators. Indeed, a properly-functioning patent system will encourage other innovators to design around and improve on protected property.

Of course, the operation of the patent system and its ability to promote innovation depends on careful coordination of actions taken by the USPTO, the U.S. courts and the U.S. Congress. Actions by Congress should shape the structure of the patent system so that it will encourage innovation in all industries. Legislation should leave flexibility for the USPTO and the courts to fine tune the systems for granting and enforcing paten rights. Such legislation, of course, should strike a balance between strong exclusive rights and vigorous competition. We believe reform legislation can be crafted so there are not winners and losers.

5. **What changes would you suggest be made to provisions in S. 515 related to post grant review?**

Answer: IPO supported the House approach to establishing post-grant review proceedings. Providing an opportunity to challenge a patent in the USPTO for a 12-month period of time may, in many cases, result in removing uncertainty over an owner's rights early in the life of a patent. Post-grant review offers a more robust opportunity for the public to challenge patents at the USPTO and provides a helpful check on the quality of the examination process. Critical to such a proceeding is limiting cost and the time needed by the USPTO to complete a proceeding, allowing an adequate opportunity to argue a particular case and limiting the potential for abuses. To limit possible abuses, the legislation should coordinate post-grant review and various other proceeding addressing the same issues within the USPTO, at the International Trade Commission, and in civil litigation, so that petitioners can choose one forum to challenge and resolve disputes over rights.

6. **Do you think PTO has the capability to administratively manage the provisions in S. 515 related to post grant review?**

Answer: The USPTO will need adequate time to prepare for managing a large new proceeding but has the capability to do so along with models based on existing post-grant proceedings (including reexamination and patent interferences) on which it can establish sufficient procedures. The new Patent Trial and Appeals Board will need to implement new training and hire additional Administrative Patent Judges. The USPTO may also need to hire additional lawyers from outside the agency who have patent experience.

7. **What issues should the Senate address in S. 515 related to enhancing patent quality that is not addressed in S. 515?**

Answer: IPO believes that S.515 contains a sufficient number of provisions that can improve the quality of patents being granted at the USPTO and encourage the agency to initiate a more robust review of its current operations. More resources at the USPTO should be directed towards improving the quality of patent examination, but such efforts do not require legislation. IPO will continue to work with the USPTO leadership to encourage these types of activities.

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SUBMISSIONS FOR THE RECORD

March 9, 2009

The Honorable Patrick Leahy
Chairman, Senate Judiciary Committee
433 Russell Senate Office Building
Washington, D.C. 20510

Dear Chairman Leahy:

The undersigned consumer organizations strongly support improving access to affordable, effective generic medications as a means of improving our nation's health outcomes and curbing spiraling health care costs. We applaud you for recognizing in the Patent Reform Act of 2009 that the current inequitable conduct defense is critical to ensuring continued access to affordable medicines.

The inequitable conduct defense allows patent challengers to expose intentional misrepresentations and omissions of material information to the PTO during the patent application process. In the context of pharmaceuticals, the defense enables a fair and timely resolution to litigation and a competitive marketplace, and without this defense, our patent system could become more vulnerable, patent quality could decrease, and affordable generics could be kept off the market unnecessarily thereby depriving consumers and taxpayers of these important medicines.

As you begin efforts in the 111th Congress to reform our patent laws or enhance operations of the U.S. Patent and Trademark Office, we respectfully urge you to avoid legal barriers to timely access to affordable, high quality generic drugs by rejecting any proposed changes to the inequitable conduct defense. Any attempt to weaken this vital defense would further burden consumers and the public health system.

The Congressional Budget Office estimates that generic drug use results in savings for consumers of $10 billion per year, with generics viewed as one means of reducing skyrocketing health costs for individuals, employers and government programs like Medicare and Medicaid.

Once a safe, equivalent generic drug enters the market, prices can fall by as much as 75 to 80 percent, dramatically helping those consumers who have trouble paying for their medications. These savings are vital at a time when health care costs rank as a top consumer concern in the United States.

We thank you for your leadership in recognizing the important role generics play in improving our nation's health care system, and we look forward to working with you to ensure access to generic medications is not harmed.

Sincerely,

AARP
Consumer Federation of America
Consumers Union
U.S. Public Interest Research Group

CC: The Honorable Arlen Specter, Ranking Member
The Honorable Orrin G. Hatch

54059.052

March 9, 2009

The Honorable Patrick Leahy
Chairman, Committee on the Judiciary
433 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Orrin G. Hatch
Committee on the Judiciary
104 Hart Senate Office Building
Washington D.C. 20510

Dear Chairman Leahy and Senator Hatch:

The undersigned are large national employers, generic drug manufacturers, insurers and others committed to improving consumer access to high quality generic drugs, restoring a competitive prescription drug market, and retaining the current inequitable conduct defense.

We applaud the introduction of ***The Patent Reform Act of 2009***, which recognizes that the current inequitable conduct defense is critical to affordable medicine and applicant honesty at the U.S. Patent and Trademark Office (PTO).

We appreciate that ***The Patent Reform Act of 2009*** does not change the inequitable conduct defense and focuses only on problems in our patent system, chief of which is an overburdened PTO. Since the debate for patent reform began, the courts have brought clarity to the law in areas which many constituencies once clamored for change. The inequitable conduct doctrine has no place in proposals for patent reform in the 111th Congress, and we appreciate your recognition of this fact.

The inequitable conduct defense allows patent challengers to expose intentional misrepresentations and omissions of material information to the PTO during the patent application process. In the context of pharmaceuticals, the defense enables a fair and timely resolution to litigation and a competitive marketplace, not to mention the removal of improperly obtained patents from our system. Without this defense, our patent system could become more vulnerable, patent quality could decrease, and affordable generics could be kept off the market unnecessarily thereby depriving consumers and taxpayers of these important medicines.

We support legislation to eliminate barriers to timely access to affordable, equally effective generic drugs. Proposals to undermine the defense would significantly delay access to affordable medicines, which only serves to contribute to the increased anxiety and financial peril facing consumers and patients today. As the legislative process begins on ***The Patent Reform Act of 2009***, we look forward to continuing to work with you on this and other important issues regarding affordable health care.

Sincerely,

Aetna Inc.
Apotex Corporation
Generic Pharmaceutical Association (GPhA)
Hospira Inc.
Mylan Pharmaceuticals
National Association of Chain Drug Stores (NACDS)
Teva Pharmaceuticals
Watson Pharmaceuticals

CC: The Honorable Arlen Specter

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CONSTANTINE CANNON

W. Stephen Cannon
Attorney at Law
202-204-3502
scannon@constantinecannon.com

NEW YORK WASHINGTON

March 16, 2009

The Honorable Patrick Leahy
Chairman
Committee on the Judiciary
United States Senate
Washington, D.C. 20510

The Honorable Arlen Specter
Ranking Member
Committee on the Judiciary
United States Senate
Washington, D.C. 20510

Dear Chairman Leahy and Ranking Member Specter:

I am writing you on behalf of America's Specialty Medicines Companies ("ASMC"), an informal working group of mid-sized pharmaceutical companies.

The current participants in ASMC include: Cephalon, Inc., Cubist Pharmaceuticals, Inc., Endo Pharmaceuticals, Inc., Millennium Pharmaceuticals, Inc., OSI Pharmaceuticals, Inc., and Purdue Pharma L.P. These American companies typically have only a few drugs on the market, and they put a significant portion of their revenues back into research and development of new products.

Recently, Chairman Leahy introduced S. 515, the "Patent Reform Act of 2009." On March 10, the Committee on the Judiciary held a hearing on "Patent Reform in the 111th Congress: Legislation and Recent Court Decisions."

As you continue the hard work of patent reform in this Congress, ASMC looks forward to working with you. We wanted to apprise of you some concerns about the apportionment of damages provisions in S. 515 that are particular to ASMC. Substantively, our concerns are much the same as those that PhRMA and BIO have expressed many times throughout this debate, most recently at the March 10 Senate hearing. We need not repeat them here because we know you have heard them before.

We write separately to let you know that these provisions will have a substantially greater effect on smaller companies than they will on larger companies. For all pharmaceutical companies, patents are our lifeblood. When a larger company with dozens of products on the

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CONSTANTINE CANNON

Honorable Patrick Leahy
Honorable Arlen Specter
Page 2

market receives an inadequate damage award in a patent infringement case, it hurts, but the larger company can survive with its remaining products. But when the same happens to a company with only a few products on the market, the blow may well be fatal. Our revenue typically comes from the sales of these relatively few products. If that revenue source comes to a stop, so does the smaller company.

Our companies create high technology jobs and they develop new life-saving drugs. To preserve those jobs and continue the development of those drugs, we ask that you carefully evaluate the effect of any apportionment of damages language on companies like ours before adopting it.

We also ask that you include a copy of this letter in the written record of the March 10 hearing. We appreciate your consideration of our views and we look forward to working with you on this vital legislation. Please feel free to contact me if I can assist you further.

Sincerely,

Steve Cannon

W. Stephen Cannon

Cc: Senate Judiciary Committee members

Hearing on The Patent Reform Act of 2009

Senate Committee on the Judiciary

March 10, 2009

Testimony of

Steven R. Appleton, Chairman and Chief Executive Officer,

Micron Technology, Inc.

Chairman Leahy, Ranking Member Specter, Members of the Committee:

I am honored to appear before the Committee today to testify in strong support of S.515, the Patent Reform Act of 2009.

This is the Committee's seventh hearing on patent reform. The extensive record created by the dozens of witnesses who testified in the prior hearings—which the Committee summarized in the report filed in the last Congress—demonstrates why we must update our fifty-year old patent law to reflect the realities of today's innovation-driven economy.

I thought it might be most helpful to the Committee to focus my testimony on developments during the nearly two years since the Committee's last hearing, and how they demonstrate the urgent need for enactment of this legislation.

Since this Committee last considered patent reform, when it reported out the legislation in the summer of 2007, much has changed. We have lost millions of jobs; our economy has slowed dramatically, with GDP declining by an annual rate of 3.8 percent in the last quarter of 2008; our banking system is in crisis; and our citizens' life savings are in peril.

Congress and the Administration are understandably focused on doing everything possible to restore economic growth. In addition to the steps already taken, the government must create an environment that will foster greater and faster innovation. Some argue that our patent system is fine and that we should stay the course with the status quo. We know this is the wrong answer for the economy overall and it that is the wrong answer for promoting American innovation. Our economy urgently needs the boost a modernized, sound, and fair patent system will give.

Put simply, at a time when our country must do everything it possibly can to stimulate economic growth and job creation, the flaws in our outdated patent law are shackling our most innovative companies—slowing development of new products and services and the new jobs they would create, and diverting substantial resources that otherwise would be devoted to research and development into litigation costs. The longer we wait to address these widely-acknowledged

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problems, the more we will deplete the innovation potential of the technology industry and deprive our economy of the resulting job creation and growth.

Let me begin by explaining Micron's business and why a strong, effective patent system is critical to our continued success. From a three person start-up in 1978, Micron has become one of the world's largest and most innovative providers of advanced semiconductor memory solutions. Micron is a global company with R&D headquarters in Boise, Idaho. In the U.S., Micron has manufacturing facilities in Utah, Virginia, and Idaho and design centers and sales offices throughout the country.

Micron produces leading-edge memory products, including DRAM and NAND Flash memory, as well as imaging chips that are used in products ranging from servers, computers, and mobile phones to cars and telecommunications equipment. Almost every digital device in the world uses the products that Micron makes and sells. As one of the most innovative companies in the world, Micron is a significant stakeholder in the patent system with a passionate interest in its improvement. Micron's significant investment in research and development has led to a portfolio of over 18,000 U.S. patents. Micron is annually ranked among the top companies in the world in the number of patents issued, and the Patent Board, a leading intellectual property and patent portfolio analysis firm, ranks Micron's patent portfolio as the second strongest semiconductor portfolio in world next to Intel. One other thing that distinguishes Micron is that three of the world's top ten living inventors work at Micron.

The memory industry is extremely challenging and capital intensive and market cycles have changed the landscape of the industry drastically over time. Still headquartered in Boise, Idaho, Micron has gone from seeing its principal competitors as other US-based companies—in 1985, there were 11 major US-based memory manufacturing companies—to most competitors being based in Asia. And as the competitors shifted overseas, Micron has not only had to compete against these companies, but also compete against broad government support provided to these companies through market downturns.

Micron's survival has been driven, in large part, by constant innovation in developing leading-edge technology and cost-effective manufacturing processes for new products. Unfortunately, the current patent system has now become a hindrance to innovation rather than the growth engine originally intended. Micron and other technology companies, regardless of size, are the victims of a growing wave of patent claims and litigation. Last year alone, Micron spent over $30 million on patent litigation—dollars that could have been used for research and development or for hundreds of new jobs but instead went to lawyers and litigation costs.

The patent system must be modernized and reformed through targeted legislation. Micron is working with the Patent Fairness Coalition, trade groups, and many others to support the passage of the Patent Reform Act. The Patent Reform Act will strengthen the patent system in at least three basic ways:

- By harmonizing U.S. law with that of our major trading partners, and therefore eliminating burdens on patent applicants;

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- By improving patent quality through improvements to processes at the Patent and Trademark Office, and therefore reducing the number of poor quality patents; and

- By clarifying vague and uncertain litigation standards to ensure that patent plaintiffs are neither overcompensated nor undercompensated and that governing rules discourage, rather than encourage, the filing of abusive lawsuits.

There is widespread consensus on the harmonization provisions of the bill. With respect to the patent quality provisions, there also is a broad consensus, although I would like to focus the Committee's attention on a few points. First, we preferred the stronger post-grant review provisions contained in the bill reported by this Committee in the last Congress. It is an oddity of the patent system that the PTO—unlike most other expert administrative agencies—has traditionally played such a minor role in resolving disputes about the correctness of its administrative decisions, especially given the technical nature of the issues that must be resolved. But, we recognize that the Committee's prior provision generated some controversy and we accept the current approach as a reasonable compromise.

Second, an essential element of the narrower reexamination and post-grant review approach of the current bill is the provision permitting a reexamination request to be based upon "evidence that the claimed invention was in public use or sale in the United States more than 1 year prior to the date of the application for patent in the United States" (new Section 301(a)(1)). For relatively young and innovative industries like the technology industry, there may be little or no documented prior art. The ability to base a reexamination request on evidence of prior public use or sale is therefore essential in order to make the new procedure relevant to the technology sector—which, after all, is one of the key areas in which questionable patents have been granted.

Finally, we urge the Committee to include in the Patent Reform Act a provision barring diversion of PTO fees. The PTO must be able to utilize all of its available resources to address the backlog in patent applications as well as to put in place the mechanisms needed for the post-grant review process.

The third aspect of the Act—clarification of vague and uncertain litigation standards—is where I would like to focus my testimony. This is an area where effective reform is essential if we are to eliminate the current undesirable burden on innovation and job creation.

Technology companies have been victimized by a growing wave of patent litigation, and licensing fee requests that often precede the filing of a patent lawsuit. Here is a compilation of the number of licensing requests received by and patent suits pending against a group of nine leading technology companies, by year:[1]

[1] One company did not supply data for licensing demands.

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	Licensing Requests	Lawsuits Pending
2004	185	97
2005	498	116
2006	679	118
2007	871	129
2008	1217	166

The nine companies that provided this data had 2008 revenues of approximately $197 billion; according to Census Bureau data they represent just one-sixth of the parts of the economy that make up the technology sector.[2] It therefore would be appropriate to multiple these numbers by six to determine the impact on the technology sector as a whole.

The data reveals a 650% increase in licensing requests and a 70% increase in lawsuits in just four years. This increase is consistent with the overall trend, which has seen a near-doubling of the number of companies sued in the last seven years (from 5,000 in 2000 to 9,000 in 2007).

What is the reason for this dramatic change? There simply is no reason to believe that infringing activity has suddenly surged in the last five years.

The change is largely attributable to a new source of patent claims. Today, nearly all of the patent claims against Micron and other technology companies are asserted by plaintiffs who do not make or sell any real product or service — often called "non-practicing entities" or "NPEs." Oftentimes, they mask their true character by saying they are technology companies, using language that conveys the impression of offering technology to assist manufacturers—when in fact, their only purpose is to obtain patent royalties.

One recent study of these non-practicing entities ("NPEs") observed that "[s]ome of the largest of these NPEs raise large funds with which to purchase the patents they seek to enforce—without any plans to turn those patents into marketable products or services. Instead, they then use these funds to enable—through direct or veiled threats of infringement—their pursuit of royalties from successful businesses."[3] Press reports from the last several years indicate that NPEs have raised

[2] North American Industry Classification codes 334 (computer and electronic product manufacturing), 5112 (software publishers), 517 (telecommunications), and 518 (Internet service providers, Web search portals, and data processing services).

[3] McCurdy, "Patent Trolls Erode the Foundation of the U.S. Patent System," available at www.scienceprogress.org/2009/01/patent-trolls-erode-patent system. The recent Center for American Progress report on the patent system recognized that the problems of the system have been "exacerbated by the emergence of so-called non-practicing entities, or NPEs, sometimes called patent 'trolls.' Unlike operating companies that produce products and services, and universities that generate most of their revenue from tuition and grants and generate intellectual property through academic investigations, patent-holding entities typically do not produce any products or offer any service beyond patent licensing and enforcement. Their primary revenue sources are royalties obtained from asserting patents against successful product and service companies."

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billions of dollars to purchase patents in the technology area alone, and that thousands of patents have been acquired.

The technology firms' data confirm that the litigation surge is attributable to NPEs' activity:

	Licensing Requests	Lawsuits Pending	Requests/Demands[4]	
			NPEs	PEs
2004	185	97	81%	19%
2005	498	116	80%	20%
2006	679	118	85%	15%
2007	871	129	88%	12%
2008	1217	166	88%	12%

That is consistent with other data showing that litigation involving NPEs exceeded 10 percent of all patent lawsuits in 2006 and 2007, *quadrupling* the level between 1994 and 2002.[5]

The stream of lawsuits is a product of the NPE business model, which necessitates the use of lawsuits to pressure companies to pay royalties—the threat of significant litigation costs together with the risk of a huge jury verdict creates very substantial pressure to settle; for claims that do not settle, the NPE may reap a large damages award. And the filing of lawsuits against some companies can be used to back up royalty demands addressed to other companies. NPEs accordingly have every incentive to file lawsuits frequently, with little regard to the merits of the underlying claim.

It seems to me that far from deterring the filing of such claims, the current rules actually *encourage* NPEs to pursue these opportunistic lawsuits. That is because legal rules developed for the litigation environment of the 1950s—when NPEs did not exist and virtually all patent claims were asserted by companies manufacturing products that competed with the products produced by the alleged infringer—do not fit today's very different world.

First, the most widely-used standard for assessing damages is vague and unclear and creates a substantial risk that a jury will return an excessive verdict. NPEs invoke this risk to demand substantial settlements, even in unjustified cases.

The patent law sets forth two measures of damages—lost profits and a "reasonable royalty. When infringement lawsuits were filed by companies manufacturing competing products, lost profits was the dominant standard used, because the typical plaintiff claimed that the defendant's infringement was diverting sales from the plaintiff to the defendant. Because they don't

[4] Percentage of NPE/PE determined based on requests/suits for which nature of claimant could be determined.
[5] McCurdy, "Patent Trolls Erode the Foundation of the U.S. Patent System," available at www.scienceprogress.org/2009/01/patent-trolls-erode-patent system.

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manufacture anything, NPEs can only seek damages under the statute's reasonable royalty test, and—as a result of the influx of their suits—that standard is now the dominant damages measure in patent cases.

The problem is that the law gives juries, and even judges, no real guidance for calculating a reasonable royalty. This isn't just my opinion, it is the view of a variety of academic experts:

- Paul M. Janicke, HIPLA Professor of Law, University of Houston Law Center, stated: "[F]or some reason we're still using the Georgia-Pacific grab bag, where the judge throws the grab bag to the jury and says do what you think is right. I think this is where we need to tighten up damages law and I will talk about that further later. The grab bag approach of throwing 15 factors to the jury and saying 'do what you think' could be why we are getting erratic results. It certainly does not lend itself to being predictable results. I think that should be abandoned."

- Tom Cotter, Briggs and Morgan Professor of Law, University of Minnesota Law School, observed that the "Georgia-Pacific factors . . . can be so easily manipulated by the trier of fact to reach virtually any outcome."

- Professor John Thomas, Georgetown University Law Center: "[T]he case law and empirical evidence alike suggest that courts are inclined to award damages that far exceed an individual patent's contribution to that particular product. . . . Damage awards that dramatically exceed the commercial value of the patented invention lead to a number of deleterious practical consequences."[6]

- Professor Mark Lemley, Stanford Law School: "Because courts have interpreted the reasonable royalty provision to require the award of royalties based on the 'entire market value,' juries tend to award royalty rates that don't take into account all of the other, unpatented components of the defendant's product. This in turn encourages patent owners in those component industries to seek and obtain damages or settlements that far exceed the actual contribution of the patent. There are numerous cases of just this problem occurring. . . . There seems to be consensus that reasonable royalty damages should be limited to the share of a product's value that comes from the invention and that patentees should not be able to capture value they did not in fact contribute."[7]

It is remarkable to me that the law today permits reasonable royalty awards that ***exceed*** the infringer's entire profit on the infringing product or service—making clear that the entire standard has no basis whatever in economic reality: such a royalty is by definition unreasonable, because a product manufacturer would stop making the product rather than pay it. But this legal rule authorizes NPEs to pursue irrational damages demands with impunity.

Unfortunately, the threat of a "jackpot" award in patent cases is real. Prior to 1990, there had been only one patent damages award in history larger than $100 million, but in the past seven

[6] *Patent Reform Act of 2007*: Hearing Before the Subcomm. on Courts, the Internet and Intellectual Property of the House Comm. on the Judiciary, 110th Cong., 1st Sess. 63 (2007).
[7] *Patent Quality Enhancement in the Information-Based Economy*: Hearing Before the Subcomm. on Courts, the Internet and Intellectual Property of the House Comm. on the Judiciary, 109th Cong., 2d Sess. 38 (2006).

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years, there have been at least fifteen judgments and settlements in that category, with at least five topping $500 million.

Second, unlike companies that make or sell products, NPEs cannot be deterred from asserting opportunistic and unjustified patent claims by the counter-threat of infringement claims asserted by defendants back against them—their lack of any products or services prevents the assertion of such claims. Because the patent system was designed with product manufacturers in mind, not NPEs, the NPEs are able to exploit the lack of clarity of the reasonable royalty standard in a way that manufacturing companies cannot.

Third, because litigation costs are significantly higher for manufacturers, NPEs can assert infringement claims regardless of the underlying merits to exert pressure on the manufacturers. As a plaintiff, the NPE's costs are minimal—basically some limited information relating to the patent. Each defendant, on the other hand, must produce a huge volume of information relating to the development of the products at issue, the basis for customer demand for the product, etc. Given the high cost of electronic discovery, the burden on a defendant is very substantial. Recent data indicates significant cases cost $5 million or more per company to defend.[8]

Moreover, the NPE has an incentive to spread its costs by suing as many defendants as possible. In that way, it need only exact settlements from a relatively small proportion of defendants in order to earn a profit on the litigation.

It is increasingly routine to read of a single lawsuit in which an NPE/plaintiff has sued a dozen or more companies. For example, a plaintiff recently sued twenty separate financial institutions in a single action, claiming that its patent on a point of sale debiting system was infringed by the institutions' various payment services. Another case named 22 companies as defendants, asserting that each was infringing the plaintiff's broadly-worded patents relating to security scanning.[9] Another NPE just filed a lawsuit accusing 40 companies of violating two patents relating to computer-assisted sales.[10]

Under the current rules, therefore, an NPE has no incentive to focus its efforts on legitimate licensing demands. The greater the number of patents with respect to which the NPE makes licensing demands, and the greater number of companies targeted with respect to each patent, the more "chances" the NPE has to obtain a licensing payment. And the incremental cost of each licensing demand is extremely low.

The same is true with respect to litigation. The NPE has an incentive to file a lawsuit even with respect to the most marginal of claims. Its costs will be very low, but the costs it inflicts on defendants will be substantial and the risk to each defendant of a huge jury verdict because of the vague reasonable royalty standard cannot be discounted. As a result, the possibility of settlement payments from at least a few defendants is quite reasonable.

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[8] AIPLA Report of the Economic Survey 2007, at 25-26.
[9] http://www.thetechherald.com/article.php/200902/2748/Patent-troll-sues-entire-security-industry-over-behavior-based-tech.
[10] "Boeing, Ebay, QVC Hit With Sales Patent Suit," IPLaw360 (March 2, 2009).

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Fourth, the risk of an excessive jury verdict is heightened by the forum shopping that has become rampant in patent litigation. The number of cases filed annually in Marshall, Texas, grew from 24 in 2000 to 369 in 2007—a fifteen-fold increase. More patent lawsuits were filed in Marshall in 2007 than in New York City, San Francisco and Boston combined. More patent lawsuits were filed in Marshall than were filed in Los Angeles—indeed, more than one of every eight cases filed in the entire country.

Current law provides that a case may be filed in any district in which the defendant has committed an act of infringement. Therefore, companies whose products are distributed nationwide may be sued in any judicial district in the country. That loose standard leaves plaintiffs with an essentially unlimited choice of forum.

Of course, this imposes substantial costs principally on defendants, who must transport lawyers, documents, and numerous witnesses to the site of the trial—an expense that is multiplied when the trial is located far from the defendant's place of business.

Plaintiffs generally focus on jurisdictions that are perceived to be "plaintiff-friendly." Indeed, data indicates that plaintiffs prevail more frequently in some jurisdictions than in others—and those are the jurisdictions that are attracting patent lawsuits. For example:

- The median damages award in cases decided in Marshall between 1995 and 2008 was $20.4 million, the second-highest of any federal district court in the country.
- Plaintiffs' win rate in cases decided between 1995 and 2007 in Marshall was 72%, the second-highest of any district in the country.

Combined with the other deficiencies in legal rules, forum-shopping enables plaintiffs to increase the pressure to settle.

* * * * *

It is important for the Committee to recognize that this concern about vague and unfair litigation standards is not an abstract debate about legal rules. Reform is urgently needed because of the very real costs that unjustified patent claims and lawsuits are imposing on companies like Micron, costs that are hurting our entire economy. Companies with a successful history of creating large numbers of jobs here in America through innovative products and services are being forced to divert resources away from innovation and into unjustified litigation and unwarranted settlements. Each diverted dollar means less innovation and less job creation. And the fact that Micron, and the others like us, must factor the costs of unjustified litigation into our product development decisions means that some products will not be brought to market.

The Committee has heard from other companies that there is no problem with patent litigation But that is because they are not experiencing the onslaught of patent claims that are flooding Micron and other technology companies—either because of differences in the nature of their products, or simply because NPEs have not yet targeted their industry. But the fact that others are not being attacked does not in any way change the fact that our problem is real, that it is harming the economy and job creation, and that it can and should be addressed.

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I recognize that there may be some debate about the particular language in Senate Bill 515. However, Congress must recognize that the problems I have described must be addressed quickly and effectively. At this time of economic crisis, we simply do not have the luxury of more years of delay.

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Written Testimony of

The Biotechnology Industry Organization (BIO)

Before the United States Senate

Committee on the Judiciary

Hearing Entitled

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"

March, 10, 2009

The Biotechnology Industry Organization (BIO) is pleased to provide this written testimony on the critically important topic of patent reform. BIO thanks this Committee for its continuing leadership in strengthening the foundation of American innovation – intellectual property – and for convening this hearing to discuss how we can, working together, develop a balanced and effective set of reforms to the U.S. patent system so that it continues to drive American innovation forward.

BIO's membership includes more than 1,200 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in all 50 States. BIO members – the vast majority of whom are small, emerging companies with little revenue and no marketed products – are involved in cutting-edge research and development of health care, agricultural, industrial, and environmental biotechnology products that are revolutionizing patient treatment, greatly expanding our ability to feed a growing world population, and offering the promise of reducing our dependence on oil and other fossil fuels and leaving a cleaner environment for future generations.

While America has no monopoly on the generation of novel and inventive ideas, what it does have is a remarkable ability to fund the development of those ideas at early stages – frankly to the benefit of the entire world's population. It is mindful of this extremely important societal benefit that BIO presents this testimony.

The biotechnology industry, fueled by the strength of the U.S. patent system, has spurred the creation of jobs for more than 7.5 million people in the United States, and has generated hundreds of drug products, medical diagnostic tests, biotech crops, and environmental products. In the healthcare sector alone, the industry has developed and commercialized more than 300 biotechnology drugs and diagnostics that are helping more than 325 million people worldwide; another 400 or so biotechnology products are in the pipeline. In the agricultural field, biotechnology innovations are growing the

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economy worldwide by simultaneously increasing food supplies, reducing pesticide use, conserving natural resources of land water and nutrients, and increasing farm income. Biotechnology companies are also leading the way in creating alternative fuels from renewable sources without compromising the environment.

Biotechnology innovation has the potential to provide cures and treatments for some of the world's most intractable diseases, such as cancer, Alzheimer's, Parkinson's, diabetes, and HIV/AIDS, and to address some of the most pressing agricultural and environmental challenges facing our society today. All of this innovation is possible because of the strength and predictability provided by the U.S. patent system. Therefore, when considering changes to this system, we urge the Committee to consider carefully the cautionary language embraced by the Hippocratic Oath – first, do no harm.

This well-worn principle is even more relevant today, as this Committee holds the first Congressional hearing on patent reform since June 2007. During these past two years, both the legal and economic landscape relevant to patent reform has shifted dramatically. To the extent that proponents of patent reform argued two years ago that the judicial climate was overly protective of patents and patent owners (a view decidedly not embraced by BIO even back then), there can be no doubt that a series of landmark decisions by the U.S. Supreme Court and the United States Court of Appeals for the Federal Circuit has made it much harder to obtain and enforce valid patents, while making it easier to challenge them. And to the extent that concerns were raised in 2007 about the negative impact that some of the proposed patent reforms could have on U.S. economic growth at home and competitiveness abroad (a concern that BIO shared), there can be no doubt that such concerns are even more pronounced in light of the current economic situation in the U.S. today.

In light of the major changes that have taken place since many of these patent reform ideas were first suggested, BIO urges this Committee to undertake a careful and

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comprehensive evaluation of the continuing need for, and potentially negative impact of, some of the more controversial provisions in the patent reform debate. We commend the Committee for beginning this process with this hearing, and believe the Committee should hold a series of hearings to examine these critical questions before moving forward with legislation.

The Role of Patents in Biotechnology

Biotechnology product development often takes more than a decade and hundreds of millions of dollars of capital investment, a significant amount of which comes from private sources. Biotechnology product development is also fraught with high risk, and the vast majority of experimental biotech products fail to ever reach the marketplace. Investors will invest in capital-intensive, long-term, and high-risk research and development endeavours only if they believe there will be a return on their investment. Patents provide this assurance. Indeed, during the 10-15 years of investment in R&D prior to product approval, totaling on average $1.2 billion for every successful new medicine, patents often are the main source of value of a biotech company. Without strong and predictable patent protections, investors will shy away from investing in biotech innovation, and will simply put their money into projects or products that are less risky – without regard for whether they provide less societal value.

Decreasing investment in biotechnology will result in cessation or interruption of critical research projects, increasing layoffs, and in many cases the demise of start-up companies reliant on private capital, with an accompanying loss of high-paying U.S. jobs. Perceived weakness of patent rights will also impact collaborative research and development between small innovators and large manufacturers, which is often the only route to commercialization for small biotech companies. Further, collaborations between academic laboratories and biotechnology companies are likely to diminish, as companies worry about the strength and predictability of licensing rights based on weakened patents.

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The result may well be a return to the 1970s, when our substantial Federal research investment yielded basic discoveries that simply languished on laboratory shelves.

President Obama has called for a renewed effort to cure cancer in our lifetime, and the Congress just granted the National Institutes of Health an additional $10 billion as part of the economic stimulus package. Yet the wrong approach to patent reform could undermine these commendable efforts.

Consequently, as Congress considers reforms to the patent system, it must be mindful of the critical role of patents in the growth and development of companies in the biotechnology sector and in the translation of basic research into actual products. Different industries have different business models. For the biotechnology industry, effective patent protection is a necessity, not simply a business advantage or a luxury. We urge this Committee to take great care to ensure that any reforms it enacts support future innovation in all sectors of American society.

BIO's Views on Patent Reform

BIO members believe that, in the biotechnology arena, the patent system has done exactly what it was intended to do: stimulate innovation and R&D. By and large, biotechnology patents are of high quality. That is not to say that there is no room for improvement. As Congress crafts patent reform, BIO would urge the enactment of the following reforms:

- BIO supports full funding for the agency responsible for granting patents – the United States Patent and Trademark Office (PTO). This can be most effectively achieved by giving the PTO more flexibility in setting its user fees, and by permanently ending fee diversion – thus ensuring that all fees collected by the PTO are used to improve the efficiency of the patent system.

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- As means for enhancing patent quality, BIO supports expanded opportunities for members of the public to submit prior art during patent examination, and repeal of the judicially-created inequitable conduct doctrine, which is chilling the exchange of information between patent applicants and PTO examiners.

- BIO supports a transition to a first inventor-to-file system that incorporates an appropriate "grace period" so as to encourage both the prompt filing of patent applications and the early public dissemination of research results.

- BIO supports willful infringement reforms that would specify that the litigants must first resolve the validity and infringement of the patent before turning to willfulness, as well as clarify the conditions under which courts can determine that willful infringement occurred.

- BIO supports, in principle, venue reforms that would discourage forum-shopping and encourage the choice of courts in districts where infringement occurred and where the parties actually conduct business, or where the evidence and witnesses are located.

- BIO supports repeal of the Best Mode description requirement, which has no counterpart in foreign patent laws and serves largely as an often-abused defense in patent litigation to attack the subjective state of mind of the patent applicant.

- BIO supports restoring a rebuttable presumption of irreparable harm and inadequacy of remedies at law when evaluating a request for a permanent injunction following a finding of patent infringement, so that the right to exclude – which is the essence of the patent right – is not undermined.

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BIO's Position on the Patent Reform Act of 2009

BIO welcomes efforts by this Committee to make improvements to the U.S. patent system. The Patent Reform Act of 2009, which was introduced by Chairman Leahy and other members of this Committee, contains many – although not all – of the laudatory reforms outlined above. However, BIO is very concerned that other provisions in the bill would unintentionally promote uncertainty surrounding, and weaken the enforceability of, validly issued patents. The potential harm of the following provisions in the bill as currently drafted is so great that BIO must oppose the bill in its current form:

Expanded Post-Grant Reexamination: BIO opposes provisions in the bill that would broaden the grounds upon which a patent can be administratively challenged at any time during the life of the patent. This expansion of reexamination, on top of a new, time-limited post-grant opposition system, would be a dramatic departure from established norms, casting a cloud of uncertainty over issued patents and upsetting decades of settled, investment-backed expectations. Under this new system, virtually any competitor or customer of the patent holder – indeed, any person at all – can commence such a challenge at any time against any patent that is in force today. And, contrary to long-standing federal law, the patent could be challenged on the basis of unwritten prior art with no presumption of the patent's validity.

If a patent can be easily challenged at any time under a low standard of proof – even years after the patentee and the public have come to rely on it, and years after biotech companies have invested hundreds of millions of dollars to bring a patented invention through clinical trials and regulatory approval – patents will have much less value, and investment predicated upon them will inevitably be diminished. This, in turn, will likely result in fewer cures for diseases and other breakthrough biotechnology products such as

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advanced biofuels. This expanded life-of-the-patent challenge opportunity also incentivizes dubious behavior by excusing poor due diligence by infringing companies, and by encouraging competitors to delay their validity challenge until they can maximize its impact.

While BIO supported the creation of broader administrative challenges as contained in the Patent Reform Act passed by the U.S. House of Representatives in September 2007, the current bill goes too far by permitting any petitioner to attack a patent on the basis of unwritten prior art that was "in public use or on sale." As interpreted by the courts, those bases for prior art attacks are simply too broad to provide any meaningful protection for patent owners against harassment and abuse of this new administrative process. Further, because of their subjective and fact-intensive nature, they would require the type of discovery and due process that the PTO is ill-suited to provide and manage efficiently, and that would undermine the very purpose of creating a streamlined, administrative alternative to the court system. And, most problematic, these types of challenges could occur long after the issuance of a patent, creating substantial prejudice to patent owners without the protections found in court.

Indeed, a system of administrative patent challenges that provides an early post-grant review proceeding *and* multiple later opportunities for expanded reexamination on the basis of unwritten prior art is highly prejudicial against patents specifically in technologies that operate under a long innovation cycle, such as biotechnology. In biotechnology, products often reach the marketplace only a decade or more after the patent was initially applied for. Thus, in biotechnology and other slow-developing technologies, the late reexamination challenge is likely to come many years after the patent was first applied for. Unwritten prior art in biotechnology is likely to involve the past use of research materials or past studies of biological material that become increasingly hard to document or disprove, especially as they recede in time. In other words, slow-developing technologies like biotechnology are likely to face more, and

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bigger, evidentiary problems in such an expanded reexamination proceeding. These evidentiary problems are exacerbated by the patentee's inability to challenge the authentication, reliability, veracity and materiality of such evidence, because the reexamination provisions of the Patent Reform Act include neither a right to discovery nor any other protections that would account for the fundamental difference between traditional "patent and printed publication" evidence on the one hand, and "public use or on sale" on the other hand.

In BIO's view, in order to prevent abuse and misuse of any new post-grant reexamination system, any administrative alternative to patent validity litigation, especially if brought late in the life of the patent and on grounds that go beyond what is possible under current law, must account for the presumption of validity of patent claims that were examined and issued by the PTO. Further, any administrative post-grant review system must include incentives to bring validity challenges early in patent life, and contain limits on the ability of challengers to harass patent owners. If we in the biotechnology industry – with long product lead times and a multitude of complex granted patents to evaluate – are comfortable with limiting post-grant validity challenges to early in a patent's life, as currently exists in the European patent system, we think the bar is set quite high for industries with substantially shorter product development, and indeed product life, cycles to justify the necessity of longer periods during which broad-based reviews should be permissible.

Last, creation of a new post-grant opposition system also must be accompanied by other critical reforms to the patent system – particularly, repeal of the inequitable conduct doctrine and Best Mode requirement, transition to a first-inventor-to-file system, and restoration of the presumption of irreparable harm and inadequacy of remedies at law to obtain injunctive relief from continuing infringement.

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Apportionment of Damages: BIO also opposes the provision in the bill that would dramatically expand the situations in which a court would be forced into an "apportionment" process to determine what damages a patent owner should be awarded once a patent is found to be valid and infringed. Under current law, a guilty infringer of a patent currently has to pay the patentee damages adequate to compensate for the infringement, which may be the patentee's "lost profits," but are often limited to a "reasonable royalty." In determining a reasonable royalty, courts follow a flexible set of factors, including those outlined in the landmark *Georgia Pacific* case, designed to ensure that the patent holder receives a fair royalty based on the value of his or her invention, but is not compensated excessively. The gist of these factors taken together is that a reasonable royalty is what a willing licensee under the patent would have agreed to pay and a willing licensor would have agreed to accept for a patent that both parties agreed was valid, enforceable, and, absent a license, infringed.

The Patent Reform Act of 2009 would introduce a new default rule for determining and applying reasonable royalty damages, forcing the courts to use an entirely new and uncertain standard that would directs courts to "ensure that a reasonable royalty is applied only to that economic value properly attributable to the patent's specific contribution over the prior art." In other words, the court would be required to subtract from the infringed patent claim all elements that existed previously in the prior art, regardless of whether they ever existed in the claimed configuration or performed a similar function. Such an approach ignores the fundamental facts that virtually all inventions are, to some degree, premised on prior art, and that many patented components are essential to the intended functionality of the overall infringing product – two facts that are particularly applicable to biotech patents.

Assuming that courts and juries could even apply a prior art subtraction standard in a reasonably accurate manner (which, as noted below, is highly doubtful), the resulting residual royalties would be lower than the reasonable royalties calculated under current

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law and would compensate patent owners for only a portion of their invention, rather than its whole. While proponents of this provision argue that they are only seeking to ensure that a royalty reflects the value of the patented component as opposed to the entire infringing product in which the invention is incorporated (which we note is one of the *Georgia Pacific* factors already in current law), the actual proposed bill text does something quite different – mandating apportionment *within* the patented invention itself, between prior art elements and what proponents claim are the "inventive features."

This approach makes infringement cheaper because it would assess royalties on something less than the full invention – thus devaluing patents, encouraging infringement and, more importantly, ultimately discouraging investment in the underlying technology. Further, the uncertainty that such a vague and ill-defined concept would breed would further cause a devaluing of patent assets generally, and the value of many existing and future licenses to such patents.

We emphasize that this devaluation of patents is more damaging in a multi-year, high-risk, capital-intensive industry such as biotechnology. Investors will be extremely reluctant to invest the hundreds of millions of dollars necessary to develop a biotech product if the patents that ultimately will protect that product have been devalued in this manner.

BIO also urges Committee members to carefully consider the May 3, 2007 letter from Chief Judge Michel of the Court of Appeals for the Federal Circuit, which has been charged by the Congress with ensuring consistency in the application of patent law throughout the country. In his letter, the Chief Judge openly questions both the need for any changes to the law on apportionment and the ability of the judicial system to consistently and effectively implement such a new apportionment standard.

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Clarity and predictability of patent rights, including the right to fair compensation for infringement, and the right to fairly stop infringers from future infringing acts, are of paramount importance to the biotechnology industry and must be part of any legislative debate on remedies for infringement.

BIO wants to emphasize that, with respect to its opposition to these two key provisions in this bill – damages and expanded reexamination – it stands in good company. There is broad consensus, among a variety of industries, universities, unions, and other stakeholders across the spectrum of American society, against these proposed changes. It is essential that the common interest prevail over the special interest of a highly-vocal but minority segment of American industry.

Additionally, BIO strongly believes that the following elements must be included in any patent reform initiative, and notes with disappointment their absence from the Patent Reform Act of 2009 in its current form:

Inequitable Conduct Repeal: BIO supports the National Academy of Sciences' recommendation for reform of the inequitable conduct doctrine. Inequitable conduct is a frequently-abused defense in patent litigation by which infringers can allege that otherwise valid patents are "unenforceable" due to alleged misrepresentations or omissions during the patent application process. The threat of such accusations is chilling communications between patent applicants and examiners, and is negatively impacting the quality and efficiency of patent examination today. It also is a key driver in the cost and length of patent litigation, and has been described as a "plague" by the U.S. Court of Appeals for the Federal Circuit. BIO believes that this doctrine should be abolished. The regulation of applicant conduct should be committed to the expert agency, the PTO. Courts should address objective questions of patent validity, infringement, and anticompetitive behavior, and should no longer have authority to declare objectively valid patents unenforceable for reasons unrelated to actual invalidity. The need to repeal or

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restrict this doctrine is supported by a broad range of stakeholders in the patent system, in addition to the National Academy of Sciences.

Best Mode Repeal: BIO supports repealing the Best Mode requirement. This requirement, which is unique to U.S. patent law, requires an inventor to describe what is believed to be, at the time of filing, the best mode of practicing her or his invention. BIO believes, as does the National Academy of Sciences, that this doctrine has outlived its usefulness as a requirement of patentability, and is instead used in modern patent litigation to attack the subjective state of mind of the inventor at the time the patent application was filed, in a belated attempt to invalidate an otherwise valid patent. Again, repeal of this requirement is supported by many stakeholders, with the goal of making the patent system more objective and less costly.

Recent Court Cases and Their Impact on Patent Reform Proposals

While any system will need to be modified over time, the legal system governing patents has proven to be largely self-correcting. Over the past several years, the U.S. Supreme Court and the Federal Circuit have issued (or are presently considering) a series of landmark patent decisions that resolve many of the key legal complaints that have been raised about the current patent system. For example:

- Business method patents: The Federal Circuit, in In Re Bilski, basically eliminated much-maligned patents on disembodied business methods.

- Venue abuses: The Federal Circuit in the TS Tech case, like the Fifth Circuit before it, recently compelled the Eastern District of Texas to start transferring more patent cases to other district courts in more appropriate locations.

- Willful infringement: Under the Federal Circuit's Seagate decision, willfulness is now a much more circumscribed doctrine that is harder to establish in litigation.

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- Obviousness: In KSR, the Supreme Court made it easier for the PTO to reject applications on combination inventions, and for defendants to prevail on an obviousness defense against asserted patents.

- Licensor-licensee relationship: In MedImmune, the Supreme Court provided new avenues under which businesses which are on the receiving end of aggressive licensing invitations can go to court. In Quanta, the Supreme Court constrained a patent owner's ability to collect royalties from downstream users of its licensed invention.

- Infringement liability for exported software: In the Microsoft v. AT&T case, the Supreme Court limited the availability of extraterritorial infringement theories and eliminated infringement liability for exported software that is loaded on computers abroad.

- Permanent injunctions and "hold-ups" by "predatory" patent owners: In the eBay case, the Supreme Court made it harder for non-practicing patent holders to permanently enjoin infringers.

- Damages: Lucent v. Gateway is currently on appeal in the Court of Appeals for the Federal Circuit. It deals with the standards for calculating a reasonable royalty where the patented element is only a small part of the overall infringing product – the exact fact scenario that the proponents of damages reform believe needs clarification. The case will likely be decided by this summer and should clarify the law in this area.

Certainly, these major legal changes have dramatically shifted the patent landscape, generally weakening the rights of patent owners. This Committee should carefully consider the impact of these cases as a whole, in determining whether additional reforms that would further weaken patent rights would push the patent system too far in such a

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direction, with potentially enormous negative consequences for America's engine of innovation.

Conclusion

In conclusion, BIO urges this Committee to continue its consultation with affected industry sectors and to ensure that any new patent legislation strengthens, rather than weakens, the patent system that serves as the foundation of current and future American innovation. We stand ready to work with this Committee to ensure true improvements to the patent system that can be supported by all innovative industries.

On behalf of its more than 1,200 members across the nation, BIO thanks you again for the opportunity to present these views on patent reform and urges your careful consideration of them.

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THE INNOVATION IMPERATIVE:

Building America's *Invisible Edge* for the 21st Century

By Mark Blaxill and Ralph Eckardt

2009

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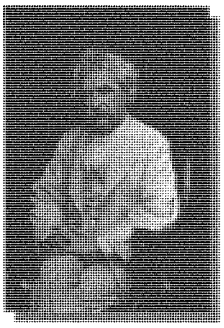
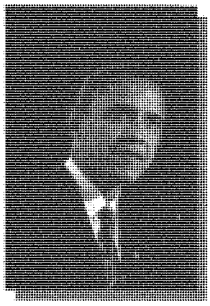
The very first official thing I did in my administration—and it was on the very first day of it too—was to start a patent office; for I knew that a country without a good patent office and good patent laws was just a crab, and couldn't travel any way but sideways or backwards."



Mark Twain
A Connecticut Yankee in King Arthur's Court, 1889

The very fact that this crisis is largely of our own making means that it is not beyond our ability to solve. Our problems are rooted in past mistakes, not our capacity for future greatness. It will take time, perhaps many years, but we can rebuild that lost trust and confidence. We can restore opportunity and prosperity.

We should never forget that our workers are still more productive than any on Earth. Our universities are still the envy of the world. We are still home to the most brilliant minds, the most creative entrepreneurs and the most advanced technology and innovation that history has ever known. And we are still the nation that has overcome great fears and improbable odds. If we act with the urgency and seriousness that this moment requires, I know that we can do it again.



President - Elect Barack Obama
Economic Policy Speech, January 8, 2009

Executive Summary

Today, the chief export of the U.S. economy is innovation. American inventors have built a strategic reserve of intellectual property rights that is every bit as strategic as our domestic energy reserves – in our view, it is America's "invisible edge." In fact, the American economy, now reeling from the mortgage crisis and its ripple effects, has typically found its most sustainable competitive advantage in precisely this resource: innovation.

The single exception was one tragic period from the 1950s through the 1970s when overconfident regulators squandered American innovation assets. Their misguided policy interventions gave away American know-how to overseas competitors at fire-sale prices, compromising our national competitiveness and economic wellbeing.

Today we are in danger of repeating those mistakes.

Policymakers appear not to have learned the lessons of history. In recent years, the American patent system, long one of our greatest institutional strengths, has come under increasing attack, with policymakers not only leaving this strategic reserve undefended, but also in some cases actively undermining its integrity.

We argue that now, in this time of economic crisis, restoring America's "invisible edge" in innovation is critical to both a sustainable recovery and sustainable leadership in an increasingly global economy.

Thus, the most effective near-term "economic" policy the Obama Administration can pursue is a comprehensive "innovation policy" that focuses on strengthening the patent system, supporting the price of American innovation in the global marketplace, enhancing America's terms of trade with the rest of the world, and building the strategic reserves of U.S. intellectual property for the 21st century.

Innovation Boom, Patent Bust:
THE CAUTIONARY TALE OF ROCHESTER, NY

Not very long ago, Rochester, New York, was a hotbed of growth in the American innovation economy. Often described as "America's first boomtown,"[1] it once ranked among the top 20 cities in America – ahead of cities like Houston, Denver, Portland and Atlanta.

Today, however, few Americans think of Rochester as a major center of any industry. How Rochester went through this transition – from boomtown to relative obscurity – is a cautionary tale for an economy in crisis that is looking to innovation to pave the road out.

Rochester's Riches: A Century of Innovation & Technology Leadership

With the completion of the Erie Canal in 1825, Rochester's economy was booming, and the city was launched on a road to growth and prosperity that lasted well over a century.

Early on, it was known as "The Flour City." Spurred by its competitive advantage of being on the Erie Canal, the city became the grain-processing center for New York City. This early agricultural emphasis was soon to fade, however, as Rochester transformed itself into a center of high-tech innovation and commerce.

Western Union, the company that built America's first "information superhighway," was founded there in 1851. George Eastman, a long-time resident, filed his breakthrough photographic plate patent in Rochester in 1877. Eleven years later, after also patenting the first camera to use film in rolls instead of plates, he formed the company that bears his name, Eastman Kodak, in 1888.

As in any dynamic, high-technology cluster, Rochester's economy wasn't reliant on a single company; it was simply the place cutting-edge technologists went to start their businesses.[2]

Over time, Rochester changed its identity from "The Flour City" to "The World's Imaging Center." George Eastman's breakthroughs in imaging, optics, film and printing gained steam alongside his talented neighbors in the optics business at Bausch & Lomb (founded in 1853), the photographic paper and equipment products at Haloid Corporation (founded in 1906) and the newspaper publishing empire at the Gannett Company (founded in 1923).

[1] Warren Kling, America's First Boomtown - Rochester, NY: The Early Years and the Notables Who Shaped It (Rochester: History Alive Publications, 2008).
[2] Die-hard movie buffs may remember the scene in "It's a Wonderful Life" when Sam Wainwright told George Bailey that he planned to build his plastics factory in Rochester; George told him to build it in the fictional town of Bedford Falls instead.

Rochester's leading corporations were also prominent civil forces, and they took their economic responsibilities seriously. Their enlightened approach to business included establishing the *Institute of Optics* at the University of Rochester. The aim of the Institute, funded in 1929 by Eastman Kodak and Bausch & Lomb, was to expand the local engineering talent pool.

Despite its dynamism, however, Rochester was hit hard by the Great Depression, in some ways harder than other cities.[3] At first, Rochester adopted a can-do attitude. Local businesses organized an unprecedented program of civic activism around a "Pledge for Prosperity,"[4] which exhorted local residents to spend more. When this vain attempt failed, Rochester was left with little sense of what to do next. Morale dropped, and for a time, residents fled the city. In a symbolic blow, George Eastman committed suicide in 1932.

Rochester came roaring back during the 1940s, not because of economic spending initiatives, but because of its longstanding spirit of innovation. And one local company in particular – the Haloid Corporation – led the way.

Haloid executives saw the potential of an invention by Chester Carlson, a New York City patent attorney, whose technology had been spurned by the likes of General Electric, IBM and RCA. Unlike those other companies, Haloid's experience with photography and paper gave it unique insight into the potential of Carlson's invention. After several years of intensive development, Haloid bet its future on a new imaging technology that they dubbed: *xerography*.

Like many fundamental technologies, xerography took many years to make it to market:

- Carlson filed his first patent in 1937.
- He made his first electrostatic copy in 1938.
- During the 1940s he was able to prove the technical feasibility of his inventions.
- Over a decade after beginning work on his inventions, the first Haloid Xerox copier was sold in 1950.
- The Haloid copier was such a huge success that the company changed its name to Xerox in 1961.

[3] In addition to the loss of jobs, Rochester was hit in succession by the only tornado in its history (1932), a record cold spell that froze the waters of Lake Ontario for the only time in recorded history (1934) and a record heat wave (1936). "Weather tested Rochester's mettle during Great Depression," *Democrat and Chronicle*, 1 Dec. 2008.

[4] Sarah Elvins, "Shopping for Recovery," *Journal of Urban History*, 2003: 670-93.

For more than a decade, the company prospered in a spectacular fashion. Xerox entered the Fortune 500 in 1963, and ten years later, it was ranked #40, a growth trajectory that made it the fastest growing company in the history of the New York Stock Exchange. Revenues and stock price soared upward together with local jobs, and, along with xerography's success went the fortunes of the Rochester economy.

Then one day, a group of officials in Washington D.C. made a decision that would change the economy of the city and region forever.

The Great Patent Give-Away: Washington Guts Rochester's Innovation Economy

In a 1975 antitrust settlement, the Federal Trade Commission (FTC) compelled Xerox to adopt a new pricing scheme by which it agreed to provide access to any and all comers to its entire patent portfolio.

Practically speaking, they forced Xerox to license their patents to the world. The company agreed to license any three of its patents for free, the next three for a maximum royalty of 1.5% and then the entire remainder of its portfolio for nothing.

The compulsory license scheme, designed by economists at the FTC, was based on the notion that a sustained program of technology investment had made Xerox too big and too powerful. But rather than work directly on Xerox's alleged abuses of market power, the FTC decided to target its technology instead. This was the FTC's view, in the words of FTC chief economist F. Michael Scherer:

> *[Xerox] had somewhere between 1,000 and 2,000 patents in the mid-1970's. They were adding to their portfolio at a rate of several hundred patents a year. They had the technology completely encircled, and a consideration that prompted our decision to intervene with compulsory licensing was that the 914 Copier was introduced in 1959. The case came for a decision in 1975. They had enjoyed 16 years of a spectacular patent monopoly. How long should a monopoly last?*
>
> *We intervened because we thought essentially that 17 years was what the law had in mind, 17 years was enough.*[5]

At the time, the FTC thought they were providing market access to Xerox's domestic competition. Other American giants like IBM wanted a piece of the action. They had tried for years to develop their own products, but they couldn't get around the Xerox patents.

[5] "Roundtable Discussion on Competition Policy, Intellectual Property and Innovation Markets," in Robert D. Anderson & Nancy T. Gallini, *Competition Policy And Intellectual Property Rights In The Knowledge-Based Economy* (1998), 448-49 (remarks of Professor F.M. Scherer, chief economist at the Federal Trade Commission from 1974-1976.) cited by Willard K. Tom, "The 1975 Xerox Consent Decree: Ancient Artifacts And Current Tensions", *Antitrust Law Journal*. 2001;68: 967-90.

However, the unintended consequence of the FTC's compulsory license was to donate Rochester's technology to the Japanese, who were able to take decades of American investment and deploy it in their own products for free. Within a few short years after the consent decree, Xerox's market leadership withered as Japanese competitors like Canon, Toshiba, Sharp, Panasonic, Konica and Minolta each claimed a significant share of the U.S. market. (Kodak made a run at the copier business as well. IBM never got very far.)

After years of explosive growth, the juggernaut that once was Xerox was stopped dead in its tracks: market share plummeted almost overnight, profits tanked, the company went through huge layoffs and, despite a series of the obligatory corporate turnaround books[6], never fully recovered its old luster and leadership.

All of this leaves one wondering: What were the policy makers at the FTC thinking?

The Policymakers' Prerogative: Using Bureaucratic Power to Enforce "Competition"

What happened to the longstanding American tradition of entrepreneurial capitalism, which rewards innovators and entrepreneurs with intellectual property rights not based on abstract notions of product category, but on legal rights (consistently applied) to specific inventions?

It seems that Scherer and his colleagues didn't pay much attention to that tradition: in the FTC's view of competition policy, Xerox's property rights were subordinate to, and thus appropriable by, the U.S. government. So, policymakers decided to take away Xerox's property rights, replacing the company's market power with their own:

> *That was the essence of our case. There were all sorts of peripheral practices that, at least I thought, were entirely peripheral. We used them for fighting purposes. But the essence of the case was, frankly, social engineering. It was time to break open this monopoly and create competition. The theory about acquisition and some of the price discrimination practices, and so forth, was fluff. The center of the case was the extension over time of the monopoly through patent accumulation.*[7]

More alarming, this dismissal of patent owner rights was part of a broad assault on the patent system by the FTC, which went well beyond Xerox. That was just one of the most visible cases.

Some of America's most valuable technologies – a list that included AT&T's computer and telecommunications patents, IBM's semiconductor and computer patents and DuPont's patents for nylon and other synthetic fibers – were expropriated from their developers in furtherance of the FTC's social engineering agenda. And Xerox wasn't the only target in the Rochester economy. The FTC slapped a compulsory patent license decree on Bausch & Lomb [8] and also pursued George Eastman's business, albeit a bit less directly.

[6] David T. Kearns and David A. Nadler, Prophets in the Dark, (Harper Business, 1992) Gary Jacobson, and John Hillkirk, Xerox: American Samurai (Scribner, 1987).
[7] Scherer, op cit.
[8] F. M Scherer, Innovation and Growth (Cambridge: MIT, 1984) 210.

A 1954 consent decree put Eastman Kodak on notice that its attempt to protect its film processing technology would be heavily constrained. One effect of the FTC's intervention was to allow Fujifilm to enter the U.S. market for film essentially unimpeded.

It is a great irony that companies like Xerox and Kodak were powerful and innovative enough to point the way out of the Great Depression for Rochester, offering it a dynamic future as *The World's Imaging Center*. Yet these iconic businesses were no match for policymakers in Washington D.C., who blocked their progress and undermined their promise.

In the end, giving away property rights to the world's most exciting imaging technology to any company around the globe – for fire sale prices – essentially threw the entire body of work of generations of local technologists out the window. And while the Rochester economy had proven resilient in the face of many challenges during its history, the 1975 Xerox Consent Decree was a crucial turning point.

It was a body blow to the competitive advantage of the region – a blow from which Rochester's economy has not recovered.

I
Innovation & IP: CORNERSTONES OF THE AMERICAN DREAM

From our very beginnings, and far more than any other country in the world, America's continuous, large-scale investment in intellectual assets has built up our reserves of technology and given American innovation its competitive edge.

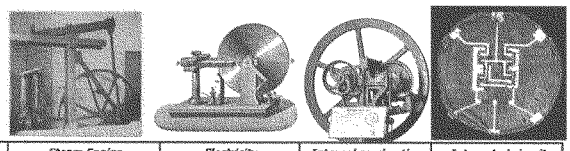
The Founding Fathers even enshrined this unique tradition in the U.S. Constitution, the first country ever to do so:

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.-Article 1, Section 8, the United States Constitution

Indeed, in almost any technical domain you can think of, American technology developers have been important, if not central, to some of the most powerful waves of technology in world history.

According to an Encyclopedia Britannica listing of the world's greatest inventions, American inventors have been responsible for half of the greatest inventions in history, not bad for a country that's only been around for 230 years.[9] In a shorter (and more recent) list, focused on transformational kinds of technologies – clusters of innovation like steam power, electricity, internal combustion engines or integrated circuits [10] – American inventors have led the way even more clearly. In these waves, even when the inventors themselves weren't born in the United States, men like Nikolai Tesla and John von Neumann, they often came to the U.S. to do their most important work and eventually became American citizens.

AMERICAN LEADERSHIP IN TRANSFORMATIVE WAVES OF GENERAL PURPOSE TECHNOLOGY



Era	*Steam Engine*	*Electricity*	*Internal combustion engine*	*Integrated circuit*
Core technologies	Steamships Railroads Telegraph	Electrical generator Electrical grid Telephone	Oil drilling/refining Automobiles Aerospace	Computers Networks Optics/lasers
Key derivative industry	Textiles	Steel	Plastics	Internet
Non-U.S. inventors	James Watt (UK) George Stephenson (UK)	Michael Faraday (UK) Nikolai Tesla (-> US)	Otto/Daimler/Benz (Germany)	John von Neumann (-> US)
U.S. inventors	Robert Fulton Samuel Morse	Thomas Edison Alexander Graham Bell	Edwin Drake Henry Ford Wright Brothers	Kilby/Noyce Robert Metcalfe Gould/Townes

[9] Both George Eastman and Chester Carlson made the list.
[10] See Carlota Perez, Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages (Northhampton: Edgar Elgar Publishing, 2002).

Surely, many other factors have contributed to the innovative capacity of the American economy. The list is too long to catalog here, but certainly it includes: a large, legally integrated national market with free internal movement of capital and labor; a long tradition of checks and balances on the power of large institutions; a cultural tradition that embraces change, reinvention, individual liberty and the freedom to compete; and of course a long legal tradition that defends both personal and business property rights.

But while these foundations provide the conditions for a prosperous free-market economy, and while the American economy shares many of such attributes with other capitalist economies, the *specific* magnetism of the U.S. economy is no accident.

Protecting and Promoting Innovations: A Unique American Tradition

If one factor has contributed more directly to America's capacity for innovation than any other, it is our unique commitment to a legal tradition of protecting intellectual property. Such protections have sustained a parallel American commitment to innovation investments – promoting a cycle of technological dynamism that feeds on itself to sustain the growth and value of innovation assets.

Although the patent system didn't begin here, many of the most important firsts took place in the United States. And for a long time, this was also no accident; for the role of intellectual property rights in stimulating technological change was axiomatic for businessmen and progressive thinkers for much of our nation's history. As Mark Twain's Connecticut Yankee said when he took charge of King Arthur's court,

"The very first official thing I did in my administration—and it was on the very first day of it too—was to start a patent office; for I knew that a country without a good patent office and good patent laws was just a crab, and couldn't travel any way but sideways or backwards."[11]

NOTABLE FIRSTS IN THE HISTORY OF PATENTS

June 19, 1421	First patent for invention granted to Filippo Brunelleschi for a barge design	1861-65	Abraham Lincoln is first patent owner to serve as U.S. President
March 19, 1474	First formal patent law protecting inventors' rights enacted in Venice	March 20, 1883	Paris Convention sets first international standards for protecting patent rights
1617	First numbered English patent granted to Rathburn & Burges for mapmaking	Feb. 4, 1947	First patent with a citations section granted to JD Andrew for a tube spacer
1623-24	The Statute of Monopolies, first national patent law, enacted in England	April 2, 1982	U.S. Congress establishes first Federal Circuit level court for patent appeals
Sept. 17, 1787	First patent right set out in a national constitution, U.S. Article 1, Section 8	April 1, 1985	The first patent law for the People's Republic of China goes into effect
April 10, 1790	First U.S. patent statute signed into law by President George Washington	April 15, 1994	TRIPS agreement links patent protection with the global trading system for first time
1790-93	Thomas Jefferson serves as one of first three U.S. Patent Commissioners	Feb. 4, 2002	Japanese Prime Minister Koizumi announces first national IP strategy
July 31, 1790	First U.S. patent granted to Samuel Hopkins for method of making potash	April 11, 2002	First company labeled a "patent troll", TechSearch, loses patent suit against Intel
Oct. 24, 1856	I.M. Singer and Elias Howe form first patent pool in U.S. for sewing machines	Feb 10, 2006	First Chinese company, Netac, files a patent suit in U.S. courts vs. a U.S. company

[11] Mark Twain, A Connecticut Yankee in King Arthur's Court, Charles L. Webster & Co. 1889 (New York: Bantam Classic Reissue Edition, 2005) 49.

Thanks in large part to our philosophical and legal commitment to IP protections, America has been, from its very beginnings, a land of opportunity – holding out unique promise to the world's most talented and creative people, encouraging the best and brightest from around the world to build their businesses, careers, indeed, their families' futures in America. For many decades, from immigrants like Tesla and von Neumann onward, scientists and engineers all over the world have come to the United States to fulfill their dreams. (A migration pattern, in fact, that has long generated complaints of a "brain drain" from other countries.)

The Ultimate Under-Valuation: Economists Give Away a National Treasure Trove of Intellectual Property

The 1975 Xerox Consent Decree, however, marked the beginning of a pattern of activism by Washington-based economists, who failed to comprehend the larger economic importance of IP protections.

"Nearly a hundred of America's most innovative companies were forced to give away their patents."

"By one estimate, the give-away reached 50,000 patents as early as 1960... what one observer called 'the largest "white sale" in technology history.'"

In fact, the economics field has long struggled with the entire concept of giving exclusive rights to any business. In the lexicon of the profession, that's a monopoly. And as every economist knows, monopolies are bad. In 1958, Princeton's Fritz Machlup said:

> *"If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it."[12]*

Since the patent system is older than the economics profession, perhaps it shouldn't surprise us that its importance remains a mystery to generations of economists who grew up knowing nothing else. But as we learned from the FTC's Scherer, when you don't know how to value a unique form of property, it makes it easier to give it away.

And starting in the 1950s, "give it away" is exactly what these economists did. Nearly a hundred of America's most innovative companies were forced to give away their patents. By one estimate, the give-away reached 50,000 patents as early as 1960. [13]

Japanese companies, actively supported by the Ministry of Trade and Industry (MITI), were perhaps the single largest beneficiaries of American largesse. Between 1950 and 1980, Japanese companies consummated more than 35,000 technology license agreements with foreign, mostly

(12) An Economic Review of the Patent System,' Study No.15 of Committee on Judiciary, Subcommittee On Patents, Trademarks, and Copyrights, 85th Congress, 2d Session (1958).
(13) Marcus A. Hollabaugh and Robert Wright, Compulsory Licensing under Antitrust Judgments, staff report of the Subcommittee on Patents, Trademarks and Copyrights, Senate Committee on the Judiciary (Washington: 1960) 2-5.

U.S. companies, many of which included the free or low-cost patent licenses made possible by the numerous consent decrees issued by the U.S., FTC and DOJ.[14]

It's worth taking a moment to place the magnitude of this technology transfer in perspective—what one observer called "the largest 'white sale' in technology in history."[15]

In the 1950s, American companies received something less than 50,000 patents annually.[16] But, according to studies, only about 10% of patents present any significant commercial value (about 5,000 annually during that period).

Thus a forced licensing of more than 50,000 patents would represent more than a decade of American innovation and technology leadership – based on the reasonable assumption that the forced licenses were made up disproportionately of the most valuable American technologies.

We believe this is a conservative estimate of what was donated to the world during this era of forced licensing.

"As we learned from the FTC's Scherer, when you don't know how to value a unique form of property, it makes it easier to give it away."

Consider a parallel in the form of energy policy: Hydrocarbon reserves, which include oil and natural gas deposits, are commonly considered among the most valuable strategic resources a nation can possess. Through history, numerous wars have been fought over the security of energy supplies, including the First Gulf War aimed at removing Saddam Hussein's armies from Kuwait.[17] Indeed, oil reserves and energy independence are a major focus of U.S. policy today, at the highest levels of government.

Would anyone seriously consider forcing America to donate more than a decade's worth of its oil reserves to the world?

In today's global economy – one which is driven by technology even more than by energy, and where prosperity depends in large part on the export of technology products – many nations increasingly consider IP to be among their most valuable strategic resources.

Viewed in this light, can anyone imagine U.S. policymakers simply turning over a decade's worth of our innovation reserves to the rest of the world, for free? But that is essentially what the FTC did in the 1970s.

[14] James C. Abegglen and George Stalk, Jr., Kaisha: The Japanese Corporation (New York: Basic Books, 1985) 126–127.
[15] Robert J. Girouard, U.S. Trade Policy and the Japanese Patent System, Working Paper 89, August 1996, 14, brie.berkley.edu/publications/WP%2089.pdf, quoting the president of the American Chamber of Commerce-Japan (accessed 8 Aug. 2008).
[16] During that period, the USPTO granted an average of 56,000 patents per year, 14,000 of these to foreign residents. American companies received an average of 42,000 per year, with a peak year of 55,000.
[17] Part of the Japanese strategy in World War II was an attempt to create a "greater East-Asian Co-Prosperity Sphere", a regional economy that would guarantee their access to Indonesian oil. The strike on Pearl Harbor was designed to cripple the U.S. fleet so that the Japanese army could secure the strategic reserves it really cared about: Indonesian oil reserves. The strike on Pearl Harbor came on December 7, 1941, and on December 15, the Japanese invaded Borneo.

Beyond Rochester: The Devastating Impact of "Technology Transfer" on the U.S. Economy

Economists may have thought they were simply opening up markets for domestic competitors, allowing IBM to benefit from Xerox's investments, or Chrysler from General Motors'. But these assets traveled much farther and faster than just down the Hudson River Valley, or to the other side of Detroit.

"Once the property protection for innovation was decimated, the incentive to invest in innovation disappeared, and corporate investment in intellectual assets suddenly ceased its long-term upward trend."

The biggest beneficiary of the FTC's compulsory licensing program was Japan. As the Committee on Japan observed many years later:

"It would be hard to exaggerate the advantages of being in a position to buy foreign technologies 'off the shelf.' With modifications, leading-edge technologies could be put to immediate use in manufacturing. For Japanese companies, the immense benefits included crucial time saved, large uncertainties eliminated, promising R&D pathways clarified, rapid movement down technological and commercial learning curves, resources freed to focus on incremental adaptations, and new commercial opportunities opened up."[18]

During the 1970s and 1980s, U.S. corporations were falling behind fierce new Japanese competitors. Economists and policy makers were wringing their hands over what seemed like, to them at least, a sudden and unexplained decline in America's competitiveness.

As the U.S. recession of the 1970s dragged on, numerous theories were offered for Japan's rise and America's decline. Economists, policymakers and business analysts bemoaned what some termed a "crisis in R&D." Some blamed American companies for laziness, short-term focus and lack of vision, while others praised the Japanese for their superior culture, stronger work ethic and visionary long-term planning.

What really happened was this: once the property protection for innovation was decimated, the incentive to invest in innovation disappeared, and corporate investment in intellectual assets suddenly ceased its long-term upward trend.

It's hard to imagine this kind of concern today, when academic "innovation experts" spend more time bemoaning the opposite concern: that there are too many patents and that patent rates are increasing too fast.

[18] U.S.-Japan Strategic Alliances in the Semiconductor Industry: Technology Transfer, Competition, and Public Policy, Committee on Japan, Office of Japan Affairs, Office of International Affairs, National Research Council, (Washington D.C.: National Academy Press, 1992) 3-4.

But in 1984, at a conference convened to discuss the R&D crisis, attendees voiced their concerns over "a worldwide decline in patenting" that some felt was implicated in the "longer term total factor productivity growth slowdown which may have started in the late 1960s." [19] Some presented evidence of what they called "depletion theory," the idea that "the pool of inventive possibilities became 'fished out' during the 1960s and 1970s." Former FTC economist Scherer was a featured contributor and noted that he found this evidence "consistent with my own qualitative observations on what happened in a number of industries that experienced technological maturity."[20] In Scherer's view, in addition to "electrostatic copying machines," this list included such sleepy industries as "digital electronic computers," "coaxial and microwave message transmission" and television.[21]

None of the economists present (perhaps because Scherer was one of the attendees) drew the connection between the patent expropriation decrees of the FTC and any reduction of incentive for patenting.

A Welcome Resurgence of IP Protection, and U.S. Competitiveness

Thankfully, since the decades of the competitiveness crisis, America's innovation economy has come roaring back, due at least in some measure to a change in the regulatory approach to the patent system.

Starting in the 1980s, an emerging consensus began to form that IP rights were worth defending. As a result, Congress passed multiple pieces of legislation, covering all aspects of intellectual property protection.

No less critical was a philosophical shift away from the antitrust activism of the 1960s and 1970s. The "Rule of Reason"[22] was invoked as part of a general scaling back of the interventionist ambitions of the antitrust regulators – men like Scherer who simply forced Xerox to give away its competitive edge, without considering the larger economic and business impact of what they were doing.

And so for several years, America moved back toward the same protective regulatory posture that had long given the U.S. its "invisible edge." The American innovation economy has since made a strong comeback, and is once again the envy of the world.

Yet, there is a persistent lack of awareness among policymakers regarding this cornerstone of America's economic success – i.e., the "invisible edge" of our innovation economy. And recently, the regulatory pendulum has begun a slow swing back toward interventionism and a weakening of patent protections.

Now, it is in danger of going well beyond helpful corrective measures, potentially threatening our innovation economy once again.

[19] Zvi Griliches, ed. R&D, Patents and Productivity (Chicago: University of Chicago Press, 1984) 15.
[20] Ibid. 123. Depletion theory's most extreme form is the comment often attributed to former U.S. patent commissioner Charles H. Duell, "Everything that can be invented has been invented." Neither Duell nor any other patent commissioner ever said anything like this, but a review of Scherer's writing subsequent to his stint at the FTC indicates that he clearly believed in the depletion hypothesis.
[21] Scherer. 265.
[22] The rule of reason is a doctrine developed by the United States Supreme Court in its interpretation of the Sherman Antitrust Act. The rule, stated and applied in the case of Standard Oil Co. of New Jersey v. United States, 221 U.S. 1 (1911), is that only combinations and contracts *unreasonably* restraining trade are subject to actions under the anti-trust laws and that size and possession of monopoly power are not illegal.

2
Intellectual Property: America's Advantage for the 21st Century?

During the recent presidential campaign, Senator John McCain was roundly attacked for claiming, in the midst of the current financial crisis, that "the fundamentals of our economy are strong." After absorbing much criticism, McCain attempted to reframe his views by repositioning his comment as a defense of America's capacity for innovation:

> *"My opponents may disagree, but those fundamentals, the American worker and their innovation, their entrepreneurship, the small business, those are the fundamentals of America and I think they're strong,"* [23]

Politics aside, there certainly is reason to believe in these "fundamental strengths" of the American innovation economy.

And based on past experience, we believe that all Americans ought to be more concerned about our economy's innovation fundamentals, which have long provided the resiliency that allowed our economy to bounce back from adversities like the Great Depression and the stagflation of the 1970s.

"America's competitive advantage in IP is an invisible edge, one that's hard to see, tricky to analyze and easy to take for granted."

Valuing Innovation: A Positive Balance of Trade

Innovation and IP are critical to our nation's economic health. How critical? As any businessperson knows, the best test of the value of an asset is the market test. And in the case of IP, the health of our strategic reserve is best measured by this simple market test: our ability to license our IP to the world.

Many technical products, like a Boeing airplane or pharmaceutical products, embed IP reserves within them. But such products embed a lot of other types of value as well. Collectively they all end up embedded together in America's trade account, either as surplus or deficit – so it is difficult to separate the specific value of American patents from all the other attributes that are generating value.

That's why, in some respects, America's competitive advantage in IP is also an *invisible edge,*[24] one that's hard to see, tricky to analyze and easy to take for granted.

[23] Robert Barnes and Michael D. Shear, "McCain: Fundamentals of Economy are 'Strong' but 'Threatened'" *The Washington Post*, 15 Sept. 2008.
[24] See Mark Blaxill and Ralph Eckardt, The Invisible Edge: Taking Your Strategy to the Next Level Using Intellectual Property, (New York: Portfolio Books, 2009).

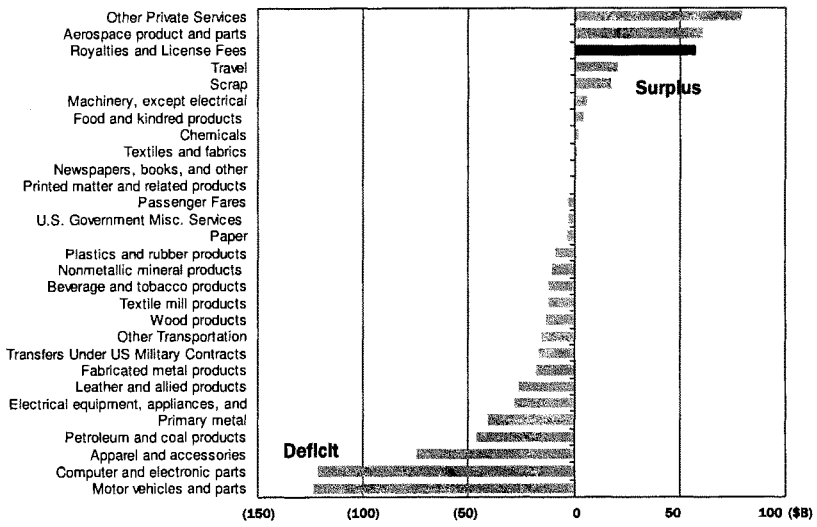
There are, nevertheless, some market tests available for IP alone, those that take the measure of America's invisible edge using the purest measure of IP trade available: the balance of trade in royalties, licenses and fees. Although this measure certainly understates the net effect of America's IP reserve on its global competitiveness, it provides a clear signal of our relative standing.

And when one focuses attention on this single measure, despite an overall national trade deficit of over $300 billion, the American IP sector *all by itself* provides one of the strongest surpluses in our balance of trade accounts: a net balance of over $57 billion in 2007. If one includes as a "pure IP surplus" the surplus on *other private services* (basically the surplus on trade in expert know-how, much of which is protected by intellectual property laws), the American IP surplus comes to $137 billion in 2007 (and nearly $200 billion if you include aerospace) – nearly half as large as the entire U.S. balance of trade *deficit* of $328 billion.

Without these "pure IP" surpluses, the American trade deficit in 2007 would have totaled well over half a trillion dollars.

"The American IP sector all by itself provides one of the strongest surpluses in our balance of trade accounts."

UNITED STATES BALANCE OF TRADE BY SECTOR; 2007



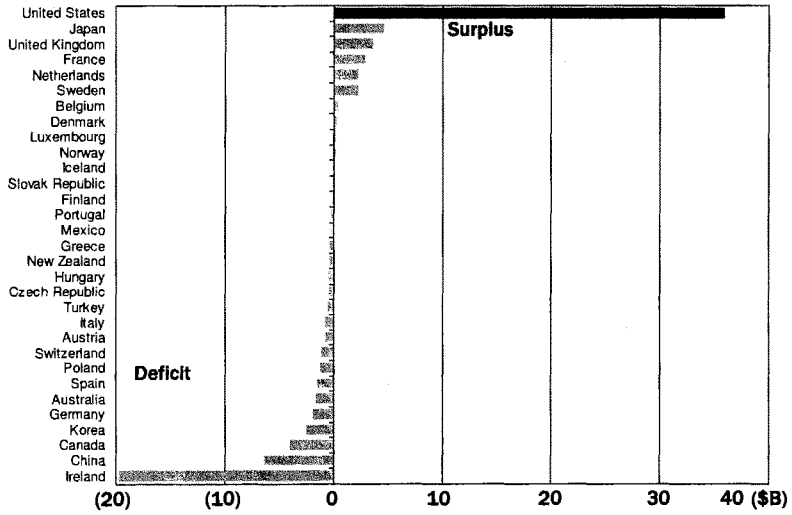
Source: Bureau of Economic Analysis, U.S. International Trade in Goods and Services, September 2008.

The United States is unique in holding such a strong trade position in IP. In 2006, an Organization for Economic Co-operation and Development (OECD) database reported that total U.S. *exports* of royalties and license fees came to $62 billion – by far the largest of any of the world's leading economies, and more than three times larger than Japan's IP exports, which came in second at $20 billion.

With regard to the reported *surplus* in 2006, only a handful of countries actually reported an IP surplus.[25] America's surplus of $36B[26] was nearly eight times larger than Japan's. And most major economies, including China, Canada, Germany and Korea, are net importers of IP, much of it from the U.S.

In fact the American surplus in its "royalties and license fees" account is twice the size of the combined surplus of *every other country in the world* that reported a surplus. Clearly, the American strategic IP reserve dwarfs any comparable stock of intellectual assets anywhere else in the world.

Balance of trade in "Royalties and license fees": Selected countries in 2006



Sources: Organization for Economic Cooperation and Development, OECD Statistics on International Trade in Services; Chinese Ministry of Commerce, China Trade In Services, 2008

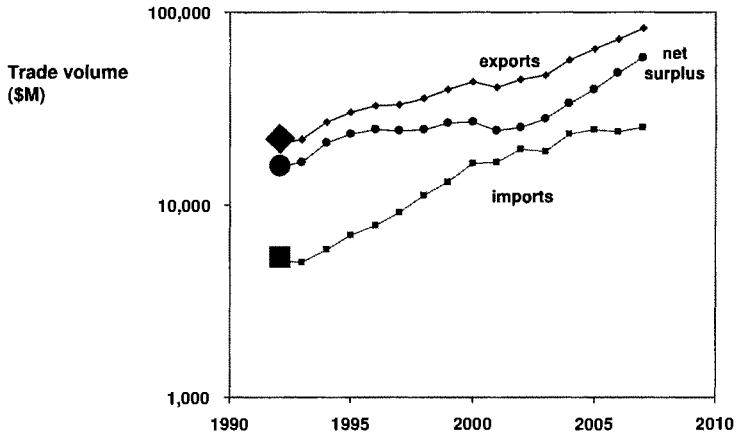
[25] Beside the U.S. and Japan, only the U.K. France, the Netherlands and Sweden ran surpluses of over $1 billion in 2006.
[26] An estimate that is smaller than the $48 billion reported by the U.S. Bureau of Economic Analysis.

Vigilance is Required to Maintain America's Strong IP Position

Yet while the invisible edge of the U.S. economy in IP is strong, and rests on the most valuable reserve of IP in the world, the trends give little reason for excessive optimism.

U.S. royalty exports are high and rising, but our imports are rising rapidly as well (albeit from a lower base). So, while the net balance has been rising, it has risen at an inconsistent rate. From 1996-2002, the U.S. royalty surplus grew hardly at all, and only began rising strongly after imports turned flat in the period since 2004.

UNITED STATES TRADING TRENDS FOR "ROYALTIES LICENSES AND FEES": 1992-2007



Furthermore, as companies around the world are focusing increasingly on building their own IP reserves, relying on a continuing flatness in IP imports is unlikely to provide a sustainable foundation for a rising long-term surplus.

In order for America to stay competitive with the rest of the world, we must deepen and expand our advantage in innovation – America's *invisible edge*.

This edge won't come from suppressing imports of IP, far from it. It is clearly in America's interest to make use of the best innovations from all over the world and license them in when necessary. Our edge will come from continuing to build the stock of valuable American IP reserves (one measure of that stock is patents), while also continuing to monetize that strategic reserve through cross-border royalties and licensing fees. Protecting the overall value of those IP assets, then, means defending the volume of licensing, *as well as its price*.

For these reasons, we argue that a key defining feature of America's economic interest must be the value of its domestic innovation reserves as compared to the reserves held by the rest of the world. And as a direct result, we would urge the incoming Administration to adopt a strong national "innovation policy."

"Protecting the overall value of IP assets means defending the volume of licensing, as well as its price."

3
The Innovation Ecosystem:
BUILDING UP AND DEFENDING AMERICA'S TERMS OF TRADE

"Terms of trade" is a concept that gets little attention from undergraduates taking basic economics. Yet it is a key area of concern for regulators and policymakers seeking to promote the national interest. And it is a key concept supporting the argument for a strong national "innovation policy."

The basic idea is this: while trade, in general, raises the welfare of both sides of the trading exchange, it is always better for any individual country when it earns a higher price for its exports than it pays for its imports. In its simplest form, economists compare the price of a country's exports to the price of its imports and calculate a relative price ratio called the *terms of trade*.[27]

To the extent that the action of government regulators can influence those terms of trade (even unintentionally), it is critical that they keep the national interest in mind when considering policies and regulations that have an impact on relative prices.

Innovation and IP Reserves: Essential Components of America's Terms of Trade

In America, our dependence on foreign energy sources is well known – as well known as our reliance on the off-shore manufacture of labor-intensive products.

> ***"In the simplest terms, when the value of an American patent is high, and the cost of an OPEC barrel of oil is low, that's good for the American economy."***

But in today's complex global economy, few serious observers would argue that we should stop importing foreign oil completely (though we might want to improve our terms of trade with OPEC) or discontinue off-shore manufacturing in China (though we might want to level the playing field for American workers when it comes to occupational health and safety standards).

The shock to our economy from eliminating imports would simply be too great. And American consumers benefit to the extent that they can buy a gallon of gas or high-quality consumer product from abroad at low prices. In both of these examples, the American economy benefits when our "terms of trade" improve.

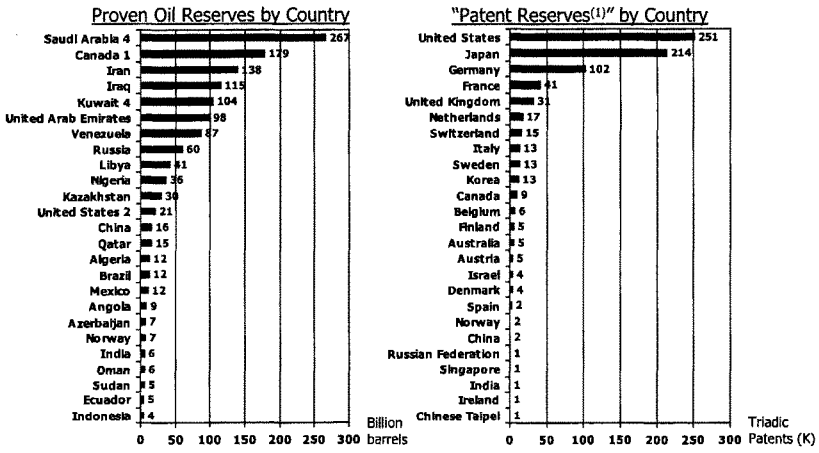
At first blush, simple economics like this may seem so obvious that they're hardly worth mentioning. But we mention them because we seem to so easily forget about our national interest on the flip side of the terms of trade calculation.

[27] The terms of trade ratio is only calculated in simple models of international trade; in a world with many countries and many traded product prices, the terms of trade is considered more as a concept than a reported statistic.

It's quite easy to calculate the value of oil reserves: the U.S. Energy Information Administration regularly publishes estimates of "proven oil reserves." In a similar vein, it's also quite easy to calculate a measure of IP reserves: the OECD provides an estimate of the world's most valuable innovation in a listing of what it calls "triadic patents."

Triadic patents are a kind of "gold standard." They are patents that have been considered important and inventive enough that they've been filed – and granted by patent examiners – in the United States, Europe and Japan. In a world concerned with patent quality, a triadic patent is clearly one that has passed a high hurdle for quality. In the chart below, we've displayed a ranking of countries in terms of both triadic patents and proven oil reserves. As the chart shows, while the OPEC nations may lead the world in terms of oil reserves, the United States is the Saudi Arabia of IP reserves.

The U.S. is the Saudi Arabia of patent reserves



Saudi Arabia holds 20% of the world 's oil reserves, while the U.S. holds 33% of the worlds patent reserves

Source: Energy Information Administration Estimate 2008; 2008 OECD Compendium of Patent Statistics
(1) Triadic patents granted over the last 20 years

In the same way that OPEC nations benefit from an increase in the value of their strategic oil reserves, so our focus on innovation gives us a strong national interest in the value of our own *strategic IP reserves*. In simplest terms, when the value of an American patent is high and the cost of an OPEC barrel of oil is low, that's good for the American economy.

Some might argue that by framing the benefits of global trade in such simple terms, we're taking a short-term view. In some cases it makes sense to keep the prices of strategic resources high enough so that consumption reflects their true economic value.

This is certainly true in the case of an imported resource like oil, where in the longer term, higher oil prices will drive alternative energy development. Nor would an enlightened observer ever argue that Chinese wages should *always* remain low so as to support low cost production facilities. But if such long-term, policy-driven arguments are true when one considers the price of America's *imports*, it's even more the case when one considers the price of American innovation *exports*.

Keeping the price of innovation high provides not only short-term benefits to the American innovation economy, but longer-term benefits as well. When the world places a high value on America's innovation, they not only buy our products and license our technology, they also are more likely to invest in the American enterprises that most directly produce innovation. Those may be Silicon Valley information technology start-ups, or the life-saving biomedical research labs on the fringes of the MIT campus.

The leading edge of the American innovation economy is a magnet for the investment capital of the rest of the world. These capital flows are not philanthropic commitments from foreign benefactors to inquisitive American professors. Quite the contrary, they're investments in the innovation industries of the future: and they're investments made with the expectation of a return.

Apple's iPod: A Case Study in "Terms of Trade" and the Innovation Ecosystem

In practice, measuring terms of trade has become somewhat tricky. It used to be that the return on a particular innovation was completely bundled into the returns on the product in which it was embedded. As recently as the 1970s, the value of Chester Carlson's innovations to Xerox were simply built into the market price of a Xerox copier.

In the same way, the terms of trade could be observed only at the bundled level, by observing American exports of cars and copiers. Over time, however, the nature of innovation has changed.

We have moved away from a world in which the cutting-edge of innovation took place in corporate laboratories – like Bell Labs and IBM's research department – and these large corporations were the only ones that could monetize their own innovation by producing many of the most strategic components and products themselves.

Today, the value of innovation could just as well be reflected in license fees, like the ones Samsung pays Qualcomm for the rights to make phone handsets using Qualcomm's revolutionary CDMA technology.

Consider the example of an iconic American product like the Apple iPod. The value of Apple's innovation, like that of a Boeing 747, is embedded in its final product price. But unlike Boeing, and *like* many leading American innovation companies, Apple no longer does any iPod manufacturing itself.

Instead, Apple orchestrates a global ecosystem of parts manufacturing and assembly, generating its return almost entirely based on its invisible assets. This new model of innovation can play some tricks with the trade accounts, as a recent analysis of the supply chain for American buyers of iPod shows.

THE GEOGRAPHY OF VALUE FOR APPLE'S iPOD

	United States	Japan	Korea	China	Other/ unknown	Total activity
Company value capture ($/unit)						
Apple in US	90	-	-	-	-	
Other US HQ	81	-	-	-	-	
Japanese HQ	-	26	-	-	-	
Other HQ	-	-	1	58?	5	
Unknown	-	-	-	-	100	$299
Wages ($M)						
Production	1	28	18	18	26	92
Retail and other	219	-	-	-	97	316
Engineering and professional	525	74	18	6	34	657
Jobs						
Production	30	700	600	11,715	6,145	19,190
Retail and other	7,789	-	-	-	4,825	12,614
Engineering and professional	6,101	1,140	600	555	970	9,366

"Apple orchestrates a global ecosystem of parts manufacturing and assembly, generating its return almost entirely based on its invisible assets."

Here, we have summarized a report from researchers at the University of California at Irvine that provides some surprising insights:[28]
Taking a simple export/import view of the iPod supply chain would provide only the most limited insight into the iPod's true value geography: since Apple outsources all of the iPod manufacturing (both components and assembly) and at least 70% of the total cost of the bill of materials is imported, the primary place that American trade accounts would show a purchase of an iPod was as a deficit in the consumer electronics account.

"When one looks at the overall iPod ecosystem, it's clear that the American economy gains the lion's share of the benefits."

[28] Greg Linden, Jason Dedrick and Kenneth L Kraemer (September 2008), "Innovation and Job Creation in a Global Economy: The Case of Apple's iPod," Personal Computing Industry Center, UC Irvine; Greg Linden, Kenneth L. Kraemer and Jason Dedrick (June 2007). "Who Captures Value in a Global Innovation Network: The Case of Apple's iPod," Personal Computing Industry Center, UC Irvine.

But as the Irvine analysis shows, the geographic distribution of value in the iPod ecosystem (*for iPods sold in the U.S.*) reveals the invisible edge that goes to American innovation:

First, the largest single component of value captured goes to Apple itself, which by this estimate captures $90 of every $299 iPod sold at retail.

Add in the $81 from American distribution and you see that over half of the value of an iPod sale is captured in the U.S.

Over a third of the jobs are created in the U.S. and a clear majority of the highest paying jobs, since over two thirds of the wages are earned by American workers.

This is true despite the absence of any visible assets, like factories or manufacturing machinery.

The authors' analysis also demonstrates that the financial return to the innovative parts of the ecosystem is high compared to other, non-innovative parts of the system (e.g., assembly). There are virtually no production jobs in America and most of the production jobs for the iPod are located in Asian countries like China, Singapore and the Philippines. However, most of these non-U.S. components generate relatively little value for the companies involved, creating mostly low-wage jobs.

By contrast, the Apple IP and design activities generate a healthy number of relatively high paying jobs. So when one looks at the overall iPod ecosystem, it's clear that the American economy gains the lion's share of the benefits, capturing economic value that policy-makers in countries like China and Korea drool over.

Saving Apple from the Fate of Xerox and Rochester

It is critical to remember that American domestic economic value is protected only as long as American IP is secure. The quickest way to take a bite out of Apple's competitiveness would be to lower the price of the iPod below $210 ($299 minus $90), without changing any of the inputs or the basic design.

And one should not doubt for a moment that Chinese or Korean competitors (most likely companies already in the supply chain) could rip apart an iPod, clone the design, and sell it for a healthy profit it in the U.S. market – if they could legally replicate Apple's *invisible edge*, for free. Thanks to the Apple trademark, its proprietary technology and its steady stream of consumer-friendly designs, that has not happened. And so economic value – and Apple's IP reserves – are captured in an American company, while the terms of trade in the iPod ecosystem remain healthy.

As secure as that picture might seem at the moment, however, it is worth noting how fragile Apple's position truly is. If American regulators don't defend the American IP that sustains Apple's invisible edge, Apple's fate and the Silicon Valley jobs that go along with it could easily vanish.

In short order, the Apple story would look like a rerun of the story of Xerox and Rochester.

4
In Defense of the Innovators: "PATENT REFORM" AND THE ASSULT ON OWNERSHIP RIGHTS

America's strategic reserve of intellectual property lies at the heart of our competitive position in an increasingly global economy. And while we would be inclined to agree with Sen. McCain's claim that these fundamentals are strong, we would also argue that America's strategic IP reserve is being placed at risk in ways we haven't seen since Scherer's days at the FTC.

Just as Sen. McCain understated the overall weakness of America's current economic performance, so would we argue that American policy makers have recently started to understate the vulnerability of the American innovation system.

Specifically, the rapidly developing economies of the world are increasingly hungry to capture innovation and IP reserves, and leverage them for the benefit of their own citizens. In addition, the defensive bulwark of the IP legal system is increasingly vulnerable to the well-funded lobbying campaigns of those who seek to weaken the property interests of innovators and entrepreneurs – campaigns by domestic and foreign interests alike.

Such initiatives are often conducted under the guise of "patent reform," and if such efforts are allowed to gain momentum, America may find itself facing a deficit in innovation reserves, just at a time when we need them most.

"America's strategic IP reserve is being placed at risk in ways we haven't seen since Scherer's days at the FTC."

Global Competition for IP Reserves is Quickly Heating Up

Some of the most fundamental challenges to American economic leadership are coming from Asian economies like Japan, Korea and China. Recognizing the importance of innovation to their own local economies, every leading country in the region has implemented an "innovation policy" and is working to direct the fruits of global invention toward their own citizens.

As economic policy makers in China know all too well, it's certainly not bad to have local manufacturing jobs created by Western multinationals, but those kinds of jobs have uncertain benefits in the long run. As the Apple iPod shows, the best jobs are those associated with the innovative elements of a high technology ecosystem.

Chinese policy makers are extremely concerned that the companies creating low-wage manufacturing jobs will not sustain their commitment to the local work force, and that they will move to the next cheapest location if such companies don't have deep connections to the local talent that developed and holds their knowledge reserves.

"In many different forms and in many different ways, leaders from around the world are all saying the same thing: that they are targeting innovation and IP."

Thus, China has made the aggressive pursuit of IP assets a national priority. China's Premier Wen Jiaboa said in a 2004 speech:

"The future world competition will be for intellectual property rights."

And the chief scientist for China's Academy of Science, Niu Wenyuan, a thoughtful development economist, said recently:

"[Intellectual Property Rights] are the No 1 strategic reserve in the 21st century and its significance is not inferior to any other strategic reserve, be it food or energy."[29]

Meanwhile, in nearly every policy speech he made from 2001 to 2006, Japan's Prime Minister Koizumi made some version the following statement: that our goal is to "bring about a nation founded on intellectual property."

In many different forms and in many different ways, leaders from around the world are all saying the same thing: that they are targeting innovation and IP.

Defending America's Innovators From Threats Here at Home

At this critical economic juncture, however, America seems to be waffling on its commitment to developing its national innovation and IP reserves.

"Increasingly, the interests of the U.S. economy are separating from those of America's largest global companies."

The same kind of commitment we see from other nations is rarely voiced at the highest levels of the American government. To the extent that IP issues are debated at a high level, the public debate is dominated by the positions and interests of the largest of America's global corporations.

[29] "Focus of IPR Strategy to Be Broadened," *China Daily* 28 Mar. 2007 us2.mofcom.gov.cn/aarticle/chinanews/200704/20070404525475.html. (accessed 8 Aug. 2008).

On one side of this debate are industries like big pharma, which supports strong IP protections because they help sustain drug prices. On the other side are industries like big tech, which favors weaker IP for small firms, so the big fish can more easily gobble up their nimbler, smaller competitors.

Neither of these arguments, however, makes the best *economic* case for American innovation, and both are increasingly taking a global rather than a domestic focus – i.e., these companies can source innovation effortlessly from anywhere in the world. And many of America's largest multi-nationals are increasingly moving their R&D centers, and the highest quality jobs, outside of the United States.

Increasingly, the interests of the U.S. economy are separating from those of America's largest global companies. And the role of these companies in orchestrating global commerce presents a fundamental challenge to America's innovation economy.

Unlike American multi-nationals, which can innovate anywhere in the world, the U.S. economy needs local innovation to thrive. These activities are, more often than not, led by small companies.

Far more than the large corporations orchestrating large global supply chains, these smaller innovative companies struggle with defending their invisible edge. And the smaller they are, the harder it is to defend their innovations.

In short, competitive challenges to American innovation can come from competitors both *inside* and outside the American economy.

Legalizing Piracy? Lobbying for the Roll-Back of IP Protections

Competition is, of course, the normal course of business. Piracy, however, is not. And it presents two kinds of challenges that are unique to IP reserves – both involving the legal system.

> ***"When it comes to bolstering America's innovation reserves, managing the legal economy is far more important than controlling the illegal one."***

The first is illegal piracy, which comes in many forms, from teenagers to the Mafia – the most well known being criminal enterprises in Asia. Against such pirates, U.S. regulators have been strong supporters of American innovation, appropriately spending a great deal of time defending U.S. companies from the illegal piracy of both trademarks (e.g., knock-off labels) and copyrights (e.g., movies and songs).

However, the second type of piracy – more dangerous and more to the point here – comes in the form of *legal* copying. The picture of a copyist is much different than that of a pirate hawking knock-offs of designer sunglasses.

Where patents are concerned, copyists are often large corporations. And legal copying happens when the system of IP protections is weakened or undermined.

The challenge of the IP legal system, of course, is balancing the rights of buyers and sellers in a way that makes the market liquid and reliable. In a stable world, technology-purchasing negotiations work themselves out as long as the property interests of innovators are fairly defended. But unlike criminal enterprises that flout the rules to steal brands and creative works, the most serious *legal* threat to IP and innovation lies in the ability of influential technology purchasers to *re-make the rules* in their favor. The danger lies not in their bargaining power, but in their *lobbying* power.

Said another way: just as the price of oil is greatly influenced by the decisions of the members of OPEC, the price of American innovation is largely determined here at home, by policymakers, legislators and regulators. When powerful and well-organized corporate interests sit down with sympathetic authority figures, bad things can happen. Small groups of people can, with the stroke of a pen, make it far easier to *legally* co-opt (i.e., "steal") intellectual property.

So, when it comes to bolstering America's innovation reserves, managing the legal economy is far more important than controlling the illegal one. In the legal economy, innovation has a price that is almost entirely determined by the legal rules that surround it. And as the experience of Rochester and Xerox can show us, nearly the entire value of America's strategic IP reserves can disappear in an instant, just by someone sitting in a room in Washington DC and changing a rule.

The Road Back to Rochester: Big Tech Pushes for Weaker IP Protections

> ***"The particularly insidious part of the 'patent reform' movement is that it completely inverts the truths surrounding innovation and IP."***

Over the last several years there has been a concerted assault on U.S. patent rights. Some of the reforms have been necessary and corrective, such as limiting the reach of patents on business methods and providing new discipline within the patent examination function; for a while applicants were treated as "customers," and examinations sacrificed rigor in an attempt to improve customer satisfaction.

But in the last several years, the momentum of "reform" has taken on a life of its own, turning into a sustained campaign to reduce the rights of patent owners. Much of this short-sighted effort is being driven by large technology companies, which are trying to reduce the short-term costs of technology acquisition.

From Congress to the Supreme Court, a series of decisions – eBay v. Merc Exchange, KSR v. Teleflex – have radically revised the balance of power between technology sellers and buyers. It may take years to sort out the impact of these changes, but almost all of them run in a single direction: toward weakening the rights of patent owners.

Their net effect has generally been to lower the price of technology, the return earned on invention investment and the value of innovation in a dynamic economy. This would be a concern all by itself. But in addition to the changes to date, and just as their effects are rippling through the courts and the economy, there is additional pressure to further weaken patent owners' rights – cloaked in the language of "patent reform."

These efforts have led to a paradox: in a world where innovation and IP is more important and valuable than ever, regulators are under pressure to make it easier to use technology without paying for it.

This emphasis on reforming the patent system is based on a number of fallacies and, like the disinformation around WMD in Iraq, has gained momentum without sufficient critical examination of either the facts or the national interest. Few people are thinking about innovation and competitiveness, or even understand their unique linkages. And the particularly insidious part of this "patent reform" movement is that it completely inverts the truths surrounding innovation and IP, arguing that patents themselves are an obstacle rather than a defender of innovation.

In reality, patent protections are some of our most important national institutions, protecting critical strategic reserves of innovation and IP. Unfortunately, the pendulum may be swinging against them, putting America on the cusp – at a time of severe economic distress when we can least afford it – of a return to the errors of a previous generation and another "Rochester moment" for the U.S. economy [see sidebar].

As the saying goes, those who forget their history are doomed to repeat it.

What Happened to Rochester?

Rochester, once the rival of major American cities like Atlanta and Houston, has been rapidly dropping out of the top 100. The city center has lost over a third of its population since its heyday in the 1950s and 60s and the population of Monroe County-Rochester's metropolitan region-hasn't grown since the 1975 Xerox Consent Decree. Downtown streets that were once bustling are now separated by that telltale sign of urban stagnation, large expanses of public parking in otherwise vacant lots. Over the last 30 years, only two new buildings rising above fifteen stories have been built in downtown Rochester, less than one per decade. Clearly, a good part of the once-dynamic city region has turned stagnant.

That's not to say that Rochester is a ghost town, far from it. The city and its surrounding metropolitan area continue to attract a lot of science and engineering talent and the Rochester area continues to host some excellent universities while also providing a good quality of life. And the ongoing business activities of traditional leaders like Xerox and Kodak continue. But both companies have been eclipsed by technologies and competitors that were once years behind.

But there is little question, in comparison to "America's First Boomtown" and "The World's Imaging Center," Rochester is now a shadow of its former self.

"Unfortunately, the pendulum may be swinging against [innovation and IP], putting America on the cusp of another 'Rochester moment...'"

5
National Innovation Policy:
SECURING AMERICA'S FUTURE AND OUR VITAL ECONOMIC INTERESTS

Different nations bring different advantages to global competition, ranging from natural resource endowments to low labor cost to skilled science and engineering talent. More than perhaps any other nation, the strongest competitive advantage that the United States possesses is its capacity for innovation.

In practice, IP is the incentive that brings markets, talent and invention together to monetize our innovation and deliver benefits to the nation. For much of its history, the American economy has had a unique ability to put all these pieces together to create value from its innovations.

> **"America may find itself facing a deficit in innovation reserves, just at a time when we need them most."**

But rather than bolster our strategic reserves of innovation and IP, our ability to foster innovation is increasingly under threat – from at home and abroad. As competition heats up for IP and innovation reserves, our systems of legal protection are under pressure to wrest control of IP rights from their owners.

We have already seen the devastating effects such policies can have. Rochester was once a top-25 American city, a hotbed of innovation. Its leading companies, like Xerox, were the envy of competitors everywhere. But with a few strokes of the pen, their decades of innovation and investment were taken and donated to the world. And current "patent reform" efforts could very well bring America back to another "Rochester moment."

There is, however, in the next few years, a window of opportunity for the Obama administration to focus on defending innovation, rather than enabling another wholesale give-away.

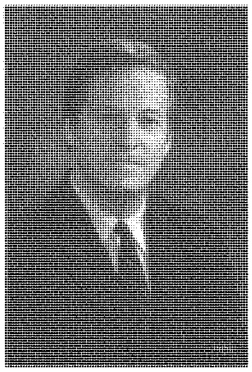
As a candidate, President Obama talked about "investing in America." We would argue that the most important investment he can make to restore and secure America's economic vitality is to support the development of our nation's strategic IP reserves. Such an effort will provide significant, long-term benefit to both our balance of trade and terms of trade.

A national innovation policy for his administration should include:

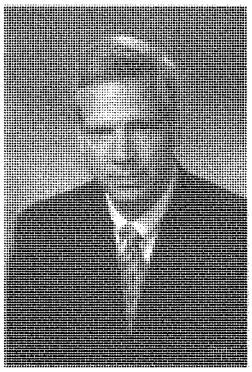
- Protecting the U.S. patent system and the renewable strategic reserves that it generates.
- Sustaining America's terms of trade and defending the pricing of America's invisible assets through regulation and legislation.
- Adapting the USPTO to the needs of the modern patent development process.
- Building talent locally through quality science and engineering education.
- Providing incentives for inventive talent to live and work in the U.S.
- Making science and engineering financially rewarding careers.
- Supporting returns on invisible asset investments.

At this time of great national distress, we need to fall back once again on the spirit of American innovation, and as we have in the past, we must look to the foundation of American invention to pull ourselves through this latest crisis.

The Founding Fathers put in place a framework to protect the rights of intellectual property holders. Their aim was to ensure America's continued resilience and prosperity. And, for the most part, it has been a success these past two centuries. It is now incumbent upon us to preserve and defend it – to ensure America's future.



Mark Blaxill



Ralph Eckardt

Mark Blaxill and Ralph Eckardt are authors of the upcoming book ***The Invisible Edge: Taking Your Strategy to the Next Level Using Intellectual Property*** *(Portfolio, March 2009). They are managing partners of 3LP Advisors, an investment advisory firm focused on intellectual property transactions. Blaxill is a former vice president of The Boston Consulting Group (BCG) and was head of its Strategy practice initiative. Eckardt is the former head of BCG's Intellectual Property Strategy practice.*

For more information or to receive a copy of ***The Invisible Edge: Taking your Strategy to the Next Level Using Intellectual Property (Portfolio, March 2009)***, please contact Adria Greenberg at Sommerfield Communications at 212-255-8386 or Adria@sommerfield.com. Or, contact the authors directly at Ralph.Eckardt@3LPAdvisors.com or Mark.Blaxill@3LPAdvisors.com.

www.the-invisible-edge.com

Opening Statement for the Record
From Senator Tom Coburn

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
Before the Senate Judiciary Committee
March 10, 2009

Chairman Leahy, thank you for calling this hearing and for the leadership you and Senator Hatch have shown to present a new bill this Congress.

You know that last night I and Senators Feingold, Kyl, Wyden, Grassley, Bond and Brownback sent you a letter asking you not to rush us to a markup. We know this bill has developed through two previous Congresses but we still don't have a bill that has reached consensus. What we are going to hear today is testimony that major American industries have serious concerns with this bill and what it might do to devalue their patents. Different industries have different business models and we've got to take more time and do more work until we ensure we aren't making a bad choice. This bill as it stands picks winners at the expense of major innovation industries that will be the losers if it is enacted.

We are not trying to obstruct the bill. All of us involved genuinely want America to keep its patent system the global leader, but this bill could seriously jeopardize that standing. Before the last markup much attention was given to the fact that other countries are carefully watching this legislation to see how it can advantage them to infringe on American innovation. That ought not to be.

Medical students are taught that the first thing doctors should focus on is to "do no harm." Congress should consider that advice much more often when considering legislation and this committee should take that advice to heart as we move forward with S. 515. We can do better and we hope you will not move to a markup until we have the bill in a place that has broad support across the spectrum of American industry.

Finally, I want to renew my assertion that this bill cannot truly be called "The Patent Reform Act" until we permanently end Congress' ability to divert fees from the Patent and Trademark Office. The reason America's patent quality is being questioned is because Congress has allowed and participated in diverting fees. The result is a tremendous patent application backlog and applications waiting nearly three years to be issued. I will continue to push amending this

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bill to include a PTO user fee lockbox and look forward to the Committee markup and floor debate.

The Computing Technology Industry Association

Statement for the Record

"Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"

Committee on the Judiciary

United States Senate

Tuesday, March 10, 2009

Dear Chairman Leahy, Ranking Member Specter, and Members of the Committee:

On behalf of the Computing Technology Industry Association (CompTIA), we thank you for your ongoing interest in patent reform and appreciate the opportunity to submit the following views. In sum, CompTIA supports the "Patent Reform Act of 2009," S. 515, and urges its prompt enactment.

The Computing Technology Industry Association (CompTIA) is the voice of the world's $3 trillion information technology industry. CompTIA membership extends into more than 100 countries and includes companies at the forefront of innovation; including, the channel partners and solution providers they rely on to bring their products to market, and the professionals responsible for maximizing the benefits organizations receive from their technology investments. The promotion of policies that enhance growth and competition within the computing world is central to CompTIA's core functions. Further, CompTIA's mission is to facilitate the development of vendor-neutral standards in e-commerce, customer service, workforce development, and ICT (Information and Communications Technology) workforce certification.

CompTIA's members include thousands of small computer services businesses called Value Added Resellers ("VARs"), as well as nearly every major computer hardware manufacturer, software publisher and services provider. Our membership also includes thousands of individuals who are members of our "IT Pro" and our "TechVoice" groups. Further, we are proud to represent a wide array of entities including those that are highly innovative and entrepreneurial, develop software and hold patents. Likewise we are proud to represent the American IT worker whom relies on this technology to enhance the lives and productivity of our nation. Based upon a recent CompTIA survey, we estimate that

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one in twelve, or about 12 million American adults, consider themselves to be IT workers.[1] This is larger than the number of American adults classified by the Bureau of Labor Statistics ("BLS") as employed in farming, mining, and construction combined. This is also close to the number of adults classified by BLS as working in manufacturing or transportation. CompTIA has concluded that the IT workforce is now one of the largest and most important parts of the American political community. Accordingly CompTIA believes that "The Patent Reform Act of 2009," S. 515, is a critical solution to the longstanding problems facing the ICT industry and the American IT worker. Thus, the solutions arising from "The Patent Reform Act of 2009" will serve as an economic stimulus and virtually without any cost to the U.S. taxpayer.

We urge the prompt consideration of the "Patent Reform Act of 2009" for numerous reasons. These reasons include the need to harmonize certain aspects of the U.S. patent system, provide common-sense litigation reform, and modernize the operations of the U.S. Patent and Trademark Office ("PTO") for the 21st century and the knowledge economy.

I. Litigation Reform

CompTIA believes that patent litigation reform will help the U.S. small business community and its innovators. The case for reforming the patent litigation system has been soundly articulated by Members of this Committee, the National Academy of Sciences, the Federal Trade Commission, the patent bar, consumer groups, and numerous other entities.[2] The impact of patent litigation can be catastrophic for a company, in particular a small business, such as any of our ICT members. The enormous expense of patent litigation is often disastrous to small businesses, who have limited resources to endure a legal challenge, let alone the multiple challenges associated with the patent thicket surrounding ICT products. As one observer testified, "[p]atent litigation is notoriously known as 'bet the company' litigation. The stakes are enormously high, beyond multi-million dollar verdicts."[3] The legal fees and cost of patent litigation has been estimated as high as a million dollars per year per side.

It is obvious that the astronomical cost of litigation is disastrous for many small U.S. businesses, and it requires settlement by the accused infringer. The frequent litigation surround the "patent thicket" can chill economic investment (*e.g.*, venture capital and other R&D spending) and destroy a start-up's attempt to enter the market and create jobs. We invite your attention to the patent litigation statistics

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[1] http://www.comptia.org/issues/us.aspx.

[2] *See generally* PATENTS IN THE KNOWLEDGE-BASED ECONOMY (Wesley M. Cohen & Stephen A. Merrill eds., 2003); FEDERAL TRADE COMMISSION, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW POLICY (Oct. 2003), *available at* http://www.ftc.gov/os/2003/10/investmentrpt.pdf; NAT'L RESEARCH COUNCIL OF THE NAT'L ACADEMIES, A PATENT SYSTEM FOR THE 21ST CENTURY (2004), *available at* http://www.nap.edu/html/patentsystem/0309089107.pdf; http://www.aipla.org.

[3] *Improving the Federal Adjudication of Patent Cases, Hearing Subcommittee on Courts, the Internet, and Intellectual Property: Hearing before the Subcomm. on the Courts, Internet, and Intellectual Property Comm. on the Judiciary,* 109th Cong. at 29 (2005).

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published by many sources, including the Administrative Office of the United States Courts.[4] However we wish to emphasize that such published statistics only tell a part of the whole story. In reality the abusive legal action taken against small IT companies is often unreported. The high cost, uncertainty, stress and time associated with litigation essentially demands that small businesses settle before any formal court action commences. Thus, we caution that many of the published statistics only tell part of the story. Likewise, it is uncontested that at least several thousand new patent suits are filed every year. Accordingly the delay of the "Patent Reform Act" results in the continued filing of hundreds of these suits against small ICT businesses and start-ups each month under the current flawed legal framework.

Second, we fully support enhancing the available post-grant review of a patent subject to litigation. This includes the provisions of S. 515 that enhance the current administrative system of reviewing a patent's claims, through reexamination, as well as establishing a post-grant or other administrative claim cancellation procedure. The modern patent reexamination system promised a swift and cost-effective review of poor quality patent claims. It is regrettable that the system is not as widely-used as it should be in the 21st century to address the disputes concerning patents affecting the ICT industries. This is not without the efforts of the last two PTO Directors who, to their credit, established the PTO's Central Reexamination Unit (CRU) and provided increased resources for this task.

Finally, on behalf of the ICT industry and IT workers, we welcome the Committee's interest in enhancing the system for adjudicating patent disputes. An essential element of any patent reform is improving the federal adjudication of patent disputes. Accordingly we support the proposed federal district court pilot program pursuant to Ranking Member Specter's legislation, S. 299.[5] We urge the Committee to consider this meritorious legislation either as part of a comprehensive patent bill or as a stand-alone measure. In addition, the recruitment and retention of a new generation of federal judges is vital for a system to responsibly adjudicate patent, as well as other civil, disputes. We support the prompt consideration and enactment of Chairman Leahy's bill to provide members of the judiciary a fair cost-of-living salary adjustment, S. 200.

II. Modernizing the PTO

The importance of a well-functioning PTO cannot be overstated, both as a gate-keeper for technology and as a storehouse of knowledge for the public. The PTO concedes that it faces numerous challenges at present, including ensuring a high level of patent quality, crisis level workloads, and human capital challenges.[6] Critics and scholars have observed that the agency is fighting an impossible task, striving to perform its mission in the 21st century with mere 19th century policies and tools. We urge

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[4] E.g., http://www.uscourts.gov/caseload2008/tables/C00Mar08.pdf .

[5] *See also*, H.R. 628 (U.S. Rep. Darrell Issa has sponsored the House of Representatives companion legislation for several of the past sessions of Congress).

[6] *See generally* PTO annual performance reports, *infra* at 8; U.S. GOV'T ACCOUNTABILITY OFFICE, USPTO HAS MADE PROGRESS IN HIRING EXAMINERS, BUT CHALLENGES TO RETENTION REMAIN (2005) (GAO-05-720); *Perfect Happiness: Game Theory as a Tool for Enhancing Patent Quality,* 10 YALE J. L. & TECH. 360 (2008).

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Congress to continue to provide the PTO with the tools and resources it requires for its mission, including full adequate funding and ending the diversion of user fees.

As part of its mission, we believe that it is critical for the PTO maintain a high level of patent examination quality. The goal of enhancing patent quality entails many components, including the review of publicly available applications. The 1999 American Inventors Protection Act ("AIPA") provided for the limited publication of patent applications.[7] The AIPA's revision of the U.S. Patent Act (*i.e.*, 35 U.S.C. §122(b)) has proven useful as a means of ensuring patent quality. Most importantly, in the near decade since the change to publication was made to U.S. law, we know of no deleterious effects of the early publication of pending applications. In fact, the number of patent applications from small entities has risen dramatically in the almost ten year period since this change.[8] Further the early publication of applications has permitted the novel initiatives, such as patent office rule 37 C.F.R. 1.99 and the Peer-to-Patent Pilot program.[9] This initiative has permitted limited third-party participation in the patent examination process. Again, in sum, we know of no deleterious effects arising from this initiative or early publication in general.

The current version of S. 515 misses the opportunity to provide for the early publication of all patent applications (*e.g.*, "Sec.7. Preissuance Submission by Third Parties"). We would urge the Committee to amend the bill during further consideration on the grounds that it is sound technology policy and of enormous benefit to inventors and the public. Where clearly relevant prior art bearing on the patentability of a proposed claim is available prior to grant (the proverbial "smoking gun"), a third-party should be able to make it available to the PTO. Consequently, this leads to the issuance of a poor quality patent that should not have been granted. The government's grant of a knowingly poor quality patent hurts the public immediately upon its issuance. This result contributes to uncertainty for economic investment, chills innovation, is disruptive to the business ecosystem, and undermines faith in the patent system.

III. Conclusion

It is uncontested that the U.S. patent system is the finest in the world and the envy of the world. This is a direct result of this Committee's stewardship of the system for more than two centuries. Again, thank you for your consideration of these comments, and we are happy to be a resource as the Committee continues its critical work in enhancing the U.S. patent system for the 21st century and advancing the IT industry.

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[7] Public Law No. 106-113 (§ 4502).

[8] *See* U.S.P.T.O. Annual Performance and Accountability Report; http://www.uspto.gov/web/offices/com/annual/2008/index.html

[9] *See* http://www.peertopatent.org/. For a detailed description of how Peer-to-Patent functions, *see* Beth Simone Noveck, *"Peer to Patent": Collective Intelligence, Open Review, and Patent Reform*, 20 HARV. J.L. & TECH. 123, 143-151 (2006).

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TESTIMONY OF

KATHLEEN D. JAEGER

PRESIDENT & CEO
GENERIC PHARMACEUTICAL ASSOCIATION

HEARING ON

"PATENT REFORM IN THE 111TH CONGRESS: LEGISLATION AND RECENT COURT DECISIONS"

UNITED STATES SENATE
COMMITTEE ON THE JUDICIARY

MARCH 10, 2009

Chairman Leahy, Ranking Member Specter, and Members of the Judiciary Committee, good morning. I am Kathleen Jaeger, President and CEO of the Generic Pharmaceutical Association and I appreciate this opportunity to submit written testimony on behalf of the member companies of GPhA.

We are proud that nearly 70 percent of the 3.6 billion prescriptions dispensed in the U.S. last year were filled using generic drugs, consuming less than 20 percent of all dollars spent on prescription medicines. The result was a savings to consumers, patients, the government and other payers of tens of billions of dollars.

Speaking for the more than 100 member companies of our Association, I pledge that, as GPhA has done in the past, we look forward to working with you on the many pressing issues facing this Committee.

During your deliberations over the "Patent Reform Act of 2009," which was introduced last week, GPhA wants to stress the extreme importance of protecting the integrity of the patent process while also ensuring that Americans have access to affordable generic medicines. We believe that if the integrity of the patent process is weakened, consumers will pay a price rather than enjoy the benefits afforded under the current system.

The U.S. Supreme Court has explained, "[T]he far-reaching social and economic consequences of a patent...give the public a paramount interest in seeing that patent monopolies spring from backgrounds free from fraud and other inequitable conduct."[i]

We echo Senator Leahy's belief that patent reform is "about jobs, it is about innovation and it is about consumers." To that end, we are committed to ensuring that any reforms to the system do not have the unintended consequences of erecting barriers to the introduction of generic drugs, which are helping millions of consumers save money, particularly in these difficult economic times.

During consideration of the "Patent Reform Act," we know that some will come to the defense of parties that have submitted incomplete or even dishonest patent applications. We must work together to guarantee that the fundamental principle of providing truthful, honest and complete patent applications is maintained. Today's defense for inequitable conduct should not be weakened. As the federal courts have repeatedly explained, adherence to the duty of honesty and good faith is essential to the proper functioning of the patent system.[ii]

Weakening the inequitable conduct penalty will simply result in providing patent applicants with a greater incentive to be dishonest, to conceal and cheat, making it harder for companies to bring affordable generic medicines to consumers sooner rather than later. The power of judges to consider the inequities and weigh the facts should not be limited by changes to current statutory law. We do not want that balance between "the applicant's obligation to proceed in good faith" to be outweighed "by the great incentive applicants possess not to disclose prior art or to misrepresent facts that might deleteriously impact their prospective patent rights."[iii]

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The Patent Reform Act of 2009 has it right – current law allows judges to consider the intent of the applicant, and thus the current "inequitable conduct" approach should not be diluted.

Under current law, brand and biotech innovators are subject to a strong penalty for cheating, misleading or deceiving the PTO in an effort to maintain or secure dubious patents. Under the doctrine of inequitable conduct, a court can render a patent unenforceable if the patent applicant made material misrepresentations or withheld information during the patent application process with the intent to deceive the PTO. Since the evidentiary burden for proving inequitable conduct is so high, mere mistakes clearly fail to satisfy this exacting and difficult standard.

Organizations such as AARP, the Consumer Federation of America, Consumers Union, Patent Office Professional Association and the U.S. Public Interest Research Group voiced their opposition last year to attempts to weaken the inequitable conduct defense. GPhA also supports this position. Against this background, we urge Members of this committee to continue to espouse quality patent applications by maintaining current statutory provisions governing inequitable conduct.

Thank you, Chairman Leahy and committee Members. We are pleased to answer any questions you may have.

[1] *Precision Instrument Mfg. Co. v. Auto. Maint. Mach.*, 324 U.S. 806, 816 (1945)
[1] *Norton v. Curtiss*, 433 F.2d 779, 793-94 (C.C.P.A. 1970)
[1] "Intellectual Property: The Law of Copyrights, Patents and Trademarks" R.Schecter & J.Thomas. Thomson West.

[i] *Precision Instrument Mfg. Co. v. Auto. Maint. Mach.*, 324 U.S. 806, 816 (1945)
[ii] *Norton v. Curtiss*, 433 F.2d 779, 793-94 (C.C.P.A. 1970)
[iii] "Intellectual Property: The Law of Copyrights, Patents and Trademarks" R.Schecter & J.Thomas. Thomson West.

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Prepared Statement of Philip S. Johnson,
Chief Intellectual Property Counsel,
Johnson & Johnson

On Behalf of the
Coalition for 21st Century Patent Reform

Before the

United States Senate
Committee on the Judiciary

On

"Patent Reform in the 111th Congress: Legislation
and Recent Court Decisions"

March 10, 2009

10 a.m.

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Executive Summary
Statement of Philip S. Johnson,
Chief Intellectual Property Counsel,
Johnson & Johnson

The primary focus of patent reform should be job growth. Congress should change our patent laws to ensure that meritorious inventions are uniformly accorded patent protection. The resulting patents should be promptly and reliably enforceable against infringers, and result in damages awards that fairly compensate for the unauthorized uses made of the patented inventions. Because the R&D investments made in reliance on the patents dwarf the costs associated with their filing, maintenance and enforcement, the principal objective of patent reform should not be on saving administrative costs, but on changes that will stimulate R&D investment. Collectively, these changes will stimulate job growth.

S. 515 is an excellent first step towards achieving these goals. The 21st Century Coalition **supports**, subject to certain technical amendments, the provisions in S. 515 that would: adopt the first-inventor-to-file principle (Section 2); expand the grounds for *inter partes* reexamination to include statements of the patent owner in prior proceedings – but not challenges on the basis of prior use and sale (Section 5); expand the opportunity for the public to submit publications to the USPTO (Section 7); and, permit interlocutory appeals – but only from denied, dispositive summary judgment motions where not duplicative of earlier appeals (Section 8); and permit the Director to set fees if accompanied by statutory protection limiting their use to the USPTO (Section 9).

The Coalition **opposes** the provisions relating to willful infringement as unnecessarily retarding, and perhaps disrupting, the orderly case law development of the objective recklessness standard as contemplated by *In re Seagate* (Section 4), and the provisions relating to venue as unnecessary in view of recent judicial developments facilitating the transfer of cases to districts with substantial contacts with the cause of action and as unfair to patent owners (Section 8).

As to reasonable royalty patent damages, the 21st Century Coalition believes that the case for remedial legislation has not been made. The sizes of patent damages awards have been relatively stable for many years, and typically barely cover the costs of litigation. At the very least, the Coalition believes it would be best to await the anticipated decision in *Lucent v. Gateway,* and/or the outcome of the study proposed in Section 18 of H.R. 1260, before considering such changes to our patent laws.

As Chairman Leahy has suggested, one promising future approach may be to enact appropriate "gate keeper" language. Any approach to reasonable royalty damages that would redefine the invention to be less than that to which the inventor has proven he/she is entitled, such as an "essential elements" approach, would amount to just another version of "prior art subtraction," and would be grossly unfair to inventors.

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Prepared Statement of Philip S. Johnson

Mr. Chairman and distinguished Members of the Committee: I thank you for the opportunity to testify on various aspects of patent law reform, and recent court decisions that may affect the advisability of enacting certain provisions contained in S. 515. Although I am active in a number of professional organizations with interests in patent law reform, including Advamed, the American Intellectual Property Law Association, PhRMA, BIO and the Intellectual Property Owners Association, I am appearing today in my capacity as Chief Intellectual Property Counsel of Johnson & Johnson, and as a representative for the Coalition for 21st Century Patent Reform (the "21st Century Coalition").

I. Personal/Corporate/Coalition Introduction

By way of introduction, I am a registered patent attorney with 35 years of experience in all aspects of patent law. In addition to drafting and prosecuting patent applications, I have tried patent cases to both judges and juries, and have advised a wide variety of clients in many industries ranging from semi-conductor fabrication to biotechnology. Over the course of my career, I have represented individual inventors, universities, start-ups, and companies of all sizes. In January of 2000, I left private practice to join Johnson & Johnson as its Chief Patent Counsel.

Johnson & Johnson is a family of more than 200 companies, and is the largest broad-based manufacturer of health and personal care products in the world. Collectively, Johnson & Johnson companies represent this country's largest medical device business, its third largest biotechnology business, its fourth largest pharmaceutical business, and very substantial consumer, nutritional, and personal care businesses. Johnson & Johnson companies employ approximately 118,000 people. Johnson & Johnson's companies are research-based businesses that rely heavily on the U.S. patent system and its counterpart systems around the world.

The 21st Century Coalition is a broad and diverse group of nearly 50 corporations including 3M, Caterpillar Inc., Eli Lilly, General Electric, Procter & Gamble and Johnson & Johnson. For more than 100 years, our Coalition's companies have played a critical role in fostering innovation. We invest billions of dollars annually on research and development to create American jobs and improve lives. Representing 18 different industry sectors including manufacturing, information technology, consumer products, energy, financial services, medical device, pharmaceutical, and bio-technology, our Coalition advocates for patent reforms that will foster investment in innovation and job creation.

As the manufacturers and marketers of thousands of products, the freedom to make and sell products in view of the patents of others is always a concern to our Coalition's members. They therefore routinely review thousands of patents during their product development processes, make appropriate design changes to avoid the patents of others and/or obtain appropriate licenses or legal opinions prior to launching their products. Our member companies also become involved in patent litigation. Most of these litigations involve competitors or would-be competitors, although some involve

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non-manufacturing patentees. Johnson & Johnson's companies, for example, find themselves to be defendants about as often as plaintiffs.

The 21st Century Coalition's interest in patent law reform is to insure that the patent system fairly rewards those who contribute to our society through the invention and development of new and useful products and processes. A fair, efficient and reliable patent system will continue to stimulate the investment in innovation that is necessary in today's technologically complex world to create the new products and processes that will lead to better lives for Americans and the rest of the world. In addition, the best promise for preserving and enhancing our place in an increasingly competitive global marketplace will be to stimulate U.S. investment in research-based industries.

II. The Primary Focus of Patent Reform Should Be Job Creation

As Chairman Leahy correctly recognized upon the introduction of S. 515,

> Patent reform is ultimately about economic development. It is about jobs, it is about innovation, and it is about consumers. All benefit under a system that reduces unnecessary costs, removes inefficiencies, and holds true to the vision of our Founders that Congress should establish a national policy that promotes the progress of science and the useful arts.

The Chairman's focus is the correct one. Patent reform should focus principally on stimulating the private sector to invest in economic development and job growth. All other considerations should be secondary

Johnson & Johnson's companies are good examples of the relationship of the patent system, and patents, to jobs and job growth. Johnson & Johnson conservatively estimates that 60,000 of its full time jobs depend on the patent portfolios of its companies' 8,000+ U.S. patents (and their foreign counterparts). **Stated differently, we estimate that, on average, each U.S. patent results in, preserves and protects the jobs of, 7.5 employees per year, or, over its 20-year life, 150 job-years.** This estimate does not take into account the jobs of countless others at suppliers, distributors and retailers involved in the research, manufacture, distribution and sale of our products that indirectly depend in whole or in part on our patent rights.

Over the past three years, Johnson & Johnson companies' patent filings have averaged about 1,200 original applications each year. During that time, our companies have been awarded approximately 500 U.S. patents per year by the United States Patent and Trademark Office ("USPTO"). This 42% rate is very close to the current USPTO allowance rate, which is down from over 70% just a few years ago. During these same years, Johnson & Johnson companies have invested $22.4 billion in R&D, averaging about $7.5 billion per year, or $6.2 million in R&D for each patent application filed, and $15 million for each patent granted. Needless to say, these research and development expenditures have resulted in the direct employment of thousands of people throughout the United States in very good jobs with excellent benefits.

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As these numbers reflect, the R&D investments stimulated by the patent system dwarf the costs directly associated with the filing, maintenance and enforcement of patents. Accordingly, in considering changes to the patent system, the primary concern should not only be on the costs of filing or enforcing patents, but on what effect changes to the system might have on R&D investment, and thus jobs and job growth.

As explained below, Johnson & Johnson believes that appropriate patent reforms will maintain current jobs and create new jobs by continuing to encourage private sector R&D investment. Proposed changes that increase the likelihood that meritorious inventions will receive patent protection, and that resulting patents may be reliably enforced against infringers to promptly recover fair compensation should be favored, as these changes will have the greatest impact on stimulating R&D investment and job growth.

A. The Causal Relationship Between Patent Protection and R&D Investment

Johnson & Johnson companies are rational decision makers when it comes to deciding whether and how much to invest in R&D. When deciding whether or not to make, or to continue making, an investment in any given project, many factors are taken into account, including the cost of the project, the technical risk and likelihood of success of the project, the expected cost saving or product enhancement to be achieved, and the expected return on investment. In determining the expected return on investment, a critical element is the likelihood that meaningful patent protection will be accorded to deserving inventions resulting from the project, the degree and duration of exclusivity that resulting products or processes will enjoy, and the likelihood that the involved patents will either be respected by competitors, or promptly and successfully enforced in the event of infringement. When such projections indicate that the return on investment exceeds a threshold commensurate with the risk involved, the investment is, or continues to be, made. When it does not, the project is not begun, or is cancelled.

Johnson & Johnson's companies, and many other manufacturing companies like it, are now finding that the current economic crisis is reducing the likelihood that reasonable returns on investment can be achieved for many of their ongoing R&D projects. For that reason, our companies, and many others like us, have made the painful decision to lay off thousands of employees involved in R&D and other product-related areas.

Simply put, rational business people cannot justify investing in R&D unless the size of the "carrot" and the likelihood of getting the carrot justify the cost of trying to get the carrot. Unfortunately, since the economic crisis is shrinking the size of the carrot, so too are the amounts being spent to get the carrot.

The patent system has a direct effect on both the size of the carrot and the likelihood of getting the carrot. Changes in the patent system that will increase the size of the carrot and/or the likelihood of getting the carrot will cause business planners to invest more in R&D, while those that result in decreases will have the opposite result.

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B. How S. 515 May Impact Jobs

Whether the net effect of S. 515 will be to stimulate or retard job growth will depend largely upon its evolution as it is considered by Congress and enacted into law. The current provisions of S. 515 supported by the 21st Century Coalition will either be neutral to, or tend to stimulate job growth. With further work, the remaining provisions may be drafted to do the same. Accordingly, there is an historic opportunity for S. 515 to enhance the value of patents and stimulate investment to produce immediate and long lasting job growth.

Coalition members view our current economic conditions as analogous to the economic malaise of the 1970's. Begun as Carter administration initiatives, in the early 1980's Congress passed several bipartisan bills to enhance the value and enforceability of patents, including the Bayh-Dole Act[1] and the Federal Courts Improvement Act of 1982, creating the Court of Appeals for the Federal Circuit.[2] The reaction of the private sector was immediate and dramatic – investment in R&D substantially increased, and a sustained period of prosperity followed. In the Coalition's view, the 111th Congress now has a similar opportunity....and its timing couldn't be better.

As in the 1980's, the focus of S. 515 should be on making changes that will encourage R&D investment. Were they able to justify to themselves, and to their investors, that such additional expenditures would make sound business sense, the 21st Century's companies have both the wherewithal and the desire to hire back thousands of laid off workers, and many more. To do this in this economic environment, however, will require legislation that will ensure these companies that deserving inventions stemming from their R&D expenditures will receive prompt, high quality examination by the USPTO, and that the patents that the USPTO issues will provide a firm foundation on which to build a growing business. Just as no one would build a house on land whose title could be challenged over and over again, businesses need to be able to count on an extended period of quiet title to their patents if they are to make the kinds of investments in them on which future growth is to be founded.

Many of the provisions already contained in S. 515, such as those relating to the adoption of a first-inventor-to-file system and improved patent examination procedures, should prove to be beneficial to long-term investment and job growth. As Chairman Leahy and Senator Hatch appropriately recognized in their introductory statements, additional work remains to be done on a number of other important issues, particularly reasonable royalty damages. The 21st Century Coalition is confident that many of these provisions can be improved so that enactment of S. 515 will drive job creation by improving the reliability of achieving the patent reward, and by preserving its value.

[1] University and Small Business Patent Procedures Act, Pub. L. No. 96-517 (1980)
[2] P.L. 97-164 §165, 96 Stat. 50 (1982)

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III. Improving the United States Patent and Trademark Office

The first priority of patent reform should be to improve the completeness of patent examination and the quality of patents that issue. These reforms focus on properly financing the Patent and Trademark Office, simplifying the patentability standards and their application, and expanding public input in the decision to grant a patent. They have garnered broad support from stakeholders and represent an achievable core of needed reforms to improve the operation of the USPTO. While these reforms may not immediately create jobs, they hold directly address the twin problems of an unacceptably large backlog of pending applications and the public's perception that some patents granted by the USPTO are of low quality. Improvements in patent quality should also improve the reliability of patent protection and the downstream efficiency of enforcement proceedings.

A. Improvements to Guarantee the USPTO Financial Resources

Additional improvements that should be considered for inclusion in S. 515 are those that provide additional financial resources to the USPTO. For example, the adoption of two linked proposals contained in Sections 9 and 15 of S. 1145 as reported by this Committee in the 110th Congress could significantly improve USPTO. Section 9, continued in Section 9 of S. 515, would give the USPTO the authority to set its fees by regulation, tailoring the fees to better reflect the extent of the effort needed to thoroughly examine patent applications. The necessary corollary, missing from S. 515, is the creation of a revolving fund from which the USPTO could finance its operations. Such a fund would assure that the USPTO could use the fees that it collects to fund the work for which those fees were paid, and it would allow the USPTO to engage in strategic planning over the course of multiple fiscal years secure in the knowledge that it had a predictable source of funding.

Many of the quality and pendency problems confronting the USPTO, and the subsequent litigation that the grant of questionable patents can generate, can be directly traced to the diversion of USPTO fee revenues from 1992 through 2004 to fund other, unrelated government operations. Cumulatively, this diversion resulted in a loss of more than $750 million in fees paid by patent and trademark applicants for the processing of their applications. As a result, the USPTO was unable to hire the examiners it needed for a decade and has therefore had enormous difficulty hiring, training, and retaining the number of skilled examiners needed to catch-up and cope with the ever increasing number of patent application filings.

While the Congress has permitted the USPTO to retain essentially all of its user fees for the last four fiscal years, users of the patent system recognize that there is nothing to prevent the return of this devastating practice, a prospect that could more likely materialize in the current Federal budget deficit situation. The beginning steps taken by the USPTO to address its quality and pendency issues—made possible by its being appropriated all of its fee revenues—demonstrate the importance of a permanent end to this possibility. The USPTO must have such protection in order to intelligently plan for and meet the multitude of challenges it faces – its users who pay the fees deserve no less.

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B. International Harmonization Provisions

An essential step identified by the National Academies' Board on Science, Technology, and Economic Policy ("NAS")[3] for improving the US patent system is the elimination of the subjective elements in US patent law. The elimination of these subjective elements would improve the operation of the USPTO, benefiting all constituencies, by promoting patent quality, simplifying the administration of the patent law, and facilitating the ability of the USPTO to work cooperatively with other patent offices to address the global backlog.

1. First-Inventor-To-File

The cornerstone of these harmonizing changes is the proposal to adopt the first-inventor-to-file principle contained in Section 2 of S. 515. It will significantly simplify the patent law, provide fairer outcomes for inventors, speed final determinations of patentability, and reduce overall costs for procuring patents. With the accompanying changes that bring objectivity to the determination of what information can be used to assess the patentability of an invention, the adoption of the first-inventor-to-file principle would allow the United States to join the world patent community and make patentability determinations on objective criteria using publicly available information. The public could more readily assess the patentability of granted patents and avoid costly litigation.

2. "Best Mode" Harmonization

One recommendation of the NAS that does not appear in S. 515 is the elimination of the requirement for applicants to "set forth the best mode contemplated by the inventor of carrying out his invention." The NAS noted that much of what is wrong with the enforcement of patents can be traced to the prevalence of so-called "subjective elements" such as "best mode" in patent litigation. Questions such as "What constitutes a mode of carrying out an invention? Was one mode thought by the inventor to be better than the rest when the patent application was filed? "Were details of such best mode sufficiently disclosed in the patent application? We believe that a convincing case has been made that simply eliminating the "best mode" requirement from the patent statute is appropriate. The public's interest in having a complete patent disclosure is readily achieved by the requirements that the patent fully describe the claimed invention and contain all the information needed to make and use the invention.

3. Orderly Transition Period for First-Inventor-To-File

Before leaving the harmonizing topic, there is one technical problem in S. 515 that I would like to bring to your attention. The effective date provision contained in Section 13(a) of S. 515 would appear to apply the first-inventor-to-file principle to all applications issuing more than 12 months after the date of enactment. This approach is simply not feasible, as the decision to file, the preparation of the patent application itself, its filing and its examination should all be performed knowing the patentability rules that will apply to its grant. Such an important transformation needs to be made in an orderly

[3] Merrill, Levin, and Myers, "A Patent System for the 21st Century", Committee on Intellectual Property Rights in the Knowledge-Based Economy, Board on Science, Technology, and Economic Policy, National Research Council, National Academies http://www.nap.edu/html/patentsystem/0309089107.pdf

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manner to give USPTO, inventors and the patent profession time to properly engineer its implementation. In our opinion, it would be best to first apply the changes of S. 515 to original patent applications filed more than one year after enactment.

C. Public Input Into the Patent Examination Process

Another way to improve the quality of patent applications is to allow members of the public to provide timely input into the examination process. We are pleased to see the inclusion in S. 515 of Section 7 expanding the opportunity for the public to submit information to the USPTO. Allowing the public to submit information to patent examiners working on individual patent applications, together with concise descriptions of its relevance, will help ensure that all relevant information will be considered before a patent is issued. This provision will contribute to our long-standing objective to have the USPTO conduct a quality examination the first time, before a patent is granted, obviating the need to rely on post-grant clean-up procedures. The public and patent applicants alike will benefit from the grant of more reliable patents based on more thorough and complete examination that this procedure will offer.

IV. Expanded *Inter partes* Reexamination Proceedings

The 21st Century Coalition supports Section 5 of S. 515, subject to eliminating its provisions relating to prior use or sale. The provisions of Section 5 of S. 515 closely track the *inter partes* reexamination provisions contained in Section 6 of HR 1908 as passed by the House in 2007. Unfortunately, S. 515 dramatically expands the grounds upon which an *inter partes* reexamination may be instituted to include on evidence that the claimed invention was in public use or on sale in the United States more than one year prior to the application for patent. In particular, S. 515 amends paragraph (1) of Section 301 to allow the citation of such evidence.[4]

The Coalition for 21st Century Patent Reform has consistently opposed adding "prior public use or sale" to *inter partes* reexaminations because in this procedural setting patentees will be disadvantaged if such issues may be raised many years after a patent has granted. Challengers and patent owners should be given a full and fair opportunity to oppose and defend patents on a neutral playing field, preferably before the patentee has invested heavily in developing the invention. Adding prior public sale or use arguments in reexaminations proceedings initiated many years after the alleged acts took place, without guaranteeing the right of the patent holder to take discovery and cross examine witnesses, does not provide a fair proceeding for patent owners. This new avenue of challenge is neither appropriate nor acceptable.

[4] H.R. 1260 accomplishes the same objective by adding a new paragraph (3) to Section 301 to allow the citation of "documentary evidence that the claimed invention was in substantial public use or sale in the United States more than 1 year prior to the date of the application for patent in the United States." The language in H.R. 1260 further enhances the subjectivity of such evidence by specifically stating that the public use must be "substantial," a requirement not found in the Senate language.

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V. Patent Damages: A Solution In Search of a Problem?

No patent reform proposal has engendered more controversy than that relating to patent damages.[5] We are grateful to several Senators (and their staffs) who have participated in many hours of stakeholder discussions concerning patent damages issues, and appreciate the willingness of the sponsors of S. 515 to continue working to achieve a consensus on these issues.

A. Available Data Indicates Damages Awards Are Appropriate

In the 21st Century Coalition's view, the case has yet to be made that any reform in patent damages law is needed.[6] Contrary to critics' assertions of just a few years ago, the number of patent litigations in this country is at least leveling-off, if not declining.[7] Overall, patentees have had an overall success rate of only 36% over the last 13 years. When they do win, median patent verdicts have been fairly constant since 1995, even trending downward in 2008.[8] These winning verdicts, if ultimately sustained, are barely enough to cover attorneys' fees in most of these cases, much less to compensate patent owners for the infringement that has occurred.

Recent experience shows that of the 2,700 cases filed each year, fewer than 5 led to verdicts in excess of $100 million. Experience also shows that few if any of these verdicts survive post judgment review and appeal. A prime example is the *Alcatel-Lucent v Microsoft* verdict of $1.5 billion that was touted in the last Congress as *the* reason for patent damages reform, even though it was later promptly and finally vacated.

Nor have the advocates for a change demonstrated that these few large awards are disproportionate to the damage caused to the patent owner on account of the infringement. Companies in our Coalition, like other big businesses, have many products whose yearly sales are in the hundreds of millions or even billions of dollars. When infringement damages are awarded with respect to a multi-year infringement involving such a product, it should come as no surprise that the proper damages award may be in the range of tens, if not hundreds, of million dollars. Size alone, without reference to the

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[5] William C. Rooklidge and Alyson G. Barker, "Reform of a Fast-Moving Target: The Development of Patent Law Since the 2004 National Academies Report," http://www.patentsmatter.com/issue/pdfs/20090205_rooklidge_barker.pdf
See also Scott Shane, The Likely Adverse Effects of an Apportionment-Centric System of Patent Damages, http://www.mfgpatentpolicy.org/images/Apportionment_of_Damages_Adverse_Effects_Jan14_09.pdf (Jan. 14, 2008).

[6] Recognizing that insufficient data exists on patent damages, Section 18 of H.R. 1260 proposes that such a study be conducted.

[7] Aron Levko, Principal, PricewaterhouseCoopers, FTC Hearing on "The Evolving IP Marketplace – The Remedies," February 11, 2009 http://www.ftc.gov/bc/workshops/ipmarketplace/feb11/docs/alevko.pdf

[8] There is no empirical evidence to support the claim that damages awards are out-of-control. Indeed, several studies have found that damages awards are not increasing. A recent PriceWaterhouseCoopers study concluded "The annual median damages award since 1995 has remained fairly consistent, when adjusted for inflation." Professor Paul Janicke from the University of Houston Law Center recently testified before the FTC that the median damages award in a patent case is $5-6 million, and if the cases where the patent owner loses (which happens in 64% of cases) are included, the median drops to less than $2 million.

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magnitude and duration of the infringement, and the nature of damage caused thereby, does not indicate that the damages award was in any way inappropriate.

Critics from some large technology companies nonetheless contend that damages reform is needed because their fears that erratic or spurious awards will be granted cause them to settle their cases at higher amounts than are fair. This contention is hard to vet, as settlement terms are normally private, and entered at a fraction of the damages that would be assessed were the case to proceed to judgment. At least one commentator, however, has pointed out that few of these settlements are material to the accused infringer.[9]

B. The Litigation Abuse Problem: Is a "Loser Pays" System The Solution?

More commonly, proponents of patent damages reform complain that they are assaulted with baseless actions accusing their best selling products with infringement, and that the sole purpose of most of these actions is to coerce a settlement in an amount less than it would take to mount a successful defense. We have sometimes encountered this problem, which is unique to patent cases because the cost of a patent defense is so expensive that a settlement of a million dollars or more may be cheaper than the alternative. In our view, this problem stems from the common failure to award attorneys fees in patent cases. As a result, such conduct is encouraged, while the bringing of meritorious actions that might not recover enough to offset the litigation costs involved is unfortunately discouraged. One possible solution to this problem would be for the Committee to consider amending S. 518 to reinstate the "loser pays" provision that Senators Leahy and Hatch proposed in S. 3818.[10]

C. Juries Are Being Appropriately Instructed on Damages Issues

Contrary to the opinions of some, our experience is that judges and juries are not left at sea in ascertaining damages in patent cases. To the contrary, extensive discovery is permitted into opposing parties' damages contentions, extensive expert reports are exchanged, and both damages-related witnesses and experts are deposed at length. Motions to exclude improper testimony are permitted and considered both before and during trial, and improper evidence is routinely excluded. To the extent it is not, the aggrieved party may preserve its objection for appeal. Juries hear only admissible evidence and testimony, including explanations from qualified experts for both sides, as to value of the use made of the invention, and the base and rate of a fair royalty to be paid for that use. Jury instructions are proposed and negotiated by both sides, and any objections to those instructions may be preserved for appeal. Within the limits of those instructions, skilled trial lawyers for both sides are given ample time to explain their damages positions in closing argument, and the court's instructions are diligently administered. Following trial, either party may move for judgment notwithstanding the verdict, or for a new trial if the verdict is against the clear weight of the evidence.

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[9] Pat Choate, "The Patent Reform Act of 2007: Responding to Legitimate Needs or Special Interests? The "Patent Fairness" Issue An Analysis," suggesting that over the period 1995-2006, reported patent settlements for companies in the Coalition for Patent Fairness averaged one ninth of one percent (0.11 percent).
http://www.innovationalliance.net/files/CPF-Patent%20Reform%20Act%20Analysis%2010-30-2007.pdf

[10] Section 5(b), S. 3818, 109th Congress.

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Were district courts not generally discharging their duties in the area of patent damages, one would expect critics to have pointed to large numbers of appeals to the Federal Circuit where aggrieved defendants complained that the foregoing procedures were not being followed, or that reversible error occurred. They have not. To the contrary, the public record demonstrates that damages issues are raised in relatively few patent appeals, and then seldom with respect to any of the procedural errors that one would expect were the criticisms espoused reflected in actual experience. *See* www.patstats.org (compare, for example, the 374 appellate rulings on literal infringement issues to only 22 for reasonable royalties for the 2000-2004 time period).

D. Potential Value of "Gate Keeper" Provisions

While our experience in patent litigation does not suggest that district court judges fail to hear appropriate motions to exclude inappropriate evidence, or to exclude damages claims that are unsupported by substantial evidence, some critics continue to contend that their experience is to the contrary. As Chairman Leahy has mentioned, one appropriate response to this perception may be to enact so-called "gate keeper" language that would ensure that courts or juries consider only those damages contentions that are cognizable at law and supported by substantial evidence. Such language, originally suggested during the so-called Feinstein-Specter meetings, appears to have garnered widespread stakeholder support, and thus should be considered as an alternative to the damages language now included in S. 515.

E. Addressing Damages Involving a Small System Component

In addition to the foregoing, concerns continue to be expressed that there is an undue risk that damages will be oversized when the invention is a feature that is added to a larger system of which the feature is but a small part. In the context where the patent owner is a non-practicing patentee not otherwise active in the field, there appears to be widespread stakeholder agreement that any reasonable royalty damages awarded should be commensurate with the value added by using the invention. Nonetheless, after years of trying, no substantive language has been proposed that has gained widespread support. We believe that this failure to agree stems from a misunderstanding of the difference between the function of the patent claims to *define* the invention, and the methodology used to *value* that invention.

1. The Nature and Role of Patent Claims: To Define the Invention

To understand the difference, it is first necessary to understand the nature and role of the numbered "claims" that appear at the end of every issued U.S. patent. In order to gain patent protection for their inventions, inventors are required to meet certain strict disclosure requirements relating to the inventions they wish to protect. In particular, every patent application must include a "specification" that contains

> a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to

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> make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. 35 U.S.C. 112 (1st para.)

In addition to meeting these "written description" and "enablement" requirements, every patent application must

> conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
>
> A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form. 35 U.S.C. 112 (2nd & 3rd paras.)

These patent claims, as interpreted in view of the description in the specification and the knowledge of a person skilled in the art, are the focus of the patent examination process. Upon approval or allowance by the Patent and Trademark Office, claims serve as the operating definitions of what is actually patented.

Most commonly, the original patent claims submitted with a patent application are not allowed in their original forms. During the patent examination process, each claim is carefully reviewed to ensure that it is adequately supported by the specification (that the invention it claims is both properly described and enabled), that it is sufficiently definite (that it particularly points out and distinctly claims the invention), that it seeks to cover subject matter of the kind that may be patented, that it is novel, and that it was not "obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."[11] Most commonly, Patent Examiners find that an applicant's originally proposed claims fail to meet one or more of these statutory requirements, and accordingly reject them in one or more "Office Actions" that are issued during the patent examination process. Applicants are allowed to file "responses" to such Office Actions, which may amend or rewrite the patent claims, submit additional evidence relevant to the patentability determination, explain how the claims should properly be interpreted, and/or explain why the stated grounds for the rejection of the patent claim(s) are unfounded. Most often, this back and forth process will result in a final decision on allowance after two Office Actions, although in a minority of cases, additional reviews and/or appeals will be needed before a final patentability conclusion is reached.

Once the Patent and Trademark Office has determined that the patent claims are proper in all respects, and after one final search to be sure that the same invention isn't the subject of any another prior pending application, they are allowed, issue as part of the granted patent, and serve as the definition(s) of what is patented.

Under current law, the scope of a patent's claims will be reconsidered at the request of any member of the public who files a reexamination request with the Patent and Trademark Office showing that a substantial new issue of patentability exists with respect to one or more of the patent's claims in view of the disclosure(s) of one or more prior patents or publications.

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[11] *See* 35 U.S.C. 101, 102, 103 & 112.

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Whether or not a patent's claims have been tested in reexamination, their validity and proper interpretation may again be challenged in federal district court by any accused infringer. During such proceedings, the district court judge is required to conduct a so-called "Markman" hearing to interpret the claims to ensure that they are construed consistently with the "intrinsic evidence," which includes the specification as well as all of the back and forth communications (known as the "prosecution history") that led to their allowance. Once such a claim interpretation is rendered, that interpretation is used in connection with decision of all subsequent issues, including any validity challenges, the determination of infringement, and the assessment of patent damages on account of the infringement.

2. The Proper Approach to Determining an Invention's Value

The process of determining the value of the use of an invention by an infringer is quite different than determining the scope and patentability of the underlying invention. In the normal case, reasonable royalty patent damages are determined by looking at what the infringer would have been reasonably willing to pay, and what the patentee would have been reasonably willing to accept, for a license to use of the invention negotiated at the time just before the infringement began. In the normal context, where the patentee and infringer are competitors, or at least have other business interests in the same field, this determination can be complex, as the sales to be made by the infringer may have a substantial negative impact on the sales being made by the patentee, and/or a license may alter or disrupt market dynamics. Accordingly, litigants normally contest reasonable royalty issues by proffering evidence related to one or more of thirteen so-called *Georgia Pacific*[12] factors that have been developed by the courts relating to various business circumstances that could have had an influence on the outcome of the hypothetical negotiation.

Where the patentee is not a practicing entity (and thus does not compete against or have interests in the same field with the accused infringer), the business context is simplified. In such cases, most stakeholders appear to agree in concept that the focus of the reasonable royalty determination should be on the incremental value of using the invention, and that that value should not be artificially inflated or diminished merely because an expanded or contracted royalty base is employed in its calculation. In particular, the business value of using an invention should generally be independent of whether it was claimed broadly or narrowly. For example, if the reasonable royalty for using a patented, variable-speed automobile windshield wiper is one dollar, it should not matter whether the amount is assessed as one dollar per wiper assembly, or one dollar per car. Stated differently, a patentee who has drafted his claim to "an improved car with the [novel] windshield wiper assembly" should not be awarded more than one who drafts his claim only to "an improved [novel] windshield assembly" – the resulting incremental value to an auto manufacturer of using the invention in this example does not vary, nor should the amount of reasonable royalty damages awarded.

3. Non-Use, or Non-Infringing Substitute, As a Focus for Comparative Valuation

[12] *Georgia-Pacific v. United States Plywood*, 318 F. Supp. 1116 (S.D.N.Y. 1970).

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It appears that a promising approach to this reasonable royalty problem, at least for circumstances involving non-practicing patentees with no competitive interests in the field, may be to focus on ascertaining the incremental value to the infringer, at the time just before the infringement began, of using the invention compared to not using it, or to using its closest reasonably available non-infringing substitute, and then determining the fair proportion of that value that should be paid to the patent owner for that use. In the example of the windshield wiper example, the value of the car with the improved windshield wiper may be compared to the car's value without a conventional windshield wiper, and a reasonable royalty that is a fair proportion of the determined incremental value could then be assessed.

4. The Invention Should Not Be Redefined for Damages Purposes

Unfortunately, proponents of reasonable royalty reform have gone down the wrong track, and appear to be at risk of doing so again, by trying to narrow the definition of the invention for damages purposes. According to this methodology, the definition of patented invention, as set forth in carefully crafted claims approved by the USPTO, would still be used in the validity and infringement phases of a patent enforcement litigation, but not for purposes of assessing fair damages "for the use made of the invention by the infringer," as is now required by statute. Instead, these proponents would narrow the claimed invention using one or more definitional devices that are plainly intended to reduce inventors' recoveries so that the royalties will be based on less than what the Patent and Trademark Office agreed to be patentable.

Some such definitional devices suggested during the last Congress included limiting the claimed invention for damages purposes to "its inventive contribution," its "patentable features," or, as proposed in S. 515, "the patent's specific contribution over the prior art." After extensive discussion and debate, it was recognized in the Senate Judiciary Committee's report for S. 1145 that the language ''specific contribution over the prior art'' would have to be amended to address concerns in the patent-using communities. Indeed, in the 110th Congress, a number of witnesses and commentators noted that language that would require that a claimed invention be dissected down to less than all of its component parts for damages purposes would (a) systematically under-compensate inventors, and (b) be "toxic" to the progress of other meaningful patent law reform.

5. *Quanta's* "Essential Features" Language Is Not the Answer

This year, some have suggested that the claimed invention again be re-defined for damages purposes, this time by reducing it to its "essential elements," as noted by the Chairman in his introductory remarks for S. 515. This "essential elements" language is borrowed from the recent Supreme Court decision in *Quanta Computer, Inc. v. LG Electronics, Inc.,*[13] which used it in an entirely different context. *Quanta* in fact has nothing to do with determining the proper amount of damages to be awarded for the use made of an invention by an infringer, and by no means authorizes the kind of systematic limitation on patent damages that would result from this proposal.

[13] 128 S. Ct. 2109 (2008).

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Quanta deals with the doctrine of patent exhaustion: when in the distribution chain so much of the patented invention has been sold that it would be unfair to allow the patent owner to control (or collect further royalties from) further downstream sales. The Court held that patent rights are exhausted following the authorized sale of components that must be combined with other components in order to practice the method claimed in the patents in that case. In reaching this holding, the Court quoted its 1942 decision in *United States v. Univis Lens Co.*,[14] "where one has sold an uncompleted article which, because it embodies essential features of his patented invention, is within the protection of his patent, and has destined the article to be finished by the purchaser in conformity to the patent, he has sold his invention so far as it is or may be embodied in that particular article."

In the context in which the Court used the term "essential features" in *Univis*, the term was clearly intended to capture the thought that exhaustion applies where a patentee has sold a product essentially embodying the whole of a patented invention. The court was not attempting to dissect the invention into essential and non-essential features, nor suggesting the use of "essential features" in damages calculations. The Supreme Court in *Quanta* was only saying that, in line with *Univis,* exhaustion applies where a patentee sells a product that embodies essentially all of the features of a claimed invention so that "the only step necessary to practice the patent is the application of common processes or the addition of standard parts."

Quanta's "essential features" phrase cannot be applied to inventions made up of a combination of prior art elements because subtraction of the common processes or standard parts would leave nothing. For those who argue that the "essential features" phrase would not apply to combination inventions, the reality is that, at some level, all inventions are combinations of old elements. As Chief Judge Markey explained "there ain't no new elements! Only God makes things out of new elements.... It may be possible to think of a non-combination claim, but it's very hard. Perhaps chemical claims are meant, but they are usually combinations of chemical elements."[15] Thus, neither *Quanta* nor *Univis* address the value of the use made of an invention and the "essential elements" phrase should not be used in any damages legislation.

6. The Committee Should Await the *Lucent-Gateway* Decision

One judicial development that may have a substantial impact on the reasonable royalty debate is *Lucent v Gateway,*[16] which is a reasonable royalty damages case now on appeal before the Federal Circuit. Over twenty stakeholders, including Johnson & Johnson, have participated in *amicus* filings in this case, which is likely to be argued in May of this year. It is very likely that the Federal Circuit will address some, if not most, of the damages issues raised in connection with this legislation. Accordingly, this Committee may wish to consider delaying its resolution of the reasonable royalty issues until this case has at least been argued, if not until a decision is rendered, likely as early as this summer.

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[14] 316 U.S. 241, 250-51 (1942)

[15] Howard T. Markey, *Semantic Antics in Patent Cases*, 88 F.R.D. 103 (1980); *Why Not the Statute?* 65 J. PAT. & TRADEMARK OFF. SOC'Y 31 (1983)

[16] *Lucent Techs. Inc. v. Gateway, Inc.*, No. 2008-1485, -1486, -1487, -1495 (Fed. Cir.)

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VI. Interlocutory Appeals of Markman Rulings Should Be Permitted, But Limited to Certified, Dispositive Summary Judgment Motions

Section 8 of S. 515 would amend section 1292 of 28 U.S.C. 1292 to permit patent litigants to appeal interlocutory claim construction rulings. Under current law, there are already two ways such Markman rulings may be appealed. The first is by bringing a successful, dispositive summary judgment motion; whereupon the claim construction ruling is reviewed as a matter of right on appeal. The second way, which has been very rarely granted, is to seek certification of the Markman ruling from the ruling district court judge, whereupon the appeal will be heard only at the discretion of the Court of Appeals for the Federal Circuit.

Although Section 8 of S. 515 would give the trial court discretion whether to approve such appeals and, if granted, whether to stay its proceedings during the pendency of such appeal, it would change current law by requiring that the Federal Circuit hear and decide the appeal. Our Coalition believes that this approach is fraught with opportunities for mischief. Such an approach is likely to lead to piecemeal litigation that will clog the docket of the Court of Appeals, slow the timely resolution of patent cases, and, ultimately, reduce the value of the patent award. As stated by Chief Judge Michel

> Interlocutory appeals of Markman rulings need no legislative compulsion ... because they already happen. The majority of our appeals are from summary judgments of non-infringement based on claim construction. What would be added are mainly cases where the claim construction is not dispositive, which hardly seems efficient. Greater cost and delay will follow when everyone agrees costs and delays need to be reduced.[17]

Moreover, where the case involves the alleged invalidity of a patent, and/or where factual disputes exist as to the nature of the alleged infringement, our experience is that further proceedings, including trial, are normally needed to develop the issues. For this reason, and because patent cases normally involve the assertion of multiple claims raising many issues of interpretation, many Markman rulings are not case dispositive. Moreover, it is not infrequent for district court judges to modify their claims construction rulings during the course of the case, as they become more familiar with the technology at issue and better appreciate the context, significance and potential ambiguities of their initial interpretations.

Although previously rarely granted (as previously noted), there are signs that this may be changing. On February 6, 2009, the Federal Circuit granted permission in *Shire LLC v. Sandoz* for Sandoz to pursue an interlocutory appeal under 28 U.S.C. § 1292(b) concerning the effect of a prior district court Markman ruling.[18]

For these reasons, and because it would compound and delay already-complex patent litigation, we do not favor giving litigants an unfettered right to bring interlocutory appeals on all claims construction rulings. Nonetheless, if a right of interlocutory appeal

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[17] "A Strong Patent System," remarks by Paul R. Michel, Chief Judge, U.S. Court of Appeals for the Federal Circuit, before the Association of Corporate Patent Counsel, January 28, 2009 http://www.patentsmatter.com/issue/20090128_michel_acpc.htm

[18] *Shire LLC v. Sandoz*, Miscellaneous Docket No. 893, (Fed. Cir. 2009).

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is to be given, it should be limited to appeals from denials of potentially case-dispositive summary judgment motions based on the interpretation of one or more of the patent claims in issue. Moreover, such appeals should not proceed unless the district court believes that the evidentiary record is sufficiently developed to fairly support the appeal, the ruling is sufficiently final as to be unlikely to be modified in ensuring proceedings, one or more issues to be appealed is outcome determinative, and an immediate appeal would otherwise further the interests of justice. Finally, if such an interlocutory appeal is taken, the appellant should not be permitted to institute a second appeal as to any claim construction issue that was raised or could have been raised. By including these important limitations, district courts will maintain control of the management of their cases, and those claim construction issues that are appealed will be of sufficient importance to merit the time and attention of the Federal Circuit.

VII. Legislative Action on Willfulness Is No Longer Needed

The 21st Century Coalition opposes the willfulness provision of Section 4 of S. 515, as the Federal Circuit's recent decision in *In re Seagate*[19] abandoning the former "duty of care" standard in favor of the higher "objectively reckless" standard obviates the need for any further legislation at this time.

First, the willfulness provision contained in S. 515 is a carry over of a provision written to establish a safe harbor from liability that might have existed in a "duty of care" environment. It proposes, for example, to establish a good faith state of mind defense, even though, as the Federal Circuit explains in *Seagate,*

> The state of mind of the accused infringer is not relevant to this objective inquiry. If this threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer.[20]

Moreover, in determining whether an accused infringer "acted despite an objectively high likelihood that its actions constituted infringement of a valid patent," courts must consider "both legitimate defenses to infringement claims and credible invalidity arguments . . . .," provisions not addressed in the current proposal. Accordingly, the potential exists that S. 515 may be interpreted as altering the law of *Seagate,* rather than codifying it.[21]

Second, while the Federal Circuit set forth the objectively reckless standard in *Seagate,* the court explicitly recognized "that the term [reckless] is not self-defining" and that future cases are needed to "develop the application of this standard." Thus, to enact legislation at this point would likely interfere with the orderly development of important case law that will elucidate the practical considerations to be met in applying this standard.

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[19] *In re Seagate Tech.,* LLC, 497 F.3d 1360, 1371 (Fed. Cir. 2007), *cert. denied,* 2008 U.S. LEXIS 2153 (2008).
[20] *See id.*
[21] *See id.; Black & Decker, Inc. v. Robert Bosch Tool Corp.,* No. 2007-1243, 2007-1244, 2008 U.S. App. LEXIS 207, at **18 (Fed. Cir. Jan. 7, 2008).

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Third, as an immediate and direct result of *Seagate,* district courts have begun routinely dismissing claims of willfulness from cases before they reach the trial stage, thus suggesting that undue allegations of willfulness are no longer the problem they once were. In the Coalition's view, the best course under these circumstances would be for Congress to exercise legislative restraint in deference to the progress made on this issue by the courts, recognizing that there will be time for further legislative action, should subsequent developments indicate such a need.

VIII. Legislative Action Regarding Venue Is No Longer Needed and As Proposed Would Be Unfair

The 21st Century Coalition opposes the provisions of Section 8 relating to venue, because this provision is no longer necessary in view of recent judicial decisions, and in any event would unfairly discriminate against patent owners.

Section 8 of S. 515 is presumably directed at prohibiting plaintiffs from filing cases in the Eastern District of Texas, which has been criticized by some as a pro-plaintiff forum. If such a remedy were ever needed, several developments now appear to have made it unnecessary. First, there was a 17% decline in filings in the Eastern District in 2008, perhaps due to its mounting case backlog. Second, the Fifth Circuit's recent decision *In re Volkswagen of America, Inc.*,[22] which was promptly followed by the Federal Circuit's decision *In re TS Tech Corp.*,[23] appears to have remedied the venue shopping problem by holding that cases must be transferred to locales where there is a considerable nexus to the forum, such as to those *fora* where the witnesses and evidence may be found.

Should the Committee opt to retain a provision on venue, the Coalition urges that the language be balanced so that it recognizes a patent owner's legitimate interest in bringing an infringement action in the district where it performs its research, development, manufacturing, or other commercialization of the involved technology, or where its relevant evidence or witnesses are located. For example, although the language of Section 8 allows patent-owning individuals, universities and nonprofit organizations to file suit where they reside, corporate defendants are denied such rights, and must bring suit in a district permitted under one of the preceding subsections specifying where defendants may be sued. Not only is this dichotomy unfair to corporate patent owners, but it is unduly overreaching to address the real root of the perceived venue problem that has spurred the calls for reform – cases being brought in purportedly pro-plaintiff venues that lack any substantive connection to any party's activities or to the evidence relating to the case.

The rationale for recognizing a plaintiff's home district as an appropriate venue for bringing a patent infringement action exists for corporate plaintiffs as well as individuals, universities and nonprofit organizations. Given the high costs and burdens associated with patent litigation, for many corporate plaintiffs, geographic convenience is

[22] *See In re Volkswagen of America, Inc.*, 545 F.3d 304 (5th Cir. 2008).
[23] *In re TS Tech Corp.*, 551 F.3d 1315 (Fed. Cir. 2008) (granting a writ of mandamus holding that Eastern District of Texas clearly abused its discretion in denying a motion to transfer patent infringement case to Southern District of Ohio)

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a primary concern. They prefer to bring suit in their home districts, where their witnesses, documents and other information typically are located. Moreover, for many corporate patent owners, their home forum typically is the place where they often have invested in research, development and commercialization of the patented technology. Their interests in protecting those investments in their home districts should not be ignored in favor of an accused infringer's interests in litigating in its home court. Nearly every patent infringement action presents geographical inconvenience to one party or the other; and in our view, a venue rule that imposes that inconvenience on a corporate patent owner in all cases is neither fair nor justifiable.

IX. Conclusion

Johnson & Johnson and the Coalition for 21st Century Patent Reform appreciate the invitation to provide our views to the Committee on these and other patent reform proposals, and look forward to working with the Committee on this bill to bring it to successful passage.

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Johnson & Johnson

OFFICE OF
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ONE JOHNSON & JOHNSON PLAZA
NEW BRUNSWICK, N.J. 08933-7003

March 30, 2009

Ms. Sarah Guerrieri
Hearing Clerk
Senate Judiciary Committee
224 Dirksen Senate Office Building
Washington, DC 20510

Dear Ms. Guerrieri:

As requested, I respectfully submit herewith my answers to the written questions of the Senate Committee on the Judiciary, following the March 10, 2009 hearing on Patent Reform in the 111th Congress.

Electronic versions of my answers have been sent to you at the e-mail address provided in your letter of March 18.

Please feel free to contact me if you need anything further.

Very truly yours,

Philip S. Johnson
Chief Intellectual Property Counsel

TESTIMONY OF David J. Kappos
Vice President and Assistant General Counsel
Intellectual Property Law and Strategy
IBM Corporation
Before the
United States Senate Committee on the Judiciary
March 10, 2009

Mr. Chairman, Ranking Member Specter, and members of the Committee. My name is David J. Kappos and I am Vice President and Assistant General Counsel for Intellectual Property Law and Strategy for the IBM Corporation. I appreciate the opportunity to offer IBM's views on patent law reform and the actions that this Committee should take to preserve America's innovation leadership and competitiveness in the world, and to encourage investment to produce economic growth and create jobs.

IBM supports S. 515, the Patent Reform Act of 2009, and urges the Committee to pass this important piece of legislation to create a contemporary U.S. patent system. The last half-century has been a time of unprecedented technological change. However, during this same period, the laws governing our U.S. patent system have not been significantly updated to reflect these changes. Innovation today is characterized by diverse forms of collaboration, multidisciplinary problem-solving, interconnected technologies, and complex products incorporating multiple inventions. The patent system must adapt to these changes.

SUMMARY

IBM is committed to ensuring that our patent system is robust and that the United States economy is strong. We have been the leading assignee of issued patents in the United States for 16 consecutive years, and we earn about $1 billion annually in intellectual property related-income. IBM also invests more than $6 billion a year in research and development, and earns about $100 billion annually providing products and services. IBM is therefore uniquely positioned to promote a balanced patent system that will benefit patentees, producers, and the public.

The patent system must balance the interests of all industries. IBM is not a member of any of the coalitions that have formed to advocate on behalf of particular industries. Rather, IBM believes that these interests are reconcilable and meaningful compromise can be achieved so that the patent system will meet the

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needs of innovators in all industries, and most importantly, serve the best interests of the American public.

The nature of innovation has changed. Today, we benefit from inventions made possible through highly collaborative and interconnected technologies. Many of the products that consumers demand are complex and include contributions from multiple innovators that incorporate hundreds if not thousands of patented inventions. At the same time, many new innovations require investments of unprecedented size to achieve a single new product protected by a single patent. For the United States to remain competitive our patent system must accommodate all of these innovation models. Yet our patent laws have not been significantly updated for over 50 years. IBM believes that enactment of S. 515 is necessary for our nation to remain intellectually and economically competitive.

While progress has been made in recent years through judicial reform in areas such as obviousness, injunctions, willfulness, and most recently venue in patent litigation, much remains to be done to restore balance to our patent system. The problem of poor quality patents persists. Uncertain patent rights create speculation and lead to excessive litigation.

IBM supports S. 515's approach to improving patent quality, including "first window" post grant review, enhanced inter partes reexamination, and pre-issuance submission of information. These reforms reduce the impact of poor quality patents by making it easier to promptly challenge the validity of a patent without resorting to litigation, and without subjecting patentees to an undue period of uncertainty.

A particular point of contention has been and remains the appropriate standard for reasonable royalty damages determinations. As with other issues with competing interests that have been resolved, IBM believes that this issue is reconcilable and a balanced solution can be achieved.

In IBM's experience, the current legal standard does not provide the certainty needed to enable modern business to operate effectively. As a result, the precious time of skilled scientists and engineers is too often spent defending against costly and time-consuming litigation, instead of creating innovations that drive economic growth.

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In reforming the law in this area, we must nevertheless be mindful of the fundamental importance of ensuring that patentees are appropriately compensated, or the patent system will fail to provide the incentive innovators require.

IBM believes that the Supreme Court provided critical guidance in its recent, unanimous *Quanta* decision. In addressing the related issue of patent exhaustion, the Court focused on the essential features of the invention to determine if the patentee had received full compensation. An approach that uses the *Quanta* standard as a starting point will provide the guidance needed to properly compensate the inventor by focusing the damages inquiry appropriately.

IBM believes that by improving patent quality and reducing wasteful patent litigation, S. 515 will remove roadblocks to the development and implementation of new innovations, spurring economic growth. For the United States to maintain innovation leadership, our patent system must be in the future what it has been in the past – the best in the world. The need to act is urgent, the goal is achievable, and failure to act will harm our nation's economic interests. We urge enactment of the Patent Reform Act of 2009.

IBM IS A TECHNOLOGY LEADER

IBM is an innovation company and inventions are critical to our success. In 2008, for the 16th consecutive year, IBM was the recipient of more U.S. patents than any other assignee. IBM received over 4,000 U.S. patents, the first company ever to do so in a single year. We have a deep appreciation of, and commitment to, technology development and scientific pursuits. During the company's nearly 100-year history, its employees have included five Nobel laureates, five National Medal of Science recipients, and seven winners of the National Medal of Technology. IBM has invented industries such as hard disk drives, relational databases, and RISC computers.

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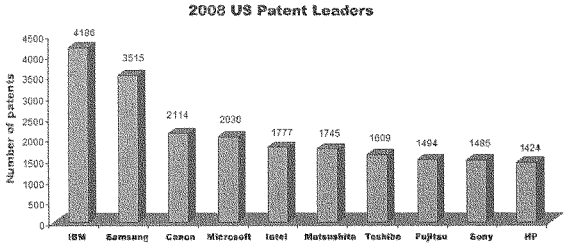
IBM Patent Leadership



- IBM ranked #1 in U.S. patents for 16th consecutive year.
- Over 6,000 IBM inventors were responsible for the 4,186 patents received by IBM in 2008. They reside in 44 different states and territories in the U.S. and 27 other countries globally.
- More than 40,000 patents in IBM's global patent portfolio.

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IBM employs approximately 120,000 people in the U.S., located in each of the 50 states and the District of Columbia. Their jobs depend on IBM's success in the global economy. Most of these are high-skill, high-wage jobs, including thousands of technical positions in software engineering, hardware development, technical services, consulting, research and manufacturing. The majority of IBM's worldwide jobs in hardware development, software engineering and research are in the U.S.

In addition to developing, manufacturing and delivering information technology, we focus on delivering innovative solutions to IBM clients. Nearly half of IBM's U.S. employees work in our services business, including thousands of consultants and technical experts who serve clients operating around the world. Our clients want an innovation partner who can help them apply and integrate technology in ways that deliver new and lasting value. IBM is at the forefront of innovation in new products and services, and entirely new business models.

The United States is IBM's largest market in terms of revenue, and IBM invests heavily here. For example, in 2007 over 75% of IBM's $6.2 billion in research and development (R&D) spending was invested in the U.S. Of the over 39,000 U.S. patents issued to IBM between 1993 and 2007, 90% were based on inventions made in the U.S. This R&D investment has made it possible for IBM to generate about $1 billion in IP-related income annually and has enabled IBM to operate a profitable global business with annual revenue exceeding $100 billion.

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THE NATURE OF INNOVATION HAS CHANGED

IBM strives to maintain and foster an innovation culture not only to meet our clients' demands, but also to remain competitive and thereby benefit our shareholders, our employees, and the communities we serve. Demands on our business and the businesses of our clients, partners and competitors are driven by new global marketplace realities. If America is to remain competitive, create jobs, and continue to be one of the most innovative nations on earth, it must adapt to these new realities.

In the Industrial Age, innovation primarily was the result of work by individuals or small groups within an enterprise. Today, interconnected technologies have created an environment that allows groups of people to innovate together across enterprises and national boundaries. This rich environment enables the development of multifunction products and services, and creates efficiencies and synergies through the contributions of many different creative sources. Many of the products that consumers demand are complex, include contributions from multiple innovators, and incorporate hundreds if not thousands of patented inventions. We benefit from inventions that are made possible through this "collaborative" innovation.

Incorporating innovation from multiple sources is enabled by: (1) open innovation environments; (2) technology standards, where innovators work collaboratively to create a common platform for product-level competition; and (3) licensing and cross-licensing of technology to gain access to others' innovations. The diversity and interconnectedness of modern innovation models increases the need for predictability and clarity in determining the valid scope of patent rights, as well as valuing them for licensing purposes. For example, a licensing agreement that directly affects two parties is likely to indirectly affect many more. As a result, there is a heightened sensitivity to uncertainty. Such uncertainty in this context will increase transaction costs and make it increasingly difficult for innovators and implementers to trade the intellectual property (IP) rights needed to bring innovative products and services to consumers.

Collaborative innovation through open platforms and standards has blossomed across numerous industries in recent years. Such development occurs in diverse ways. It may be horizontal -- in which multifunction products such as computer systems incorporate innovative features from multiple sources -- or vertical, in which single function products such as pharmaceuticals reflect

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inventions from multiple "upstream" and "downstream" participants in the development "chain".[1]

So, what role should U.S. patent policy play in making sure that we continue to be a nation of innovators? How should the patent system help us to capture these technological developments and translate them into differentiators for American prosperity and drivers of growth?

THE U.S. PATENT SYSTEM HAS NOT KEPT PACE WITH THE CHANGING NATURE OF INNOVATION

The U.S. patent system is widely acknowledged as underpinning America's leadership in innovation and IBM strongly shares this view.

Patents play as important a role for IBM as they do for any other U.S. company. They provide an incentive to innovate by protecting our inventions while providing us the freedom of action to bring new products and services to market and partner with our clients to meet their needs. Patents spur successive innovation because patentees must disclose their inventions to the public, enabling others to build upon these innovations. As America competes in a global economy, we must rely on innovation for competitive advantage. Ensuring that our patent system properly promotes innovation is therefore central to America's ability to compete and to produce economic growth and jobs.

Unfortunately, we continue to see developments that threaten the ability of the U.S. patent system to keep pace with and respond to changes in the nature of innovation. The U.S. patent system must be properly positioned to help our country maintain and grow its innovation leadership.

Two significant developments arise from the failure of our patent system to adapt: the granting of low quality patents, and the adverse effects of excessive patent litigation.

Low Quality Patents: High-quality patents that have been properly prepared and examined to ensure that they meet all of the legal and policy objectives of the patent system increase certainty around intellectual property rights, reduce contention and free resources to focus on innovation. We believe the

[1] *Rising in the East,* The Economist, January 3, 2009, at 47. Citing as an example the Apple iPhone: "Apple's contribution is the design and software – and importantly, integrating the innovations of others." *See also* Carl Shapiro and Mark Lemley, *Patent Holdup and Royalty Stacking,* 85 Texas Law Review 1991 (2007).

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quality of patents issued in the U.S. has diminished, and that the substantial improvements needed to address this quality crisis are not possible without Congressional action.

Patent professionals are concerned about patent quality and are not confident that matters will improve. In August 2005, the Intellectual Property Owners Association (IPO) conducted a survey of its member corporate patent professionals regarding their views on U.S. patent quality. The findings are revealing. Over half (51.3%) said they rate the quality of patents in the U.S. as poor or less than satisfactory. This conclusion did not significantly vary based on industry. When asked whether they thought patent quality would decline, improve, or stay the same over the next three years, 28.7% responded that they thought patent quality would worsen, and 51.2% thought things would stay the same. Responses varied some by industry, but the most noticeable differences were in responses by smaller companies (under $1 billion in revenue) and by companies in the computer, electronics, and software industry, where the percentage of respondents expecting a decline in patent quality was nearly twice the average. Forty-four percent of smaller company respondents thought that patent quality would get worse and 40% of the computer, electronics, and software industry respondents thought that quality would worsen.[2]

The U.S. Patent and Trademark Office (USPTO) has not been able to keep pace with the avalanche of applications it has received in recent years. In fiscal year 2007, the USPTO received nearly 485,000 patent applications which represented a seven percent increase over the previous year. The backlog of applications is growing. The USPTO has been hiring more examiners to reduce the backlog. But with such a significant increase in the number and complexity of applications, it is difficult to assure high quality.

Excessive Patent Litigation: Patent litigation has increased significantly for more than a decade, in part driven by low patent quality that creates uncertainty around intellectual property rights, spawning increased speculation. This excessive litigation threatens to sap America's innovative capacity and its ability to compete in the world if left unaddressed.

[2] *See* IPO Survey: Corporate Patent Quality Perceptions in the U.S. 2, 4-5 (Sep. 20, 2005).

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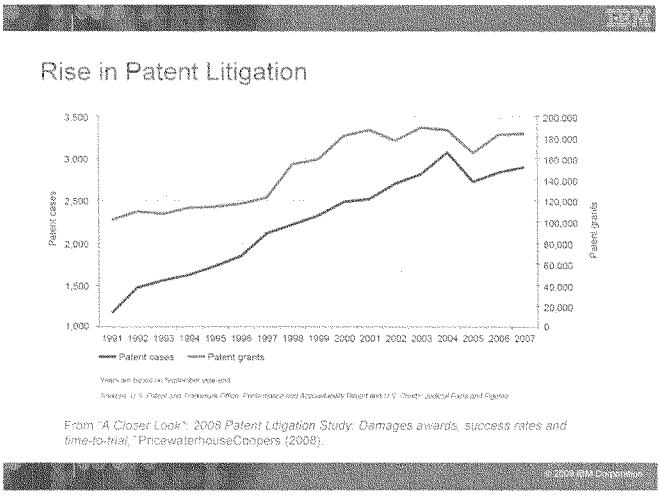

Chart from *"A Closer Look*: 2008 Patent Litigation Study: Damages awards, success rates and time-to-trial,"* PricewaterhouseCoopers (2008).

The number of patent infringement suits filed annually in the U.S. nearly doubled in the ten years ending in 2004, going from 1,617 in 1994 to 3,075 in 2004.[3] There were 2,830 cases filed in 2006.[4] Patent litigation has remained at this elevated level with some fluctuations.[5] The National Academy of Sciences reported in its 2004 study on improving the U.S. patent system that the number of patent infringement lawsuits settled or disposed of in federal court doubled between 1996 and 2002 from 1,200 to 2,400 cases per year.[6] In 2007, nearly 2,800 U.S. district court patent cases were terminated, over 3,600 cases remained pending, and nearly 2,900 new cases were filed.[7] From 2006 to 2007, the number

[3] *See* "2007 Patent and Trademark Damages Study*," PWC Advisory: Crisis Management 8 (2007), available at http://www.pwc.com/extweb/service.nsf/docid/3ca24a75615f03948025711e004b69a0/$file/2007_Patent_Study.pdf; *see also* 2007 Annual Report of the Director: Judicial Business of the United States Courts 150 (U.S. Government Printing Office, 2008).

[4] J. Shawn McGrath and Kathleen M. Kedrowski, *Trends in Patent Damages* 1 (IP Remedies, American Bar Association Section of Litigation website, Nov. 2007); available at http://www.abanet.org/litigation/committees/intellectual/articles.html

[5] *See* Presentation by Professor Paul M. Janicke, *Patent Damages February 2009*, during the Federal Trade Commission "The Evolving IP Marketplace" Workshop panel discussion on February 11, 2009 ("2700 PATENT SUITS FILED PER YEAR"); available at http://www.ftc.gov/bc/workshops/ipmarketplace/

[6] A PATENT SYSTEM FOR THE 21ST CENTURY 32 (National Academies Press 2004).

[7] 2007 Annual Report of the Director: Judicial Business of the United States Courts 207 (U.S. Government Printing Office, 2008). Data covers the 12-month period ending September 30, 2007.

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of U.S. district court patent cases pending three years or more increased by over 15% from 353 to 408.[8]

Patent litigation, according to the Phoenix Center for Advanced Legal and Economic Public Policy Studies, costs the economy $4.5 billion annually.[9] In a survey conducted in 2007, the American Intellectual Property Law Association found that the median cost to a party in bringing a patent infringement case to trial verdict with less than $1 million at stake was about $600,000 and in a case with more than $25 million at stake, the median cost was $5 million for each side.[10] These figures do not include private settlements in the form of negotiated license agreements to avoid litigation. In its August 2005 patent quality survey, IPO also asked its member company respondents if, in the next 3 years, they expect the resources spent on patent litigation to increase, decrease, or stay the same. Almost 74% said they expect to spend more resources on patent litigation.[11]

This high level of patent litigation, particularly in the IT industry, shows that valuation issues are not being resolved in negotiation. IBM believes that this indicates both that patents of uncertain scope and validity are being enforced, and reasonable royalty damages determinations are not providing the needed guidance for the IP licensing market.

As a matter of patent policy, the requirements for patentability and patent validity should be clear and predictable. As the U.S. Supreme Court in *Festo* explained, "[t]he monopoly [conferred by a patent] is a property right; and like any property right, its boundaries should be clear."[12] Otherwise, the public cannot discern the scope of the patent until after all infringement litigation has concluded and will not invest in innovative products that might potentially fall within the patent's scope.[13]

Court awarded reasonable royalty determinations provide the backdrop against which all patent settlements and patent licensing activities are measured. Collectively, these settlements and licenses define an IP market in which developers and implementers of IP come together to trade the rights necessary to

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[8] *Id.* at 64.
[9] Ford et al. *Quantifying the Cost of Substandard Patents: Some Preliminary Evidence,* PHOENIX CENTER POLICY PAPER SERIES 1, 3, 29 (Phoenix Center for Advanced Legal and Economic Public Policy Studies, Sep. 2007).
[10] REPORT OF THE ECONOMIC SURVEY 2007 25 (American Intellectual Property Law Association, 2007)
[11] *See* IPO Survey: Corporate Patent Quality Perceptions in the U.S. 6 (Sep. 20, 2005).
[12] Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 535 U.S. 722, 730 (2002).
[13] *See* Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 150 (1989).

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provide goods and services. This market must function efficiently, minimizing market friction and transaction costs that are ultimately passed along to consumers. Thus, it is paramount that royalties fairly compensate the patentee and fairly charge the licensee. Damages awards that reflect the economic value of an innovation appropriately balance interests and act as essential references for IP market participants, since patentees and licensees are respectively neither overcompensated/overcharged nor under-compensated/undercharged. IBM believes that an efficient IP market is important for promoting innovation, including for the development of complex products incorporating multiple inventions[14] that have become commonplace; and that an efficient IP market rests heavily on the ability to predict with a high degree of certainty the legal remedies available for patent infringement.[15]

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[14] While multi-function products tend to have high visibility in the IT sector, there is a similar issue in biotechnology due to the multiparty nature of research. Some entities such as universities perform fundamental or "upstream" innovation while other "downstream" entities productize. *See* Michael Heller and Rebecca Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research,* Science, New Series, Vol. 280, No. 5364 (May 1, 1998), pp. 698-701.

[15] The U.S. economy as a whole will benefit from an efficient IP market where certainty in damages determinations ensures efficient access to innovation, reduces transaction costs, and avoids unwarranted speculation. To offer the products that consumers desire and to license the related IP, providers need an efficient market in which IP rights can be readily valued and exchanged. Where there is divergence between licensor's and licensee's views regarding fair and reasonable licensing fees, transaction costs rise and the market becomes inefficient. Multiple parties make the problem more complex and increase sensitivity since more parties must agree regarding IP valuation. Without certainty, there is also a heightened risk of speculation. For example, parties may be encouraged to enforce patents for purposes of extracting high royalties from the producers of goods and services, while producers may be encouraged to hold out against taking licenses for purposes of extracting access to innovations at low royalty rates. The inability to agree on a royalty fee prevents innovators from being compensated, prevents products and services from reaching the market, and increases the incidence of costly litigation.

As products have become increasingly complex and integrated, the licensing necessary for the IP market to function has become more complicated. Companies need to consider not only their own internally developed technology and IP, but also the technology and IP of others.[15] The oft-cited example of the computer, or even the CPU itself, containing hundreds if not thousands of patented innovations is illustrative. Similarly, a pharmaceutical product may incorporate the "fundamental" research of a university combined with the targeted product development of a pharmaceutical firm.[15] The typical licensee/product-seller must consider all the fees to be paid to all patentees in order to make and sell its product. And the licensor/innovator must consider the role its innovation plays in the applicable product.

When a patented invention is included in a product of any kind, including in a complex multifunction product, its economic value should be determined based on the substance of the invention. Economic value should not be affected by the inclusion or omission of background or contextual elements added to the patent's claims. Nor as a general proposition should economic value be affected by the aggregate cost of a complex multifunction product in which the invention is incorporated. This substance-based approach is fair to both the licensor and the licensee, avoiding both under-compensation and over-compensation. It also enhances predictability and certainty by causing all parties to focus on the inherent value of the patented invention. The public benefits when innovators/licensors and producers/licensees are able to readily come to terms regarding an invention's economic value.

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Market complexity creates significant challenges for determining royalty fees. As such, licensors and licensees will continue to be influenced in their negotiations by the legal standard for reasonable royalty damages and its application. This is not surprising – both parties understand that reasonable royalty damages is the metric by which the licensing fee should be judged since it is the measure for damages if they are forced to litigate. Given the challenging developments in the market and the resulting challenges in licensing, it is of paramount importance that the law of damages provides clear guidance.

As U.S. businesses, governments, and communities become increasingly interdependent, our nation's competitiveness will be even more susceptible to weaknesses in our country's patent system. The Congress must take action to reshape U.S. patent law to be responsive to the fundamental economic and technological shifts taking place. The goal of reforming U.S. patent law should be to preserve U.S. leadership in innovative capacity, enabling U.S. businesses to capitalize on developments in technology, infrastructure and business organization and making them differentiators for American prosperity.

THE PATENT REFORM LEGISLATION WILL BRING THE CHANGES NEEDED TO SPUR INNOVATION

IBM believes both patent quality problems and excessive litigation must be addressed, and S. 515 does that effectively. Although there are many provisions in the bill that enable a contemporary patent system, IBM's testimony focuses on the provisions in the legislation that address patent quality and reform reasonable royalty damages.

Improving Patent Quality: There are two crucial reforms in the legislation that should be implemented to improve patent quality. Both of these reforms are designed to open up agency patentability determinations to the public to encourage the public to come forward with relevant information not previously discovered or disclosed. First, the bill creates the opportunity for third parties to submit prior art to the USPTO during the patent prosecution process with commentary on how that prior art is relevant to the application under consideration. This important and broadly supported change will be highly effective in raising patent quality, particularly because it takes advantage of the fundamental shift toward collaborative innovation. More and more collaborative communities are thriving today and their collective knowledge can be harnessed to bring forward information, especially prior art, relevant to the examination process.

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Second, IBM believes it is vitally important to have an administrative proceeding to allow the public to bring forward relevant information, post-issuance, about whether a patent was properly issued. This will increase the quality of patents and will provide a low cost alternative to litigation. The solution in the bill represents a reasonable compromise between the need to provide a meaningful way to bring forward relevant information and concerns that the administrative proceeding will be used to harass the patentee. The bill provides the ability to challenge the patent in a post-grant-review proceeding for one year following issuance based on a broad array of grounds related to patentability. After one year, the public can bring forward relevant information through an "improved" version of the existing inter partes reexamination administrative proceeding. The improved inter partes reexamination proceeding will no longer prevent a challenger from going to court at a later time on an issue that was not raised in the proceeding. Further, in addition to patents and printed publications, a challenger may submit evidence that the claimed invention was in public use or on sale in the U.S. more than one year prior to the application. This is evidence that the examiner could have used to reject the patent application during prosecution, but which a third party currently can only use to challenge the validity of an issued patent by going to court.

Maintaining a meaningful ability to challenge low quality patents administratively is important to strengthening and preserving the integrity of the U.S. patent system. For the IT industry especially, being able to bring forward relevant evidence more than a year after issuance of the patent is necessary because it is difficult, if not impossible, to watch for all the potentially applicable patents that the USPTO issues. There can be many hundreds if not thousands of patents in an IT product. It is not uncommon to be unaware of a patent until a letter is received claiming that payment is due because the patent covers the IT product.

Both of these proposed reforms will help to minimize patents being granted on inventions that are not new or are obvious.

Reforming "reasonable royalty" damages: The reasonable royalty damages provision in S. 515 balances the varying needs of U.S. industries and businesses and IBM views this provision as a compromise. This provision allows the court to accommodate varying business models by deciding which of three listed methods should be used by the court and the jury to determine damages for patent infringement. We recognize that this provision has generated concern in the past. As a result, we discuss below an alternative which we believe will adequately

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address the full range of how inventions are used in products and services across industries and will maximize the chance that a "reasonable" royalty is granted in every case.

As discussed above, IBM believes that IP market efficiency can be ensured by focusing the damages calculation on the economic value of the essential features of the subject invention. In particular, IBM recommends to the Committee that the legislation ensure this focus by: (1) incorporating *Quanta*'s "essential features" concept into the damages determination; (2) ensuring district courts increase precision in Entire Market Value Rule ("EMVR") and Convoyed Sales determinations; and (3) requiring district courts to better exercise their gatekeeper powers to cause rigorous expert analysis and review of damages evidence and reasonable royalty determinations. IBM believes these recommendations are representative of best practices that are supported by Supreme Court and Federal Circuit law.

Incorporate *Quanta* "Essential Features" Standard into Damages Determination

Application by analogy of the Supreme Court's formulation of the "essential features" of a patented invention in the *Quanta* case to damages determinations will focus the damages determination on the value of what the inventor actually invented. In the unanimous *Quanta* decision, the Supreme Court held that if a patentee sells (or licenses another to sell) a product that includes all the essential features of a patented invention,[16] then the patent rights are "exhausted," meaning that the patent can no longer be asserted against downstream buyers of that product. The underlying theory behind the patent exhaustion rule is that "in such a transaction, the patentee has bargained for, and received, an amount equal to the full value of the goods."[17] In other words, the patentee received full compensation when the product was sold, and is not entitled to collect an additional royalty.[18] The connection between *Quanta* and the law of exhaustion on the one hand, and the determination of patent damages on the other, is the Court's renewed focus on the substance of the invention in determining the proper scope of patent protection.

[16] The "essential features" exclude "common processes" or "standard parts," even if included in the claims. *See* Quanta, 128 S.Ct. at 2120. Determining what constitutes the "invention" is of course fundamental to the determination of damages under the patent statute, which requires that damages are no "less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. Sec. 284.

[17] B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1426 (Fed. Cir. 1997); *see also* Adams v. Burke, 84 U.S. (17 Wall.) 453, 456-57 (1874); Keeler v. Standard Folding Bed Co., 157 U.S. 659, 663-64 (1895).

[18] *See* PSC v. Symbol Techs., 26 F. Supp. 2d 505, 510 (W.D.N.Y. 1998) ("The purpose of the exhaustion doctrine is to 'prevent[] patentees from extracting double recoveries for an invention . . . .' Cyrix Corp v. Intel Corp., 846 F. Supp. 522, 539 (E.D. Tex.), aff'd 42 F.3d 1411 (Fed. Cir. 1994).")

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For complex products incorporating many inventions and unpatented elements, focus on the "essential features" results in fair compensation for the patentee. It does not overcompensate by including the value contributed by others, nor does it under-compensate by excluding the value provided by the patented invention. The standard is flexible and applies fairly to all inventions. Where, for example, the invention is in a combination of elements itself, the Court in *Quanta* recognized that the elements of the combination could not be evaluated separately or the invention's "essential features" would be lost.[19]

Focusing on the invention's essential features also assists fact-finders in determining equitable compensation. Inventors receive the same value whether or not background or contextual elements are added to their claims. An invention of significant scope and value should be entitled to a large royalty regardless of whether it is claimed precisely or includes additional elements that are not essential to the invention. Likewise, a minor improvement should be entitled to a limited royalty regardless of whether the claim includes elements that are unrelated to patentability.[20] Basing reasonable royalty damages on the economic value of the essential features of the invention should thus properly compensate the inventor by focusing the inquiry on the invention itself. Furthermore, as the essential features are determined objectively through examination of the public record of the patent file history, this approach will increase the predictability and certainty necessary for the functioning of an efficient IP market.[21]

There Must Be More Precision in EMVR Analysis and Convoyed Sales

Due to the increasing complexity of products, including systems incorporating many individual and grouped components, application of the EMVR and the related Convoyed Sales doctrine have become widespread. In these situations, for convenience and simplicity, damages analysis tends to emphasize the product environment in which a "component of a component" within a

[19] *See* Quanta, 128 S.Ct. at 2121 (2008) ("Aro's warning that no element can be viewed as central to or equivalent to the invention is specific to the context in which the combination itself is the only inventive aspect of the patent."). The Court also held that the patent exhaustion doctrine applies to process claims. *Id.* at 2117.

[20] In this context, a "significant" invention, for the purposes of calculating damages, is one of significant economic value, and a "minor improvement" is similarly an invention of limited economic value. An invention may be significant technologically but limited in value, or limited in technological impact but significant in value. In either case, the substance of the invention must be determined first, and then its value can be assessed.

[21] In proposing incorporation of the *Quanta* standard in determining reasonable royalties, we do not suggest that this is the end of the inquiry. To the contrary, much of the existing damages jurisprudence contains helpful constructs and models for assisting in the determination of an appropriate royalty. We propose simply that the inquiry should begin with the determination of the essential features of the invention and that this will provide an objective focus for the full analysis of compensatory damages.

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component[22] is placed, rather than the more precise and relevant issue of whether the infringing product corresponds closely to the invention. In a recent case covering a product of this type, Federal Circuit Judge Rader, sitting by designation in the District Court, recognized the significant burden of proof that application of the EMVR should require:

> Moreover, neither Cornell nor Dr. Stewart has offered sufficient economic proof that the component of a component of a part of the server and workstation systems drove demand for the entire server and workstation products and entitles Cornell to damages on sales of Hewlett-Packard's entire servers and workstations.[23]

It is important to encourage widespread and vigorous application of this evidentiary threshold so that the "reach" of patent protection afforded an invention does not extend beyond the actual invention and onto unrelated components or features of a product incorporating the invention, unless the invention is in fact "**the** basis for customer demand" for the entire product that nevertheless includes other functions or features.

Finally, as IBM understands application of the EMVR, it may be based on demand driven by the claimed invention as expressed by all of its respective limitations.[24] IBM suggests that, in an environment characterized by the proliferation of complex products incorporating multiple inventions, the fairest application of the law would require evaluating whether the demand is driven by the invention itself – i.e., by the essential features of the patented invention. This avoids giving weight to claim elements that may be unrelated to the invention in applying the EMVR.

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[22] Cornell University v. Hewlett-Packard Co., 2008 U.S. Dist. LEXIS 41848 (N.D.N.Y May 27, 2008)(Rader, J., sitting by designation) (In this case the court excluded testimony of a damages "expert" for failure to consider apportionment and show a connection between the patented feature and the market demand for a complex multi-featured product.)

[23] *Id.* at 7.

[24] Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538 (Fed. Cir. 1995) ("Subsequently, our predecessor court held that damages for component parts used with a patented apparatus were recoverable under the entire market value rule if the patented apparatus 'was of such paramount importance that it substantially created the value of the component parts.' Marconi Wireless Telegraph Co. v. United States, 99 Ct. Cl. 1, 53 U.S.P.Q. (BNA) 246, 250 (Ct. Cl. 1942), aff'd in part and vacated in part, 320 U.S. 1 (1943). We have held that the entire market value rule permits recovery of damages based on the value of a patentee's entire apparatus containing several features when the patent-related feature is the 'basis for customer demand.' State Indus., 883 F.2d at 1580, 12 U.S.P.Q.2D (BNA) at 1031; TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 900-01, 229 U.S.P.Q. (BNA) 525, 528 (Fed. Cir.), cert. denied, 479 U.S. 852, 93 L. Ed. 2d 117, 107 S. Ct. 183 (1986)."). In Rite-Hite, the court declined to apply the Entire Market Value Rule to the dock levelers since they did not function together with the patented vehicle restraint to achieve one result, but could have been used independently. *See id.* at 1549-50.

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Judicial Gatekeeping Needs to Be Strengthened

In the Cornell case mentioned above, the Court also excluded the testimony by the damages expert because the purported expert failed to "show a sound economic connection" between the claimed invention and the proffered royalty base.[25] IBM believes that such strong gatekeeping is highly supportive of an efficient market in IP, and should be required of the courts. District courts that provide clear articulation of the logic and factors relied upon in their damages decisions provide a better foundation for review. Such articulation also would provide the clear guidance for negotiators that is critical for commercial entities and the public. Rigorous requirements for damages experts, coupled with clear articulation of the bases for damages determinations, creates certainty for licensors and licensees alike, improving the efficiency of IP markets.

CONCLUSION

The nature of innovation has changed. The drivers of growth today are quite different from those in previous eras. America must rely more than ever before on the ability of its citizens to innovate to create economic growth and maintain competitive advantage.

The patent reform debate thus far unfortunately has been characterized as adversarial, pitting one set of industries against another set of industries. To be sure, industries use the patent system in different ways and these differences affect how they view some reform proposals. However, we believe any differences are not insurmountable.

The Framers of our Constitution wisely gave Congress the express power "[t]o 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". Our patent system is facing real problems and urgent Congressional action is needed to address them. IBM urges you to enact S. 515 and reform our patent laws to remove the roadblocks to development of new innovations and seize new opportunities to spur economic growth.

Thank you again for the opportunity to present IBM's views.

[25] *See* Cornell University v. Hewlett-Packard Co., 2008 U.S. Dist. LEXIS 41848.

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Office of the Vice President & Assistant General Counsel
Intellectual Property Law & Strategy

North Castle Drive
Armonk, NY 10504-1785

March 19, 2009

Members of the Judiciary Committee
U.S. Senate
Washington, D.C. 20510

Dear Members of the Committee:

During last week's Senate Judiciary Committee hearing on patent reform, Senator Kyl asked a question regarding the use of the term "essential features" in patent law. I am writing in response to his question, and to offer additional views on a balanced approach to reasonable royalty damages to address issues raised at the hearing.

Resolution of many issues in patent law and practice involves the identification and analysis of essential features or elements of a patented invention. For all these issues, the purpose of the search for essential features is to ascertain what is important and valuable –economic or otherwise– in the inventor's creation. As I explained during the hearing, a notable example is last year's unanimous Quanta decision in which the U.S. Supreme Court held that if a patentee sells, or licenses another to sell, a product that includes all the essential features of a patented invention, then the patent rights are "exhausted," meaning that the patent can no longer be asserted against downstream buyers of that product. Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109 (2008). The principle underlying the patent exhaustion rule is that "in such a transaction, the patentee has bargained for, and received, an amount equal to the full value of the goods." B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1426 (Fed. Cir. 1997).

Another example of the patent law's focus on essential features of claims is found in 35 U.S.C. § 271(c), whereby the sale of a component that is "a material part of the invention" and "especially adapted for use in an infringement" triggers patent liability. In a third example, exporting "all or a substantial portion of the components of a patented invention" under 35 U.S.C. § 271(f)(1) gives rise to infringement liability.

Beyond the above examples, many issues in patent law require the analysis and identification of features of an invention that are significant, inventive, or essential. I am attaching as an Appendix to this letter references to statutory provisions, case law, patent examination rules, treatises, and IBM patent file histories demonstrating this concept. For example, the significance of claim features is considered in analyzing patentable subject matter, and a claim preamble limits claim scope where it describes essential elements of the invention.

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Another, very recent example –one that I mentioned during the hearing– is the Federal Circuit's ruling in Nartron Corp. v. Schukra, 2009 U.S. App. LEXIS 4529 (Fed. Cir. Mar. 5, 2009). In Nartron, the Federal Circuit held that a person was not a co-inventor because his contribution was in the prior art and was "merely [an] ... exercise of ordinary skill," and thus was not a significant part of the claimed invention.

Identification of "essential characteristics" and "special technical features" of an invention is part of patent examination practice as evidenced by the restriction and unity of invention provisions in the Manual of Patent Examination Procedure (MPEP). Evaluation of "essential novelty" and "essential or critical feature[s]" is needed to meet the MPEP's disclosure and written description requirements.

Finally, the Appendix includes reference to "environmental claiming" from a number of patent prosecution treatises. These treatises advise patent practitioners to increase the size of the royalty base by drafting claims to include elements that were not essential features of the invention, but instead reflect the expected end product incorporating the inventive component, i.e., the "environment of the invention." That authors are giving this advice provides further compelling evidence that reasonable royalty damages determinations are currently focused on the environment in which an inventive component operates, rather than the economic value of the invention. Flexibility in claim drafting may provide certain important advantages for a patentee, but should not result in different royalties for the same invention. To avoid overcompensation or undercompensation, the damages analysis must focus on the economic value of the invention, not on the environment selected by the claim draftsman.

Indeed, a number of witnesses at the hearing agreed that damages analysis should focus on "economic value". This is a principled approach that provides fair compensation to the patentee no matter how the invention is claimed. Thus, damages would be based on the economic value of the intermittent windshield wiper rather than on the value of the entire car. This approach also recognizes that the economic value of inhalable insulin lies in the combination of an inhaler and insulin, creating a new delivery system, and thus provides appropriate compensation for this type of combination.

As stated in my testimony before the Committee, IBM believes a balanced solution for reasonable royalty damages is achievable. The appropriate framework begins with a strong gatekeeper provision consistent with existing rules of evidence, requiring courts to identify for the record where substantial, specific factual evidence supports inclusion of a factor or the opinion of an expert in the damages calculus. The substantive determination of damages – whether performed by the court or the jury -- should then focus on the economic value of the invention. Use of the term "invention" is drawn from 35 U.S.C. Sec. 284, which requires that damages are no "less than a reasonable royalty for the use made of the invention by the infringer."

Quanta provides guidance to courts and juries for determining the economic value of the invention by focusing on the invention's important aspects. This analysis is flexible enough to accommodate different types of inventions. For example, the Court in Quanta recognized that an invention consisting of a new combination of existing elements is not subject to the same

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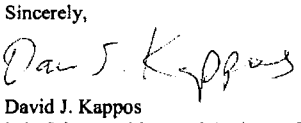
analysis as the invention at issue in the case, where the patent claim included elements unrelated to patentability. The important aspects of "new combination" inventions cannot be determined by separately viewing any specific claim element.[1] Thus, while there are no magic words, the Quanta "essential features" formulation provides a flexible standard for achieving appropriate compensation for different types of inventions. Focusing on "essential features" should be viewed as a starting place for analysis, rather than a limitation. Courts and juries should have the discretion to consider other factors, subject to appropriate gatekeeping that is consistent with the existing rules of evidence, in which the court requires substantial, specific factual evidence before allowing the jury to consider any particular factor. The court should identify its findings in the trial record to facilitate appellate review.

A related and increasingly important issue in damages law is proper application of the entire market value rule (EMVR). For complex multi-component products containing an inventive component, the doctrine needs to be used with care. The EMVR should only be applied when the invention is "**the** basis for customer demand" for the entire product, so that the "reach" of the rule is not overextended.

The approach outlined above provides the elements needed for meaningful reform of reasonable royalty damages law. By applying accepted legal principles, such as the standard set forth in Quanta, our proposal affords sufficient guidance to properly compensate the inventor for the value of the invention, while at the same time giving courts the discretion and flexibility to consider the appropriate facts and circumstances in reaching a reasonable royalty determination. IBM recommends that the Committee incorporate provisions reflecting the above proposal directed to gatekeeping, the Quanta standard, and proper application of the EMVR, into the damages reform section of S. 515.

The need for reform of America's patent system is urgent. Our patent laws have not been significantly updated for over 50 years, while technology and business models have advanced at a record pace. A balanced reasonable royalty provision that will work for all users of the patent system is achievable. It is important to act now to reform the law and ensure that our patent system promotes economic growth and helps create jobs.

Sincerely,



David J. Kappos
IBM Vice President and Assistant General Counsel,
Intellectual Property Law and Strategy

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[1] *See* Quanta, 128 S.Ct. at 2121 (2008) ("Aro's warning that no element can be viewed as central to or equivalent to the invention is specific to the context in which the combination itself is the only inventive aspect of the patent.").

Appendix to Letter from David J. Kappos to Members of Senate Judiciary Committee, dated March 19, 2009

Cases and materials analyzing the essential features of a claim

A. Patentable subject matter
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A. Patentable subject matter analysis considers the significance of claim features

For the purposes of the patentable subject matter analysis of 35 U.S.C. § 101, courts should not give weight to claim limitations that do not impose "meaningful limits" on claim scope, such as those that amount to insignificant extra-solution activity or are merely field of use statements.

1. *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008)
"First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility. *See Benson*, 409 U.S. at 71-72. Second, the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity. *See Flook*, 437 U.S. at 590." *Id.* at 961-62.

2. *Diamond v. Diehr*, 450 U.S. 175 (1981)
"[I]nsignificant postsolution activity will not transform an unpatentable principle into a patentable process. Ibid. To hold otherwise would allow a *competent draftsman* to evade the recognized limitations on the type of subject matter eligible for patent protection." *Id.* at 191-92 (emphasis added) (footnote omitted); *see also Parker v. Flook*, 437 U.S. 584, 590 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts *form over substance*." (emphasis added)).

3. *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989)
Courts have analyzed whether a claim limitation is a mere "data gathering step" that should receive no weight in the section 101 analysis. *Id.* at 839 ("Though [the claim] analysis can be difficult, it is facilitated somewhat if, as here, the only physical step [in the claim] involves merely gathering data for the algorithm. As stated in *In re*

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Christensen, 478 F.2d 1392, 1394, 178 U.S.P.Q. (BNA) 35, 37-38 (CCPA 1973): 'Given that the method of solving a mathematical equation may not be the subject of patent protection, it follows that the addition of the old and necessary antecedent steps of establishing values for the variables in the equation cannot convert the unpatentable method to patentable subject matter.'").

B. Non-essential language in a claim preamble may not limit the scope of the claim

1. *In re Cruciferous Sprout Litigation*, 301 F.3d 1343 (Fed. Cir. 2002)
Analyzing whether an element in the preamble is a limitation on the scope of the claim has required determining whether the element is an "essential" part of the invention. *Id.* at 1347 (stating that as a general rule "a preamble limits the claimed invention if it recites *essential structure or steps*, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Id.* (emphasis added)).

2. *Poly-America v. GSE Lining Tech.*, 383 F.3d 1303 (Fed. Cir. 2004)
Courts have found that preamble language was limiting because it was an "important" or "fundamental" characteristic of the invention. *Id.* at 1310 ("Our analysis shows that the inventor considered that *the 'blown-film' preamble language represented an important characteristic of the claimed invention.* We therefore agree with the district court's conclusion that a '[r]eview of the entirety of the '047 patent reveals that the preamble language relating to 'blown-film' does not state a purpose or an intended use of the invention, but rather discloses a *fundamental characteristic* of the claimed invention that is properly construed as a limitation of the claim itself.'" (emphasis added)); *see also Bicon, Inc. v Straumann Co.*, 441 F.3d 945, 952-53 (Fed. Cir. 2006) ("We conclude, as did the district court, that the preamble to claim 5 of the '731 patent recites *essential elements* of the invention pertaining to the structure of the abutment that is used with the claimed emergence cuff." (emphasis added)).

3. *TDM America v. US*, 2009 WL 455775 (Ct. Fed. Cl., Feb. 20, 2009)
As recently as a few weeks ago, the Court of Federal Claims applied the rule that "[o]nly if the preamble recites essential structure or steps or is 'necessary to give life, meaning, and vitality' to the claim does it limit the claimed invention." *Id.*, 2009 WL 455775 at *23 ("In the present claims, the term 'processing' as referenced in the preamble does not recite an essential step or give life to the claims. Nor is it an antecedent later used in the body of the claim. Therefore, the Court adopts Plaintiff's construction of the term and will not read a limitation into 'processing.'").

C. Courts analyze the significance of the claim feature(s) that a person contributed to determine if that person is an inventor

1. *Nartron Corp. v. Schukra*, 2009 U.S. App. LEXIS 4529 (Fed. Cir. Mar. 5, 2009)
Analyzing whether a person was an inventor has required determining whether the element of the invention that the person contributed is a significant part of the invention. *Id.*, 2009 U.S. App. LEXIS 4529, at *10-11 (holding that "the contribution of the extender [of the alleged inventor] is insignificant when measured against the full dimension of the invention of claim 11, not just because it was in the prior art, but

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because it was part of existing automobile seats, and therefore including it as part of the claimed invention was merely the basic exercise of ordinary skill in the art.").

2. Pannu v. Iolab Corp., 155 F.3d 1344 (Fed. Cir. 1998)
Restating the general rule that "[a]ll that is required of a joint inventor is that he or she (1) . . . (2) make a contribution to the claimed invention that is *not insignificant in quality, when that contribution is measured against the dimension of the full invention*, and (3) . . . ." *Id.* at 1351 (emphasis added).

D. Contributory infringement analysis focuses on a component of a claim

1. 35 U.S.C. § 271(c)

"Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting *a material part of the invention*, knowing the same to be *especially made or especially adapted for use in an infringement* of such patent, and *not a staple article or commodity of commerce suitable for substantial noninfringing use*, shall be liable as a contributory infringer." 35 U.S.C. § 271(c) (emphasis added).

In assessing whether there has been a contributory infringement, courts will determine whether or not a component is "especially made or especially adapted for use in an infringement" of the patent, as well as whether or not the component is "a staple article or commodity of commerce suitable for substantial noninfringing use." *See Mentor H/S v. Medical Device Alliance*, 244 F.3d 1365, 1379 (Fed. Cir. 2001) (reversing grant of JMOL of no contributory infringement where defendant offered substantial evidence that the accused component was not a staple item suitable for substantial noninfringing use); *C.R. Bard, Inc. v. Advanced Cardiovascular Sys.*, 911 F.2d 670, 674 (Fed. Cir. 1990) (reversing grant of summary judgment of contributory infringement because there was a genuine issue of fact as to whether the accused component had any use except through practice of the patented method).

2. Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176 (1980)
The rationale behind § 271(c) is that a party should be liable for infringement where they made the essential claim element, even if they did not make all the elements of the claim. *Id.* at 213 ("[B]y enacting §§ 271(c) and (d), Congress granted to patent holders a statutory right to control nonstaple goods that are capable only of infringing use in a patented invention, and that are essential to that invention's advance over prior art.").

3. Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476 (1964)
A contributory infringer is liable for damages equal to the full value of the invention even though the contributory infringer only made some of the elements of the claim; the patent owner cannot receive damages equal to the value of the invention from both a direct

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infringer and contributory infringer. *Id.* at 512 ("[A]fter a patentee has collected from or on behalf of a direct infringer damages sufficient to put him in the position he would have occupied had there been no infringement, he cannot thereafter collect actual damages from a person liable only for contributing to the same infringement.").

4. AdvanceMe Inc. v. RapidPay, LLC, 509 F.Supp.2d 593, 607 (E.D. Tex. 2007)
To determine whether there has been a contributory infringement, courts have considered whether the "defendant supplied an important component of the infringing part" of the claimed method or apparatus. *Id.* at 607; *see also id.* at 627 ("MMT and Reach supplied *important and necessary components* of the patented method and system by providing capital to merchants under their programs which were only paid through forwarding of portions of payments by merchant processors, and by providing payment instructions to merchant processors that required performance of claim elements of the patented method." (emphasis added)).

5. Oxford Gene Technology Ltd. v. Mergen Ltd., 345 F.Supp.2d 444 (D. Del. 2004)
In assessing whether there has been a contributory infringement, courts will determine whether or not a component constitutes a material part of the invention. *Id.* at 466. ("[T]he microarray component is a material part of the invention because it is the support upon which the claimed methods of use are performed."); *see also Rohm and Haas Co. v. Dawson Chemical Co.*, 599 F.2d 685, 688 (5th Cir. 1979) ("Section 271 contains one other requirement that the component or material 'constitut(e) a material part of the invention.' We here assume that propanil will also meet this test, since it is the active ingredient in producing the weed-inhibiting effect of the patented method."), *affirmed*, 448 U.S. 176 (1980).

E. Under § 271(f)(1), infringement analysis requires determining the substantiality of claim components

1. 35 U.S.C. § 271(f)(1)
"Whoever without authority supplies or causes to be supplied in or from the United States all or a *substantial portion of the components* of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer." 35 U.S.C. § 271(f)(1) (emphasis added).

2. Microsoft Corp. v. AT&T Corp., 550 U.S. 437 (2007)
Liability for infringement can attach to "components" of a patented invention. *Id.* at 449.

3. Moore U.S.A. v. Standard Register, 144 F.Supp.2d 188 (W.D.N.Y. 2001)
In assessing whether there has been an infringement under § 271(f)(1), courts will determine whether or not the components shipped by the defendant constitute a "substantial portion" of the components of a patented invention. *Id.* at 195 (defendant had supplied "substantially all" of the claimed forms' components because the defendant brought the paper and glue from the United States, even though it had not bought the

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accused forms' perforated portions); *see also Rothschild v. Ford Motor Co.,* 2 F.Supp.2d 941, 947 (E.D.Mich. 1998) ("These three components include two burners and a cooling mechanism. This court finds that no reasonable juror could conclude that these three components, taken together or viewed separately, comprise 'all' or a 'substantial portion' of the components making up the Ford Reclaimer.").

F. Restriction and unity of invention determinations require identification of essential characteristics and special technical features of claims

1. MPEP 803.02 - Markush Claims
"Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a *substantial structural feature essential to that utility.*" U.S. Pat. & Trademark Office, Manual of Patent Examining Procedure (8th Ed., rev. 7, July 2008) (herein, "MPEP") § 803.02 (emphasis added).

2. MPEP 806.03 - Single Embodiment, Claims Defining Same Essential Features
"Where the claims of an application define the *same essential characteristics* of a single disclosed embodiment of an invention, restriction therebetween should never be required. This is because the claims are *>not directed to distinct inventions; rather they are< different definitions of the same disclosed subject matter, varying in breadth or scope of definition." MPEP § 806.03 (emphasis added).

3. MPEP 806.05(c) - Criteria of Distinctness Between Combination and Subcombination
"To support a requirement for restriction between combination and subcombination inventions, both two-way distinctness and reasons for insisting on restriction are necessary, i.e., there would be a *>serious< search burden >if restriction were not required< as evidenced by separate classification, status, or field of search. See MPEP § 808.02." MPEP 806.05(c).

"The inventions are distinct if it can be shown that a combination as claimed:
(A) does not require the particulars of the subcombination as claimed for patentability (to show novelty and unobviousness), and . . ." MPEP 806.05(c); *see also* Donald S. Chisum, Chisum On Patents (Matthew Bender, 2008) § 12.03 (explaining that under MPEP 806.05(c), "[t]he Office gives three examples for guidance in applying the first requirement, that is, that the particulars of the subcombination not be *essential to the patentability* of the combination." (emphasis added)).

4. 37 C.F.R. § 1.475 - Unity of invention before the International Searching Authority, the International Preliminary Examining Authority and during the national stage
"(a) An international and a national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ('requirement of unity of invention'). Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding *special technical features*. The expression 'special technical features'

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shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art."
37 C.F.R. § 1.475(a) (emphasis added).

G. Disclosure and written description requirements may involve evaluation of essential novelty and essential or critical features of a claim

1. MPEP 608.01(p) - Completeness
"While the prior art setting may be mentioned in general terms, *the essential novelty, the essence of the invention*, must be described in such details, including proportions and techniques, where necessary, as to enable those persons skilled in the art to make and utilize the invention." MPEP § 608.01(p) (emphasis added).

2. MPEP 2163 - Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, para. 1, "Written Description" Requirement
"The claimed invention as a whole may not be adequately described if the claims require an *essential or critical feature* which is not adequately described in the specification and which is not conventional in the art or known to one of ordinary skill in the art." MPEP § 2163(I)(A) (emphasis added).

H. Patent attorneys are trained to draft claims to include non-essential features solely to artificially increase the royalty base

1. Robert C. Faber, Landis on Mechanics of Patent Claim Drafting (Practicing Law Institute, 5th ed., Nov. 2007)

"Claim writers pursue claims to large combinations, and particularly narrower claims to large combinations, because *royalties or damages might be based on the value of the large combination* including the invention *instead of 'the Invention.'*" *Id.* § 8:4 (emphasis added).

As Landis explains, prior to 1969 the Patent Office would reject claims that included more elements than the actual invention under the formal ground of "old combination or overclaiming." *Id.* "In keeping with its custom of discarding or drastically liberalizing nonart rejections the C.C.P.A. threw out the classic 'old combination' doctrine in 1969." *Id.* (footnote omitted).

2. Jeffrey G. Sheldon, How to Write a Patent Application (Practicing Law Institute, Release 21A, Jan. 2008)

"§ 6.5.7 Claim the Environment of the Invention"

"*It is always desirable to have a high royalty base in litigation. One way to do this is by claiming the environment of an invention.* Referring to the prior 'toaster oven' example, a claim directed to a thermostat for a toaster oven has an inherently smaller royalty base

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than a claim directed to a toaster oven that includes the patentable thermostat. When negotiating a license or arguing damages before a jury, it would be better to work from a high royalty base that includes the entire toaster oven."
"As another example, most waterbed mattresses are used with waterbed frames, and many manufacturers provide frames with the mattress. Therefore, a patent directed to a novel waterbed mattress should also include claims for the combination of the frame and mattress to increase the possible royalty base."

Id., § 6.5.7 (emphasis added).

3. Steve Shear, "Excerpts from Working GuideBook: Drafting Patent Claims" (https://www.patentseminars.com/content/excerpts6.pdf?mainpage=booksforms6.asp&navigation=descripmenu.asp&menu=book)

". . . Why is it so important to consider drafting claims covering all of the system possibilities that the patentable product might be integrated into?

The answer has to do with damages and royalties that you might demand if your patent is infringed and/or a third party wants to negotiate some type of settlement or license and/or the judge/jury wants to award damages. If your patent has claims that merely cover the seat worth let us say $22 you will get less, no doubt, then if the patent claims cover not only the seat but also the entire bicycle or motorcycle.

Let me take an extreme example of this. Suppose your client has invented a new carburetor (selling for let's say $1200) especially suitable for use in one of those Peterbilt type over the road trucks (selling for in the neighborhood of $75,000). Clearly, you are going to draft end product claims to *the carburetor, the primary subject matter*. However, you will also want to have system claims to the truck itself including the carburetor. You may not win a royalty of 5% of the cost of the truck should you find yourself in the position to negotiate, *but I would bet you will get more than 5% of the carburetor cost that you would have received if you didn't have those truck claims*, which brings us to Absolute Rule #36.

MY ABSOLUTE RULE #36
After you have drafted end product claims (the primary subject matter) covering your invention, ask yourself (and the Inventor) if there are any systems into which the product in question is likely to be or could be integrated. If the answer is yes, you should consider preparing system claims including your product *in order to increase (hopefully) you[r] royalty/damage ceiling*."

Id. at 15 (italics added, underlying in original).

4. Bradley C. Wright, Drafting Patents for Litigation and Licensing (BNA 2008). (http://books.google.com/books?id=9cdbEU_2tbwC&pg=PA199&lpg=PA199&dq=patent+claim+drafting+damages&source=bl&ots=Z7p0pHFdSe&sig=Qu1_i1tSEPbgEuI4eHl

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Section 3.IV.R, "Maximizing Damages and Royalties Through Claim Drafting"
"Given that damages (whether in the form of lost profits or a reasonable royalty) will be based on what is claimed in the patent, patent attorneys can influence the amount of damages through careful claim drafting. Suppose, for example, that an invention relates to a new type of speech compression that can be carried out on a computer chip. A claim directed to the computer chip programmed with the inventive algorithm might have a royalty base tied to the value of similar computer chips that carry out similar functions. If such computer chips typically sell for $10 each and if a reasonable royalty is determined to be five percent of the value of the chip, the reasonable royalty for purposes of calculating damages would be 50 cents per computer chip. Suppose that the invention has potential applicability in devices such as mobile telephones whose value is $100 or more. . . . Suppose further that the patent drafter has included an apparatus claim covering a mobile telephone incorporating the novel computer chip . . . . *The patent owner would then have an easier time establishing infringement damages based on the more expensive combination of components, because the value of the patent would be measured by the claims.* Similarly, if the patent drafter included a claim directed to a computer system incorporating such a chip, the royalty base on which damages could be based would also be much higher than the base for a claim covering solely the computer chip. *Consequently, giving careful thought to particular industries and combinations in which the patented invention might be used can lead to claims targeting a broader royalty base.* In addition to the advantages these confer in litigation, such claims can strengthen the patent owner's position in licensing negotiations."

Id., at page 199-200 (emphasis added).

I. A sample of excerpts from file histories of U.S. patents shows that examiners often identify the inventive features of a claim as the reason for allowance

Below is a sample of brief excerpts from the file histories of five IBM U.S. patents with Arizona inventors. These file histories are available on public PAIR (at http://portal.uspto.gov/external/portal/pair). References are to the Examiner's reason for allowance for each issued U.S. patent.

1. Patent No. 7,444,478

"However, none of the prior art of record teaches that the modified segments threshold represents a number of segments that have been modified, as recited by the present claim, as amended." Notice of Allowance, page 4.

"There are many systems in the prior art that set indicators when a threshold is met or exceeded. Claim 1 avoids this interpretation by also specifying that the high priority out of sync indicator is reset when the number of modified segments is greater than the threshold; this, in combination with the added limitation that the modified segments

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threshold represents a number of segments that have been modified, is not taught by the prior art of record." Id., page 5.

2. Patent No. 7,490,203

"As per independent claim 1, prior arts of record fail to teach or suggest writing by each of the processing systems, data used by the processing system to the logical device assigned to the processing system in the shared storage device in response to receiving the signal and in response to obtaining the requested lock." Notice of Allowance, page 3.

3. Patent No. 6,941,328

"Claims 2-5, 9-12, 15-17 are allowable over the prior art of record because the prior art of record fails to teach or fairly suggest receiving operation comprising reviewing contents of the source data to identify individual data objects therein, and also reviewing any aggregation data objects in the source data to identify all constituent data objects thereof, wherein the applying and forming operations are performed separately for each data object whether in individual or aggregated form, as detailed in independent claims." Notice of Allowance, page 2.

4. Patent No. 7,496,952

"As per claims 1, 9, 15, and 16, generally, the prior art of record, United States Patent No. 5,941,947 to Brown et al. and United States Patent No. 6,609,113 to O'Leary et al., fails to teach alone, or in combination, other than hindsight, at the time of the invention, the features as discussed and remarked upon in the response of 07/14/08. Nowhere in the prior art is found, collectively, the italicized claim elements (i.e., 'wherein the operation of comparing the person's input credentials to the set of access credential information for node users at least partially overlaps in time with the operation of comparing the person's input credentials to the set of access credential information for admin users; wherein the node table contains a set of access credential information for a different class of users than the set of access credential information contained in the admin table') at the time of the invention; serving to patently distinguish the invention from said prior art." Notice of Allowance, page 2.

5. Patent No. 7,483,927

"In independent claim 16, a method comprising the teaching of 'generating a token identifying the merged metadata; and receiving a subsequent query with the token from the client node, wherein the token is used to execute the subsequent query against the merged metadata identified by the token,' taken with the other limitations of the claim, were not disclosed by, would not have been obvious over, nor otherwise fairly disclosed by the prior art of record." Notice of Allowance, page 2.

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Statement of Senator Ted Kaufman,
Senate Judiciary Committee Hearing on
Patent Reform in the 111th Congress:
Legislation and Recent Court Decisions
March 10, 2009

Mr. Chairman, thank you for holding this hearing on the critically important subject of patent reform. More than 200 years ago, the Founders recognized the importance of innovation to economic development, and so they included in the Constitution a specific direction that Congress "promote the progress of science and the useful arts" by enacting a patent system. In these perilous times, our country's economic future depends in no small part on an efficient and effective patent system. If we are to continue to lead the world, we must make certain that our patent law continues to promote ground-breaking innovation by providing the right incentives to American inventors and research institutions.

The challenge we face today is that patent law is not only enormously important – it is also enormously

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complex. I've had some first-hand experience with its complexity, both as an engineer at DuPont and as staff to Senator Biden, when we dove into this subject some 15 or 20 years ago. For the last several years, Chairman Leahy, Senator Hatch, and many others have been working extremely hard to try to get this right. And we must get it right. The reality is that Congress will only be able to take up patent reform relatively rarely. So now is the time.

The good news is that there are several aspects of the reform effort that are relatively uncontroversial. Just about everyone agrees that we need a streamlined and modernized patent application process, both to improve patent quality and to limit unnecessary litigation costs. So there is much on which we can agree, including the conversion to a first-inventor-to-file system; permitting third parties to submit relevant information to the patent office; and improving the patent office challenge process as a viable alternative to litigation.

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Despite that good news, we plainly face serious challenges. There are important areas of real, good-faith disagreement among a wide range of American businesses and universities, particularly in the area of measuring damages. In my brief time in office, I've already heard powerful arguments from all sides. This is difficult stuff. And as I know the Chairman and others recognize, there is more work to be done.

My message to the relevant stakeholders is this: You are among the most creative people and institutions the world has ever known. I believe that if you work together, and apply the American genius for innovation to the difficult problems we're discussing today, you will find creative solutions that work for everyone. I understand that different industries approach patents in different ways, especially in their view of how damages should be calculated. Nevertheless, it would seem that smart people working together could develop an approach that would address all relevant concerns.

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American innovation has long been the envy of the world. We need a modern and efficient patent system to make sure that it stays that way.

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Statement of Senator Patrick Leahy (D-Vt.),
Chairman, Senate Judiciary Committee,
Hearing on "Patent Reform in the 111th Congress:
Legislation and Recent Court Decisions"
March 10, 2009

Intellectual property is critical to our Nation's economy. It is the engine that drives our contemporary economy and will fuel our future. Industries that rely on intellectual property protection accounted for roughly half of all U.S. exports and represented an estimated 40% of U.S. economic growth in 2006, the last year in which our economy grew in all four quarters. Many of the jobs and the expansion that can help us begin to recover from the costly economic recession will have their origin in our patent and copyright based industries. These range from computers and software programs, to new agriculture products, to our movies and music.

I am an ardent supporter of strong protection and enforcement of intellectual property rights. Last year, I led the bipartisan effort to pass the Prioritizing Resources and Organization for Intellectual Property Act to enforce laws against stealing America's intellectual property. The Chamber of Commerce estimates that IP theft costs American companies $250 billion a year, and our economy 750,000 jobs.

As a former prosecutor, I know first-hand how important it is to have a full arsenal of legal tools to ensure that justice is done. In Vermont, Hubbardton Forge makes beautiful, trademarked lamps. The Vermont Teddy Bear Company, like IBM, also relies heavily on its intellectual property. Likewise, SB Electronics needs patents for its film capacitor products. Burton's snowboards and logo are protected by trademarks and patents. Every state in the Nation has such companies and every community in the United States is home to creative, inventive and productive people. Americans suffer when their intellectual property is stolen, they suffer when counterfeit goods displace sales of the legitimate products, and they suffer when counterfeit products actually harm them, as is sometimes the case with fake pharmaceuticals and faulty electrical products.

Working together with 21 Senate cosponsors and our House counterparts, we moved that bill from introduction in July to the President's desk in October. I look forward to the new leadership of the Justice Department being confirmed and in place so that they may utilize the resources and tools we provided.

This year, we are working to make additional progress by modernizing the United States patent system. Last week, I joined with Senator Hatch, Chairman Conyers and Mr. Smith to reintroduce the bipartisan, bicameral Patent Reform Act of 2009 (S.515). This Committee was able to report patent reform legislation in the last Congress, and the House passed a companion bill. This year we need to enact it to help bolster our economy.

It has been more than 50 years since significant reforms were made to the Nation's patent system. Our legislation makes needed updates to the system that will improve patent quality and increase certainty among parties in litigation. Patent reform is ultimately about economic development. It is about jobs, it is about innovation, and it is about consumers. All benefit under a patent system that reduces unnecessary costs, removes inefficiencies, and holds true to the vision of our Founders that

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Congress should establish a national policy that promotes the progress of science and the useful arts. Our bill is intended to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs, while making sure no party's access to court is denied. I thank our bipartisan group of cosponsors, Senators Schumer, Crapo, Whitehouse, Risch and Gillibrand

The legislation we introduced last week grows out of our work over several years. We have made some changes from the last Committee-approved bill in response to concerns we heard from groups ranging from labor unions to small inventors to manufacturers. We have removed the requirement that all patent applications be published 18 months after they are filed and we have removed the requirement for Applicant Quality Submissions. We have also adopted the House approach to improving the current inter partes reexamination process, rather than creating a new second window post-grant review.

Today's hearing is the eighth this Committee has held on patent reform issues since 2005. There have been several positive developments. Recent decisions by the United States Supreme Court and the Federal Circuit have moved the law in the direction of our legislation and reflect the growing sense that questionable patents are too easily obtained and are too difficult to challenge. The Supreme Court's *Quanta* decision may offer a useful way of describing the truly inventive feature of a patent. Senator Specter has made constructive suggestions about a "gate keeping" role for the court in damage calculations. There is much work to do, but I am optimistic that by continuing to work together, we will find the right language. We may be closer to reaching consensus on language than ever before.

The Patent Reform Act of 2009 promotes innovation, and will improve our economy. As we work with the Obama administration to help pull the economy out of the recession, Congress cannot afford to sit idly by while innovation – the engine of our economy – is impeded by outdated laws. Nor can we rely on the courts to do our work. Congress writes our laws.

Our legislation ensures that, in the Information Age, we have the legal landscape necessary for our innovators to flourish. It will improve the quality of patents and remove the ambiguity from the process of litigating patent claims. As innovation is encouraged, and excessive litigation costs are removed, competition will increase and the consumer cost of products will fall. In this way, the bill directly benefits both creators and consumers of inventive products.

When Thomas Jefferson issued that first American patent in 1790 – a patent that went to a Vermonter – no one could have predicted how the American economy would develop and what changes would be needed for the law to keep pace, but the purpose then remains the purpose today--promoting progress. Now is the time to bolster our role as the world leader in innovation. Now is the time to create jobs at home. Now is the time for Congress to act on patent reform.

I ask unanimous consent to put the full text of my statement in the record.

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Patent Reform in the Courts and Congress

Testimony of Mark A. Lemley, Stanford Law School before the Senate Committee on the Judiciary
mlemley@law.stanford.edu

March 10, 2009

Introduction and Executive Summary

Reforming the patent system is important. Patents are critical to innovation, and the patent system generally works well in encouraging invention. But the system also has problems, and has been the subject of abuse in recent years. As data from the Stanford IP Litigation Clearinghouse shows, patent owners sued more defendants in 2007 and 2008 than ever before, even though the total number of suits remained roughly constant. Further, research using clearinghouse data demonstrates that the majority of the most-litigated patents are owned by entities that do not make any product, but simply enforce patents. *See* John R. Allison et al., *Extreme Value or Trolls on Top: Evidence from the Most-Litigated Patents,* forthcoming U. Penn. L. Rev.

There is nothing inherently wrong with either the growth in patent lawsuits or in patent enforcement by non-practicing entities. But a number of patent rules have given those plaintiffs unfair advantages in litigation, allowing them to enforce dubious patents in favorable jurisdictions, and to use the rules of patent remedies to obtain more money than their inventions were actually worth. Many of those problems resulted from troublesome judicial interpretations of the Patent Act, rather than from the Act itself.

Since Congress began debating patent reform four years ago, the courts have acted to fix a number of the most significant problems that were the focus of initial Congressional interest:

- The Supreme Court decision in *eBay v. MercExchange* ended the Federal Circuit's practice of automatically granting injunctions in patent cases, replacing it with a case-

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by-case determination that (despite occasional aberrations such as *Voda v. Cordis*) has worked quite well in ensuring that patent owners who need injunctions can get them, but that patent owners who want an injunction merely to increase their settlement leverage by threatening to shut down unpatented components cannot.

- The Supreme Court decision in *KSR v. Teleflex* revamped the standard of obviousness to focus it more directly on what scientists working in the field would actually know and do, rather than on a fruitless search for documents stating the obvious. While the jury is still out on the application of *KSR* in the Federal Circuit, there is good reason to believe that it has helped weed out bad patents by giving district courts the power to grant summary judgment of obviousness in appropriate cases.
- The Supreme Court decision in *MedImmune v. Genentech* rejected in a footnote the Federal Circuit's "reasonable apprehension of imminent suit" test for declaratory judgment jurisdiction. Since that time, the Federal Circuit has adopted a much more generous standard for declaratory judgment jurisdiction in cases like *SanDisk v. STMicroelectronics* and *Teva v. Novartis*. That more generous standard permits accused but not-yet-sued infringers to file a declaratory judgment when the continuing possibility of infringement litigation, avoiding the "patents of Damocles" problem and giving patent defendants, not just plaintiffs, a say in where patent lawsuits are filed.
- The Fifth Circuit en banc decision in *Volkswagen*, coupled with the Federal Circuit decision in *In re TS Tech USA Corp.*, have made it significantly harder for patent plaintiffs to choose any forum in the country on the basis of its perceived friendliness to patent owners. While these cases are quite recent, they may ultimately go a long way towards solving the problem of forum shopping by considering the convenience of different districts in deciding whether to transfer venue in a patent case.
- The Federal Circuit en banc decision in *In re Seagate Technology* significantly reduced problems with the doctrine of willfulness by creating a new test for willful infringement ("objective recklessness") and by creating rules designed to preserve the attorney-client privilege in cases involving willfulness.

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- Federal Circuit decisions in the last year or two, notably *Star Scientific v. R.J. Reynalds Tobacco*, have drawn an increasingly careful line on inequitable conduct, finding it where there was egregious conduct but emphasizing and strengthening the need to prove that the patentee intended to deceive the PTO. While there may have been excesses with inequitable conduct in the past, the doctrine itself serves a valuable purpose in preventing some very real cases of deception by attorneys or patent owners.

The combined result of these cases is to simplify the task of legislative patent reform considerably. There remains one significant judicially-created problem with litigation abuse of the patent system that Congress should address: the problem of damages calculation in reasonable royalty cases. And it is possible that the Federal Circuit will address that problem in a pending case, *Alcatel v. Gateway*. In addition, a new Federal Circuit en banc decision (*In re Bilski*) creates a potential new problem that deserves attention by restricting the scope of patentable subject matter. In particular, the effect of *Bilski* on patents for medical diagnostic processes is uncertain but potentially worrisome.

Apart from reasonable royalty damages, and possibly venue and patentable subject matter, patent reform in 2009 can focus on issues that clearly require statutory change rather than correction of judicial decisions. The most important of these changes are the institution of some form of post-grant opposition, the move to a first-inventor-to-file system, and the establishment of rule-making authority at the Patent and Trademark Office.

In the sections that follow I discuss each of these issues in more detail.

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Patent Reform Lemley Testimony March 10, 2009

Publication and Post-Grant Opposition

Summary: Requiring publication of all patent applications and creating a post-grant opposition system are important changes that will improve the patent system.

The first goal of patent reform should be to ensure that the procedures in the Patent and Trademark Office are adequate to identify and weed out bad patents when it is cost-effective to do so. Two proposed changes will help.

First, it is important that the patent system require prompt publication of *all* U.S. patent applications. Section 122(b) currently permits some patent applications to avoid publication, with the result that some applicants can conceal their invention from the public for years. Those applicants can then take a mature industry by surprise when the patent issues. Requiring publication of all applications 18 months after they are filed will put the public on notice of who claims to own particular inventions, allowing companies to make informed research, development and investment decisions. Unfortunately, S. 515, unlike prior efforts at patent reform, does not appear to contain such a provision.

Second, the patent system should provide low-cost mechanisms for resolving the validity of disputed patents without litigation. Properly-designed administrative systems are a valuable addition to the patent system that will help identify and weed out bad patents without the cost and uncertainty of litigation. S. 515 would permit the submission of prior art by third parties, and would improve the inter partes reexamination system by permitting competitors to initiate reexaminations without foregoing their day in court. These changes are desirable and will improve the patent system.

S. 515 also provides for a post-grant opposition system. Post-grant opposition in general is desirable, since it provides a level of scrutiny somewhere between reexamination and litigation. The best approach is one that permits a post-grant opposition to be filed either

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within 12 months after a patent issues or within 6 months after the opposer is notified of infringement, whichever comes later. The addition of the second, 6-month window has been controversial in some circumstances, but it is critical to the success of the post-grant opposition procedure. Because of the long timelines associated with many patents, and the fact that those engaged in patent holdup often wait for years after patents issue before asserting them, limiting opposers to a 9-month window after the patent issued would render post-grant opposition ineffective for the majority of patents. An example is pharmaceutical patents. Because of the long FDA approval process, potential generic manufacturers will likely have no idea at the time a patent issues whether the drug it covers will survive clinical trials and be approved for sale. By the time they know which patents are actually important, it would be too late to oppose them. This problem extends to other industries as well. Submarine patentees and other trolls often sit on patent rights for many years before asserting them against manufacturers. In order to take advantage of the nine-month window, those manufacturers would have to guess which of the millions of patents in force might become important a decade from now. Since only 1% of patents are ever litigated, forcing them to make such a guess would make the system worthless to most of the people who might want to use it.

Including a second window for defendants who were not on notice of the patent when it issued seems an appropriate way to solve this problem. This gives a short period in which to oppose patents once they are brought to a company's attention, without permitting undue delay. To minimize the harm to patent owners whose rights are subject to later challenge, a second window for post-grant review should be useable only by those parties who could not reasonably have used the first window, either because they were not in business, not making a relevant product at the time, or could not reasonably have found the patent and known that it applied to their product during the first window. It may also be appropriate to raise the burden of proof on challengers during the second window. Unfortunately, S. 515 as currently drafted includes only a first window. As a result, while the template for post-grant opposition is quite good, it is unlikely that post-grant opposition as currently configured will get much use.

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Patent Reform Lemley Testimony March 10, 2009

Damages: Reasonable Royalty and Willfulness

Summary: Changes to the entire market value rule and royalty stacking in reasonable royalty damages are important steps that will help deal with serious problems in the patent system.

The reasonable royalty provisions in existing law create significant problems in those industries in which patented inventions relate not to an entire product, but to a small component of a larger product. Because courts have interpreted the reasonable royalty provision to require the award of royalties based on the "entire market value," juries tend to award royalty rates that don't take into account all of the other, unpatented components of the defendant's product. This in turn encourages patent owners in those component industries to seek and obtain damages or settlements that far exceed the actual contribution of the patent. There are numerous cases of just this problem occurring. Most notably, there are hundreds of "essential" patents covering proposed new standards for third-generation wireless telephones. Carl Shapiro and I have published an empirical study of this "royalty stacking problem." Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007). And as that study demonstrates, the royalties awarded in court far exceed what most licensing experts would consider a reasonable royalty, particularly for inventions that represent only one small component of a larger product.

The broad outlines of how to solve this problem are clear. Congress should require the courts to consider the contribution of other elements of the defendant's product, not just the patented invention. Reasonable royalty damages should be limited to the share of a product's value that comes from the invention, and that patentees should not be able to capture value they did not in fact contribute. This is the "apportionment principle," and it is critical in preventing patentees from holding up defendants, trying to capture as damages value actually contributed by the defendant or by other inventors. At the same time, patentees should be entitled to capture the value they actually contribute, whether that value resides in a specific component, in a general improvement to the functionality of the product, or in a reduction in

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the cost of manufacturing that product. The apportionment principle has been well-established in Supreme Court jurisprudence for over a century, but unfortunately Federal Circuit decisions have departed from that principle.

The only question is how to get there. Congress should implement the apportionment principle in a way that prevents patentees from manipulating their damages by changing the way they claim their invention. For example, the inventor of the intermittent windshield wiper could claim the wiper alone, or alternatively could choose to claim a car including an intermittent windshield wiper. The invention is the same, and the patentee shouldn't be able to capture more money by phrasing the claim in the second way than the first. But the current damages rules may produce just such an effect, since the "claimed invention" is literally the whole car and not just the windshield wiper.

The straightforward way is to require courts to determine the value of the "inventive contribution" of the product in reasonable royalty cases. Damages reform should also make it clear that the "entire market value rule" has no place in reasonable royalty as opposed to lost profits analysis. A patentee who sells products can use the entire market value rule to prove that they would have made the sale but for the defendant's infringement. A patentee who does not sell products can make no such showing, however. Awarding a non-practicing patentee the entire market value of a defendant's product based on their invention of just one component by definition overcompensates that patentee, and requires the defendant to pay everything it makes to one patentee, and then to pay additional money to other patentees. I elaborate on this problem, and on the proper analysis of reasonable royalties and lost profits in the attached paper, "Distinguishing Between Lost Profits and Reasonable Royalties in Patent Cases."

S. 515 makes some steps in the right direction, but also includes a provision that would lock the entire market value rule into the reasonable royalty damages calculus. That would be unfortunate, particularly since it is possible (though by no means certain) that the Federal

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Circuit will address this problem later this year in the *Lucent v. Gateway* case. Subsection (a) dealing with the entire market value rule should be removed from the bill, or at a minimum should be amended to make it clear that a patentee is entitled to damages based on the entire market value rule only if the patentee can show that it would have made the sale of the entire product but for the infringement.

Senator Specter has suggested that Congress might be well-advised to wait in resolving the damages issue until the Federal Circuit has had a chance to act. There is logic to this, given that the courts have solved many of the other problems their prior decisions had created. But apportionment is the most important part of any patent reform legislation, and Congress should make sure that any such delay will not jeopardize the passage of damages reform legislation. As long as the bill does not lock in the entire market value rule, any judicial reform of reasonable royalty damages would be in line with the rest of what S. 515 proposes. In short, Congress should take care not to change damages law in a way that prevents effective Federal Circuit or Supreme Court reform, but changes that restore apportionment should not create an interference problem.

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First Inventor to File

Summary: This is an important change, but should be accompanied by provisions requiring publication of all patent applications and expansion of prior user rights.

The move to a first-inventor-to-file system is an important step for several reasons. First, it simplifies the complex of rules for deciding whether a patent applicant is the first inventor. One way a focus on the filing date simplifies things is to eliminate the need to determine when an invention occurred in the vast majority of cases, an inquiry that has proven difficult. But the move to first to file also gives Congress an opportunity to get rid of confusing rules that add uncertainty to the patent system: the "secret prior art" rules governing commercial but nonpublic use, and that differ depending on whether the user is the patentee or not. These rules have created inconsistent judicial guidance and made it hard to know when an inventor was entitled to a patent.

Second, first inventor to file recognizes the international nature of today's markets. The current statute defines prior art differently depending on whether a sale or a conference occurs in the U.S., Canada or Europe. Eliminating this distinction makes sense in the modern world. Because the rest of the world already uses filing rather than invention date to measure priority, first inventor to file will take an important step towards global harmonization, permitting U.S. inventors to more easily seek patent protection not just in the U.S. but in other countries as well. S. 515 also recognizes the global nature of commerce by getting rid of the old-fashioned prior art rules limited to conduct in a particular country.

In the past, small inventors have expressed concern that a first to file system will disadvantage them because large companies have the resources to file patents more quickly. More recent evidence demonstrates that that is not true. It is large inventors, not small inventors, who most benefit from the complex and expensive interference system that determines who was first to invent. And large inventors challenge the patents of small

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inventors in an interference proceeding more often than the reverse. Eliminating interferences will help, not hurt, small inventors.

The best approach – and the one adopted by S. 515 would deviate from a pure first-to-file system by giving inventors who sell, use or publish their invention a year to get a patent application on file. This is a reasonable grace period. A small inventor concerned about losing a race to the patent office can publish the invention on a Web site. Doing so will prevent anyone else from getting a patent, while giving the inventor a year to find a patent attorney and file a patent application. Given the existence of simple provisional applications, that is a reasonable accommodation. S. 515 expands this grace period compared to prior versions of the bill by providing what is in effect a "first inventor to publish or file" rule. If an inventor publishes first, he or she has a year to file the patent application and claim priority even over those who independently invent but file after that publication date. That provision protects inventors against those who would steal their ideas and seek to file first.

If Congress is to move to first inventor to file, it should also provide prior user rights for those who engage in non-public use before the patentee files his application. S. 515 eliminates many existing categories of non-public prior art. Doing so risks permitting more, not fewer, patents to issue to people who were not truly the first inventor. Granting prior user rights to those who were already using the invention is a reasonable counterweight, because it gives the owners of such secret prior art at least the right to continue using technology they invented. Modifying 35 U.S.C. § 273 can address this concern by expanding a limited right that has been in the law for six years without creating any problems.

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Patent Reform Lemley Testimony March 10, 2009

Venue and Interlocutory Appeal

Summary: Forum shopping has been a significant concern for the last several years. While court decisions may well solve the problem, proper legislative reform can assist in that effort. Interlocutory appeals, by contrast, are likely to prolong patent litigation and its uncertainty.

Plaintiffs in patent cases can file suit in any district in the country. Data from the Stanford IP Litigation Clearinghouse makes it clear that patentees have engaged in significant forum shopping, taking advantage of the high percentage of pro-patentee verdicts in the Eastern District of Texas and the high percentage of cases that survive summary judgment in the District of Delaware. *See* http://lexmachina.stanford.edu. Similarly, declaratory judgment plaintiffs choose for a known for lower patentee win rates and longer times to trial, such as the Northern District of California. The Eastern District of Texas in particular has proven unwilling to transfer cases to other districts in the interest of convenience.

Recent decisions by the Fifth Circuit en banc and the Federal Circuit require the Eastern District of Texas to transfer cases to more appropriate fora when they exist. Those decisions may well solve the forum shopping problem, if they are implemented fully at the district court. But the law provides that plaintiffs can file in any district, and district courts still have substantial discretion in deciding whether to keep cases. Further, the *Volkswagen* and *TS Tech* cases apply only to cases filed in the Fifth Circuit, not in other jurisdictions. As a result, it may be appropriate to restrict venue.

How to do so is more problematic. S. 515 rightly limits venue to places where the plaintiff or the defendant reside or have a significant place of business. And the provision preventing the artificial manufacture of venue is helpful. It seems problematic, however, to try to deny venue to certain types of patent plaintiffs while maintaining it for others. It is preferable to rely on transfer rules in cases where the plaintiffs file in inconvenient jurisdictions.

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Such an approach will not eliminate all forum shopping by patentees or accused infringers. But it should reduce the problem to manageable proportions.

I am more troubled by giving district courts the power to approve interlocutory appeals of claim construction orders. Most claim construction orders result in summary judgment for one side or the other on infringement. While interlocutory appeal would prevent some unnecessary jury trials, the number of such trials every year is small, and there is a risk that district courts will permit interlocutory appeal and stay in virtually every case, adding a year or two to each case, burdening the Federal Circuit with new cases, and delaying the patentee's ultimate relief. Further, because parties often settle after a *Markman* ruling, the prospect of interlocutory appeal may increase the cost of litigation by delaying settlement pending that appeal. If the provision remains in the bill, it would be helpful to limit it to extraordinary circumstances, such as ones in which the district court identifies particular close claim construction questions that would ultimately resolve the case.

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Patent Reform Lemley Testimony March 10, 2009

Distinguishing Lost Profits From Reasonable Royalties[1]

Mark A. Lemley[2]

Patent damages are designed to compensate patentees for their losses, not to punish accused infringers or require them to disgorge their profits.[3] The statute provides for damages "adequate to compensate for the infringement, but in no event less than a reasonable royalty."[4] Courts interpreting this provision have divided patent damages into two groups – lost profits, available to patent owners who would have made sales in the absence of infringement, and reasonable royalties, available to everyone else.[5] Traditionally, patentees want to prove lost profits, because only that measure captures the monopoly value of exclusion of competitors from the market. As the statutory language suggests, reasonable royalties exist as a floor or backstop for those who cannot prove that they have lost profits as a result of infringement. The rationale is that an infringed patent is valuable, and could be licensed for a fee even by patent owners who don't employ the patent in the marketplace.

In practice, however, the lines between lost profits and reasonable royalties are blurring. In significant part this is because courts have insisted on strict standards of proof for entitlement to lost profits. Specifically, patentees must prove demand for the patented product, the absence of noninfringing substitutes, the ability to meet additional demand in the absence of

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[1] © 2009 Mark A. Lemley.

[2] William H. Neukom Professor, Stanford Law School; partner, Durie Tangri LLP. Thanks to Rose Hagan for comments on a prior draft.

[3] Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1223 (Fed. Cir. 1995).

[4] 35 U.S.C. § 283. A separate provision of the patent statute, 35 U.S.C. § 284, provides for punitive damages in case of willfulness. *In re* Seagate Technology, 497 F.3d 1360 (Fed. Cir. 2007) (en banc).

[5] *See* Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978) ("When actual damages, e.g., lost profits, cannot be proved, the patent owner is entitled to a reasonable royalty.").

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infringement, and the proportion of those sales that represent profits.[6] This in turn means that many patent owners who have in fact probably lost sales to infringement cannot prove lost profits damages, and turn to the reasonable royalty measure. The result is that courts have distorted the reasonable royalty measure in various ways, adding "kickers" to increase damages, artificially raising the reasonable royalty rate, or importing inapposite concepts like the "entire market value rule" in an effort to compensate patent owners whose real remedy probably should have been in the lost profits category. Unfortunately, Congress now seems poised to lock one of those distortions – the entire market value rule – into reasonable royalty law.

In Part I, I explain the strict requirements for proving lost profits, and give examples of patentees who have failed to meet these requirements. In Part II, I explain how relegating these patentees to reasonable royalties has led to problematic changes in reasonable royalty law. Finally, I suggest in Part III that courts should draw a sharp division between the injury suffered by patentees who compete with infringers and those who do not. Patentees who compete should be entitled to the best estimate of lost profits, even if not all elements of proof are available. Doing so will avoid overcompensating patent owners in reasonable royalty cases.

I. Losing Entitlement to Lost Profits

The traditional conception of patent protection is to give patent owners a means of excluding competitors from selling the patented product in order to increase their profits, and therefore the incentive of putative patent owners to invent. This traditional conception requires exclusivity. It explains why the normal remedy for infringement of a patent is an injunction against continued infringement.

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[6] *Id.* at __.

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Lost profits fit logically with this traditional conception. Giving patentees the profits they would have made absent the infringement effectively puts them in the same position as if they had had an injunction in place all along.[7] To the extent that it doesn't – when a patentee lost market traction early in a growing market and never built market share, for example – the law of lost profits has expanded over time to try to compensate the patent owner for those uses.[8]

Proving lost profits has not been easy, however. Federal Circuit law requires that the prevailing patentee prove (1) the extent of demand for the patented product, (2) the absence of non-infringing substitutes for that product, (3) the patentee's ability to meet the additional demand by expanding manufacturing capacity, and (4) the extent of profits the patentee would have made.[9] Further, the cases require sophisticated economic analysis of the interrelationship between price and demand, so that claims of price erosion must be discounted to the extent that the higher prices a patentee could have charged absent competition would have driven away some consumers.[10] And they require inquiry into how the patentee would divide sales with other companies in the market that were either licensed or were selling non-infringing goods.[11]

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[7] The Supreme Court has described this as the purpose of patent damages. Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507 (1964) ("that question is primarily: had the Infringer not infringed, what would Patent Holder-Licensee have made?"); Yale Lock Mfg. Co. v. Sargent, 117 U.S. 536, 552 (1886) (a patentee's damages are "the difference between his pecuniary condition after the infringement, and what his condition would have been if the infringement had not occurred."); John Schlicher, *Measuring Patent Damages by the Market Value of Inventions – the Grain Processing, Rite-Hite, and Aro Rules*, 82 **J. Pat. & Trademark Ofc. Soc'y** 503, 503 (2000).

[8] *See, e.g.*, Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1065 (Fed. Cir. 1983) (awarding lost profits damages based on the patentee's lost ability to grow, and therefore to sell other, unpatented products).

[9] *See, e.g.*, Panduit Corp. v. Stahlin Bros. Fibre Works, 575 F.2d 1152 (6th Cir. 1978). The Federal Circuit has adopted this framework as the predominant, though not exclusive, way to analyze lost profits. Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549 (Fed. Cir. 1984).

[10] *See, e.g.*, Crystal Semiconductor Corp. v. Tritech Microelectronics Int'l, 246 F.3d 1336 (Fed. Cir. 2001).

[11] There are a number of ways courts assess this, including expert testimony, the testimony of the infringer's customers as to what they would have done absent infringement, and a presumption that where

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Courts take these requirements seriously, and quite often reject claims for lost profits. To begin, it should be obvious from these requirements that patentees cannot possibly meet them unless they participate in the market in direct competition with the infringer.[12] Even competitors often have trouble demonstrating entitlement to lost profits, however. Sometimes this is because they really didn't lose any profits, for example because purchasers didn't value the patented technology at all and would happily have switched to non-infringing substitutes.[13] Other times it is because the patentee itself couldn't have manufactured the products, and therefore lost the sales.[14] But still other cases involve more technical failures of proof, for example a failure to

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the patentee competes with non-infringing alternatives, the patentee and the competitors would split the infringer's sales. *See* State Indus. v. Mor-Flo Indus., 883 F.2d 1573 (Fed. Cir. 1989) (applying this "market share rule").

[12] BIC Leisure Prods. v. Windsurfing Int'l, 1 F.3d 1214 (Fed. Cir. 1993) (reversing an award of lost profits because the patentee and the infringer did not compete); *Cf.* Del Mar Avionics, Inc. v. Quiniton Instrument Co., 836 F.2d 1320 (Fed. Cir. 1987) (describing it as a "general rule" that patentees producing the patented item are entitled to lost profits damages); John E. Dubiansky, *An Analysis for the Valuation of Venture Capital-Funded Startup Firm Patents,* 12 **B.U. J. Sci. & Tech. L.** 170, 177 (2006) ("In the licensing context, however, the patent owner is not engaged in an enterprise which utilizes the patent. Consequentially, the owner has no profits to have lost, and is only eligible to receive a reasonable royalty.").

[13] For examples, *see* Grain Processing Corp. v. American Maize Prods. Co., 185 F.3d 1341 (Fed. Cir. 1999) (rejecting lost profits claim because evidence showed that patentee would not have made sales; infringers would have switched almost immediately to an equally-good non-infringing alternative); Slimfold Mfg. Co. v. Kinkead Indus., Inc., 932 F.2d 1453 (Fed. Cir. 1991); *but see* Zygo Corp. v. Wyko Corp., 79 F.3d 1563, 1571 (Fed. Cir. 1996) (seeming to set a flat rule preventing consideration of non-infringing substitutes not actually on the market at the time of infringement); *compare* Micro Chemical Inc. v. Lextron, Inc., 318 F.3d 1119, 1123 (Fed. Cir. 2003) (rejecting a claim for the availability of easy design-arounds where the evidence suggested the design-around would not have been straightforward at the time of infringement).

Hausman et al suggest that considering non-infringing substitutes unfairly gives the infringer the benefit of a free option to infringe or not. Hausman et al., *supra* note __, at 845-46. To the contrary, the option comes at a price – the payment of the greater of lost profits, if proven, or a reasonable royalty. Cases like *Grain Processing* eliminate what would otherwise have been an overcharge – the ability of the patentee to recover in damages profits it would not have made in fact – rendering lost profits damages more consistent with their compensatory purpose.

[14] *See, e.g.,* Datascope Corp. v. SMEC, Inc., 879 F.2d 820 (Fed. Cir. 1989) (rejecting lost profits claim because there was no evidence that the patentee would in fact have devoted resources to meeting the demand for the infringer's product). A strict application of this rule would overlook the ability of the patentee to license others to meet that demand. *Cf.* Yarway Corp. v. Eur-Control USA, 775 F.2d 268, 276

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adequately segregate profits from costs or a lack of economic sophistication in analyzing market demand and its elasticity.[15]

A dramatic example is the foundational case on patent damages, *Panduit v. Stahlin*.[16] In that case, authored by Judge Markey, later Chief Judge of the Federal Circuit, the court found that the patentee had proven demand for the patented product, an absence of non-infringing substitutes, and the ability to exploit the demand and therefore to make the sales. Nonetheless, the court held that the patentee was not entitled to lost profits because it did not adequately separate profits from costs. There was no dispute that Panduit accounted for variable costs, and that it tried to exclude fixed costs as well. But expert witnesses testified to contradictory views of the correct way to account for such fixed costs, and the court concluded that because it couldn't be sure what fixed costs to include, it had to reject the lost profits claim altogether in favor of a reasonable royalty.

Once a patentee proves entitlement to lost profits, the scope of the resulting award can be quite expansive. Patentees can recoup losses on sales they in fact made if they can prove that they were forced to lower their prices to meet infringing competition.[17] They can capture sales

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(Fed. Cir. 1985) (permitting evidence of subcontracting to a sister company).

[15] *See, e.g., Panduit*, 575 F.2d at __ (refusing to award lost profits because of a failure by the patentee to account properly for fixed costs to be deducted from profits); Slimfold Mfg. Co. v. Kinkead Indus., 932 F.2d 1453, 1458 (Fed. Cir. 1991) (affirming refusal to award lost profits on estimated on a market share basis despite evidence that the patentee competed with others in the market in which the infringer participated); Kaufman Co. v. Lantech, Inc., 926 F.2d 1136 (Fed. Cir. 1991) (rejecting claim for convoyed sales, in part because the patentee did not prevent evidence of projected profits from those sales).

[16] 575 F.2d at 1152.

[17] Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1580 (Fed. Cir. 1992) (affirming award of price erosion damages); Paper Converting Mach. Corp. v. Magna-Graphics Corp., 745 F.2d 11, 22 (Fed. Cir. 1984) (award of losses based on projected declining marginal cost of producing goods as scale increased).

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on unpatented goods that compete with the patented invention.[18] They are entitled to capture the value of sales of entire products based on a patent on only a single component, if they can prove that the patented feature is what caused the sale, so that the defendant's infringement garnered a sale that would otherwise have gone to the patentee.[19] This is known as the entire market value rule. They are entitled to capture profits based on the sale of "convoyed goods" – goods that are not part of the patented product at all, but which are sold in connection with the patented good, and would therefore likely have been sold by the patentee if the patentee rather than the infringer had made the sale of the infringing good.[20] And they are even entitled to capture sales by the defendant after the patent has expired, if those sales were made possible by infringing preparatory activity by the defendant during the term of the patent.[21]

The effect of these rules is generally salutary: lost profits doctrine aims to put patentees in the position they would have been in but for the infringement, and the tools the law uses to accomplish this end are economically quite sophisticated. But the high standard of proof means that there are a number of patentees that do not in fact get made whole for the acts of infringement under the lost profits rule.

II. Are Reasonable Royalties Reasonable?

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[18] King Instruments Corp. v. Perego, 65 F.3d 941, 953 (Fed. Cir. 1995).

[19] *See, e.g., State Indus.*, 883 F.2d at __; TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 901 (Fed. Cir. 1986); Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc., 761 F.2d 649, 656 (Fed. Cir. 1985); King Instrument Corp. v. Otari Corp., 767 F.2d 853, 865 (Fed. Cir. 1985).

[20] *See, e.g.,* Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538 (Fed. Cir. 1995) (en banc).

[21] BIC Leisure Prods. v. Windsurfing Int'l, 687 F. Supp. 134, 137-38 (S.D.N.Y. 1988), *rev'd in part on other grounds* 1 F.3d 1214 (Fed. Cir. 1993) (permitting recovery for "accelerated market reentry" by the infringer after the patent expires)

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Patentees who cannot prove lost profits, whether because they didn't have any lost profits or because they failed to meet the standards of proof, are relegated to a "reasonable royalty" remedy. Reasonable royalties are like lost profits in that both are designed to compensate patentees for their losses. But there the similarity ends. Reasonable royalty law is designed with the non-manufacturing patentee in mind. And what it takes to "make the patentee whole" is very different if the patentee's only interest is in licensing the patent than if the patentee's interest is in excluding competition and maintaining a monopoly price. Thus, reasonable royalty case law inquires into what the marketplace would actually pay for rights to the technology, bearing in mind that the licensee has to make a profit as well. By contrast, it is not only possible but common that lost profits will exceed the defendant's gains from infringement.[22]

The idea that patent damages will tend to be greater in lost profits cases than in reasonable royalty cases makes policy sense so long as the patentees being awarded reasonable royalties are those who are not in fact selling products in the market. But if the recipients of reasonable royalty damages are in fact competitors who failed to meet the rigorous requirements of proof of lost profits, the result may be that those patentees are undercompensated by a traditional reasonable royalty approach.

Courts have responded to the perceived unfairness of this result[23] by expanding reasonable royalty damages in a variety of ways. First, courts have applied control-of-sales

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[22] The economic logic of this is straightforward: a patentee with market power will charge a profit-maximizing price. By contrast, two companies in competition will charge a price lower than the monopoly price, generating less profit to share between them and more consumer surplus. Putting the patentee who faced competition back into the position of receiving a monopoly price requires the infringer to compensate the patentee for the money it has lost to consumer surplus as well as the money it lost to the infringer. Thus, the infringer will regularly have to pay as damages more than it made in profits.

[23] *See, e.g.,* **Robert P. Merges & John F. Duffy, Patent Law and Policy** 980 (4th ed. 2007) (suggesting that artificially high reasonable royalties may be justified as a way of "dispensing with" proof of lost profits while adequately compensating patentees that have lost profits). One might question whether this

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concepts from lost profits to reasonable royalty cases. In its most extreme form, this includes the application of the "entire market value rule" to reasonable royalty cases.[24] It is worth beginning by noting that the term "entire market value rule" is a misnomer. As Brian Love has observed, it is effectively *never* the case that the patent is responsible for all of the value of a product.[25] Most commonly, other patents also contribute to the defendant's product. Even if that isn't true, the defendant's know-how, materials, and marketing efforts almost always contribute some value, and usually the most significant part of the value of an infringing product. The entire market

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is unfair, given that these plaintiffs by definition failed to meet the proof requirements for lost profits. I would distinguish between cases like *Grain Processing,* in which the patentee would not have made the sales at all, and cases in which the patentee probably did lose sales and it is just the measure of those sales or the resulting profits that could not be proven. The former restriction makes sense; the latter deprives patent owners of a return that they would have made absent the infringement. *Accord* Schlicher, *supra* note __, at 532 (approving of *Grain Processing*).

It is worth noting that the patentee in *Grain Processing* might have been able to make the infringing sales by cutting the price on all its goods so that its profit margin was less than the 3% cost differential between the patented invention and the non-infringing substitute. *See* Jerry A. Hausman et al., *Patent Damages and Real Options: How Judicial Characterization of Noninfringing Alternatives Reduces Incentives to Innovate*, 22 **Berkeley Tech. L.J.** 825, 847 (2007). Given the small difference there, it seems doubtful that doing so would have been net profitable for the patentee. But patentees should certainly have the opportunity to prove that they would have cut their price across the board to price a less-efficient competitor out of the market, and to recover any lost profits (net of the reduced profits on sales they made anyway).

[24] The Federal Circuit endorsed this expansion in *Rite-Hite v. Kelley Co.*, 56 F.3d 1538 (Fed. Cir. 1995) (en banc) ("courts have applied a formula known as the 'entire market value rule' to determine whether such components should be included in the damage computation, whether for reasonable royalty purposes . . . or for lost profits purposes."), though the reference to reasonable royalties was dictum there, since *Rite-Hite* itself involved lost profits. Ironically, it is not clear that the Federal Circuit had applied the entire market value rule to decide a reasonable royalty case before this statement in *Rite-Hite*. But courts have since relied on that language to import the concept into reasonable royalty cases. *See, e.g.,* Fonar Corp. v. General Electric Co., 107 F.3d 1543 (Fed. Cir. 1997); Tec Air, Inc. v. Denso Mfg. Michigan, Inc., 192 F.3d 1353 (Fed. Cir. 1999); Bose Corp. v. JBL, Inc., 274 F.3d 1354 (Fed. Cir. 2001). On the entire market value rule in lost profits cases, see 7 **Donald S. Chisum, Patent Law** sec. 20.03[1][c][iii].

[25] *See* Brian J. Love, *The Misapplication of the Entire Market Value Rule to Reasonable Royalty Cases*, __ **Stan. L. Rev.** __ (forthcoming 2007). *See also* Eric E. Bensen & Danielle M. White, *Using Apportionment to Rein in the Georgia-Pacific Factors*, http://ssrn.com/abstract=982897 (working paper April 2007) (making the point that a real-world negotiation would result in the parties splitting only profits attributable to the infringement); Christopher A. Harkins, *Fending Off Paper Patents and Patent Trolls: A Novel 'Cold Fusion' Defense Because Changing Times Demand It*, 17 **Alb. L.J. Sci. & Tech.** 407, 448 (2007) (same).

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value rule nonetheless makes a certain amount of sense in lost profits cases, because if most of the value of the defendant's product is attributable to the patentee's technology, it is reasonable to conclude that but for the infringement the defendant's customers would have bought the product from the plaintiff instead. In such a case, while the defendant almost certainly contributed some value to the ultimate product, it would not have made the sale of that product at all but for the infringement. Instead, the plaintiff would have made the sale, and so the plaintiff would have captured whatever incidental value was due to non-infringing attributes. So the entire market value rule is really a presumption that if *most* of the market value comes from the patent, a practicing patentee would have been able to capture the entire value by making the sale.

The logic of the entire market value rule breaks down in reasonable royalty cases, however, because we're no longer talking about the defendant taking a sale away from the plaintiff. Instead, the question is how to compensate the non-practicing patentee for the value of the patented technology. But since there is always at least some value to the defendant's product not attributable to the patent, any application of the entire market value rule in a reasonable royalty setting necessarily overcompensates the patent owner by giving it value not in fact attributable to the patent.[26] One way to see this is to recognize that if the patentee has truly contributed the entire market value of the technology, no other contribution to the product should be valued at all. On this theory, if a patentee wins an entire market value rule case, no other patentee should be able to recover any damages at all based on the sale of the same product. But

[26] *See id.*; Lemley & Shapiro, *Royalty Stacking, supra* note __. The Supreme Court stated the issue a century ago in terms that seem to foreclose application of the entire market value rule in reasonable royalty cases: "In so far as the profits from the infringing sales were attributable to the patented improvements they belonged to the plaintiff, and in so far as they were due to other parts or features they belonged to the defendants." Dowagiac Mfg. Co. v. Minnesota Moline Plow Co., 235 U.S. 641, 646 (); accord Yale Lock Mfg. Co. v. Sargent, 117 U.S. 536, 552-53 (1886).

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of course that is not the law.[27] It seems probable that the doctrinal creep of the entire market value rule into reasonable royalty cases came about because of patent plaintiffs who really had unsuccessful lost profits cases.[28]

Even in cases that don't apply the entire market value rule, courts have applied the reasonable royalty statute with insufficient sensitivity to the importance of non-infringing components to the value of the overall product. Indeed, the Federal Circuit has even imported the concept of "convoyed sales" of non-infringing goods to the reasonable royalty context, suggesting that a reasonable royalty must include some compensation to the patentee for the value the defendant obtained from sales of unpatented goods that would likely have been sold alongside the patented ones.[29] This suffers from the same flaw as the application of the entire market value rule – it attributes the value of unpatented technologies to the patent owner in circumstances in which the patent owner would not have made sales of those technologies, and

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[27] To be sure, this problem affects application of the entire market value rule in lost profits cases as well. But it is one thing to impose this disadvantage on a defendant in order to adequately compensate a plaintiff who has in fact lost profits; it is quite another to make a defendant pay too much in the aggregate in order to provide an unearned windfall to a reasonable royalty plaintiff.

Doug Lichtman has suggested that the royalty stacking problem will be a self-limiting one, because companies can't afford to pay more than the entire value of their product, and if aggregate royalties get too high they will simply stop making the product. Douglas Lichtman, Patent Holdouts and the Standard-Setting Process, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=902646 (working paper 2007). But even if this were true in a hypothetical world of immediate, perfect information, it is unlikely to be of much help in the real world, where damages awards are calculated years or decades later, and where juries do not learn of the other contributions to the success of the product – or worse, are prohibited by the entire market value rule from taking them into account.

[28] The first explicit reference to the use of the entire market value rule in reasonable royalty cases came in *Rite-Hite*, a lost profits case. *Rite-Hite* relied in turn on *State Industries*, which did not in fact apply the entire market value rule, and which was in any event also a lost profits case. The Federal Circuit did not in fact apply the doctrine in a reasonable royalty case until after dictum in *Rite-Hite* suggested that the doctrine already applied in those cases. For a discussion of the evolution of the reasonable royalty cases in the Supreme Court before the creation of the Federal Circuit, see Bensen & White, *supra* note __, [Part I]. For a history of the apportionment principle in patent cases, see Eric E. Bensen, *Apportionment of Lost Profits in Contemporary Patent Damages Cases*, 10 **Va. J. L. & Tech.** 8 (2005).

[29] *See, e.g.*, TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 901 (Fed. Cir. 1986); Trans-World Mfg. Corp. v. Al Nyman & Sons, 750 F.2d 1552, 1568 (Fed. Cir. 1984).

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therefore in which the infringer would have had to pay to develop or acquire the technology from somewhere else.

While the *Georgia-Pacific* factors[30] include several that require the consideration of the value of those non-infringing components, in fact for a variety of reasons those components are undervalued.[31] Most notably, in *Fromson v. Western Litho Plate & Supply* the Federal Circuit simply rejected the very idea that a patentee's remedy should be apportioned based on the share of the value of the overall product the patentee contributed.[32] The district court there had quite reasonably concluded that the parties would have set a royalty rate based on the proportion of the value of the defendant's product that was "attributable to the invention." The Federal Circuit reversed, requiring that the award take the form of a percentage of the defendant's entire product sales, even if that exceeded the total profit the defendant made on the product.[33] Ignoring the other components that contribute to defendant's sales, as *Fromson* appears to require, is intellectually indefensible.[34] Not surprisingly, this approach has led to reasonable royalty rates that are decidedly unreasonable, and indeed that often exceed the defendant's total profit on a product even when that product was composed primarily of non-infringing components.[35]

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[30] *See, e.g.,* State Contracting & Eng. Corp. v. Condotte Am., 346 F.3d 1057 (Fed. Cir. 2003).

[31] For a detailed discussion of various reasons for this undercompensation, see, e.g., Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 **Tex. L. Rev.** 1575 (2007).

[32] 853 F.2d 1568 (Fed. Cir. 1988).

[33] *Id.* at __.

[34] It is also historically indefensible, as Bensen and White have demonstrated. *See* Bensen & White, *supra* note __, at [20-27].

[35] *See* Lemley & Shapiro, *supra* note __ (studying reasonable royalty determinations and finding an average royalty rate of 13.1%).

By contrast, some cases suggest that *Fromson* is wrong and that apportionment is permissible. *See, e.g.,* Riles v. Shell Exploration & Prod., 298 F.3d 1302 (Fed. Cir. 2002).

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Finally, and most dramatically, courts have occasionally simply increased the reasonable royalty award because they fear that it undercompensates a plaintiff that should in fact have been compensated with lost profits. *Panduit* is the most notable example.[36] In that case, discussed in Part I, the court affirmed the district court's rejection of plaintiff's lost-profits theory for hyper-technical reasons. Having done so, it proceeded to excoriate the district court for applying the normal reasonable royalty rules, and instead re-imported many of the concepts of lost profits, reasoning that the defendant would not have been able to make the sales at all but for the infringement, and therefore that the plaintiff was entitled to damages that far exceeded the 60% of the defendant's profit that the district court has awarded as a reasonable royalty.[37] While the Federal Circuit has rejected the express use of "kickers" to compensate patentees for attorney's fees,[38] the court has also approved of discretionary increases in the reasonable royalty designed to avoid undercompensation,[39] and there is reason to believe that courts continue to award relatively high reasonable royalties and to distort the concept of a hypothetical negotiation between willing buyers and willing sellers, in part to compensate plaintiffs who in a perfect world would have been able to prove entitlement to lost profits.

These distortions to reasonable royalty case law are problematic. While in theory a reasonable-royalty approach could achieve the goal of properly compensating non-practicing patent owners, Carl Shapiro and I have offered both reasons and evidence that in practice it

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[36] 575 F.2d at 1152.

[37] *Id.* at __.

[38] Mahurkar v. C.R. Bard co., 79 F.3d 1572, 1580 (Fed. Cir. 1996) (no "kicker" is permissible on top of the reasonable royalty to compensate for attorney's fees or litigation expenses; patentee must prove case is exceptional to recover such expenses).

[39] *See, e.g.,* King Instruments Corp. v. Perego, 65 F.3d 941, 951 n.6 (Fed. Cir. 1995) ("discretionary increases"); Stickle v. Heublein, Inc., 716 F.2d 1550, 1563 (Fed. Cir. 1983) (allowing for "an increase in the reasonable royalty determined by the court").

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systematically overcompensates patent owners in component industries.[40] Indeed, the situation has gotten so bad that some patentees who *can* prove lost profits elect instead to seek a "reasonable" royalty that is far in excess both of what the parties would have negotiated and of the actual losses the patentee suffered.[41] By importing compensation concepts from lost profits into the reasonable royalty context without importing the strict elements of proof, these courts have turned the reasonable royalty from a floor on patent damages designed to avoid undercompensation into a windfall that overcompensates patentees.

At least some, perhaps most, of that overcompensation can be traced to efforts in cases like *Panduit* to compensate practicing patent owners who should be entitled to lost-profits damages. There is no other possible explanation for giving a patentee a royalty based on convoyed sales, for example. And the problem threatens to get worse, not better: Legislation that nearly passed Congress in 2008 would have solved one of the problems I have identified – the fact that modern courts ignore the contributions of non-patented technologies and refuse to apportion damages – while cementing into the statute an equally serious problem – the misapplication of the entire market value rule in reasonable royalty cases. If non-manufacturing patent owners can capture the entire market value of a technology based on their invention of a single component, that overcompensation will encourage too much patent litigation by non-

[40] Lemley & Shapiro, *supra* note __, at __.

[41] *See, e.g.,* Monsanto Co. v. McFarling, 488 F.3d 973 (Fed. Cir. 2007) (awarding "reasonable royalty" damages of more than six times Monsanto's lost profits); Monsanto Co. v. Ralph, 382 F.3d 1374, 1384 (Fed. Cir. 2004) (approving a royalty which far exceeded the defendant's profit from infringement); Golight, Inc. v. Wal-Mart Stores, 355 F.3d 1327, 1338 (Fed. Cir. 2004) (the court upheld a reasonable royalty that exceeded the infringer's profits from the product). For a discussion of this issue, see, e.g., Amy Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 **Santa Clara L. Rev.** 307 (2006). The reader should be aware that I represent McFarling in *Monsanto Co. v. McFarling.*

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practicing entities, exacerbate the already-serious problem of royalty stacking, and discourage the sale of products that incorporate many components.

III. The Two Domains of Patent Damages

The purpose of both patent damages rules is ultimately the same – to compensate the inventor for losses attributable to the infringement – but they are directed at fundamentally different types of losses. Lost profits damages compensate patent owners who would have had partial or complete market exclusivity in the absence of infringement. To make those patent owners whole, defendants must be made to pay in many cases more than they made by infringing, since it is elementary economics that competition results in lower producer surplus than monopoly.[42] By contrast, reasonable royalty damages are designed to mimic the result that patentees not interested in or able to take advantage of market exclusivity would have achieved if they had been able to bargain with the infringers beforehand. To avoid encouraging infringement, the reasonable royalty calculus skews the damages award upward by making the counterfactual assumption that the bargainers would have known that the patent was both valid and infringed.[43] But the ultimate aim is not to mimic exclusivity, or to give patentees the full social value of their technology, but instead to set a rate that would have both compensated patentees and allowed users of the technology to make a reasonable profit, taking into account the other patents they must license and the other costs they must may to sell the product.

Unlike market exclusivity claims, patentees whose injury is in lost licensing revenue have no legitimate claim that they would have made or controlled the sale of unpatented components

[42] *See supra* note __.

[43] *Cf.* Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 **J. Econ. Persp.** 75 (2005) (noting the probabilistic nature of patent rights in practice); Janicke & Ren, *supra* note __, at __ (finding that patentees lose ¾ of patent cases).

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of the defendant's product or of "convoyed sales" of related products. Their compensation should be based on the value the patented invention actually contributes as a proportion of the defendant's product, taking into account the other patents, know-how, raw materials, and labor that also contribute to the value of that product and the existence of possible alternatives to the patented technology. Thus, a truly reasonable royalty is one that bases the patentee's damages on the merits of the incremental technical contribution of the patent.[44] The distortions I described in the last part occur because courts want to give patentees in the first category damages adequate to compensate for the loss of market exclusivity, and if lost profits are not available they import those market exclusivity concepts into reasonable royalty case law.

Congress has been considering reforming the damages statute in ways that would mandate application of this logical apportionment principle in reasonable royalty cases. Unfortunately – and surprisingly – that proposed reform has proven controversial, raising objections not just from patent trolls who want to lay claim to a disproportionate share of the defendant's product but also from industry groups (such as pharmaceutical companies) that in fact have nothing to fear from this reform. As a result, the bill actually passed in the House in 2007 blends the salutary apportionment ideas with a rule that would compel application of the

[44] Theoretically, that contribution could be zero if the patent is no better than available non-infringing alternatives. *See* John W. Schlicher, *Measuring Patent Damages by the Market Value of Inventions-The Grain Processing, Rite-Hite, and Aro Rules*, 82 **J. Pat. & Trademark Off. Soc'y** 503, 527-29 (2000). *Cf.* Roger D. Blair & Thomas M. Cotter, *Rethinking Patent Damages*, 10 **Tex. Intell. Prop. L.J.** 1, 74 (2001) (suggesting achieving the same result by creating a "patent injury" doctrine analogous to the "antitrust injury doctrine that requires a showing of causation before entitlement to relief); Julie Turner, Note, *The Nonmanufacturing Patent Owner: Toward a Theory of Efficient Infringement*, 86 **Cal. L. Rev.** 179, 186-93 (1998) (arguing that patent owners who are not injured should not be able to sue, and contending that those who do not practice or license their patents have not been injured). In practice, however, courts almost always award some royalty.

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entire market value rule in reasonable royalty cases.[45] That outcome might actually have been worse than no change at all, because it would have given patentees whose only injury is lost licensing revenue an incentive to argue for the value of components they had no hand in inventing or implementing.

Assuming Congress does not act to enshrine the entire market value rule in reasonable royalty cases, the courts have the power to fix the problem with reasonable royalty damages. To do so, courts (or Congress, should it decide to act) should expressly distinguish between damage theories appropriate in lost profits cases and those appropriate in reasonable royalty cases. Patentees whose harm is based on a lost of market exclusivity – those who could reasonably have expected to make additional sales, or sales at a higher price, absent infringement – should be entitled to lost profits damages. Patentees whose harm is lost licensing revenue, but who could not plausibly claim to have lost sales as a result of the infringement, should be entitled to reasonable royalties, but those reasonable royalties should be calculated based on what the market would actually have borne assuming infringement of a valid patent, and should not include kickers or the allocation of the entire market value to a patentee that only contributed part of that value.[46] Enforcing a strict divide between these groups should help to end the distortions of reasonable royalty damages that have contributed to the royalty stacking and patent holdup problems.

To make this strict divide work, courts will need to be more lenient than they have been in requiring proof of lost profits. It makes sense to require evidence that the patentee would in fact have made sales absent the infringement, if for no other reason than to deter undeserving

[45] H.R. 1908, 110th Cong., 1st Sess. (2007).

[46] A return to this approach would be consistent with Supreme Court precedent on the question. *See* Seymour v. McCormick, 57 U.S. (16 How.) 480, 490-91 (1853) (rejecting the idea that a patentee on a component is entitled to royalties equivalent to the inventor of an entire product).

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claimants from alleging that, but for the infringement, their failed company would in fact have become a market leader. But courts have too often been willing to allow technical failures of proof – a lack of detail in separating profits from costs, or insufficiently specifying market demand – to doom a claim for lost profits. They have also required proof that the patentee itself could have met the market demand, ignoring the prospect that a patentee could grant a territorially or product-limited exclusive license to another firm to pick up the slack.[47] They have imposed these requirements secure in the knowledge that the patentee would still be compensated by reasonable royalties. But under a strict divide approach, a patentee who can show that it is more likely than not that an infringer's sales cut into its own should be entitled to the court's best estimate of the patentee's lost profits. That estimate may not be perfect, but it is likely to be at least as accurate as the alternative reasonable royalty measure,[48] and will avoid distorting the reasonable royalty cases that are not brought by patentees claiming market exclusivity. Fortunately, this need not reflect a big change in Federal Circuit jurisprudence. There are a number of pre-*Rite Hite* Federal Circuit cases that find lost profits despite the difficulty of calculating profits or the uncertainty of a counterfactual world.[49]

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[47] *Cf.* Stephen M. Meurer & Suzanne Scotchmer, *Profit Neutrality in Licensing: The Boundary Between Antitrust Law and Patent Law,* 2006b **Am. L. & Econ. Rev.** __, http://socrates.berkeley.edu/~scotch/neutrality.pdf (suggesting ways patentees could structure royalties to both participate in the market and license others to fill remaining demand).

[48] Indeed, it is somewhat ironic that courts have insisted on strict compliance with the elements of proof of a lost-profits claim, given that the reasonable royalty alternative involves at least as much uncertainty and approximation. *Cf.* Riles v. Shell Exploration Co., 298 F.3d 1302, 1311 (Fed. Cir. 2002) (reasonable royalty calculus "necessarily involves some approximation of the market as it would have hypothetically developed absent infringement").

[49] *See, e.g.,* Standard Havens Prods. v. Gencor Indus., 953 F.3d 1360 (Fed. Cir. 1991) ("Evidence that shows a reasonable probability that the patent owner would have made the infringing sales made by the infringer will suffice . . . . Thus, the patent owner need not prove causation as an absolute certainty."); Del Mar Avionics, Inc. v. Quinton Instr. Co., 836 F.3d 1320 (Fed. Cir. 1987) (the district court erred because it "gave controlling weight to the difficulty of the calculation, and in so doing adopted a measure of damages that weas not designed to make whole the injured party.").

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With manufacturing patent owners (and those that have granted exclusive licenses to manufacturing firms) more clearly protected under the lost profits prong, the reasonable royalty measure of damages can return to its original role – as a means of ensuring that patentees aren't denied fair compensation for the value they could have demanded in a fair market for a nonexclusive license to their patent. It will also render largely irrelevant the question of whether reasonable royalties can exceed proven lost profits, and therefore end the growing practice of patentees opting for a distorted measure of royalties that is greater than the profits they actually lost.

IV. Conclusion

Patent damages are supposed to compensate patent owners for their losses, putting them back in the world they would have inhabited but for infringement. The lost profits analysis contains sophisticated economic tools to help courts calculate that but-for world. Unfortunately, the perfect has too often been the enemy of the good, relegating a number of lost profits cases to the rather less economically-sophisticated analysis of reasonable royalties. Worse, the importation of concepts from lost profits into reasonable royalty analysis, and the fear of undercompensating deserving patent owners that should have been able to prove reasonable royalties, has led to systematic distortions in the reasonable royalty structure that overcompensate non-manufacturing patent owners. Enforcing a strict separation between the two, and easing the burden of proof on lost profits, will enable both types of patent damages to serve the compensatory purpose for which they were intended.

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Oral Testimony of Taraneh Maghamé, Vice President, Tessera, Inc. Before the Senate Committee on the Judiciary Hearing on: "Patent Reform in the 111th Congress: Legislation and Recent Court Decisions" March 10, 2009

Chairman Leahy, Senator Specter, and Members of the Committee:

My name is Taraneh Maghamé and I am Vice President of Patent Policy and Government Relations Counsel at Tessera, Inc.

Tessera is like thousands of other small to mid-size companies across the United States whose technologies help make consumer products faster, better, and cheaper. Based in San Jose with offices in Charlotte, North Carolina, it is a publicly traded corporation with more than 400 employees. Since our founding in 1990 by three former IBM technologists, our core mission has been to develop innovative technologies, especially in the field of semiconductor packaging. If you have a cell phone that fits in your pocket, and takes decent pictures, you are using Tessera technology.

We invest a substantial amount of money in research and development. Nearly 300 of our employees are engaged in R&D. Last year we spent $61.6 million in R&D.

In short, Tessera is in the business of innovation, and its innovations have positively impacted millions of lives every day.

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None of this would have been possible without a strong patent system to protect our inventions and reward our innovators. We hold over 900 U.S. patents and patent applications. Maintaining a strong patent system is essential to our continued success.

The distributed innovation model that has made Tessera successful is not unique in our country. In fact, small companies generate most of America's innovation and employ more than 80% of its workers. Many of these companies would not exist but for a strong patent system, and cannot survive without a strong patent system.

Tessera supports improvements to our patent system, provided the changes strengthen the system and do not diminish the value of patents. We oppose legislation that, while well intended by its supporters, will diminish the value or enforceability of valid patents.

The most contentious part of the proposed legislation is how it would change the calculation of damages. I have three points to make on the damages section of the bill. First, the chief argument we hear for the change in damages law is that Congress needs to stop frivolous lawsuits that are based on bad patents. But bear in mind that damages are awarded only after a patent holder has proven, in court, that a patent is both valid and infringed. Patents that have been proven to be valid and infringed are the opposite of bad patents, and the lawsuits in which patent holders win are by definition non-frivolous. The proposed change does not cure the purported disease.

Second, we are told that Congress should step in because runaway juries are making extraordinarily large damages awards. This complaint is supported by anecdotes rather than any serious data. Patent cases make up about one percent of the cases filed in our

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federal courts. Ninety-five percent of the cases are resolved before trial. Professor Janicke's study shows that the median damages award over the past four years, in cases where an award is actually made after trial, is five million dollars. If all patent infringement cases resolved at trial are taken into account, this number drops to two million dollars, which is well below the average cost of the litigation -- five million dollars apiece. This is scarcely a national crisis.

The third, and most troubling, topic is the impact of the bill on the American economy. It is troubling that, in this time of grave economic uncertainty, Congress is looking to change the basic economic structure of our patent system, which today supports a highly beneficial component of the U.S. economy. Intellectual property strategy experts Mark Blaxill and Ralph Eckardt note in their recent book "The Invisible Edge," that thanks to America's high-performance innovation economy, protected by our patent system, the lion's share of the world's economic value generated by IP now flows to American companies and workers. American IP, all by itself, provides one of the strongest surpluses in the country's balance of trade accounts. For example, in 2007, America's IP exports -- that is, royalties and license fees we receive from overseas -- amounted to 62 billion dollars, which is three times larger than Japan's IP exports, which came in second at 20 billion dollars. And America's IP surplus was eight times the size of Japan's and twice the size of the combined surplus of every other country in the world with an IP trade surplus. The simple fact is that weakening our patent laws would cause a massive and irreversible transfer of wealth from the US to foreign manufacturers.

It is vital to understand that the interests of the U.S. economy are increasingly different from the interests of the world's largest global companies. Unlike giant multi-

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nationals, which can innovate anywhere in the world, the U.S. economy needs local innovation to thrive. And American innovation, far more often than not, occurs at small companies.

Many of the concerns that led some giant multi-national companies to call for a weakening of patent protections have been addressed by the Supreme Court and the Federal Circuit in recent years. In several key decisions, the balance of power between patent holders and patent users has shifted. Standards of patentability and patent rights and remedies have been tightened and narrowed.

The recent court decisions embody comprehensive patent reforms. We urge the Congress to allow the judicial reforms to ripen, and not to rush legislation before the full import of these decisions is understood.

In closing, Tessera, along with the Innovation Alliance, of which it is a founding member, has worked with and will continue to work with Congress to achieve reform that improves the quality, efficiency and procedural predictability of the US patent office. Our nation's economic recovery and continued global competitiveness depend upon a strong and predictable PTO. In our effort to provide constructive comment on this issue, we have made proposals to improve the patent office, including measures to enhance patent quality by devoting greater examination resources to complex applications and to improve the current *inter partes* reexamination system. We also believe the PTO should be empowered to forgive educational loans carried by its professionals in exchange for five years or more of service to improve retention rates. Investment in the PTO is an investment in America's economic future.

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In a world where innovation and intellectual property is more important and valuable than ever, Congress should be America's champion. We urge you to avoid passing legislation that would reduce the value or enforceability of U.S. patents, a vital component of our economic future.

Thank you.

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Prepared Testimony of Taraneh Maghamé,
Vice President, Tessera, Inc.
Before the Senate Committee on the Judiciary
Hearing on: "Patent Reform in the 111th Congress: Legislation and Recent Court Decisions"
March 10, 2009

Chairman Leahy, Senator Specter, and Members of the Committee:

My name is Taraneh Maghamé and I am Vice President of Patent Policy and Government Relations Counsel at Tessera, Inc., in San Jose, California. Tessera also has facilities in Charlotte, North Carolina, including a facility for manufacturing a variety of optics products and components. I deeply appreciate this opportunity to speak before you regarding the importance of the US patent system to my company and our innovation economy.

The Tessera Story

Tessera, a co-founder of the Innovation Alliance, is a small publicly-traded company that was founded in 1990 by three former IBM technologists. We currently have over 900 U.S. patents or patent applications. The company has become a leader in semiconductor packaging with its invention of chip-scale packaging (CSP) technology, now widely adopted by the semiconductor industry. This technology enables the packaging of a chip to be approximately the same size as the chip itself, allowing for electronics devices such as cell phones to become as small as they are today. None of this would have been possible without a strong patent system to protect our inventions and reward our innovators.

Today, Tessera continues to innovate in new areas as a result of strategic acquisitions and investment, particularly in the imaging and optics business. The company has quadrupled the size of its work force in the last three years to over 400 employees, nearly 300 of which are engaged in research and development. In 2008, we spent $61.6 million on research and development.

As a result of our heavy investment in R&D, we provide innovative technologies that are transforming next-generation wireless, consumer and computing products. Our packaging and interconnect solutions offer new levels of semiconductor miniaturization by enabling smaller, more fully featured electronic devices. Our imaging and optics solutions provide low-cost, high-quality camera functionality in electronic products, and include image sensor packaging, wafer-level optics and "smart" image enhancement technologies.

Tessera has a highly successful licensing program, under which it currently licenses technologies to over 60 companies. These companies manufacture a broad range of products. By choosing to make its technologies broadly available to a large number of

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practicing manufacturers, Tessera promotes the rapid and wide dissemination of industry-wide solutions that raise the general level of product performance while promoting interoperable designs and reusable solutions. In a world of proliferating technical complexity and widely distributed innovation, business models like Tessera's, which match highly specialized research and development with open licensing, increase efficiency and reduce transaction costs for multiple industries.

Tessera is in the business of innovation, and its innovations positively impact millions of lives every day. Maintaining a strong patent system is essential to our continuing success.

The distributed innovation model that has made Tessera successful is not unique in our industry. In fact, small companies generate most of America's innovation and employ more than 80% of its workers. Many of these companies would not exist but for a strong patent system, and cannot survive absent a strong patent system.

While this hearing's focus is on pending legislative proposals and the impact of recent court decisions on our patent system, allow me to provide a brief overview of why we at Tessera believe a strong patent system is so vital to our nation's economic well-being.

The Innovation Ecosystem

The US patent system has fueled economic growth for over two centuries and is now crucial to our country's economic recovery. A strong and predictable patent system fosters the collaborative development and funding required to transform basic research into commercially viable technologies and stable, high-paying jobs. According to a study by the Federal Reserve Bank of Cleveland, those states with the greatest percentage of patent ownership also enjoy the highest levels of income and economic prosperity.[1]

Tessera supports legislative and regulatory improvements to our Nation's patent system, provided the changes are aimed at strengthening our patent system and do not diminish the value of patents. However, we must oppose legislation that will diminish the value of patents, no matter how well intended.

It is troubling to many small technology companies that, at a time of such grave economic uncertainty, Congress would seek to fundamentally alter the economic structure of our Nation's patent system. We believe the proposed changes to the law of damages, in particular, would cause a massive and irreversible transfer of wealth from the United States to foreign manufacturers.

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[1] *See* Paul W. Bauer and Mark E. Schweitzer. *Paths to Prosperity: Knowledge is Key for Fourth District States,* Federal Reserve Bank of Cleveland (Aug. 2006), located at http://www.clevelandfed.org/Research/Commentary/2006/0815.pdf.

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In a recent op-ed in the New York Times (February 22, 2009), columnist Thomas L. Friedman wrote:

> As we invest taxpayer money, let's do it with an eye to starting a new generation of biotech, info-tech, nanotech and clean-tech companies, with real innovators, real 21st-century jobs and potentially real profits for taxpayers. Our motto should be, "Start-ups, not bailouts: nurture the next Google, don't nurse the old G.M.'s."[2]

A strong patent system that appropriately rewards innovation is needed to "nurture the next Google."

In a world where innovation and IP are more important and valuable than ever, Congress should champion America's small innovators and vigorously challenge any legislation that would diminish the value of the patents that help fuel that innovation. Sadly, some business advocates for reform seem to be inverting the truth surrounding innovation and intellectual property, arguing that patents themselves are an obstacle rather than a defender of innovation. However, our foreign competitors – those same countries that would benefit from a weakened U.S. patent system – recognize the importance of intellectual property to their economies. A February 25, 2009 NY Times article entitled "In Innovation, U.S. Said to Be Losing Competitive Edge," states:

> Some countries, including Singapore, Taiwan, Finland and China, are pursuing policies that are explicitly designed to spur innovation. These policies typically try to nurture a broader "ecology of innovation," which often includes education, training, intellectual property protection and immigration. This is in contrast to the industrial policy of the 1980s in which governments helped pick winners among domestic industries.[3]

While other countries increasingly recognize the danger of picking winners among their domestic industries and promote stronger intellectual property protections, in many instances looking to the American patent system as the "gold standard" and a model to be duplicated, some members of Congress continue to advance legislation that would diminish intellectual property protection for American small companies and start-ups.

This is not to say the current patent system is perfect. It is not. Our nation's economic recovery and continued global competitiveness depend upon a strong and predictable PTO. In our effort to provide constructive comment on this issue, we have made proposals to the Committee regarding how the patent office can be improved, including measures that would enhance patent quality by devoting greater examination resources to complex applications and improving the current *inter partes* reexamination

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[2] Thomas L. Friedman. *Start Up the Risk Takers.* The New York Times, 22 February 2009: WK10.

[3] Steve Lohr. *In Innovation, U.S. Said to Be Losing Competitive Edge.* The New York Times, 25 February 2009: B9.

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system. We also believe the PTO should be empowered to forgive educational loans carried by its examiners in exchange for five years or more of service, to improve retention rates. Investment in the PTO is an investment in America's economic future.

The Economic Case for a Strong Patent System

The U.S. economy is dependent on patents and other IP assets for stability and growth. According to the President's Economic Report, intellectual property accounts for 33 percent of the value of US corporations, with patents representing one-third of this value. In total, U.S. intellectual property is worth an estimated $5 trillion, which represents almost a third of our country's GDP. The IP component of the U.S. economy, which may be its largest sector, is greater in value than the entire GDP of any other nation.

IP strategy experts Mark Blaxill and Ralph Eckardt note in their recently published book, ***The Invisible Edge,*** that thanks to America's high-performance innovation economy, protected by our patent system, the lion's share of the world's economic value generated by intellectual property now flows to American companies and workers. American intellectual property, by itself, provides one of the strongest surpluses in the country's balance of trade accounts.

For example, in 2007, America's IP exports, that is, royalties and license fees we receive from overseas, were $62 billion – three times larger than Japan's IP exports, which came in second at $20 billion. And America's IP surplus was eight times the size of Japan's and twice the size of the combined surplus of every other country in the world that reported an IP surplus.

Intellectual property – the legal structure that captures innovation – is our nation's "Invisible Edge." In fact, American inventors have been responsible for half of the greatest inventions in history, such as steam engines, electricity, and integrated circuits. One of the factors that have greatly contributed to this inventive spirit is a long legal tradition that defends both personal and business property rights.

Increasingly, the interests of the U.S. economy are separating from those of world's largest global companies. The shift has been noted in policies concerning taxation, international trade, and now intellectual property protections. The role of these giant companies in orchestrating global commerce presents a fundamental challenge to America's innovation economy. Unlike giant multi-nationals, which can innovate anywhere in the world, the U.S. economy needs local innovation to thrive. American innovation, more often than not, occurs at small companies.

So why do we need to maintain a strong patent system?

Strong patent rights drive local job creation and income growth, particularly in sectors that offer skilled, well-paying jobs. Patent ownership is a key indicator in determining a state's income level vis-à-vis other states, followed by education and industry specialization. States with the highest level of patents per capita tend to have the highest income levels, while most lower-income states have very low levels of patenting

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per capita. A strong patent system is transformative in its ability to fuel local investments in knowledge-based industries and revitalize struggling state and regional economies.

Strong patent rights drive technology transfer and private capital investments in home grown innovative technologies. Strong patent rights facilitate and encourage technology sharing among universities, national laboratories and private firms. Patent-fueled technology transfer and investments are particularly critical to emerging fields such as biotechnology.

Strong patents rights are also critical to the competitiveness and survival of our domestic manufacturing sectors. Patents facilitate "disruptive" innovation within established industries, empowering smaller firms to force technological change within manufacturing and other traditional sectors, and encouraging incumbents to improve existing product lines and business units.

Given the change in policy direction here in Washington, more attention is being given to green technology and the need to invest in that sector. Strong patent rights fuel investments in, and commercialization of, alternative energy and other sustainable green technologies. Patent rights also encourage established manufacturers to invest in green technologies to improve existing product lines and business units.

We all recognize the need to reduce our dependence on foreign oil and make our nation energy independent by adopting the use of renewable energy and energy-efficient technologies – what we call "clean-tech." Clean-tech is the fastest growing sector of venture investment and the venture capital community that led the way in high-tech and biotech is now poised to lead the way in new clean technologies. The companies that are truly taking the risk in developing the new frontier for innovative ideas are the venture-backed and other small innovators. Thus, we should strive to make sure that our clean-tech future, and the future of American innovation, is not harmed by any unintended consequences of misguided patent reform.

Small innovative firms produce proportionately more, higher quality patents than large firms, and they rely more heavily on patents to protect their innovations. Patents also empower small firm innovators to build new businesses around emerging fields of technology, which might otherwise be ignored by large firms.

Recently, the Chief Judge of the United States Court of Appeals for the Federal Circuit gave the keynote address at a Federal Trade Commission hearing at which he opined on the negative consequences of getting patent reform wrong. He said: "Is it too much to ask that our reforms not only promote innovation, but also promote job creation and avoid job loss and promote stock values going up instead of precipitously down?"[4]

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[4] The Honorable Paul R. Michel, Chief Judge, Court of Appeals for the Federal Circuit, Keynote Address Before The Federal Trade Commission Hearing on "The Evolving IP Marketplace." [http://www.ftc.gov/bc/workshops/ipmarketplace/dec5/081205transcript.pdf],December 5, 2008.

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With this background, permit me to turn to a discussion of the concerns Tessera has with S.515, "The Patent Reform Act of 2009" and, in particular, the sections of the bill dealing with the calculation of damages and post-grant opposition. It should be noted that other industries share Tessera's concerns with these provisions. These concerned stakeholders include: agriculture, alternative energy, biotechnology, chemical, computer hardware, computer software, computer networking, financial services, food/beverage, green tech, health care, heavy industry, life sciences, manufacturing, medical devices, material science, nanotechnology, optics, security, startup incubation, telecommunications, venture capital, and Internet-based businesses.

Damages and Post-Grant Opposition

As the Committee is well aware, Section 4 of the patent bill, which changes how damages for infringement are calculated in reasonable royalty cases, has been the most contentious part of the proposed legislation. Industry advocates for a reformulation of reasonable royalty damages rules assert that it will prevent frivolous assertions. Despite all the anecdotes, no serious data has been provided to date to support this claim. While patent litigation – like any high-stakes commercial litigation – is often expensive, the costs incurred by alleged infringers pale in comparison to the billions of dollars that American companies invest each year to further innovation in reliance on the belief that their hard work and creations will be protected by strong and fair patent laws.

But is there really a damages problem? Damages awards have been largely consistent for more than a decade, according to a PriceWaterhouseCoopers 2008 Patent Litigation Study[5]. Also, University of Houston Law School Professor Paul Janicke's survey of patent infringement cases filed since 2005 demonstrates that there is no pattern of runaway jury verdicts in patent cases. It also confirms that trial judges routinely review verdicts and set aside awards that are not supported by the evidence. These conclusions are supported by numerous other studies and articles, including those by Harvard Law School Professor Einer Elhauge and patent law expert William C. Rooklidge.[6]

Professor Janicke performed a comprehensive analysis of patent infringement cases filed for the period from January 2005 through January 2009 and verdicts issued in that time period. His analysis shows:

- 86% of the cases settle before trial.
- Taking into account only cases in which an award is issue, the median award is about $5-6 million.
- Taking into account all cases that go through trial, including those that result in no recovery, the median award is less than $2 million.

[5] PriceWaterhouseCoopers, *2008 Patent Litigation Study.*

[6] Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. Competition L. & Econ. 535 (Sept. 2008); William C. Rooklidge, *"Reform" of Patent Damages: S.1145 and H.R.1908.*

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Another study by Prof. Janicke in 2007 based on the 93 jury verdicts issued in patent infringement cases between January 2005 and November 2007 shows:

- In 22 of the 93 cases, the jury returned verdicts of no damages.
- In 13 of the 93 cases, the jury found monetary damages of $500,000 or less.
- In 47 of the 93 cases, the jury found damages of $2,000,000 or more.

Of the 47 patent cases where the jury found damages of $2,000,000 or more:

- In 1 case the parties had stipulated to the amount of damages.
- Of the remaining 46 verdicts, in 9 cases the damages were based on a calculation of lost profits.
- Of the remaining 37 verdicts, in 9 cases the damage verdict was set aside by the trial judge or on appeal.
- Of the remaining 28 verdicts, in 3 cases the trial judge found the damages awarded were not supported by the evidence.
- Of the remaining 25 verdicts, in 4 cases the trial judge increased the damage award based on the defendant's willful infringement.
- The remaining 21 verdicts were still under review, either at the trial court or on appeal.

Prof. Janicke's data illustrates that despite arguments made by proponents of damages reform, there is no pattern of runaway jury verdicts or exorbitant damages awards. Furthermore, judges review awards where necessary, as with the $1.5 billion jury award in the *Lucent Technologies v. Gateway* case, and set aside the verdict where appropriate.

In addition, in a pending appeal of *Lucent Technologies v. Gateway*, the Federal Circuit has been asked to rule on the same damages issues addressed in the proposed legislation. The Federal Circuit is, of course, the expert body created by Congress with exclusive jurisdiction to hear appeals in patent matters. We believe the legislative process will benefit from waiting until the Federal Circuit has rendered a decision in the *Lucent* case.

The Committee has heard, and will continue to hear, from the large companies pressing for damages legislation about the need for "predictability." But their desire for predictability needs to be balanced against other values: fairness, flexibility, and maintaining confidence in the ability of innovators to recoup their investments. Dismantling the long-established framework for calculating reasonable royalties at trial will encourage infringers, and perhaps even existing licensees, to reject negotiated, market-

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based royalties. It will weaken the value of patents generally and unfairly advantage large companies looking to acquire a smaller innovators property.

"Apportionment" of Reasonable Royalty Damages

Critics of *Georgia Pacific*[7] (the leading case on reasonable royalty damages) are fond of suggesting that a 40 year old judicial decision must be outdated given the tremendous changes in technology that have since occurred. In reality, however, *Georgia Pacific* simply restated the basic principles and methodology that have historically guided courts in matters of patent damages. In addition, the court enumerated the types of factors that may be relevant to a patent's market value when calculating compensatory damages, while emphasizing the non-exhaustive nature of the list and the need for judicial discretion in all cases.

At their core, the rules articulated in *Georgia Pacific* are rooted in well-established (and arguably incontrovertible) legal and economic principles of compensatory damages generally – i.e., the same principles that govern damages in other contexts. Foremost among these is to restore the injured party, as nearly as possible, to the position he or she would have enjoyed had it not been for the wrong of the other party. The injured party's *ex ante* position is measured in terms of "market value" – i.e., the established exchange value of the property or, if no established value exists, the amount that would have been negotiated by a willing buyer and seller immediately prior to the trespass.[8]

Consistent with basic tenets of compensatory damages and market valuation, the court in *Georgia Pacific* cited three cornerstones of patent damages law:

1. Damages must place the patent holder in at least the same pecuniary position as it would have been in had the patent not been infringed -- i.e., the reasonable royalty that a the patent user would have paid for the use made of the invention;
2. To achieve that result, damages should reflect the royalty a willing licensor and licensee would have negotiated immediately prior to the commencement of the infringement, with both parties assuming the patent to be valid, enforceable and infringed absent a license (i.e., the "willing buyer/willing seller" paradigm used to assess the market value of any asset); and
3. Given the multiplicity of factors that may be relevant to a reasonable royalty, courts and juries must be given the discretion and flexibility to consider any and all evidentiary factors that would have been deemed relevant by the parties in a hypothetical negotiation and to determine the respective weight to be given each such factor.

When taken as a whole, these principles aim to uphold the property rights embodied in a patent and to ensure that reasonable royalty damages are sufficient to safeguard those rights. These rules are not, as some would suggest, unique to patent law or easily

[7] 318 F. Supp. 1116 (S.D.N.Y. 1970).

[8] *See, e.g., United States v. Hatahley,* 257 F.2d 920 (10th Cir. 1958), cert. denied, 358 U.S. 899 (1958).

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susceptible to radical change. Indeed, the tried and true principles that underlie *Georgia Pacific* and patent damages law generally are so firmly grounded in our legal system that it would be difficult to justify any significant departure without acknowledging an effort to transform patent rights into something far different, and far less valuable, than the nation's founders intended.

The so-called "apportionment" proposals would unquestionably diminish the value of U.S. patents – indeed, reducing patent value is the principal goal of apportionment. Although there are marginal differences between the various versions of apportionment introduced in this and previous congresses, each proposal (including the damages amendment included in S.515) has aimed to reduce reasonable royalty damages according to novel rules of patent valuation. The proposed apportionment test would assess damages according to the patent's incremental benefit to the patent user, as measured by the invention's "specific contribution over the prior art". As a result, reasonable royalty damages would no longer compensate the patent holder for the full extent of its losses (as historically measured by the market value of lost royalties), let alone discourage infringement. Without the prospect of meaningful damages, a patent would confer something less than a property right and cease to function as an effective incentive to invest in and commercialize disruptive technologies.

The distinction between our system of compensatory patent damages and the proposed apportionment rule is more than theoretical. As a historical matter, apportionment of profits was a form of equitable remedy that gained acceptance in the 19th century due to the then-existing division between courts at equity and law. The concept of mandatory apportionment was abandoned by Congress in 1946 because of the gross inefficiencies and inequities that it had caused. Were mandatory apportionment to be resurrected in the form proposed in previous patent bills, the impact on patent holders and the U.S. economy would be significant and indefensible.

According to a recent study conducted by Dr. Scott Shane of Case Western Reserve University, the proposed apportionment amendment would reduce the value of U.S. patents by as much as $85.3 billion; reduce R&D expenditures by up to $66 billion per year; and potentially cost the U.S. economy 298,000 manufacturing jobs.[9] Beyond these effects, an apportionment-based damages regime would inject tremendous uncertainty and instability into our patent system, at a time when U.S. firms can ill afford further upheaval. Uncertainty and instability are forces that unquestionably discourage investments in the commercialization of new technologies, decreasing competition across new and old industries alike.

Advocates of apportionment have yet to substantiate allegations of excessive royalties or unfair damages awards. To the contrary, patent litigation studies reveal that median damages awards have, year after year, remained fairly stable.[10] Although jury trials are more likely to result in large damage awards than bench trials, federal judges do not

[9] Scott Shane, *The Likely Adverse Effects of an Apportionment-Centric System of Patent Damages* (2009).
[10] PriceWaterhouseCoopers, *2008 Patent Litigation Study.*

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hesitate to overturn or reduce excessive jury verdicts. With few exceptions, the largest jury verdicts awarded each year are typically reduced or overturned on appeal, as in the *Lucent* case.[11]

In several public statements, including in a letter to this Committee dated June 13, 2007, Chief Judge Paul R. Michel of the Federal Circuit expresses his surprise at the perceived need for reforms implementing the "apportionment" methodology:

> Under current practice, apportionment of damages is infrequently invoked. Present law requires the accused infringer to establish a basis for such apportionment. It is attempted in only a limited number of cases and successful in still a smaller number of cases.

In his letter, Chief Judge Michel proceeds to outline the innumerable problems and delays that would result from the proposed changes to damages calculations. Clearly, such a risk is not worth taking in this difficult economic climate, simply in response to anecdotal evidence presented by the proponents of damages reform – companies that will benefit from a weakened patent system.

Furthermore, there is no credible evidence to suggest that existing damages rules are forcing large manufacturers to submit to the frivolous settlement demands of non-practicing entities. Patent damages rules are based on the same principles that underlie compensatory damages generally; thus, the risks of inflated settlements are no greater in patent negotiations than in the context of any other commercial dispute. Such claims seem particularly implausible in the wake of *eBay, KSR, Bilski* and other cases that have significantly undermined the ability of non-practicing entities to enforce "trivial" or otherwise questionable process patents.

Post-Grant Opposition

KSR and *Bilski* are expected to produce a wave of validity challenges in the courts and at the USPTO. These decisions have also engendered confusion and uncertainty as to the statutory standards that govern patentability, a situation that will further increase litigation costs, whether judicial or administrative.

The proposed post-grant opposition ("PGO") system would further exacerbate this upsurge in the prevalence and costs of litigation, particularly when combined with an expanded *inter partes* reexamination process that lacks existing safeguards against abuse. The proposed hybrid PGO/inter partes system would (i) unleash a wave of administrative litigation with many of the costs and complexities of judicial litigation, (ii) invite serial and harassing validity challenges throughout the life of a patent, and (iii) effectively eliminate the statutory presumption of validity essential to a patent's enforceability. . Such a system, when combined with recent judicial patent decisions, would further weaken and destabilize patent rights and increase dramatically the risks and costs of patent ownership. As a

[11] Innovation Alliance, *Moving beyond the Rhetoric, Jury Damage Verdicts in Patent Infringement Cases (2005-2007).*

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practical matter, small innovators would, as a result, find it increasingly difficult to attract the capital investments necessary to fund R&D and commercialization efforts, and to bring patent users to the negotiating table.

Beyond these ill effects, PGO would further strain the resources of an already over-burdened and under-funded USPTO. Even the USPTO has acknowledged that PGO in the form proposed last Congress would overwhelm its offices with a wave of opposition challenges. Until the effects of *KSR*, *Bilski* and other cases are fully known, it would be far more prudent to focus on improvements to existing *inter partes* reexamination procedures without creating an extremely costly opposition system.

Ongoing Litigation & Recent Patent Decisions

When the patent legislation of today was first being discussed in 2005, advocates for far-reaching changes to patent law argued that the patent system was out of balance, with lax standards that yielded weak or overly broad patents and harsh remedies that gave so-called patent speculators too much bargaining power. Since that time, a series of U.S. Supreme Court and Federal Circuit decisions have unquestionably changed major areas of the law and shifted the balance of power between patent holders and users, tightening standards of patentability and narrowing patent rights and remedies. Tessera urges Congress and the Administration to consider carefully the impact of these decisions, once sufficient time has passed for their full effect to be known, before enacting any legislation that will further decrease the value or enforceability of patents.

Due to recent court decisions, it is now more difficult for innovators to obtain and enforce patent rights (particularly in the case of software and business methods), and even after winning at trial, to secure injunctive relief and enhanced damages. At the same time, recent Supreme Court and Federal Circuit decisions have considerably improved the litigation landscape for patent users. Not only is it easier for patent users to defend against infringement claims and remedies, users are better able to avoid venue in the Eastern District of Texas and other districts that lack a meaningful connection to the case.

Collectively, these judicial decisions have addressed virtually all of the substantive issues that originally led Congress to consider patent legislation, including injunctions, willfulness, venue and patentability standards. When viewed as a whole, the decisions represent the most comprehensive line of court-led patent reforms in decades.

Permit me to briefly summarize each of the key decisions in recent years and then turn to the question facing policy-makers: do these decisions remove or substantially diminish the policy rationale for legislative reform.

SUPREME COURT CASES

eBay v. MercExchange (2006): Injunctive Relief

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The Supreme Court's decision in *eBay v. MercExchange*[12] marked the beginning of a period of judicial attention to patent law that has altered many of the substantive standards that underlie patent rights and remedies, in each case shifting the legal balance against patent holders. In *eBay* the Court decided that, despite the patent holder's unquestioned statutory right to exclude, a permanent injunction should not issue as a matter of course following a final finding of infringement liability. The Court held that a permanent injunction is an equitable remedy and thus, before a patent holder can obtain such remedy, it must satisfy the same four part test for equitable relief that applies in other areas of the law. This test requires a plaintiff to demonstrate that (i) it has suffered an irreparable injury, (ii) remedies available at law are inadequate to compensate for that injury, (iii) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted, and (iv) the public interest would not be disserved by a permanent injunction.

The Supreme Court rejected the Federal Circuit's "categorical rule" favoring a grant of permanent injunctive relief following a verdict of infringement because such a rule failed to recognize the lower court's equitable discretion to deny relief on the basis of the four-part test. Notably, the Court was equally hostile to categorical rules disfavoring injunctive relief based on broad classifications, including a patent holder's decision to license its patents. But despite the clear admonition of the Supreme Court, some lower courts have interpreted *eBay* in a manner that arguably replaces one categorical rule, favoring the grant of permanent injunctive relief against infringers, with another, namely, one that has made it far more difficult for non-manufacturing patent holders to obtain injunctive relief of any nature.

In the process, *eBay* threatens to increase significantly the prevalence of court-imposed and -administered compulsory licenses that force patent holders to permit ongoing use of an invention by a proven infringer. Because Congress and the courts have long recognized the innovation-chilling effects of compulsory licenses, our patent laws have historically disfavored market distorting measures of this type. Following *eBay*, however, courts that deny permanent injunctive relief to certain categories of patent holders may be tempted to impose compulsory licenses. [Moreover, even if a court does not affirmatively grant a compulsory license, its refusal to enjoin ongoing infringement arguably has the same effect.] Should such a trend emerge, it would greatly diminish the value of U.S. patent rights for broad sectors of the innovation economy and encourage foreign governments to "break" U.S. patents through even more expansive compulsory licensing mandates.

MedImmune v. Genentech (2007): Declaratory Judgment Actions by Licensees

In *MedImmune, Inc. v. Genentech, Inc.*[13], the Supreme Court held that a licensed patent user's declaratory judgment action challenging the validity and enforceability of a licensed patent satisfies the case-or-controversy requirement for subject matter jurisdiction under the U.S. Constitution, even though the patent user has continued to make royalty

[12] 547 U.S. 388 (2006).
[13] 549 U.S. 118 (2007).

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payments. Under previous Federal Circuit precedent, the licensed patent user was required to stop royalty payments and breach the license agreement to meet the case-or-controversy requirement. This again is a major change in the law and tips the scales considerably in favor of the patent user. Additionally, it reduces the stability normally associated with arm's length negotiated license agreements and provides incentive to licensed patent users to litigate without risk. Uncertainty will now prevail over the life of the license agreement, and more lawsuits will be filed.

The Federal Circuit further diminished legal incentives to negotiate a voluntary license in lieu of litigation when it subsequently applied *MedImmune* to licensing negotiations. In *SanDisk Corporation v. STMicroelectronics Inc.*[14] the court held that when a patent holder notifies a patent user that certain planned or ongoing activity will infringe the patent holder's rights absent a license, and the patent user disputes the need for a license, an actual case or controversy will arise sufficient to support a declaratory judgment action. Thus, a prospective licensee need not risk an infringement suit by engaging in the accused activity before initiating a declaratory judgment suit.

KSR International v. Teleflex (2007): Non-Obviousness

In *KSR International Co. v. Teleflex Inc.*[15] the Supreme Court altered the objective patentability test of obviousness which had been used by the USPTO and federal courts for two decades. The test was, and is still believed by many to be, necessary to avoid the inappropriate application of 20/20 hindsight to obviate non-obvious, and otherwise patentable inventions. Prior to this decision, in order for an invention to be considered obvious over prior art documents, the so called "teaching, suggestion, or motivation ("TSM")" test had to be met. In order to meet this test, one of the prior art documents had to expressly state or suggest that the technical content of the other documents could be combined to make the invention for which a patent was being sought.

Characterizing this objective test of obviousness as too rigid, the Court held that a more flexible "functional approach" to resolution of an obviousness issue was more appropriate. This new approach generally requires a deeper analysis of what the qualifications of a person of ordinary skill in the art are, and then a more subjective inquiry as to whether or not such a person would consider the invention a predictable variation of the prior art solutions. Other additional and more subjective factors required to be considered are effects of demands known to the design community or present in the market factors, and whether the combination of elements constituting the invention was "obvious to try" by such a person.

Experts have predicted that *KSR* will lead to a sharp increase in validity challenges by patent users, as well as significant uncertainty as to the fate of patents granted under the previous obviousness test.

Microsoft v. AT&T (2007): Section 271(f) of the Patent Act

[14] 480 F.3d 1372 (Fed. Cir. 2007).
[15] 550 U.S. 398 (2007).

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In *Microsoft Corp. v. AT&T Corp.*[16] the Supreme Court held that the exportation of a master disk with embedded software, which is subsequently copied onto computers in a foreign country, does not constitute the infringing supply of components for a patented invention, in violation of Section 271(f) of the Patent Act. Section 271(f) imposes infringement liability for supplying from the United States components of a patented invention to be assembled abroad, if such a combination in the United States would infringe the patent. The Federal Circuit had adopted an expansive view of Section 271(f), holding that the exportation of a software master disk satisfied both the "components" and "supply" prongs of the statute. The Supreme Court reversed, ruling that software *per se* cannot be considered a component. Moreover, because the copies of Windows software that were actually installed on the computers were made overseas, they were not supplied "from the United States" as required for liability under Section 271(f). Thus, Microsoft could not be held liable for damages based on the making and selling of foreign-assembled computers.

A narrow interpretation of Section 271(f) will have the greatest impact on patent holders that lack the financial resources to secure foreign patents, namely independent inventors, small firms and universities, among others. A significant foreign patent portfolio will now be required to realize full recovery of investments in innovation.

Quanta Computer v. LG Electronics (2008): Patent Exhaustion

The Court's decision in *Quanta Computer, Inc., et al. v. LG Electronics, Inc.*[17] is notable in two respects: (i) it extended the patent exhaustion doctrine to method patents, and (ii) it held that the authorized sale of a patented product triggers exhaustion, notwithstanding contractual provisions by sophisticated parties to the contrary, even as to patents covering the combination of that product with other components, when the authorized product substantially embodies the "essential" or "inventive" features of the patented invention. LGE had licensed several of its process patents to Intel for the purpose of making, using and selling microprocessors and chip sets. Intel subsequently sold the products to Quanta, which then combined them with non-Intel parts in order to make computers. LGE sued Quanta for patent infringement, citing a stipulation in the Intel license agreement that that no license was granted to any third party to combine non-Intel parts with Intel products made under the license.

The Supreme Court held that because Intel was authorized to sell its products to Quanta, the doctrine of patent exhaustion prevented LGE from further asserting its patent rights with respect to the patents substantially embodied by those products. The Intel products embodied the essential features of the LGE patents because they carried out all of the inventive processes when combined, according to their design, with standard components. The Court further reversed the Federal Circuit's holding that exhaustion does not apply to method patents. The Court observed that while a patented method may not be sold in the same way as an article or device, methods nonetheless may be embodied in a

[16] 550 U.S. 437 (2007).
[17] 128 S. Ct. 2109 (2008).

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product, the sale of which exhausts patent rights. Significantly, the LGE license agreement did not preclude exhaustion because it merely denied a license to third parties that combine non-Intel parts with Intel products. As a result, the stipulation did not affect the legality of Intel sales, which effectively exhausted LGE's rights to prevent downstream sales.

By expanding the patent exhaustion doctrine, *Quanta* further restricts a patent holder's ability to enforce its rights against downstream users. More broadly, *Quanta* is now being cited in some quarters as justification for amended damages rules that would value reasonable royalties according to a patent's "essential" or "inventive" features, comparable to the "prior art subtraction" test proposed in previous legislation. This argument has no merit and reflects a fundamental misunderstanding and misapplication of the *Quanta* decision. Neither *Quanta* nor the Court's discussion of a patent's essential features has any bearing on reasonable royalty valuation rules. Instead, *Quanta* addresses a completely different inquiry, namely the point at which downstream patent users should be free to engage in commercial transactions involving patented products without any liability to the patentee. The patent exhaustion doctrine ensures that once a patent holder has authorized the sale of a patented product (and presumably received a negotiated royalty), subsequent patent users in the value chain are exempt from further payment obligations. The doctrine has nothing to do with infringement remedies generally or rules for calculating damages when product sales are unauthorized and a royalty has not been paid.

FEDERAL CIRCUIT CASES

In re Seagate Technology (2007): Enhanced Damages for Willful Infringement

In *In re Seagate Technology*[18] the Federal Circuit overruled its much-criticized decision in *Underwater Devices Inc. v. Morrison-Knudsen Co.*[19], which held that an alleged patent user has an affirmative duty of care to determine whether or not he is infringing, including an obligation to obtain opinion of counsel. In lieu of this negligence-based standard, the court adopted a heightened willfulness standard based on an objective recklessness test. Under the *Seagate* standard, a patent holder must show by clear and convincing evidence that the patent user acted despite an objectively high likelihood that its actions constituted infringement of a valid patent. The patent holder must also show that this objectively-defined risk was either known or so obvious that it should have been known to the patent user. Asserting the advice-of-counsel defense and disclosing opinions of opinion counsel do not constitute waiver of the attorney-client privilege for communications with trial counsel. Relying on opinion counsel's work product does not waive work product immunity with respect to trial counsel.

By significantly elevating the standard for proving willful infringement and reemphasizing that there is no affirmative obligation to obtain an opinion of counsel, *Seagate* obviates any need to legislate in this area. The decision makes it more difficult for patent holders to successfully obtain enhanced damages for willful infringement; any

[18] 497 F.3d 1360 (Fed. Cir. 2007).
[19] 717 F.2d 1380 (Fed. Cir. 1983).

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further restrictions could undermine the legitimate deterrent effect of the willfulness doctrine.

In re Bilski (2008): Subject Matter Eligibility

The Federal Circuit's much-anticipated decision in *In re Bilski*[20] narrowed the scope of patent-eligible process claims and, in particular, the business methods that many critics view as the principal culprit behind abusive litigation practices. Although *Bilski* falls short of resurrecting a categorical exclusion for business methods and software-related inventions (as critics of the *State Street Bank* case[21] hoped that it would), it casts a cloud over the continued validity of issued patents of these types and erects a much higher bar for new and pending applications.

Bilski involved a claimed method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price. The patent examiner had rejected all claims in the application as not being directed to patent-eligible subject matter under Section 101 of the Patent Act, and the Board of Patent Appeals and Interferences had sustained that rejection. In an en banc hearing, the Federal Circuit affirmed the Board's decision, holding that the claims failed to satisfy either prong of the "machine-or-transformation" test, which it deemed to be the governing test for determining patent eligibility.

The court held that a process is patent-eligible subject matter only if (i) it is tied to a particular machine or apparatus, or (ii) it transforms a particular article into a different state or thing. The "useful, concrete and tangible result" inquiry was deemed to be an inadequate test for determining eligibility. Moreover, even if a claim recites a specific machine or a particular transformation of a specific article, the recited machine or transformation must not constitute mere insignificant post-solution activity. Thus, *Bilski* throws into doubt the validity of claims to business methods that are implemented by a general purpose computer.

In re TS Tech (2008): Venue

In *In re TS Tech*[22], patent holder Lear Corporation had filed a patent infringement suit in the Eastern District of Texas against the TS Tech entities, even though neither it nor any of the defendants were incorporated in Texas or had offices there. Nevertheless, Lear claimed venue on the grounds that the patent user's products were sold in the Eastern District of Texas. Consistent with past decisions in which product sales were deemed sufficient to honor patent holder's choice of venue in the Texas "rocket docket," the district court denied defendants' motion to transfer venue.

The Federal Circuit reversed and directed the lower court to transfer venue to Ohio, where two of the TS Tech entities were incorporated and based. The court held that the

[20] 545 F.3d 943 (Fed. Cir. 2008).
[21] 149 F.3d 1368 (Fed. Cir. 1998).
[22] Misc. No. 888 (Fed. Cir. 2008).

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lower court had erred in giving inordinate weight to the patent holder's choice of venue. Among other considerations favoring venue in Ohio, including the fact that all physical evidence was located there, the court noted that there is no relevant connection between the actions giving rise to the case and the Eastern District of Texas, except that certain accused products of the patent user were sold in the venue. The court observed that such products are sold throughout the U.S.; thus, citizens of the Eastern District of Texas have no more or less of a meaningful connection to the case than citizens of any other venue.

TS Tech establishes a more conservative approach to patent venue rules, in which less deference will be given to patent holders' venue choices when there is an absence of any meaningful connection to an infringement case. As such, the case addresses the criticism that the venue rules fail to provide a meaningful check against forum shopping by patent holders. Of particular significance is the Federal Circuit's decision that products sales are, in the absence of other relevant connections, insufficient to support venue in the patent holder's chosen venue. Because many (if not virtually all) patent infringement cases are filed in the Eastern District of Texas on that basis alone, *TS Tech* could facilitate the transfer of actions from this controversial rocket docket and discourage new suits from being filed in the first place.

SHIFTING FOCUS IN THE WAKE OF JUDICIAL PATENT REFORM

It is imperative that each of these cases be further analyzed to assess its individual impact, as well as the aggregate effect when considered as a whole or in conjunction with proposed legislation. Individually, these decisions, each of which shifted the balance of rights and remedies in favor of patent users to the detriment of patent holders, have addressed virtually all of the substantive issues that originally prompted calls for patent legislation, including injunctions, willfulness, venue, and standards relevant to the patent-eligibility of claims and validity of issued patents.

As for remaining priorities, the courts are obviously not positioned to address the USPTO's resource constraints and operational deficiencies, which have diminished the overall quality, predictability and efficiency of pre-grant patent examination processes. These problems merit urgent attention and should be the focus of current patent reform efforts.

Is Legislation Needed?

The impact of *eBay* was quickly felt by non-manufacturing entities that concentrate on R&D and technology transfer. In the post-*eBay* world, patent holders of this type, which are among our most prolific and productive innovators, have had little success in securing injunctive relief. As a result, the value of their patents has already diminished, as has their ability to secure capital investments and negotiate voluntary licenses.

In a case where permanent injunctive relief is denied, reasonable royalty damages are typically the patent holder's only viable remedy against infringement, and its only opportunity to secure downstream value in exchange for the upfront investments made by

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investors and inventors alike. For these and other patent holders to remain viable and competitive, it is imperative that patent damages rules aim to achieve (as they currently do) the overarching goal of compensatory damages generally, namely to make the patent holder whole based on a market valuation of its losses. Any lesser measure of damages would devalue patents and deprive patent holders (and their investors) of the incentives needed to make risky bets on innovative technologies and products.

Critics will counter that despite the above decisions, legislation is still needed to address "inflated" damage awards and expand administrative opportunities to challenge issued patents. However, advocates of "apportionment" have never provided any hard evidence to justify such a radical departure from deeply rooted principles of compensatory damages, let alone the wholesale devaluation of patent rights. Similarly, proponents of a new post-grant opposition system have yet to explain how the USPTO will effectively manage a European-style system of administrative litigation on top of an already crushing backlog. As discussed in greater detail above, the clear intent behind the legislative proposals on damages and post grant is to diminish the value and enforceability of patent rights, to further shift the legal balance in favor of the patent user, and against the patent holder. The prospect of fundamentally weakening the U.S. patent system – formerly the envy of the world – would be problematic and unprecedented at any time in our history. However, at a time when the United States is in the grip of an ever-deepening recession, such legislation would be a disastrous blow to our innovation economy.

In conclusion, much has changed since patent legislation was first introduced in 2005. The Supreme Court and Federal Circuit have reshaped the patent landscape in a manner that has both strengthened the bargaining position of patent users and, in the process, created a far less predictable terrain for patent holders. The marketplace must be given an opportunity to adjust and apply these decisions. Beyond the legal changes, the current economic crisis has imposed an additional layer of uncertainty that threatens to chill investments in innovation. As in other sectors of the economy, what is urgently needed is a patent stimulus plan, one that preserves the fundamental strength of patent rights and remedies while improving the fairness and efficiency of pre-grant examination processes.

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Statement of the
NATIONAL ASSOCIATION OF REALTORS®
To the Senate Judiciary Committee
Hearing on Patent Reform Act of 2009
March 10, 2009

On behalf of the 1.2 million members of the NATIONAL ASSOCIATION OF REALTORS®, we are pleased to submit this written statement in support of S. 515, the Patent Reform Act of 2009. The NATIONAL ASSOCIATION OF REALTORS® represents a wide variety of real estate industry professionals. Realtors® are industry innovators who understand that more and more consumers today are seeking real estate information and services online and that increasingly technology innovations are driving the future of their business.

It has been more than 50 years since the nation's patent law system had its last major overhaul. Since that time the nature of the economy, industry and the patent system itself has fundamentally changed. Modernization is critically needed to reduce the burden of unnecessary litigation and refocus the nation's efforts on innovation and job creation.

Realtors® recognize that the real estate industry is more and more dependent on the use of information technology and software products to market properties and manage their businesses. As technology users, NAR and several of its members currently find themselves facing onerous patent infringement litigation over questionable patents launched by licensing firms. Without needed reforms, litigation will continue to grow and put all Realtors® at risk. For this reason, NAR supports reforms like apportionment of damages and prohibitions on venue shopping contained in S. 515. These reforms curb some of the most significant abuses of the patent litigation process.

The Patent Reform Act contains need improvements geared toward improving patent quality. NAR supports greater transparency in the patent application process including creating a mechanism to allow practitioners with the expertise and knowledge to review and comment on the appropriateness of a patent application prior to the issuance of the patent and the creation of a streamlined and more effective process for challenging a patent outside of the judicial system.

NAR was pleased to support patent reform legislation in the 110th Congress and we stand ready to work with the Committee to pass this important legislation in a timely manner. We thank the committee for this opportunity to share our views regarding patent reform. The NATIONAL ASSOCIATION OF REALTORS® strongly supports S. 515 and urges the committee to pass this much needed legislation.

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ARCH Venture Partners 8725 W. Higgins Road, Suite 290 Chicago, IL 60631

Hearing on The Patent Reform Act of 2009

Senate Committee on the Judiciary

March 11, 2009

Written Statement Of

Robert T. Nelsen, Co-founder and Managing Director

ARCH Venture Partners

Chairman Leahy, Ranking Member Specter, Members of the Committee:

Thank you for the opportunity to present the views of the pioneering innovators in clean technology and other science-based companies that are based on the research of our great universities and national laboratories.

I am the Co-founder and Managing Director of ARCH Venture Partners, one of the most prolific developers of early-stage University and National Laboratory start-up companies in the world. Over the course of more than 20 years, we have created over 130 companies from basic research at academic institutions, including leading companies in biofuels, solar energy, education, semiconductors, software, internet, personalized medicine, stem cells, and biomedicines. These companies hold over 1200 US patents and patent applications. ARCH has offices in San Francisco, Seattle, Austin, Boston, and Chicago and was founded by Walter Massey, former head of the National Science Foundation and President of Morehouse College, and Steven Lazarus, former Associate Dean of the Chicago Booth Business School at The University of Chicago.

This very Committee played a major role in unleashing a huge wave of fundamental innovation with the passage of the Bayh-Dole act. The United States is propelled by innovation and, as a nation, we invest over $100 billion of taxpayer money every year in research at our universities and laboratories. This takes place even as large companies in the private sector reduce their fundamental research investment. The venture capital industry, in combination with our

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universities and national laboratories have now created companies that comprise nearly 20% of U.S. GDP, including many of the companies testifying today, which were once small start-ups. This collaboration among venture capital funds, start-up enterprises, and university research is the envy of the world and one of the primary keys to our economic future.

The societal and policy necessity for fundamental, not incremental, breakthroughs is increasing. Out of the many patents that will be filed in the coming years, there will be a handful of world-changing inventions that can crucially alter the course of our future. These are the jewels we need to protect:

-inventions that solve climate change;
-inventions that rid us of foreign oil dependence;
-inventions that prevent and treat pandemics;
-inventions that address diabetes and Alzheimer's, saving 40% of the future Medicare budget.

It is important to emphasize that the patent reform discussion is not just between the high technology and pharmaceutical industries. It is also about the future of American innovation including high-tech, biotech and the area that is even more critical to America: energy – what we call "clean-tech." Clean-tech is the fastest growing sector of business and of venture investment. The same venture capitalists who led the successful creation of the high-tech and biotech industries are now poised to lead the way in developing new clean technologies.

The issue we need to collectively explore is how to protect the truly pioneering inventions that we all want to see, such as Sapphire Energy's carbon neutral crude oil. This is a true breakthrough, made by harnessing the energy from the sun and capturing CO2, to grow algae on non-agricultural land using non-potable water to make gasoline, diesel, and jet fuel.

Pioneering clean-tech inventions require a huge investment upfront, and rely solely on original intellectual property protection to negotiate with corporate partners - some of the largest corporations in the world. By their very nature these inventions change entrenched industries and markets, and take orthogonal approaches to intractable societal problems. These are not inventions that large corporations are incented to make. They require the small business, entrepreneurial risk-taking component of our economy. In Sapphire Energy's case it started with asking a set of fundamental questions, "Can we make a carbon-neutral fuel domestically, using no agricultural land and non-potable water, that is compatible with the existing distribution and refining infrastructure, at $60 a barrel, at a scale of 1 million barrels per day."

Without significant venture capital investment of $100 thousand to $150 million, these promising technologies that underpin the future of our country and our world will not be developed. Only after these seed and early stage investments have demonstrated the viability of an idea can they attract even larger corporate partner commitments, which can range from $200 million to billions of dollars.

The reality of clean-tech today is that small companies must negotiate with large companies for capital to survive, especially in constrained financial markets. In order to get the corporate deals, the negotiations rest solely on the proprietary strength of the patent applications and patents.

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Substantial changes in the way we approach damages in these pioneering cases, are likely to inadvertently but fundamentally change the business dynamic. Essentially, it will increase the original business risk so that the first investment does not take place. In addition, large companies may take advantage of the increased power that apportionment of damages gives them, even if apportionment was meant to solve an entirely different problem. They may wait to invest, and these technologies may never get to scale and ultimately benefit the public.

The type of seed venture capital and pioneering work we do is already a tentative business, and small perturbations in the system can have large effect in investment, innovation, and U.S. competitive advantage. Successful economic development of important new ideas requires a constructive partnership relationship between the small, nimble, wildcatter venture-based start-ups and the large, capital-rich corporate partners, which move more slowly if at all. Like many effects of policy, the business reality will take effect immediately in the game theory of the negotiation, 10 years before the first litigation and damages. In the meantime, the uncertainty and tilt toward lower innovation and entrenched market leaders, will serve to quash the breakthrough innovations and solutions we need to solve the pressing problems we face.

We must ensure that clean-tech innovation is enhanced, not suppressed, by patent reform and that all sides are heard so we craft the best possible legislation to solve the problems of the tech industry while not harming clean-tech.

We must address the problems that the technology industry has raised. It is unacceptable that patenting the font for the letter "O" should stop an operating system. We should make sure that the patenting of immaterial inventions does not hurt our technology companies. Yet we should make sure to solve the problems they face, and not risk inflicting collateral damage on the worker bees of our economy. The creation of a "gate keeping" standard, which lets the court apportion damages when there is an apparently frivolous case, solves the very problem that has been raised without creating a huge new risk.

Apportionment of damages without some standard of materiality could be devastating to clean-tech and other innovations. The inadvertent harm to the most competitive and important industries we are creating could be real and fast, ceding strength to foreign competitors.

In United States history there has always been the inclination to support the individual, to protect the weak from the strong, to make the assumption that someone who has a new idea should be heard. I urge the Committee to consider this history and think of the real example of carbon neutral oil - a case that is playing out as we speak. Your actions on patent reform and damages will have real effects on the survival of clean-tech and other innovative industries in their tentative relationships with the goliaths of the energy world this year and next, well before the first case is decided. We all have a stake in that outcome.

Respectfully yours,

Robert Nelsen
Co-Founder and Managing Director
ARCH Venture Partners

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March 9. 2009

The Honorable Patrick J. Leahy
Chairman
Committee on the Judiciary
Dirksen Senate Office Building
Room 224
United States Senate
Washington, D.C. 20510

Dear Chairman Leahy,

Please accept the following written testimony to be submitted in conjunction with the hearing on "Patent Reform in the 111th Congress: Legislation and Recent Court Decisions" for Tuesday, March 10, 2009 at 10:00 a.m.

My name is Karl Swierenga and I am Vice President of FotoTime, Inc. of Dallas, Texas. FotoTime is a small photo sharing company that was founded in 1999. My two business partners and I started FotoTime as a way for consumers to organize and share their digital photos. We financed our company entirely out of our own pockets and worked on the company nights and weekends for five years, while we each held full time jobs. In 2004, we finally reached a financial point where we could work for FotoTime on a full time basis, although we were still a small and struggling company.

All of our hard work and dreams were almost ruined in the summer of 2008, when we were sued for alleged patent violations by a company called FotoMedia. We felt strongly that we were not in violation of any of the patents owned by FotoMedia; however, a small company like FotoTime has very limited resources and time for litigating patent disputes. In our estimation, patent litigation would have cost between $5 and $10 million. In addition, litigating these allegations would have probably taken 1 to 2 years. As a small business, we could afford neither the dollar cost of the litigation nor the cost in manpower to fight it.

In the fall of 2008, with little hope for a resolution and facing overwhelming legal costs, we decided to cut our losses and settle with FotoMedia. Even though we have reached settlement with FotoMedia, the costs of the settlement have created a financial burden that potentially could cause us to go out of business – costing jobs and negatively impacting the local economy.

As a small technology company, FotoTime understands the need for and supports a patent system designed to protect innovation. However, our experience with the patent litigation process has made us believers in reforming the patent system to reinstitute fairness and reason.

We feel that patents are being issued that are too broad and too generic. In our case, the patents in question covered very broad and basic functionality of our business that were neither unique nor innovative. In addition, FotoMedia claimed their patents covered all aspects of our complex business when in reality their patents did not.

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FOTO TIME

FotoTime also feels that the process of filing and litigating patents encourages frivolous lawsuits. At several points during our negotiations and discussions with FotoMedia, we requested from them specific information detailing the nature of the infringement they alleged. At no point did they produce that information.

Because FotoMedia is a non-practicing entity – they do not produce products or services and have no meaningful assets – it is not surprising they would not provide this information. They are not interested in using these patents to build a business and protect their innovations. They are only in business to make money off of litigation. Their business model is to generate revenue from litigation, not innovation.

Like other non-practicing entities, FotoMedia can file their lawsuits in one jurisdiction regardless of where the defendants reside. This creates added burden and expense for the defendants while allowing the plaintiffs low cost litigation. The system encourages FotoMedia and companies like them to file more and more lawsuits. In our estimation, litigating all patent lawsuits in one jurisdiction has the potential to lead to courtroom biases and corruption.

FotoTime's decision to settle this lawsuit was a purely economic decision. We weighed the costs of the litigation and the lost time to fight it and assessed the risk and threat of the potential damages award. Taken together, and factoring in the unpredictability of the damages awards, we determined those costs to be financially fatal to our small business. We believe the damages that a court can award the plaintiff should only be based on the part of the business that the patents covered and not the business as a whole. Because these damages decisions could encompass the total value of our business, the risks outweighed the costs of settlement.

When considering the Patent Reform Act of 2009, we hope you realize that the patent process affects all companies large and small. The Patent Reform Act attempts to address the inequities in the process to make it fairer for all parties. The system is currently being abused. Reforms are needed to protect innovators and small businesses like us.

Submitted by:

FotoTime, Inc
Karl Swierenga
Vice President
Dallas, TX

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UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

PUBLIC ADVISORY COMMITTEE

ANNUAL REPORT

DECEMBER 1, 2008

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PATENT PUBLIC ADVISORY COMMITTEE

ANNUAL REPORT

I. INTRODUCTION

The Patent Public Advisory Committee ("Committee" or "PPAC") was created to advise Congress on the "policies, goals, performance, budget and user fees of the United States Patent and Trademark Office ("Office") with respect to patents."[1] The Committee's duties include the preparation of an annual report submitted to the Secretary of Commerce, the President, and the Committees on the Judiciary of the Senate and the House of Representatives.

This year, the Committee is focusing its report on three themes. These theses are as follows:

1. A scorecard on the Office's actions relative to the 2007 PPAC report recommendations;
2. The critical issues currently facing the Office,
    - the need for a new comprehensive plan specifically directed to the pendency/backlog problem;
    - the problems in the Office of the Chief Information Officer that became evident in 2008;
    - the restatement of the need for a national workforce; and
    - the need for a process improvement practice in the Office; and
3. The general non-critical issues related to the policies, goals, performance, budget and users fees of the Office.

The Committee well understands the interdependent and complex nature of these issues and recognizes that it does not have all the answers.
None the less the Committee believes itself obligated to present recommendations to support positive trends, to reverse negative trends and to present a constructive path forward for the Office. The Committee's first set of recommendations were made in the 2007 Report. This report thus seeks to identify the key issues, explain the consequences of inaction or maintaining the status quo, and provide solid concrete recommendations for both the Office and policy makers.

II. 2007 PPAC REPORT RCOMMENDATIONS SCORECARD

In its 2007 Annual Report the Committee made a number of recommendations that were specifically directed to the issues of patent quality and pendency which continue to be

[1] See 35 U.S.C. §5(d).

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some of the most significant issues facing the Office in 2008 as they were in 2007. In all the Committee made seventeen recommendations. These recommendations were made by the Committee with the express hope and understanding that the Office would act on them in an expeditious manner. While the Office has made some progress in addressing the 2007 recommendations it is the Committee's opinion that the overall action taken by the Office could have been more aggressive and thorough. To highlight the Office's actions on these recommendations and the Committee's current thoughts on these actions the Committee has prepared the following table or scorecard. The left hand column of this Table identifies the issue addressed by the recommendation and provides an abbreviated explanation of the 2007 recommendation with a reference to the page number on which the recommendation appears in the 2007 report The right hand column provides the reader with the USPTO's actions, in the Office's own words, relative to the recommendation and the Committee's proposals/response to the actions taken.

The scorecard starts on the next page.

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2007 Recommendations Scorecard

2007 PPAC Recommendation	2008 actions taken/PPAC proposals
1. Quality. Create a definition of what is meant by a "quality" patent – Page 2	USPTO actions - Patent community efforts continued, while Office relied on statutory requirements as indicia/measures of quality. In FY2009, the Office intends to work jointly with the public, recognizing the difficulties in achieving a "universal" definition of a "quality patent." PPAC Proposal – Since the definition of "quality" has ramifications on all aspects of the patent examination process and on public perceptions of the Offices work we propose that the Office provide the PPAC with such a definition by February 6th, 2009 for discussion at the Public Session of the next PPAC meeting. Quality application prosecution indicia and quantifiable metrics relating to search, examination and efficiency of office procedures when properly defined will be used by the Office to drive quality improvement efforts . Applicant quality issues should be identified and publicly discussed along with internal Office quality actions.
2. Quality. Adopt a unitary search system for all patents and non-patent documents – The use of a unitary search system that allows for Internet search engine-type queries across multiple patent and non-patent databases is essential for improved prior art search results. The Office should establish a "search system" blue ribbon panel in the second quarter Y2008 tasked with developing the requirements for such a unitary system. This panel should provide final recommendations for the Office by the fourth quarter of FY2008 and the system should be operational no later than the first quarter of FY2009. – Page 3	USPTO actions - The Office, working with colleagues from other large patent offices, composed of China's Patent Office (SIPO), the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Patent Office (KIPO), and the Office (collectively, the "IP5"), established 10 so-called "Foundation Projects" that will help patent examiners access the best and most relevant prior art. The Office is taking the international lead on identifying a common approach to sharing and document search strategies, as well as providing common access to search and examination results. PPAC Proposal – The PPAC commends the Office for its international efforts on accessing prior art, but, this does not resolve the issue of the unitary search recommendation as discussed in the 2007 report. The Office has not created the "blue ribbon panel" in 2008 as suggested and no such system will be operational by first quarter FY2009. PPAC proposes that the Office develop a formal plan on the creation of a unitary search system by May 31st, 2009 for review at the Public Session on the June 27th, 2009 PPAC meeting.

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3. Quality. Establish patent-office database sharing – ... the Office should establish sharing agreements with ALL patent offices so that the Office examiners have access to ALL patent documents in the world. The issues of translation must be addressed by the Office as relevant prior art is published in many languages. The basis of trust in the system requires nothing less. - Page 3	USPTO actions - The EPO is taking the lead on the Foundation Project devoted to establishing a common documentation database. PPAC Proposal – The PPAC welcomes these projects, but suggests that a timeline be developed for the piloting an implementation of said initiatives for review by the PPAC. Said timeline to be provided to the PPAC by May 31st, 2009 for review at the Public Session on the June 27th, 2009 meeting.
4. Quality. Establish examiner knowledge management systems - the Office should develop a more robust system to ensure that it retains the institutional knowledge of its highly educated and skilled examination corps with regard to prior art references in and across technologies, including how these references relate to specific technologies. Such a system should enhance and facilitate remote learning and non-time zone based workforce collaboration as well as improving patent examination efficiencies. – Page 3	USPTO actions - The Office piloted a knowledge-management system in TC2100 PPAC Proposal – The PPAC understands that this pilot was ongoing when the recommendation was made last year, It is PPAC's understanding that this was a limited pilot. The PPAC is very interested in the results of this pilot as well as the going forward plans for an Office wide program rollout. PPAC proposes that the Office provide a detailed written update to the pilot as well as the plans for further work on this initiative one week before the February 6th, 2009 meeting.
5. Quality. Revision of information requirement rules - The Committee recommends that the Office consider different ways to revise the current information disclosure statement requirements (e.g., Rules 1.98 and 1.99) to ensure that in egregious situations where large numbers of items or items of substantial length are cited in an information disclosure statement, examiners have the ability to require an explanation of the relevance of the cited items. .... Finally, the Office should consider the ramifications of the Inequitable Conduct theory on any proposed rules. - Page 4	USPTO actions - The White House set an early November 2008 deadline for publication of all final rules to be effective before the end of this Administration. The Office did not publish either the Information Disclosure Rules (IDS) or the Alternative Claims (A/C) final rules before this deadline. PPAC Proposal – The PPAC understands that the Office did not publish the Information Disclosure Rules (IDS) or the Alternative Claims (A/C) final rules prior to the deadline. PPAC remains interested in the Offices plans pertaining to these issues. The PPAC proposes that the Office provide a written update to the Information Disclosure Rules (IDS) and the Alternative Claims (A/C) final rules one week before the February 6th, 2009 meeting. Alternatives to new ids rules that can provide incentives for applicants to conduct searches prior to filing should be explored

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6. Quality & Pendency Encourage pre-examination interviews - ... we recommend that the Office rewrite Section 713.02 of the Manual of Patent Examining Procedure (MPEP) ("Interviews Prior to First Official Action") to promote and encourage interviews, noting that in almost all cases the examiner should find that "an interview would advance prosecution of the application." See MPEP Section 713.02. Conversely, applicant practice of seeking an interview before first action should be encouraged by the Office where the applicant believes an interview would advance prosecution.- Page 5	USPTO actions - The Office piloted pre-1st-Action interviews. The Office must negotiate with the Patent Office Professionals Association (POPA) before it can permanently offer this flexibility to the public. However, 1st-action interviews are available for those applications using Accelerated Examination. The Office amended the Manual of Patent Examining Procedure (MPEP) to encourage interviews generally PPAC Proposal – The PPAC commends the Offices actions on this recommendation and requests that the Office provide a written update to this initiative one week prior to the Feb 6th, 2009 meeting, highlighting the lessons learned from the pilot and making further recommendations on extending this recommendation to examiners and to all cases. The PPAC also wishes to understand POPA's issues with a full rollout of this program. To this end PPAC invites POPA to send PPAC a written description of its concerns related to this project one week prior to the Feb 6th, 2009 meeting. There is a solution space here, and PPAC is very interested in assisting the Office and POPA in resolving potential differences of opinion on this issue. PPAC is of the view that the Office and POPA need to review why more interviews are not occurring and what it can do to incent examiners to reach out to more applicants for early interviews.
7. Quality & Pendency. Developing a "highly complex application" definition – The Office should undertake a review of its applications to develop a practical definition for highly complex applications, and specifically including the concept of "technical complexity," for use with a new fee structure to be recommended to Congress. – Page 5	USPTO actions - The Office primary effort in this regard involves additional charges for additional claims, to recover the cost of additional work involved. The Office is assessing international and internal labor-relations implications of introducing a "highly complex" definition for distinguishing applications – for fee purposes. PPAC Proposal - The PPAC would respectfully submit that the Office should develop the requested definition as it would be of value to the patent community to understand the Offices perspective on what is a "highly complex" case by reason of technical issues, application length, etc so as to assist the Office in review of such cases. In addition, such a definition can drive Office behavior in examiner compensation/goals as well as informing Congress on the nature and scale of the issue if a fee change is appropriate. The PPAC would request that this study and definition be completed in by May 31st, 2009 and made available for PPAC review at the Public Session of the June 27th, 2009 meeting.

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8. Quality & Pendency. Developing a "highly complex application" fee structure – The Office should develop a new fee structure that anticipates the real resource requirements necessary for properly examining the highly complex cases to ensure quality examination. For applications falling within this highly complex application fee structure, the Office should consider examiner workload balancing and an increased time for examination. - Page 6	See above
9. Quality & Pendency. Retain Office Capability in the Face of Decreased Allowance Rates. – Page 6	USPTO actions - The Office is analyzing ramifications of current statutory approach whereby maintenance fees defray costs of (all) filing fees. PPAC Proposal - The PPAC commends the Office for its work in FY2008 in ensuring that needed programs have been continued in face of decreasing budget resources.
10. Quality & Pendency. Abolish antiquated duty station requirements – Currently all examiners participating in the off-campus "hoteling" program must report back to the Office campus in Alexandria, Virginia for at least 1 hour per week, at their own expense. This work rule severely limits the development of a nationwide workforce and must be abolished by any appropriate procedure. - Page 6	USPTO actions - The Office worked with the Government Services Administration (GSA), the Office of Personnel Management (OPM), and with members of Congress and the public in support of legislation that would allow the Office to pilot a new, cost-effective approach to a Nationwide Workforce (NWW) model. The Office will continue this effort in FY2009. PPAC Proposal – The PPAC believes that this issue must be resolved quickly and that a nationwide workforce is critical to improved quality and pendency and to employee satisfaction, retention and hiring. This issue is addressed in greater detail in the body of this Report
11. Quality & Pendency. Extend Hoteling –The Committee is of the view that the Office must continue to pursue hoteling and other telework flexibilities for any qualified member of the patent examination corps that wishes to participate. - Page 7	USPTO actions - The Office aggressively extended hoteling, adding 500 more employees to its existing program including non-examiner employees, such as Technical Support Staff. (The Office's Trademark Assistance Center was nationally recognized in 2008 as the only Federal call center that permits employee telework.) PPAC Proposal – The PPAC commends the Office for its efforts in this area and the recognition is has received for these efforts. However, the Committee feels that a full Office wide program for this type of work flexibility is essential to hiring and retaining the most qualified and motivated workforce and requests a quarterly update on the progress the Office is making in achieving this goal.

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12. Quality & Pendency. Establish virtual regional offices - We recommend that meaningful study of this issue take place in FY2008, with a conclusion and recommendation at the end of the fiscal year. - Page 7	USUSPTO actions - The Office was asked to study the issue of virtual regional offices. The Office undertook an analysis of establishing "brick and mortar" offices and concluded that the fiscally prudent approach emphasized the need for a nationwide workforce. Thus the USUSPTO has focused on implementing NWW in such a way that Office employees still feel connected, mission-oriented, and are given the developmental support they deserve. PPAC Proposal – The Committee understands that the Office has studied the issue of duplicate offices and made a decision to drop any plans for a duplicate office. However, the USPTO's study and resulting decisions were inadequately shared with PPAC. The PPAC was more interested in a study of the potential to use regional "work centers" to augment the national workforce. The PPAC therefore requests that the Office initiate a study of regional "work centers" (vs. duplicate USPTO offices) and provide recommendations for review with the Committee at the Public Session on the August 7th, 2009 meeting
13. Quality & Pendency. Initiate university partnerships - the Committee recommends that the Office partner with specific universities in a pilot program that offers loans to qualified engineering students willing to become examiners, where the loans are forgivable in specified annual increments on successive anniversaries of the examiner's employment with Office. - Page 8	USPTO actions - The Office was very active in working with universities, particularly to develop IP-related curricula in law schools, business schools, and at the undergraduate level. In addition, Office representatives visited over 100 universities to conduct on-campus interviews and educations sessions. PPAC Proposal – The PPAC commends the university outreach efforts of the Office in FY2008. However, the Committee notes that its recommendation went beyond just outreach and would be interested in discussing the loan program in the Public Session of the February 6th, 2009 meeting.
14. Quality & Pendency. Expand Workforce Flexibilities - The Committee therefore recommends that the Office continue its path of expanding workforce flexibilities specifically to ensure a place for these seasoned professionals in its workforce. -Page 8	USPTO actions - The Office already offers maximum flexibility with work hours, the ability to hotel, the use of laptops for those who don't want to hotel but want to do overtime from home, as well as offering the Federal government's generous health, life-insurance, transit-subsidy and other benefits. The Office was successful in attracting many 2nd and 3rd career employees to patent examination, and noted that the number of new patent examiners with law degrees rose significantly. The Office's website provides potential employees with 24/7 access to information about life as a patent examiners, as well as the ability to apply for a job on-line. PPAC Proposal – The PPAC commends the Office for its work in this area and would be interested in understanding the percent of the 2nd and 3rd career employees as well as those with law degrees in the current workforce.

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15. Pendency. "Special Pay" for Patent Examiners – … we urge the Office of Personnel Management to approve annual requests from the Office to provide the cost of-living differential to patent examiners, as meritorious and necessary to ensure a vibrant patent system. - Page 8	USPTO actions - The Office requested a "special pay" increase for Patent Examiners, which was granted by OPM PPAC Proposal – The PPAC commends the Office for this action and is appreciative of the Offices efforts in reducing examiner attrition. We note that the Office drove patent examiner attrition (less internal transfers and retirements) to 7.83% in FY2008, through a combination of recruitment and retention incentives, telework options, and other workplace flexibilities. The PPAC understands that this is an ongoing issue that should be addressed quarterly.
16. Pendency. Exploration of a market-based examination model – Therefore the Committee recommends that the Office develop an exploratory, data driven, market based examination model for evaluation, taking fully into account the needs of the public and third parties. - Page 10	USPTO actions - The Office realized that it needs an economist with significant expertise with market-based examination models and who can provide meaningful options. Therefore, the Office identified a new position – Chief Economist – and established a new unit – the Office of the Chief Economist. As required, because this effort is a re-programming, the Office worked with OPM and send a re-programming request to Congress. PPAC Proposal – The PPAC commends the Office for creating the new office of the Chief Economist. The Committee is still interested in an exploration of the market-based examination model as a way to ensure that the public's needs are being addressed in a timely manner. To this end the Committee requests that the Office provide an update at the Public Session of the February 6th, 2009 meeting on its plans for exploring such an approach to examination.
17. Pendency. Gaining increased workload efficiency - The Committee recommends that Office set a goal of achieving full utilization of foreign prior art searches, and expanded IPC search capability within six months of the date of this report. - Page 11	USPTO actions - Office expanded its network of Patent Prosecution Highways, which provide significant benefits in qualifying applications in terms of faster processing times, fewer actions per disposal, and double the normal Office allowance rate. The Office also continued to work with its Trilateral partners (EPO and JPO) as well as with its IP5 partners to identify and attempt to quantify workload efficiencies. As mentioned above, the 10 IP5 Foundation Projects include a goal of achieving full utilization of foreign prior art searches and expanded International Patent Classification (IPC) search capability. The Office also undertook a significant PCT-examination effort, which eliminated its PCT backlog. The Office also improved its timely transmission of PCT search reports to WIPO (approximately 60% in 2008, as compared with 2-4% in 2007). PPAC Proposal – The Committee commends the Office for the Patent Prosecution Highway and the Foundation Projects. The Committee would like to review this program in the 2009 meetings.

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III. CRITICAL ISSUES

In addition to fully following the 2007 recommendations set forth above, the Committee believes that there are four critical issues that should be addressed in this report, these are:

- the need for a new comprehensive plan specifically directed to the pendency/backlog problem;
- the problems in the Office of the Chief Information Officer that became evident in 2008;
- the restatement of the need for a national workforce; and
- the need for a process improvement practice in the Office.

1. A new pendency reduction plan required:

The pendency/backlog has been growing for over a decade and in the Committee's opinion has reached truly unacceptable levels in 2008. The Committee realizes that the Office has faced numerous difficulties in reducing this problem, including budget diversion in earlier years, and that it has taken dramatic steps to improve the situation, such as the hiring of 1,200 new examiners in the last three years. The hiring increase has placed significant pressures on the Offices resources budget, plant and equipment as well as on skilled personnel. While the Committee believes that the Office has done a spectacular job in hiring the new examiners and developing and implementing the training academy, the hoped-for objectives of this increased hiring and improved training have not yet been achieved The Committee firmly believes that conquering the pendency/backlog problem will not be achieved unless and until the Office makes a very public commitment to reducing average pendency across all applications to 24 months within the next 24 months. Only the Office is in the position to understand all of the actions that can be taken to achieve 24 month pendency for all applications over the next 24 months, but strongly encourages the Office to consider ALL available options to achieve this goal. The Committee also desires that the Office to commit to a longer range (3 year) plan and timeline to drive to an ultimate pendency goal of 18 months from filing to final disposition of the application including all counterpart continuing applications .

To accomplish this, the Committee recommends the following:

- That the Office prepares a new comprehensive set of plans for achieving a total pendency period as set forth above and make such plans available to the Committee by March 31st, 2009 for discussion at the Public Session of the PPAC meeting on June 27, 2009. This plan must set forth a number of different scenarios with differing resource requirements for achieving the pendency reductions. In the Committee's opinion the Office must take into considerations ALL options even those that do and do not require rule, statutory and budgetary changes. As with any such plan all of these proposed solutions must be clearly

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supported by the assumptions that are being made, the dependencies that are evident and the ramifications on the Office and the patent system as a whole. [Note; the current PTO definition of pendency is from the time the application is filed until that application is allowed, appealed or abandoned. Since an increased number of applications are being re-filed, after a final office action or during appeal, typically as a RCE continuation application, and since that continuing application becomes assigned to an examiner and re-examined again, the backlog and overall pendency of the invention is not captured by the current definition. While an objective of obtaining a specific time period for pendency under the existing definition would be a significant improvement, the overall goal needs to be broadened. A broader pendency definition should be from initial filing of the application to ultimate disposition within 24 months, where final disposition means where no further action by the examiner is required such as when the case is finally allowed, appealed or abandoned with no re-filing.]

- Further, the Committee recommends that the Office start publishing the pendency numbers (for both the current definition and the "new" definition set forth above) for each Technology Center to the public by the end of March 2009.
- Since there has been a dramatic rise in the filing of continuing applications and these continuing applications add to the examination backlog and further increase the overall pendency of initially filed application, PPAC suggests that the Office analyze and propose changes, for discussion at the Feb 6, 2009 PPAC meeting, that the Office can take, such as for example concerning review of final office action and appeal practices and examiner performance metrics, to reduce the need for continuing applications in the absence of new rules.

2. Attention for the IT infrastructure:

A confluence of factors, including shortfalls in funding, absence of a clear long-term strategy and IT policy have combined in 2008 to put the IT infrastructure at the Office in dire need of attention. Secondary effects, such as skill-set deficits, platform proliferation and system aging have had an amplifying effect on the situation. Combined, these render the IT infrastructure below industry standards for system age, performance and availability – putting performance and in some instances data and its timely recovery in jeopardy.

The Office is aware of these IT issues and, in April 2008 developed a strategic plan, the OCIO Road-Map, to address them. For this we do commend the Office. In fact, with the advent of partial funding at the end of FY 2008, a number of Road-Map initiatives have already gotten underway. These include a Unix/Oracle migration effort, an enterprise configuration management initiative as well as kicking off the disaster recovery effort to ensure all Office data is adequately protected.

Over the past eight years, the OCIO budget has remained roughly flat, while the overall budget for the Office has nearly doubled over the same period of time. The result is that the OCIO budget has fallen from on the order of 21% of the total Office budget in 2001

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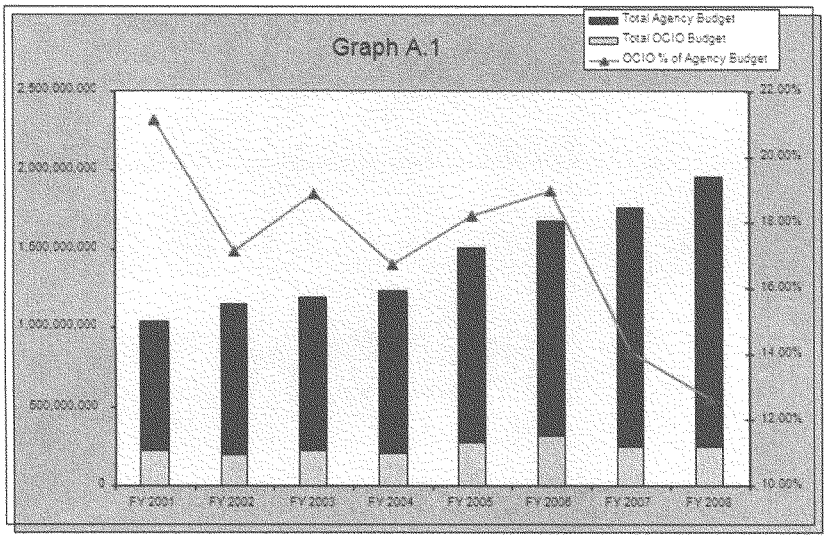
to less than 13% ($178M) of the total Office budget in 2008. This suggests that the mission critical nature of the IT infrastructure has not been fully appreciated in establishing funding priorities for the Office, nor by extension has its role in realizing other Office mission goals been fully comprehended.

Funding trends are clearly visible below in Graph A.1.



Clearly funding levels at the OCIO have not kept pace with the significant increases in demand on the IT infrastructure. Further, scarce funds are expended on less than optimal basis on maintenance of burdensome older systems rather than on securing newer and more efficient replacement systems.

The issue is manifested in two categories: (1) hardware and software platforms and (2) human capital and organizational challenges.

Hardware and Software Platform concerns: The hardware and software platform concerns are related to deficiencies in system aging, platform proliferation, system loading, automated monitoring & diagnostics, and disaster recovery.

System aging - The Office has a number of key services running on hardware servers and software systems that are well beyond normal industry life-span of five years. For example, PIRS (Patent Image Retrieval System) which houses the images referenced by both EAST and WEST was installed in 1998, and continues to run on the original equipment installation. System aging presents not an isolated problem on a few systems, but more of a pandemic situation where across the USPTO. Of the roughly 1557

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hardware servers at the USPTO,1079 servers (69%) exceed five years in age (see Table B.1 below:

PTO Server Aging Profile Table B.1		
Age	**Servers**	**Percentage**
5 Years	580	37%
6 Years	342	22%
7 Years	101	6%
8-10 Years	56	4%

Systems with this age profile introduce myriad sources of infrastructure overhead and vulnerabilities – both to level of service and security.

Platform proliferation - Over the past eight years, the Office has seen a proliferation in both hardware and software systems. Each different hardware platform (and variation) as well as each different software (e.g. Unix/Windows) platform (and versions) often has its own unique support and interface requirements. The OCIO estimates that there are on the order of *5,000 different desktop configurations* (in an organization with only 9000 people in total), which suggests that there are insufficient configuration guidelines and/or compliance mechanisms in place. In addition, maintaining such a variegated environment also poses interoperability challenges which may even preclude introducing new, or more efficient solutions for reasons of maintaining "backward compatibility".

Further, much of the code running at the Office was generated with inconsistent methodologies and uneven use of best practice coding and documentation – which impacts both run-time for the applications in normal use, but also makes maintenance/debugging more difficult and time consuming.

System loading - In addition to the aforementioned issues, the burden on these older systems is made worse by an increasing load placed upon them each year. For example, the year-over-year activity increases in 2008 for some key systems at the Office include:

2008 Year-Over-Year Load Increases For Select Systems Table B.2		
System	**Y-O-Y Increase**	**Load Doubles**
EFS Web (Submissions)	72%	< 3 Years
EAST (Search Transactions)	19%	5 Years
IFW (Pages Loaded)	15%	6 Years

Graph A.2 illustrates increased internal use of EAST over time. In addition to internal use of Office IT infrastructure several Office initiatives have encouraged and increased external use of the same IT resources, for example, Graph A.3 shows significant increases in usage of EFS-Web for filing of applications (a year-over-year increase of 72% this year).

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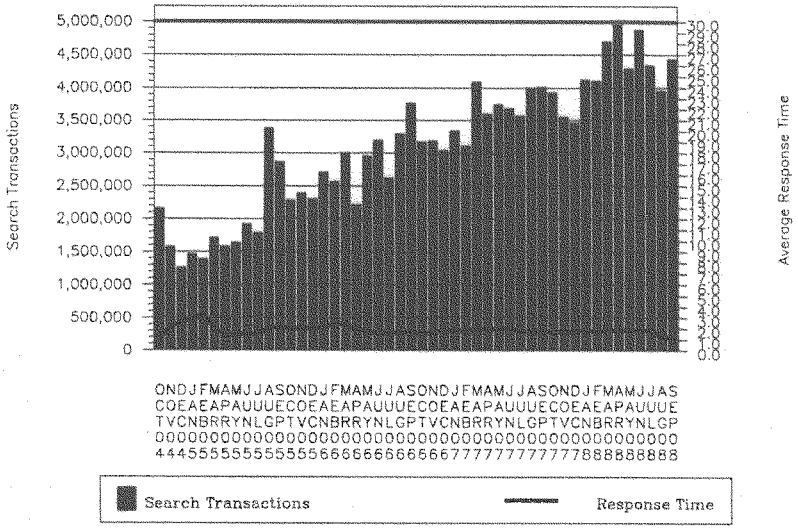
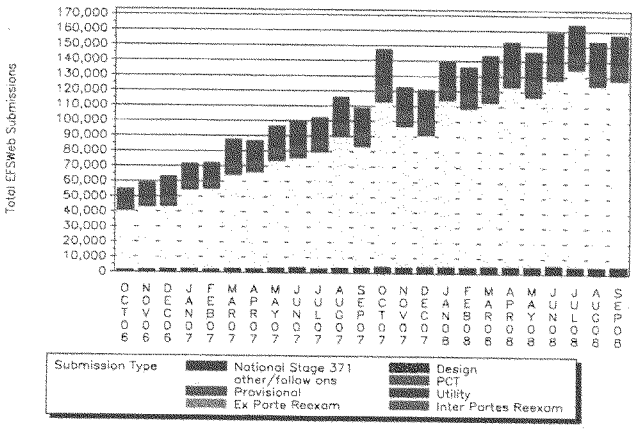


Graph A.2



Graph A.3

At growth rates such as these the load on the system doubles quickly, and in far less time than it has been since the Capital Improvement Plan was last approved (eight years ago).

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Automated monitoring & diagnostics - The Office does not currently have in place tools that would provide for the automated monitoring and diagnostics of its systems that would greatly aid in identifying and further obviating the sources of system downtime, but also better forecast demand for scheduling and strategic planning purposes.

Disaster recovery - The Office has insufficient disaster recovery capability to protect its information assets. A robust disaster recovery program is a necessity.

Human capital and organizational challenges: Any successful IT program has at its core a well-trained, well-coordinated and stable complement of practitioners. The Office finds its IT human capital challenged on all three of those fronts.

Headcount & turnover - Total headcount at the OCIO has been downward trending since 2001 at the same time the demands on the IT infrastructure have been rising. In 2001, the OCIO had a complement of 494, and in 2008 has only 457 on board (a 7.5% decrease). In addition, the OCIO has a turnover rate of 12%, hiring 130 new people over the past two years. Both of these trends add to the difficulty in rising to the workload and training challenges of the Office.

Skill-base: In an already challenging IT environment, the Office is further challenged in its ability to maintain a well-skilled workforce. In order to remain current and be able to assist with modern hardware and software solutions, an IT workforce needs to be provided with and participate in a robust training schedule so as to stay up-to-date. Without an appropriate priority and resources assigned to such training, skills gaps widen over time until such time that employees become handicapped in their ability to contribute at a significant level. This leads to an increased reliance on contractors to provide the needed skills.

Contractor reliance: In the short-term contractors can provide a stop-gap solutions, but long-term heavy reliance on contractors can mask symptoms of a larger skills short-fall, and if not properly managed create myriad ad hoc solutions – which often succeed in perpetuating contractor reliance as they are the only ones capable of maintaining the solutions. Further, as contractors are rarely a cost-effective solution, even more of the scare funding is consumed externally, with largely short-term benefit to show for it.

To help ensure that these issues are resolved the Committee makes the following recommendations:

- that the Management Counsel continue its support of the initiative, and that the plan continue to be fully funded and followed through its full term;
- that the Office explore how to reduce pre-processing and post-processing of data exchanged with the public, and used internally (*e.g.* submissions in XML, unitary search and full-text search capability of all application) to increase examination efficiency and reduce contractor costs for such simple tasks as PDF to text conversions;

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- that the Office explore employing leading edge technologies to enhance the productivity of its workforce. Among these would be the use of Natural Language search/analytic tools, as well as other Sense-Making technologies currently available in the broader commercial market. Such tools could be used not only in examination, but could provide pre-examination filtering to sort out defective applications prior to wasting precious examine time. The OCIO has in fact already made some initial explorations of capabilities here that may be of value and should provide a report back to the Committee on these explorations by mid 2009.

3. Restating the need for a Nationwide Work Force.

The Committee continues to believe that a geographically diverse work force is a key enabler of the twin goals of attracting a larger pool of qualified applicants to the examiner corps, and enhancing the chance of retaining for an entire career those who accept the position. Committee members have been privately pressing for this reform since 2006 with the Office's management and the Committee made public these concerns in its 2007 Annual Report. In that report the Committee made two specific recommendations to speed the creation of a nationwide work force: abolish antiquated duty station requirements and establish virtual regional offices. *Neither of these objectives has been achieved, and the Committee sees very little evidence that suggests they will be achieved in the 2009 fiscal year.* In the Committee's view, rolling over the stated goal of achieving a nationwide work force into another year is unacceptable.

As was noted in the 2007 Annual Report, the regulations governing the relationship of examiners to the Office require each examiner physically to appear at his or her assigned duty station at least one day per week. The expense of that travel must be borne by the hoteling examiner, and the Office gives no "travel hours allowance" that operates as a credit against the number of hours an examiner must otherwise work. Both the travel expense and time demands operate as a *de facto* bar on the widespread adoption of hoteling by any examiner who wants to live beyond a reasonable commuting distance from Alexandria, VA. The number of such examiners who participate in the program is vanishingly small.[2]

The Committee recommended in its 2007 Annual Report that this duty station requirement be "abolished by any appropriate procedure." Despite this recommendation, the requirement survived through 2008 and will live on into 2009. During Fiscal 2008, the Committee discussed this issue on numerous occasions with both Office management and employee Unions (POPA and NTEU), wondering why solutions cannot be found. Why, for example, can the Office not simply abolish the duty station rule by its own fiat? Better still, why can the Office not simply change an examiner's duty station to any place in the nation where the examiner chooses to live?

[2] The Committee notes that 52 examiners have chosen to base themselves outside this commuting distance, and have been bearing the financial and time penalties incurred in reaching the Office one day per week.

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The answer to the first question is that the designation of a "duty station" is a requirement for all federal employees, as the location of that duty station defines the "locality pay" for an employee. While the "locality pay" for Office employees is nationwide, the requirement for a specified duty station remains. The answer to the second question is that the Office can indeed change an examiner's duty station to any locale it chooses. Changing the assigned duty station of an examiner from Alexandria to some remote locale would solve the problem of the duty station reporting requirements as the examiner would be operating from that new duty station on a daily basis. However, that change introduces other complexities that have defied resolution for the last two years.

Applicable regulations mandate that the Office pay all travel costs incurred by an employee from her assigned duty station to the home office for any mandated visits. In addition, regulations require that the Office offer an hour-for-hour credit for any such travel time to be used against any assigned work hours. The Committee appreciates the uncertainty that would ensue under the present regulatory scheme if the Office immediately opened up distant hoteling opportunities for all examiners. The impossibility of ascertaining just how many examiners would avail themselves of this opportunity is evident, as is the impossibility of guessing to what far flung places these examiners would move. Shouldering the enhanced financial burden of this increased travel could strain a stretched budget. Willingly accepting the lost productivity for this travel time would be at odds with severe pressures to bring pendency back into acceptable limits.

To solve these problems, in FY 2008 the Office threw its support behind telework legislation[3] that would modify the existing regulatory scheme that has so far frustrated all attempts at achieving an effective, nationwide work force. The legislation would permit the Office to submit to Government Services Administration ("GSA") a proposal for a 6-year demonstration pilot with the goal of reducing reporting requirements back to the Alexandria campus. Under the proposal, an employee could choose to live anywhere in the United States in exchange for a willingness to return, on a limited basis, to Alexandria at his or her own expense.

In discussions between the Office and employee Unions concerning this legislation, the Office agreed to define:

- the frequency of and conditions justifying the mandatory return to Alexandria;
- the minimum amount of notice before requiring a teleworker to report to Alexandria;

[3] S. 1000, The Telework Enhancement Act of 2007, was marked up on November 14, 2007 by the Senate Homeland Security and Government Affairs Committee. During the mark up, an amendment was offered by Senators Daniel Akaka and Ted Stevens that would allow GSA to grant agencies the ability to test flexibilities within the travel regulations through October 2014. H.R. 4106, the Telework Improvements Act of 2007, passed the House on June 3, 2008. The GSA test program language, contained within S. 1000, was not in H.R. 4106. Unfortunately, because of time constraints and political reasons, S. 1000 never came to the Senate floor.

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- work-schedule requirements to ensure flexibility and accommodate the various time zones in the United States.

Negotiations around each of these areas of concern progressed during FY 2008. For example, the Office agreed to limit the number of mandatory trips from a remote duty station to Alexandria to no more than four per year. This is possible in part because of the wider availability of computer based training ("CBT") that would eliminate travel requirements for essential training that had previously required face-to-face meetings. More importantly, the Office agreed to limit the conditions under which the Office or a Supervisor could require such return trips to a specified list, but the details of those conditions are still subject to negotiations between the Office and the Unions. The Committee understands that one of the Unions has so far refused to concede that examiners choosing to avail themselves of a remote duty station must pay for any expenses at all, or that they should not be credited for travel time. [4]

The Committee is of the view that a solution space must be found, and be found quickly, despite the difficulty of the issues and the competing concerns. The Committee thus recommends that the Office and the Unions place this issue among their highest priorities and look for a concrete resolution before the next PPAC meeting in March 2009. The issues are known, and the evidence for and against each point is readily available. Indeed, the solutions themselves are known. Reaching a solution will require compromise on the part of the Unions and perhaps additional compromise on the part of the Office. However, the absence of a negotiated solution will delay the introduction of legislation necessary to change the existing regulatory scheme. That delay will place significant obstacles in the way of any near-term accomplishment of the stated goals of the nationwide work force noted above.[5]

No more studies; no more tentative steps. It is time to get the job done.[6]

[4] The Committee understands that NTEU 245 was a supporter of the telework legislation referenced in note 3, supra.

[5] Because the regulatory scheme that impacts the Office and its employees also impacts other Federal agencies and work forces, even complete agreement between the Office and the Unions will not necessarily bring an immediate resolution to the issue of a nationwide work force. However, agreement here is at least an effective starting point for consensus beyond the Office.

[6] On the question of extending the hoteling program, the Committee notes that the Office added 400 more patent examiners to its existing program and including non-examiner employees, such as Technical Support Staff. This increased participation has been on the part of personnel within a daily commuting distance and has had no impact on the creation of a nationwide work force.

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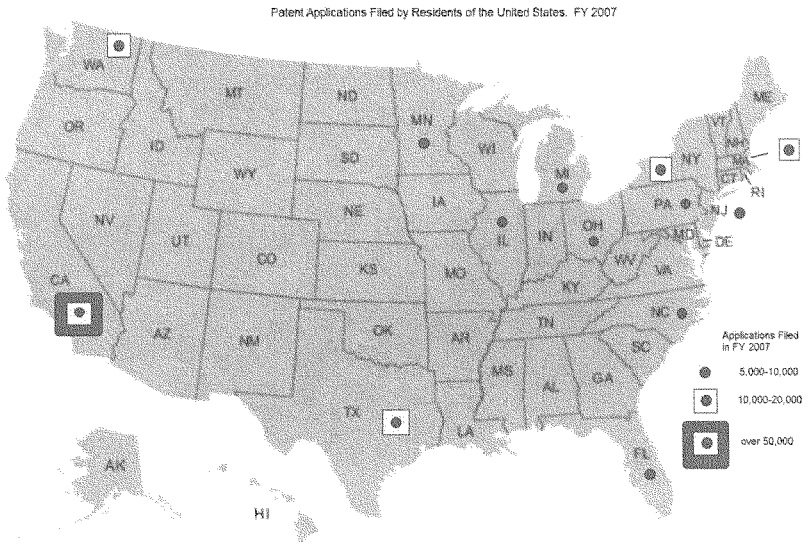

This map shows areas of concentration for patent applications filed with the USPTO in FY 2007. It is clear to the Committee that not all of the applications are filed within the duty stations around the Office and that a nationwide workforce with examiners in Silicon Valley, New York and other clearly obvious technology centers would benefit US innovators across our nation.

4. The need for a process improvement practice in the Office:

The OCIO issues discussed above as well as internal discussions by the Committee has convinced the Committee that the Office processes are in need of review and improvement. The Office in FY 2008 appears to have come to the same consensus when it established the Chief Process Improvement Office (CPIO). This new Office is to develop and implement a comprehensive strategy to undertake and ensure continuous process improvement throughout the Agency, instead of the past more ad hoc improvement process. The CPIO is a significant indication of the Office's commitment to reviewing, analyzing, standardizing, and improving its myriad processes. The Committee is aware that the establishment involved a significant internal education program among business unit heads and managers, so that the CPIO will be understood and valued. Additionally, Committee also understands that the creation of CIPO involved many levels of approval through the executive branch and notification of the oversight committees. While acknowledging that advance, what must come next is a robust commitment to implement the purpose of the CPIO. The Office leadership must ensure the CPIO is able to design and direct activities, beyond just cataloging efforts underway. Many process improvement programs fail because resources are not deployed strategically, and instead are directed so as to avoid "threatening" or "destabilizing" a core process; that approach is wrongheaded. The Office must empower the CPIO and the

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supporting business unit liaisons to prioritize the most essential processes. Additionally, their efforts must embed continuous improvement metrics and review processes (e.g., change control protocols). This is distinct from many of the initial efforts, which involve process-mapping, and have not yet advanced to continuous-review.

A critical review of the examination process, and the corporate processes that support examination is a basic strategy of addressing the backlog. Without ensuring the process is efficient, the Office will run the risk of over-hiring, purchasing unnecessary equipment, instituting practice changes that cannot be incorporated without impacting quality negatively. This improvement process should also focus on the quality of initial actions, pendency reduction through internal procedural efficiencies and incorporate feedback mechanisms based on subsequent invalidity determinations by the Boards of appeal and courts

The Committee recommends that:

- the Office map the examination process within each Technology Center (TC), and then determine if any variations discovered are based-upon the underlying technology, if not, the processes should be standardized. (The technology centers are not meant to be "examination laboratories" where varied practices develop as a matter of differing cultures. Such differences inhibit many values: the ability to move managers among the TC's, transparency of process for the user-community and oversight bodies, efficient deployment of new procedures and/or quality metrics, and ease of harmonization of practice with other offices.); and
- the Office be prepared to discuss the findings and recommendations of the CPIO at its February 6th meetings in 2009.
- The Office consider adopting international or industrial standards for its process improvements, as to the specific type of program, such as ISO or Six Sigma, etc. that Committee does not offer any advise, but leaves it up to the Office to determine the best type of program for its needs.

IV. GENERAL NON-CRITICAL ISUES RELATED TO POLICIES, GOALS, PERFORMANCE, BUDGET AND USERS FEES OF THE USPTO

1. Budget:

FY 2008 review: The President's Budget for FY 2008 requested $1.915 billion for the Office, an amount equal to the Office's projected user fee collections. Congress approved the President's request and appropriated $1.915 billion, which represented an increase from FY 2007's appropriation level of $1.771 billion.

At certain points during the year, the Office revises its user fee collection estimates based on applicant and other activity (such as issue fees). In the summer of 2007, the Office revised its patent fee collection estimates for FY 2008 by $70 million due in part to declining allowance rate and in return, issue fee collections. The Agency adjusted

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spending plans accordingly through a process of spending reductions including a 50% hiring freeze on all non-examiner vacancies, a 10% across the board reduction to travel, the absorption of within-grade increase costs through delayed backfill hiring, and several targeted non-compensation reductions. The end of year fee collections ultimately were only $36 million less than projected which allowed the Office to fully fund retention and recruitment bonuses, continue its PCT outsourcing efforts and allocate more resources to improving its IT infrastructure.

The following chart illustrates the actual Office obligations and expenditures for FY 2008 by business area.

BUSINESS AREA	**FY 2008 ($ in 000s)**
Appeals Boards	32,798
General Counsel	11,665
Director's Office, External Affairs, CFO, CAO	79,056
Patents	1,152,472
Trademarks	91,235
CIO	257,444
MGE	227,099
Reimbursable Agreements	773
Total	$1,852,541

FY 2009 budget: The Office's FY 2009 budget request is $2,075 billion, which represents a $159 million increase over the FY 2008 level. This request would provide $1,828 million to the Patent business line for completing 445,200 first actions on patentability determinations and 400,200 patent application disposals (equaling 422,700 units of production); and $247 million to the Trademark business line for completing 439,500 first actions on trademark applications and 345,200 office disposals. The corresponding user fee collection estimates for FY 2009 of $1,828 million for patents and $247 million for trademarks assumes the fee structure based on the provisions of Title VIII in the Consolidated Appropriations Act, 2005 (Pub. L. No. 108-447) will be continued in FY 2009 by the necessary appropriation language.

The bulk of the Office's budget each year is geared toward three broad responsibilities:

- Providing high quality and timely examination of patent and trademark applications,
- Guiding domestic and international IP policy, and
- Delivering IP information and education worldwide.

In particular, resources requested in FY 2009 will be used again to fund additional patent examiners. In addition, resources will be used to continue the implementation of e-

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Government to more efficiently process patent applications; competitively source the classification and reclassification functions; continue retention incentives to retain a highly qualified and productive workforce; and increase patent workforce telework participation through expansion of the patent "hoteling" program.

Diversion: FY 2008 marked the 4th consecutive year that the Administration proposed a "no diversion" budget for the Office meaning that the Office was appropriated and had access to the money it projected collecting through user fees. However, even if Congress authorizes $2 billion in Office spending based on projected $2 billion in user fee collections, if the Office happens to collect $2.03 billion by the end of the fiscal year (and it's very hard to project precisely with hundreds of fees adding to $2 billion of fee collections), then $30 million is "unintentionally" diverted and the Office does not have access to that $30 million in fee collections to cover operational and other expenses.

According to Office's audited financial statements from FY 1992 to FY 2004, a total of $749 million of USTO fee collections were not available to the Agency and spent on other federal government programs. This "diversion" of Office user fee collections, combined with a steady increase of application filings, led to a significant backlog of applications awaiting examination and the IT infrastructure deficit discussed above.

Last year, the Committee strongly recommended the adoption of legislation to 1) permanently end the diversion of user fees for non-Office expenditures; 2) give Office authority to set and adjust patent fees and 3) establish in the U.S. Treasury of a revolving fund to be known as the "United States Patent and Trademark Office Public Enterprise Fund" which would deposit all collected Office fees into the fund to be available without FY limitation until expended.

The Committee renews these recommendations. In order for the Office to operate effectively, it needs to have full access to the fees it collects. This will ensure the Office's ability to continue to recover the actual costs of operations and other related expenses designed at enhancing the quality and efficiency of its outputs and services and provide full IT modernization which is critically required. With the greater budget certainty that comes with retention of all user fee collections, the Office would be better positioned to successfully recruit, hire, train, and retain its growing workforce; a workforce that is necessary to tackle the workload of the Office. Greater long term budget certainty will also ensure continuation of new and enhanced processing and electronic filing programs; expansion of teleworking to a national level; and other quality and efficiency-based initiatives.

The Committee notes that in its FY 2008 appropriations bill covering the Office, Congress provided the Office the authority to access, until expensed at any point in the future, up to $100 million in fee collections in excess of the appropriation of $1.915 billion. This addresses the issue of "unintentional diversion." As noted above, the Office actually collected less than $1.915 billion it projected for FY 2008 so this provision did not need to be invoked. However, the Committee applauds Congress for the inclusion of this provision and urges Congress to make it permanent per the Committee's

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recommendation to establish in the U.S. Treasury of a revolving fund to be known as the "United States Patent and Trademark Office Public Enterprise Fund."

Future Budgets and Fees: As noted above, the Office collected $36 million less in FY 2008 than originally estimated. The Office made some necessary spending adjustments to come in line with the lower fee collections. However, the Office remains concerned about future fee collections due to the current economy and a lower allowance rate. The patent allowance rate was above 60% as recently as 2004; it has since decreased below 50% and was at 44% for FY 2008. In addition to the yearly decline in the collection issuance fees associated with the granting of patents, the Office is beginning to be effected by declining maintenance fees due to the gradual decline in the number of patents issued. This is likely to have a significant impact on Office budgets in the near future.

There is tremendous cost associated with the massive hiring of new patent examiners in the form of salaries, recruitment and retention bonuses, training, and recruitment/HR costs. This hiring effort seems to be nearly unanimously supported by the private sector. Furthermore, the Office is seeking to increase production by outsourcing Patent Cooperation Treaty (PCT) and reclassification work, better training, and more telework options for examiners. Expensive IT maintenance is also needed to support end to end electronic filing and processing of patent applications and enhanced telework and training efforts. All of this, of course, requires careful budget planning and funding.

The Committee understands the Office is crafting a package of increased regulatory fees to offset projected near term budget shortfalls and recover the actual costs of these activities. Higher regulatory fees may be necessary but the reality, as the Committee pointed out in its report last year, is that the Office's fee structure is 25 years old. Currently, its most important fees are set by statute, so that many fees are out of alignment with costs. Accordingly, the current fee schedule is the result of a patchwork approach that is not cost-based and has led to a large imbalance of fees, nearly 300 in total, that need reform and realignment.

Last year, the Committee urged Congress to work with the Office to pass legislation authorizing the Office to set and adjust patent filing and processing fees and to assure the Office has full access to its fee collections while maintaining appropriate Congressional oversight. Such legislation was not passed.

The Committee recognizes that virtually everyone interested in the U.S. patent system supports the twin goals of increased quality and reduced pendency at the Office. A well and appropriately funded Office is necessary to accomplish these goals. The Committee will support a collaborative effort in 2009 between the private sector, the Administration and Congress to reach agreement on Office funding priorities and an appropriate fee structure for the next decade to support such priorities.

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2. PPAC Outreach Initiative

In 2006 the Committee and the Office developed and implemented an Outreach Initiative to solicit feedback from a wide variety of stakeholders to identify potential improvements to the current patent system. These stakeholders included practitioners, academics, CEOs, industry groups, patent holders and independent inventors. The research involved conducting focus sessions and one-on-one interviews. The focus sessions typically included anywhere from 10 to 20 participants. While the one-on-one interviews were held with participants who were unlikely to participate in a focus session but who had a unique contribution to the research. Twelve focus sessions were conducted on the following dates with the following groups:

- Office August 2007 with SPEs at the Office
- Office August 2007 with Patent Examiners
- Washington DC on 10/17/07 with Patent Practitioners
- San Francisco on 10/24/07 with High-Tech industries
- New York City on 11/17/07 with Large Corporations
- Virtual Focus session on 11/26/07 with Academics and Tech transfer Chicago on 1/16/08 with Manufacturing industries
- Dallas on 1/23/08 with Energy, Aerospace and Communications
- Virtual Focus session on 1/24/08 with Financial services industries
- Santa Barbara CA on 1/28/08 with Corporate patent counsel
- Washington DC on 2/6/08 with Patent advocacy groups
- Philadelphia on 2/13/08 with Pharma and Biomed

In addition, several one-on-one interviews were conducted with CEOs of large corporations, Independent Inventors and CEOs of small businesses. Each focus session was recorded and transcribed (transcript length is typically 35+ pages). A database was created from these transcripts that contain problems and solutions that were discussed as well as ideas from additional sources such as studies (e.g., NAPA and GAO), customer surveys and comments on proposed rules. The database currently has 1100+ entries.

Some of the interesting items that have been identified for further study include:

- employing non-primary examiners as art unit managers (non-GS 15 subject matter experts to manage art units);
- alternatives to the current full time examiners (part time, retirees and nationwide work force were all mentioned by our external stakeholders);
- maintenance fee reminder notices;
- timelines for Rule 1.99 (extend this to either two months from publication or before the issuance of a first office action, whichever is later);

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- applicant attendance at the pre-appeal brief conferences; and
- escalating fee structure for priority claims

The summary of the out-reach report is appended to this report. The Committee recommends that the Office report to PPAC and the public on the feasibility and follow-up actins it plans to take on each of these suggestions at the Public Session on February 6th, 2009.

3. International Initiatives:

For some time, the Office has engaged in international cooperative activities, most notably in its twenty-five-year trilateral relationship with the European Patent Office and the Japan Patent Office. Until recently, this cooperation has focused mainly on documentation, the move to an electronic examination environment, advancement of legal harmonization, and efforts to shape proceedings within the World Intellectual Property Organization (WIPO).

Patent Prosecution Highway: Over the last four years, the Office has fervently pushed for cooperation in the area of worksharing; where, in internationally filed applications, the search and examination results of one office is re-utilized in offices of later filing. A major success for the Office involves the implementation of the Patent Prosecution Highway (PPH) system, in which the claims allowed in a first office are copied into that of a second office for subsequent examination there. To date, the results have been encouraging:

- In cases where the Office is the second office, an allowance has resulted 94% of the time with a first action allowance rate three times higher than non-PPH cases.
- PPH cases typically are examined within three months of the request. PPH is the very first worksharing program actually implemented.

The Committee recommends that the Office expand this program to as many other country offices as possible in 2009.

IP5 process: The Committee commends the Office for its initiative in enhancing the development of international cooperation with the five largest patent offices. The first meeting occurred in May of 2007 and the most recent in October 2008. At the latest meeting, the five offices affirmed that worksharing is the highest priority, and agreed to ten "foundation projects" aimed at facilitating the reuse of search and examination results. By engaging the five largest patent offices, the Office has begun a process where efficiencies can be obtained by sharing work in the long term. The 10 foundation programs aims are:

- Common documentation database (EPO):Assemble a common set of relevant patent and non-patent literature from around the world to assist patent examiners in their prior art searches;

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- Common approach for a hybrid classification (EPO): Enable joint and efficient updating of patent classification and facilitate reuse of work among the patent offices;
- Common application format (JPO): Facilitate the filing procedure of each office by using a common application format and an electronic or digitized patent application filing (in XML) and subsequent processing and publication in XML (an industrial trilateral proposal on common format was accepted by the USUSPTO, EPO and JPO last year and should be piloted in 09);
- Common access to search & examination results (JPO): Enable examiners to find one-stop references in the dossier information of other offices, such as search and examination results, and conduct priority document exchange (PDX) to reduce costs of ordering copies of priority documents for applicants and administrative costs of electronic processing for offices;
- Common training policy (KIPO): Standardize the training of patent examiners at each office, helping examiners to produce equivalent results of search and examination at the five offices;
- Mutual machine translation (KIPO): Help offices overcome the language barrier of patent information and allow greater access to each other's patent information;
- Common rules for examination practice & quality control (SIPO): Execute patent examinations at a similar standard and quality through common rules of examination practice and quality control;
- Common statistical parameter system for examination (SIPO): Establish a system of common statistical parameters for all examinations at the five offices; and conduct statistical tasks and exchange information on examination practices under common rules and parameters, building on work of the Trilateral statistical working group;
- Common approach to sharing & documenting search strategies (USPTO): Promote re-utilization by enabling patent examiners of each office to understand each other's search strategy; and
- Common search & examination support tools (USPTO): Establish system of common search and examination tools to facilitate work-sharing.

The Committee recommends that the Office propose a timeline to the other offices for the implementation of these foundation processes

4. Hiring:

Hiring 1200 engineers and scientists per year is a significant challenge. Adding to this challenge is the fact that a good portion of these new hires must come from the harder to find electrical and computer disciplines. The pool of candidates do not normally have any depth of understanding as to what the patent examiner job entails and rarely have any patent background. Therefore, the Office focuses a tremendous amount of resources

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educating these candidates during the hiring process to ensure that they fully understand the requirements and environment that they will be working in.

Goals:

2008 goals/results	2007 goals/results
FY 2008 goal – 1200 new hires	FY 2007 goal – 1200 new hires
FY 2008 hires – 1211	FY 2007 hires - 1215
FY 2008 Examiner Attrition*– 563	FY 2007 Examiner Attrition* – 543

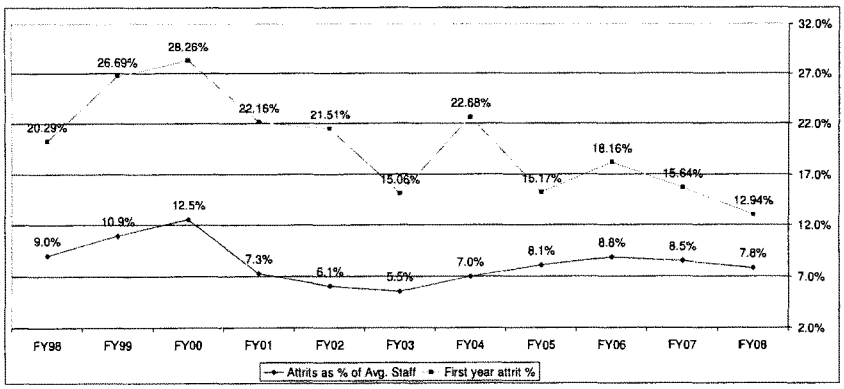
FY 2009 – FY2014 Goal – 1200 new hires per year and 8400 Examiners by FY 2014

*Including transfers and retirement

5. Retention:

With a goal of having 8400 examiners in place by 2014, it is critical that the Office maintain a qualified and competent workforce. Over the past few years, attrition rates have been higher than expected, and as a result, a renewed focus on examiner retention is warranted.

- Attrition Data showing the attrition percentage is declining for total examiners and 1st year employees.
- 9.5 % Attrition (includes retirement and promotions)
- 7.9% actually left the agency
- Currently 6099 examiners, 414 supervisory patent examiners, 100 quality assurance specialists, and 48 SPE / Trainers for patent training academy



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To reduce attrition, the Office has begun offering retention bonuses (Starting in the summer of 2006), for GS 5/7/9 Electrical and Computer engineers. The retention bonus for these examiners is between $8,000 and $9,900. In the summer of 2007 all other disciplines started to receive a $5,000 retention bonus. The bonuses are paid out over a 4 year time frame with the goal to keep an experienced examination corps in place, trained, and motivated. Data suggests that If an examiner stays >3 years, attrition drops to 4%.

The Committee recommends the Office present a tabulated set of results of the exit interviews with all departing examiners along with an analysis of reasons for attrition and responsive plans to reduce attrition.

IV. CONCLUSIONS

The Committee believes that the Office has made a number of advances this year and should be commended for these. However, the Committee believes that the Office should have made more progress on the Committees 2007 recommendations than it did in 2008. The Committee also believes that the continuing issues of Quality and Pendency are the paramount challenges facing the Office and the patent system as a whole. In addition the Office now faces a real crisis in the IT area that if not properly resolved in a timely manner with severely inhibit any further progress the Office can make in Quality, Pendency or National Workforce. The Committee has spent a great deal of time over the past two years working with the office and the USPTO user community (see the Summary Outreach Report submitted with this report) in order to make and follow through on recommendations aimed at enhancing the Office's capability to issue high quality patentability determinations within a time-frame that is useful to patent applicants. The "scorecard" and subsequent discussion topics in this report aim to move the process forward.

Robust staffing with strong retention incentives such as special pay and a nationwide workforce; full access to fees from Congress; good budget stewardship by the USPTO; international worksharing; efficient USPTO IT infrastructure; even agreed upon metrics to measure quality and pendency are all important "micro" issues that support the broader goals we all share.

This report, as did the 2007 report, outlines a number of concrete recommendations that the Committee believes will move the Office and the innovation community toward solutions to the Quality and Pendency issues. There are no simple quick fixes, the issues developed for a number of reasons over an extended period of time, but these challenges are surmountable.

The Committee understands that it has not developed all the answers, but the Committee does believe that these recommendations along with the Office's sincere willingness to address these concerns in such a positive manner and engage in honest dialog with users on areas of mutual concern will ultimately create the patent system that the public desires

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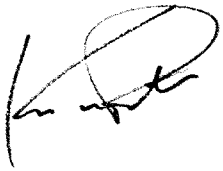
and deserves. The Committee believes innovation and quality and timely patents are the life blood of the American economy and success. The USUSPTO is one of the great institutions furthering that innovation and needs the support and assistance of the Administration and Congress to provide every inventor with his or her right to the protection of their valid invention.

Respectfully submitted,



Kevin G. Rivette
Chair
December 1st, 2008

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Appendix - 2008 Patent Public Advisory Committee Annual Report

Committee Members

Kevin Rivette – Mr. Rivette is the Committee's Chairman. Mr. Rivette was most recently the Vice President for Intellectual Property Strategy for the IBM Corporation. In September 2007 Mr. Rivette was honoured to be voted into the Intellectual Property Hall of Fame, by members of the IP community. He is a former patent attorney and litigator. Prior to his work with IBM Mr. Rivette was the Executive Advisor for Intellectual Strategy at the Boston Consulting Group (BCG). Mr. Rivette was also founder, Chief Executive Officer and Chairman of Aurigin Systems. Aurigin Systems was the first company to develop and commercially market visualization technologies for analyzing and understanding the competitive landscape of worldwide patents. Aurigin Systems was subsequently sold to Thomson Scientific.

For his work in IP tool development Mr. Rivette has been awarded over forty patents worldwide. In addition, Mr. Rivette is also the author of the business book on patent strategies, *Rembrandts in the Attic*. He has also written on this subject for many publications including *CEO, Chief Legal Officer Magazine, The Harvard Business Review* and has made numerous TV and radio appearances to discuss the strategic business use of Intellectual Property. Mr. Rivette was inducted into the IP Hall of Fame for his work in 2007. Mr. Rivette and is a frequent speaker at international conferences, including, The World Economic Forum in Davos, Switzerland and he has also been a guest lecturer at Keio, Harvard and Stanford University business schools. He lives in Palo Alto California

W. David Westergard – Mr. Westergard is an attorney and inventor. He is the Director of Patent Licensing and European Litigation for Micron Technology Inc. Prior to joining Micron in 1995, Mr. Westergard worked for the law firm Arnold, White & Durkee in Houston, and has served as a law clerk for Judge Randall R. Rader on the Court of Appeals for the Federal Circuit.

Douglas Patton – Mr. Paton is an entrepreneur and inventor. He is the founder of Patton Design, a consulting firm that helps companies with strategy and new product development and has created over 450 new products for diverse market categories. He has received numerous patents for his work and, in addition, his work has been nationally and internationally recognized through numerous awards, including awards for design, engineering and ergonomics. Most recently, Mr. Patton developed a revolutionary new car seat for children that won the million-dollar first place prize on ABC's television series "American Inventor."

Louis J. Foreman is founder and chief executive of Enventys, an integrated product design and engineering firm with offices in Charlotte, N.C., and Taiwan. A prolific inventor himself, he frequently lectures on the topics of small business creation and product development as well as intellectual property. Mr. Foreman is the publisher of Inventors Digest, a 20-year-old publication devoted to the topic of American innovation.

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He was the founding member of the Inventors Network of the Carolinas. He is the executive producer and judge for a new inventor's TV show called Everyday Edisons, which airs nationally on PBS stations.

F. Scott Kieff is a law professor at Washington University in St. Louis and a research fellow at Stanford's Hoover Institution where he runs the Hoover Project on Commercializing Innovation. He serves as a faculty member of the Munich Intellectual Property Law Center in Germany and previously has been a visiting professor in the law schools at Northwestern, Chicago, and Stanford, as well as a faculty fellow in the Olin Program on Law and Economics at Harvard. Having practiced law for over six years as a trial lawyer and patent lawyer for Pennie & Edmonds in New York and Jenner & Block in Chicago, and as law clerk to U.S. Circuit Judge Giles S. Rich, he regularly serves as a testifying and consulting expert, mediator, and arbitrator to law firms, businesses, government agencies and courts.

Damon C. Matteo is vice president and chief intellectual property officer of the Palo Alto Research Center (PARC). His two-decade career in intellectual capital management (ICM) includes extensive experience in the creation, strategic management, venture/funding and commercialization of the full spectrum of corporate intellectual property assets through such vehicles as direct-to-product use, licensing, assertion, start-ups and M&A in North America, Asia & Europe. Among Mr. Matteo's numerous professional awards, he has been named one of the "Fifty Most Influential People in Intellectual Property" by Managing Intellectual Property magazine; and has received the National Technology Transfer Excellence Award given by the U.S. Federal Government. Mr. Matteo also serves on the Board of Directors for the European Center for Intellectual Property Studies, and was selected principal industry expert in intellectual capital management for both the U.S. Security & Exchange Commission (SEC) and the United Nations. Mr. Matteo frequently lectures on ICM at universities and professional organizations throughout the world.

Marc Adler – Mr. Adler recently started a private intellectual property strategy consulting practice (Marc Adler LLC). For the past 26 years he worked for Rohm and Haas Company and since 1993 served as the Company's Chief Intellectual Property Counsel and Associate General Counsel. Marc had worldwide responsibility for all intellectual property matters for the company including patent preparation and prosecution, intellectual property strategies, licensing and litigation, and managed a group of 25 attorneys and agents in the US, Europe, Japan and China.

Mr. Adler is the immediate past President of the Intellectual Property Owners Association and Association of Corporate Patent Counsel. He was also on the Executive Committee of the US AIPPI. He is also currently on the Board of the National Inventor's Hall of Fame, the IP Advisory Boards of Franklin Pierce School of Law and Lexis/Nexis.

Mr. Adler received his BS ChE from the City College of New York, his MS ChE from the University of Florida, and his law degree (JD) from St. John's University in New York. He started his career as a Chemical Engineer for 8 years with Esso Research and

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Engineering and Union Carbide Corporation before becoming an associate with a patent law firm in New York City.

Stephen M. Pinkos – Mr. Pinkos is a Senior Advisor with PCT Government Relations, LLC – a firm that provides a full spectrum of bi-partisan, federal, state and international public policy advisory services related to intellectual property. Mr. Pinkos previously managed the daily operations of the Office as the Deputy Under Secretary and Deputy Director. In this capacity, he initiated and supervised restructuring of the Chief Financial, Information and Administration Offices; played an integral role in launching the largest-ever Office hiring, training and retention effort; and supervised critical quality control, pendency reduction and IT initiatives. He also was instrumental in the development and implementation of the Bush Administration's STOP! (Strategy Targeting Organized Piracy) program. Prior to the Office, Mr. Pinkos served as Staff Director and Deputy General Counsel for the House Committee on the Judiciary.

Maureen K. Toohey – Ms. Toohey is the founding member of Toohey Law Group LLC in Boston, Massachusetts. She counsels clients regarding the strategic protection and transfer of intellectual property rights, prosecutes patent portfolios, and litigates intellectual property disputes for start-up companies in the medical device, biotechnology, clean technology, and internet fields. Ms. Toohey is a registered patent attorney and practices in California, New Hampshire, and Massachusetts. She was previously a law clerk to U.S. Federal Circuit Judge Randall R. Rader. She is affiliated with a number of IP organizations such as the Federal Circuit Bar Association, American Intellectual Property Law Association, and the ABA Section of IP Law.

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Summary Outreach Report Attachment

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Voting Committee Members:

Kevin G. Rivette,
Chairman
3LP Advisors

Marc S. Adler
Marc Adler, L.L.C

Louis J. Foreman
Enventys

F. Scott Kieff
Washington University
in St. Louis; School of Law

Damon C. Matteo
Palo Alto Research Center

Douglas Patton
Patton Design, Inc.

Stephen Pinkos
PCT Government Relations

Maureen Toohey
Toohey Law Group

W. David Westergard
Micron Technology, Inc.

Non-voting Representatives:

Robert D. Budens, President
Patent Office Professional
Association (POPA)

Vernon Ako Towler,
Vice President
National Treasury Employees
Union (NTEU, Local 243)

Catherine Faint ,
Vice President
National Treasury Employees
Union (NTEU, Local 245)

PATENT PUBLIC ADVISORY COMMITTEE OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

Summary Outreach Report

In the November 30, 2007 Annual Report presented to the President and Congress, the Patent Public Advisory Committee (the "Committee" and "PPAC") attempted to sound the alarm on a growing crisis within the United States patent system. The crisis is based largely in public perceptions that too many patents issued by the United States Patent and Trademark Office ("Office") are of low quality, that the application process is unreasonably long and that the Office lacks the resources to deal with its dramatically increasing backlog. The Committee also made specific recommendations for the Office which, in our view, would ameliorate the concerns leading to poor quality and long pendency. We noted that failure promptly to implement these or other solutions would cause the United States to lose a key driver of both its domestic and global economic power.

Despite the seriousness of the crisis, we also noted in the Annual Report, and now reiterate with approval, significant steps undertaken by the Office to improve quality and reduce pendency. Revising recruitment, retention and examiner training policies, establishing regional offices, outsourcing searching functions and creating a "suite of examining products" were some of the proposals that were then under consideration by the Office. Various pilot programs related to these and still other initiatives are in place to test their viability. We congratulate the Office on its commitment to improving the patent examination process with a goal of enhancing the quality of examination, reducing pendency and mitigating the headaches, hassles, expenses, and delays frequently associated with the patenting process.

One of the joint PPAC/Office initiatives underway at the time of the Annual Report was a public outreach program ("PPAC Outreach") that began two years ago as a means of understanding solutions to pendency and quality issues that are most favored by the stakeholder community ("Stakeholders"). These Stakeholders included practitioners, academics, CEOs, legislators, industry groups, patent holders and independent inventors, to name a few. The aim of the PPAC Outreach was to identify all manner of change including long, medium and short term solutions ranging from statutory changes, rule changes and programs that can be implemented under the Office existing authorities.

The PPAC Outreach has largely completed the initial stages of its mission. The purpose of this letter is to (i) summarize the initial objectives and outline the steps undertaken to achieve those objectives, (ii) summarize the results, and (iii) provide specific recommendations to the Office on the best Stakeholder ideas for improvements.

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Initial Objectives

Following a Request for Proposal ("RFP") published by the Office in June of 2007, the Office hired an independent firm, Analytic Focus, LLC, to conduct qualitative research via the use of focus group sessions (both in-person and virtual/web-based) and one-on-one interviews with various Stakeholders. The scope of the work as stated in the original RFP was to "gather, analyze and become aware, using the most unbiased and scientific process(es) possible, all issues pertaining to potential problems and improvements to the United States patent system in a clear and concise format."

Beginning in September 2007, and ending in February 2008, Analytic Focus moderated ten focus group sessions with 99 participants representing ten separate Stakeholder groups. Two of the sessions were virtual/web-based and the other eight took place in Washington, D.C., San Francisco, New York, Chicago, Dallas, Santa Barbara and Philadelphia. (See Exhibit 1 for the list of focus group participants.)

Analytic Focus recorded and transcribed the discussion from each focus group session. Following the sessions, the transcripts were reviewed to identify every unique suggestion (i.e., one that could be characterized as a discrete suggestion for improvement), and then categorized a total of 1,129 suggestions into topics and sub-topics. Ten primary topics emerged from this data collection. A table showing the Top Ten Topics is attached as Exhibit 2.

Results

As noted above, the Top Ten Topics of interest by the Stakeholders are (i) Office interaction with the public, (ii) internal Office processes, (iii) examiner recruitment and retention, (iv) prior art and searching, (v) examination practices, (vi) enhancing the knowledge skills and abilities of participants, (vii) examination timing options, (viii) alternative forms of patents, (ix) fees, and (x) post issuance concerns. Exhibit 2 provides summary detail on the nature of the Stakeholder concerns.

Within these areas, several topics were of great interest to the Stakeholders:[1]

(i) Agency Interaction with the Public

Several unrelated sources all suggested the need for an ombudsman type of position at the Office to field and investigate both general complaints and case-specific inquiries, resolve customer service complaints (i.e., "the examiner won't return my phone call") and serve as a troubleshooter to get cases back on track when they have fallen through a crack in one of the Office's automation systems such as the Patent Application Locating and Monitoring ("PALM") system or the Image File Wrapper ("IFW"). It is not clear what authority such a position would have, or where it would fit with existing petition and appeal practices. However, an exploratory pilot program could be established in a given Technology Center ("TC").

[1] This section on "Results" discusses the subject matter areas the Stakeholders determined to be the most critical to improving the patent system, without regard to whether Office already has programs or "pilots" in place that directly address some of these suggestions. The Committee takes existing Office initiatives into account in making its specific recommendations in the section on "Recommendations."

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There was also considerable Stakeholder interest in improving the Office's online systems. Stakeholders would like the Office online systems to be more user-friendly and interactive, so that information such as docket numbers, addresses, and so forth could be readily updated. Stakeholders also seek improved connectivity between their systems and those of the Office.

Each focus group shared widespread enthusiasm for the PPAC Outreach effort and appeared genuinely to appreciate the fact that PPAC and the Office were actively soliciting Stakeholder input. Several Stakeholders suggested the creation of a permanent outreach collaboration program.

(ii) Internal Office Processes

Several Stakeholders offered suggestions related to Office's review processes, specifically regarding the place of the Office of Patent Quality Assurance ("OPQA") within the Agency. The general theme of these suggestions was the reviewers are too far removed from examining and should not be held apart as a separate group.

As a pilot to implement these suggestions, the OPQA review process in a given TC could be changed to employ a rotating set of examiners or supervisors in lieu of the regularly assigned reviewers. This would parallel the regular reviews, so that meaningful comparisons could be made. Several TCs already use examiners to conduct second pair of eyes reviews, and this would be a natural outgrowth of those successful programs.

Stakeholders also expressed the desire for improved performance metrics, to better assess the quality of the Office's work. Stakeholders suggested that the Office work with them to determine what exactly to measure and how to measure it.

(iii) Recruitment and Retention

Many Stakeholders offered ideas to improve the Office's ability to attract and retain qualified examiners. These ideas centered on expanded telework, higher pay, and satellite offices. Moving the Office out of Title V was also discussed as a way to allow flexibility in compensation for a performance based organization.

Less frequently mentioned were suggestions to increase the length of service agreements for law school tuition, and eliminate automatic registration based on the Office examining experience. Stakeholders felt that both items might decrease attrition.

(iv) Prior Art and Searching

Numerous Stakeholders suggested enhancing the public's ability to submit prior art in published applications on the belief that expanding the public's ability to cite prior art against pending applications would provide a modest improvement in patent quality at little to no cost to the Office. Currently, third parties can generally submit art only within two months of publication under 37 CFR 1.99 (Rule 99), and can provide no explanation whatsoever of the documents submitted. While many chose not to submit prior art to the Office for tactical reasons, others are prevented from citing prior art due to the time constraints of Rule 99.

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To that end, Stakeholders proposed that the Office amend Rule 99 to permit prior art citations to be filed within two months of publication, or prior to a first action on the merits, whichever is later. Additionally, the fee for such submissions should be lowered or eliminated, and the rule amended to permit the third party to cite the most relevant column and line and/or figures of the document(s) submitted. (This would not amount to a protest, which is prohibited by statute.)

In the current Internet age, there is a considerable amount of commercial search know-how. Many Stakeholders suggested that the Office leverage that existing knowledge base to enhance its existing search systems or develop new ones.

Other ideas under this category that the Office could implement fairly easily include providing a full-text database of Office-translated documents (e.g., human-translated foreign patent documents) and providing easy access to technical specification databases.

(v) Examination Practices

Stakeholders overwhelmingly favored examiner interviews as one of the more effective means of advancing prosecution. Suggestions varied from pre-first action interviews to interviews at other stages of the prosecution. For example, applicants could be given one post-final interview as a matter of right. (Currently it is at the examiner's discretion.) Another Stakeholder (from patent practitioner group) proposed requiring applicants to explain the differences between a Continuation In Part application and the parent application, or between an application and its foreign priority document(s). This would clearly provide a benefit to examiners in determining the effective filing dates of each of the pending claims.

Stakeholders also expressed considerable interest in changes to certain Office examination practices, notably restriction practice and final rejection practice. In general a more lenient approach by the Office was desired.

Some Stakeholders proposed that the examiner send a notice to the applicant that the application was about to be examined, and require the applicant to respond with a confirmation of "intent to prosecute" the case. Failure to respond to the notice would lead to abandonment of the case. Stakeholders perceived this as an effective means of weeding out cases which the applicant had already effectively discarded and preventing the waste of examiner resources.

(vi) Examination Timing Options

Stakeholders offered numerous suggestions on timing options which essentially coalesced around deferred exam, accelerated exam based on the payment of a fee (without the search and Accelerated Exam Support Document), and splitting the examination phase into search and examination, such as with cases filed under the Patent Cooperation Treaty ("PCT").

Comments concerning deferred examination included a range of alternatives and variations, including anywhere from two to seven year deferral periods, automatic deferral absent a request for examination, the right of third parties to request examination, and various payment options, for example. Some

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Stakeholders were vehemently opposed to any form of deferred examination unless controls were in place to prevent applicants from staking out a broad disclosure and using the deferred timeframe to see specific industry implementation of concepts disclosed in the specification.

Stakeholders suggested a possible pilot wherein the Office could offer applicants in a given TC the choice of receiving a search report, and thereafter deciding whether or not to move forward with substantive examination. The examination fee could be deferred until the search report is received. Applicant could then choose to either pay the examination fee or allow the case to go abandoned. This would essentially mirror old-style PCT practice, and could reduce the workload.

(vii) Alternative Forms of Patents

Analytic Focus had invited the Stakeholders to consider the Office's "suite of products" proposal that would create different types of patents depending on the level of examination and/or fees paid. Stakeholders had few suggestions in this category, with the most cogent being the suggestion that the Office establish a working group of inventors and experts to develop ideas for alternative forms of intellectual property.

As with post-issue concerns, most suggestions (there were not many in this category) would require legislative action.

(viii) KSA Enhancement (Internal and External)

Several Stakeholders suggested staffing the Office with "experts on demand." Such positions could be contracted on an as-needed basis, rather than necessarily full-time positions. These experts could be professors, industry experts, or even retirees who would be available to field technical questions from examiners in real-time or nearly real-time. For example, email lists, electronic bulletin boards, or an on-call phone system could be used to route questions from examiners to the experts, and route the answer back to the examiner. The question and answer could then be permanently stored in text-searchable database for later use by other examiners. This would be valuable in answering many technical questions examiners often have, such as "is property X inherent in composition Y," "would I expect changing this parameter to improve the results," "how does this thing work," etc.

There were also many suggestions for various training courses that could be given to the examiners, either as standalone courses or as part of the Patent Training Academy curriculum. The most notable include: legal writing (as in law school), claim drafting, negotiating skills and general analytic skills. Training in any or all of the above would clearly improve an examiner's skill set.

(ix) Fees

The Stakeholders openly supported a variety of fee initiatives, if necessary to reduce pendency. Some fee increases (e.g., filing, search, examination) would require statutory changes, but the Office could impose or raise other fees. One example the Stakeholders favored included a surcharge for each application for which priority is claimed under 35 USC 120. Alternatively, the Office could charge for each year of priority claimed. The bottom line was that the Stakeholders felt fees could be used to incentivize applicant behavior.

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(x) Post-Issue Concerns

Under this heading, the Stakeholders debated many of the issues being considered as part of the current patent reform initiatives pending in Congress, recognizing that most suggestions here would require statutory changes. Of those that would not, the most frequent comment concerns delays in reexaminations. Stakeholders recognized the need for Office to establish and publish clear and exact time-frames for specific actions in reexamination proceedings, and take all necessary steps to ensure those time frames are met.

Recommendations

After a thorough review of the data emerging from the PPAC Outreach, the Committee applied its own filter to the data and attempted to create a visual representation of the areas of concern that would warrant further review. That representation is attached as Exhibit 3 and includes a short discussion of each of the topics that appear on the chart.

The Committee then undertook an effort to "score" these areas of concern in order to prioritize future focus. The scoring looks at the respective burden and impact of a specific suggestion and applies a number between one and five, with one representing the least burden or the least impact, and five representing the highest burden or greatest impact. The "key" for scoring is attached as Exhibit 4.

In addition to the Committee's work, Office personnel also reviewed and analyzed the data, in a separate and independent effort to find workable solutions and improvements to the Office's operations. Office managers at all levels of the Agency have undertaken a detailed examination of the data to identify the most promising ideas. As this process continues, the Committee trusts that the different perspectives brought to bear on the data will ensure that all best ideas are properly considered.

The fallout of the application of the methodology described above resulted in the Committee focusing on the following subject matter areas described in further detail below. It should be noted that the Committee's recommendations do not perfectly align with the Top Ten Topics proposed by the Stakeholders. The reason for this is that the Office has already begun various initiatives that are well underway and that address many of these Stakeholders concerns.

Two ongoing initiatives relate to examiner interviews. The first involves recent revisions to the Manual of Patent Examination Procedure to encourage examiners to more frequently grant interviews pursuant 37 CFR 1.133(a)(2). Examiners have been somewhat hesitant on the determination of whether such an interview would advance prosecution of the application. In addition, as many applicants do not wish to leave such interviews to the sole discretion of the examiner, the Office is also engaged in another pilot program that allows interviews on request.[2]

[2] Because this pilot is limited to two technical classifications, and given the widespread Stakeholder belief that interviews would be assistive to applications in general and would result in more focuses first action on the merits that gets to the heart of the invention, the Committee strongly encourages Office to expand the pilot across all technical classifications before the end of the next fiscal year.

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Other ongoing Office initiatives highly favored by Stakeholders include (i) the "Tri-Way" and "Patent Prosecution Highway" in which the Office, the Japanese Patent Office, United Kingdom, Canada, and Korean patent offices share search results, (ii) a pre-appeal-brief conference pilot in which applicants may request that a panel of examiners formally review the legal and factual basis of the rejections in their application prior to the filing of an appeal brief, (iii) accelerated examination pilot in which the Office will advance an application out of turn for examination if the applicant files a grantable petition to make special under the accelerated examination program, and (iv) an extension and expansion to other classes of the Peer Review pilot in which the public can review volunteered published patent applications and submit technical references and comments on what they believe to be the best prior art to consider during the examination.[3]

The Committee believes that the following represent areas that are ripe for additional Office focus and/or pilot programs.

1. Improved Applicant Input & Inequitable Conduct Reform

Stakeholders uniformly recognized the efficiency gains that could be achieved by requiring more detailed applicant submissions. In every focus group session where this topic came up, however, the suggestion that applicants "do more" was met with an equally vehement objection. Many applicants submit references via information disclosure statements, generally without explanation of their relevance. Fear of inequitable conduct frequently drives applicants to submit voluminous amounts of such unexplained and often only marginally relevant references. Stakeholders recognized that such submissions impact Office efficiency, but are willing to provide more only if the Office considers contemporaneous changes to 37 CFR 1.56.

The Committee recognizes that inequitable conduct is a judicial doctrine, and that it is not entirely clear that any Office rule change would necessarily be adopted by the courts. Thus, any inequitable conduct reform may ultimately require a legislative fix. The Committee nonetheless recommends that the Office place this issue among its top priorities for the coming fiscal year, and to work with Congress on implementing appropriate reforms. Specifically, the Committee recommends (i) the deletion of 37 CFR 1.56(c)(3), to thereby limit the duty to disclose to only the inventor(s) and the attorney/agent directly preparing and prosecuting the application; and (ii) the addition of other safe harbor provisions could also be added to §1.56. Between the requirement to explain each reference and a reduced liability of inequitable conduct, information submitted by applicants would become more focused and useful to examiners, improving both quality and pendency.

2. Revise Count System

Examiners currently receive "counts" (credit) for a first action on the merits for an application and for "disposing" of an application. A disposal occurs when the case is abandoned, allowed or an examiner's answer to an appeal brief is written, or a Request for Continued Examination ("RCE") is filed. The next action following the RCE is considered to be a first action on the merits. Thus, an examiner receives two counts for a case with no RCE, four counts for a case with one RCE, six counts for a case with two RCEs, etc. No counts are given for final rejections, second or subsequent non-final rejections, or other miscellaneous actions.

[3] Office also has other initiatives in place that were not the focus of significant Stakeholder input.

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Stakeholders expressed numerous complaints about the incentives provided to examiners by the current production system. The first line of complaint is that by giving counts for allowances, but not final rejections, examiners are encouraged to allow applications that perhaps should be not issued. The second line of complaint is that the current system encourages examiners to force applicants into filing unnecessary RCEs with a view towards getting two extra "easy" counts. Stakeholders believe that examiners make premature final rejections and refuse entry of proper after-final amendments to force the applicant into an RCE.

The Committee recommends that the Office consider the incentives in the current production system, such as credit given to RCEs, and whether credit should be given to final rejections, and consider whether reduction, elimination or realigning the count system would encourage a prompt and final resolution of prosecution. Improved timeliness and quality could be achieved through a revised production system.

3. Revise Fee Structure and Deferred Examination

As is widely known, Stakeholders are generally opposed to the Office's proposed rules on claims and continuations. Some Stakeholders proposed an abandonment of the rules package in favor of a tiered fee structure that would allow as many claims, or as many continuation applications, as an applicant desired, but impose a ratcheted fee structure that increases fees with each claim over a specified number, and with each continuation application beyond a specified number. In the Stakeholders' view, enhanced costs would act as a disincentive to aggressive claiming or continued prosecution of all but the most important inventions and would achieve the same results as the claims and continuation rules package. The Committee recommends a "wait and see" attitude with respect to these enhanced fee suggestions pending the outcome of the pending appeal in the Tafas v. Dudas case. If the pending rules are ultimately rejected, the Committee recommends the implementation of a tiered fee structure along the lines Stakeholders propose.

On a related subject, other Stakeholders proposed a deferred examination program by which an applicant could elect when to advance an application for examination, with the possible times ranging from three to seven years following the initial filing. The Stakeholders suggested that many applicants will ultimately come to the conclusion that many inventions lack commercial viability, but that that realization often comes after examination is already complete. A deferred examination will allow applicants to file early to "stake out their territory," as it were, and then to wait to assess commercial viability at some future time. The Committee accepts this conclusion as valid, and would support a deferred examination program provided provisions were in place to prevent applicants from adding claims to a long-latent application based on ideas first seen in the marketplace. The Committee recommends the Office investigate more thoroughly ways of implementing this idea.

4. Innovative Hiring & Retention Programs

While the Office has consistently stated it "cannot hire [its] way out of this problem," with reference to the practical limitations on the hiring and training of examiners, examiners must nonetheless be hired and trained. To preserve the investment in that effort, experienced examiners must be retained. Improvements in hiring and retention would produce corresponding improvements in both quality and

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timeliness. Therefore, the USTPO should continue to create and improve innovative hiring and retention programs, including: expanding the hoteling program, eliminating the duty station requirements to allow for a nationwide workforce, establishing virtual regional offices, and reconsidering its pay schedules and other non-monetary perks.

In addition, the Office should focus recruiting efforts on experienced industry professionals looking for a second career, and/or hire part-time, semi-retired professionals. An expert-on-demand system could be established to assist examiners with technical questions (for example, via a web page where technical questions could be posted and answered, similar to various commercial websites).

5. Enhanced Search Systems

Office search systems are currently based predominantly on systems developed many years ago. While these systems have proven reliable and robust, Stakeholders frequently cited the need for improvements. The Committee recommends that the Office develop and deploy its next generation of search tools as soon as possible. The Committee recommends that existing commercial search knowledge be leveraged as much as feasible to take advantage of ongoing advancements in search engines. Any future systems should be capable of communicating with counterpart systems in other major patent offices, and should also provide simultaneous access to multiple databases, including US, foreign, and non-patent literature databases, to enable high-quality, time-efficient searches.

The Committee believes that significant improvements in available search tools would lead to commensurate improvements in the quality of issued patents.

Conclusion

The need for the Office to adapt and change is critical and the continued vitality and relevance of the Office is at stake. The recommendations above represent the input of a wide variety of IP stakeholders and we encourage the Office to begin implementation of these initiatives in order to enhance and secure the future of the patent system.

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SEC. 5. POST-GRANT PROCEDURES AND OTHER QUALITY ENHANCEMENTS.

(a) Reexamination- Section 303(a) of title 35, United States Code, is amended to read as follows:
`(a) Within three months following the filing of a request for reexamination under section 302, the Director shall determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, with or without consideration of other patents or printed publications. On the Director's own initiative, and at any time, the Director may determine whether a substantial new question of patentability is raised by patents and publications discovered by the Director, is cited under section 301, or is cited by any person other than the owner of the patent under section 302 or section 311. The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously considered by the Office.'.
` (b) Conduct of Inter Partes Proceedings- Section 314 of title 35, United States Code, is amended--

(1) in subsection (b), by striking paragraph (2) and inserting the following:

`(2) The third-party requester shall have the opportunity to file written comments on any action on the merits by the Office in the inter partes reexamination proceeding, and on any response that the patent owner files to such an action, if those written comments are received by the Office within 60 days after the date of service on the third-party requester of the Office action or patent owner response, as the case may be.'; and

(2) in subsection (c), by adding at the end the following:

'A final determination in an inter partes reexamination proceeding must issue not later than 1 year after the date on which the notice is given to the patent owner under subsection 312(b), except that for good cause shown, the Director may extend the 1-year period by not more than six months. If the final determination has not issued within 1 year or any authorized extension, the inter partes reexamination shall terminate and a certificate shall issue with all currently pending claims in their current form and indicating that no determination was made with respect to the validity of any claim of the patent.'

(c) Estoppel- Section 315 of title 35, United States Code, is amended by

(1) by adding the following new subsection (c):

'(c) *Special Dispatch*. The Patent Trial and Appeal Board shall decide any appeal filed under section 134 within six months after final determination of the inter parte reexamination proceeding. In the case of an appeal to the United States Court of Appeal for the Federal Circuit under sections 141 through 144, all briefing and oral arguments by the parties shall be completed within six months after such appeal is filed, and the appeal shall be promptly decided thereafter.'

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(2) by redesignating subsection (c) as (d) and adding at the end: 'The term "could have raised" shall mean any prior art that could have been discovered by the third party requester through a reasonable search of publicly available documents at the time the inter partes reexamination proceeding was filed.'

(d) Reexamination Prohibited After District Court Decision- Section 317(b) of title 35, United States Code, is amended--

(1) in the subsection heading, by striking `Final Decision' and inserting `District Court Decision'; and

(2) by striking `Once a final decision has been entered' and inserting `Once the judgment of the district court has been entered'.

(e) Section 318 is amended by adding at the end the following:

'In the event an inter partes reexamination proceeding or appeal is not decided within the deadlines specified in this chapter, the court shall, at the request of the patent owner, vacate any stay of such pending litigation, regardless of which party originally requested such stay.'

(f) Post-Grant Opposition Procedures-

(1) IN GENERAL- Part III of title 35, United States Code, is amended by adding at the end the following new chapter:

`CHAPTER 32--POST-GRANT REVIEW PROCEDURES

`Sec.
`321. Petition for post-grant review.
`322. Timing and bases of petition.
`323. Requirements of petition.
`324. Prohibited filings.
`325. Submission of additional information; showing of sufficient grounds.
`326. Conduct of post-grant review proceedings.
`327. Patent owner response.
`328. Proof and evidentiary standards.
`329. Amendment of the patent.
`330. Decision of the Board.
`331. Effect of decision.
`332. Settlement.
`333. Relationship to other pending proceedings.
`334. Effect of decisions rendered in civil action on post-grant review proceedings.
`335. Effect of final decision on future proceedings.
`336. Appeal.

`Sec. 321. Petition for post-grant review

`Subject to sections 322, 324, 332, and 333, a person who is not the patent owner may file with the Office a petition for cancellation seeking to

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institute a post-grant review proceeding to cancel as unpatentable any claim of a patent on any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim). The Director shall establish, by regulation, fees to be paid by the person requesting the proceeding, in such amounts as the Director determines to be reasonable.

`Sec. 322. Timing and bases of petition

`A post-grant proceeding may be instituted under this chapter pursuant to a cancellation petition filed under section 321 only if--

`(1) the petition is filed not later than 12 months after the issuance of the patent or a reissue patent, as the case may be; or

`(2) the patent owner consents in writing to the proceeding.

`Sec. 323. Requirements of petition

`A cancellation petition filed under section 321 may be considered only if--

`(1) the petition is accompanied by payment of the fee established by the Director under section 321;

`(2) the petition identifies the cancellation petitioner and any real parties in interest;

`(3) for each claim sought to be canceled, the petition sets forth in writing and with particularity the basis for cancellation and provides the evidence in support thereof, including

(A) copies of patents and printed publications, identifying the pertinency and manner of applying cited prior art to the challenged claim including specifically identifying where in each patent or printed publication submitted disclosure is to be found relating to elements of the challenged claim(s) and how the asserted patent(s) or printed publication(s) taken individually or collectively would establish a prima facie case of unpatentability of each challenged patent claim(s);

(B) written testimony of a witness attested to under oath or declaration by the witness;or

(C) any other information that the Director may require by regulation;

`(4) the petition includes a declaration under oath by the petitioner that positively affirms that the petitioner has not failed to disclose known prior art in the filed petition or in previous Patent Office, judicial, or other proceedings that involved an issue of patentability of any claim in the patent; and

`(5) the petitioner provides copies of the petition, including any evidence submitted with the petition and any other information submitted under paragraph (3), to the patent owner or, if applicable, the designated representative of the patent owner.

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`Sec. 324. Prohibited filings

`(a) IN GENERAL. A post-grant review proceeding may not be instituted under section 321 if the petition for cancellation requesting the proceeding--

`(1) identifies the same cancellation petitioner or real party in interest and the same patent as a previous petition for cancellation filed under such section; or

`(2) is based on the best mode requirement contained in section 112.

`(b) PREVIOUSLY FILED CIVIL ACTIONS. A post-grant review proceeding may not be instituted or maintained under section 321 if the petitioner or real party in interest has instituted a civil action challenging the validity of a claim of the patent.

`Sec. 325. Submission of additional information; showing of sufficient grounds

`(a) In General- The cancellation petitioner shall file such additional information with respect to the petition as the Director may require. For each petition submitted under section 321, the Director shall determine if the written statement, and any evidence submitted with the request, establish that a substantial new question of patentability exists for at least one claim in the patent. The Director may initiate a post-grant review proceeding if the Director determines that the information presented provides sufficient grounds to believe that there is a substantial new question of patentability concerning one or more claims of the patent at issue.

`(b) Notification; Determinations Not Reviewable- The Director shall notify the patent owner and each petitioner in writing of the Director's determination under subsection (a), including a determination to deny the petition. The Director shall make that determination in writing not later than 60 days after receiving the petition. Any determination made by the Director under subsection (a), including whether or not to institute a post-grant review proceeding or to deny the petition, shall not be reviewable.

`Sec. 326. Conduct of post-grant review proceedings

`(a) In General- The Director shall prescribe regulations, in accordance with section 2(b)(2)--

`(1) establishing and governing post-grant review proceedings under this chapter and their relationship to other proceedings under this title;

`(2) establishing procedures for the submission of supplemental information after the petition for cancellation is filed; and

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`(3) setting forth procedures for discovery of relevant evidence, including that such discovery shall be limited to evidence directly related to factual assertions advanced by either party in the proceeding, and the procedures for obtaining such evidence shall be limited to depositions of declarants and experts, except as required in the interest of justice and consistent with the purpose and nature of the proceeding; and

'(4) authorizing extension of the term of a patent challenged under chapter 31 or 32 where either the third party requester or petitioner, as the case may be, has engaged in abusive, improper or harassing conduct during the course of a proceeding, or the proceeding has not been finally decided within the deadlines set forth in either such chapter.

In carrying out paragraph (3), the Director shall bear in mind that discovery must be in the interests of justice.

`(b) Post-Grant Regulations- Regulations under subsection (a)(1)--

`(1) shall require that the final determination in a post-grant proceeding issue not later than one year after the date on which the post-grant review proceeding is instituted under this chapter, except that, for good cause shown, the Director may extend the 1-year period by not more than six months. If the final determination has not issued within 1 year or any authorized extension, the post-grant review proceeding shall terminate and a certificate shall issue with all currently pending claims in their current form and indicating that no determination was made with respect to validity of any claim of the patent ;

`(2) shall provide for discovery upon order of the Director in accordance with section 326(a)(3) of this title;

`(3) shall provide for publication of notice in the Federal Register of the filing of a petition for post-grant review under this chapter, for publication of the petition, and documents, orders, and decisions relating to the petition, on the website of the Patent and Trademark Office, and for filings under seal exempt from publication requirements;

`(4) shall prescribe sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or unnecessary increase in the cost of the proceeding;

`(5) may provide for protective orders governing the exchange and submission of confidential information; and

`(6) shall ensure that any information submitted by the patent owner in support of any amendment entered under section 329 is made available to the public as part of the prosecution history of the patent.

'(7) for purposes of sections 334 and 335 of this title, define the term "could have raised" to mean any prior art that could have been discovered by the petitioner through a reasonable

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search of publicly available documents at the time the reexamination proceeding was filed; and

`(c) Considerations- In prescribing regulations under this section, the Director shall consider the effect on the economy, the integrity of the patent system, and the efficient administration of the Office.
`(d) Conduct of Proceeding- The Patent Trial and Appeal Board shall, in accordance with section 6(b), conduct each post-grant review proceeding authorized by the Director.

`Sec. 327. Patent owner response

`After a post-grant proceeding under this chapter has been instituted with respect to a patent, the patent owner shall have the right to file, within a time period set by the Director, a response to the cancellation petition. The patent owner shall file with the response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response.

`Sec. 328. Proof and evidentiary standards

`(a) In General- The presumption of validity set forth in section 282 shall apply to all challenges to a patent claim under this chapter, except to the extent that a challenge is brought on the basis of patents or printed publications under section 301(a) of this title.
`(b) Burden of Proof- The party advancing a proposition under this chapter shall have the burden of proving that proposition by a preponderance of the evidence, unless such proposition is based on evidence other than patents or printed publications, in which case the petitioner shall have the burden of proving such proposition by clear and convincing evidence.

`Sec. 329. Amendment of the patent

`(a) In General- In response to a challenge in a petition for cancellation, the patent owner may file a response to each action by the Office to submit arguments and shall be permitted to propose any amendment to the patent and a new claim or claims, except as otherwise provided in subsection (b).
`(b) Scope of Claims- An amendment under this section may not enlarge the scope of the claims of the patent or introduce new matter.

`Sec. 330. Decision of the Board

`If the post-grant review proceeding is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision addressing the patentability of any patent claim challenged and any new claim added under section 329.

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`Sec. 331. Effect of decision

`(a) In General- If the Patent Trial and Appeal Board issues a final decision under section 330 and the time for appeal has expired or any appeal proceeding has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable and incorporating in the patent by operation of the certificate any new claim determined to be patentable.
`(b) New Claims- Any new claim held to be patentable and incorporated into a patent in a post-grant review proceeding shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, offered to sell, or used within the United States, or imported into the United States, anything patented by such new claim, or who made substantial preparations therefor, before a certificate under subsection (a) of this section is issued.

`Sec. 332. Settlement

`(a) In General- A post-grant review proceeding shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Patent Trial and Appeal Board has issued a written decision before the request for termination is filed. If the post-grant review proceeding is terminated with respect to a petitioner under this paragraph, no estoppel shall apply to that petitioner. If no petitioner remains in the proceeding, the panel of administrative patent judges assigned to the proceeding shall terminate the proceeding.
`(b) Agreement in Writing- Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in the agreement or understanding, that is made in connection with or in contemplation of the termination of a post-grant review proceeding, must be in writing. A post-grant review proceeding as between the parties to the agreement or understanding may not be terminated until a copy of the agreement or understanding, including any such collateral agreements, has been filed in the Office. If any party filing such an agreement or understanding requests, the agreement or understanding shall be kept separate from the file of the post-grant review proceeding, and shall be made available only to Government agencies on written request, or to any person on a showing of good cause.

`Sec. 333. Relationship to other proceedings

`(a) In General- Notwithstanding subsection 135(a), sections 251 and 252, and chapter 30, the Director may determine the manner in which any reexamination proceeding, reissue proceeding, interference proceeding (commenced with respect to an application for patent filed before the effective date provided in section 3(k) of the Patent Reform Act of 2009), derivation proceeding, or post-grant review proceeding, that is pending

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during a post-grant review proceeding, may proceed, including providing for stay, transfer, consolidation, or termination of any such proceeding.

`(b) Stays-

`(1) Notwithstanding subsection (a), upon a determination by the Director to commence a post-grant review proceeding under section 322 of this chapter, the patent owner may obtain a stay of any pending litigation that involves an issue of patentability of any claims that are the subject of the post-grant review proceeding, unless the court before which such litigation is pending determines that a stay would not serve the interests of justice. Absent the patent owner's consent, the court may not grant a motion to stay such pending litigation unless the movant makes a sufficient showing that irreparable injury will result if its stay request is denied. In the event a post-grant review proceeding or appeal is not decided within the deadlines specified in this chapter, the court shall, at the request of the patent owner, vacate any stay of pending litigation granted under this paragraph (b), regardless of which party originally requested such stay.

`(2) The Director may stay a post-grant review proceeding if a pending civil action for infringement of a patent addresses the same or substantially the same questions of patentability raised against the patent in a petition for the post-grant review proceeding.

`Sec. 334. Effect of decisions rendered in civil action on post-grant review proceedings

`If a final decision is entered against a party in a civil action arising in whole or in part under section 1338 of title 28 establishing that the party has not sustained its burden of proving the invalidity of any patent claim--

`(1) that party to the civil action and the privies of that party may not thereafter request a post-grant review proceeding on that patent claim on the basis of any grounds, under the provisions of section 321, which that party or the privies of that party raised or could have raised; and

`(2) the Director may not thereafter maintain a post-grant review proceeding that was requested, before the final decision was so entered, by that party or the privies of that party.

`Sec. 335. Effect of final decision on future proceedings

`If a final decision under section 330 is favorable to the patentability of any original or new claim of the patent challenged by the cancellation petitioner, neither the cancellation petitioner nor any real party in interest

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may thereafter, based on any ground that the cancellation petitioner raised or could have raised during the post-grant review proceeding--

`(1) request or pursue a reexamination of such claim under chapter 31;

`(2) request or pursue a derivation proceeding with respect to such claim;

`(3) request or pursue a post-grant review proceeding under this chapter with respect to such claim;

`(4) assert the invalidity of any such claim in any civil action arising in whole or in part under section 1338 of title 28; or

`(5) assert the invalidity of any such claim in defense to an action brought under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337).

`Sec. 336. Appeal

`A party dissatisfied with the final determination of the Patent Trial and Appeal Board in a post-grant proceeding under this chapter may appeal the determination under sections 141 through 144. Any party to the post-grant proceeding shall have the right to be a party to the appeal. In the event of an appeal, all briefing and oral arguments shall be completed within six months from the date such appeal is filed, and the appeal shall be promptly decided thereafter'.'

(g) Conforming Amendment- The table of chapters for part III of title 35, United States Code, is amended by adding at the end the following:

321'.

(h) Repeal- Section 4607 of the Intellectual Property and Communications Omnibus Reform Act of 1999, as enacted by section 1000(a)(9) of Public Law 106-113, is repealed.

(i) Effective Dates-

(1) The amendments made by this section shall not take effect until the Office reduces the actual average total patent pendency for FY2008 by 12 months, as such pendency rate is defined in the Office's Performance and Accountability Report.

(2) Notwithstanding subsection (1), no request for institution of a post-grant review proceeding under section 321 may be made until—

(A) the end of the 1-year period beginning on the date this section takes effect; or

(B) such later date that the Director may establish through notice published in the Federal Register.

(3) In the case of a patent issued before the 1-year period referenced in subsection (2)(A), or such later date that the Director establishes under subsection (2)(A), a request for

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reexamination may be filed only under section 302 or section 311 of title 35, United States Code.".

(3) APPLICABILITY TO POST-GRANT PROCEEDINGS- The amendments made by subsections (f) and (g) shall apply to patents issued on or after the effective date under paragraph (1).

(j) Regulations- The Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (in this subsection referred to as the `Director') shall, not later than the date that is 1 year after the date of the enactment of this Act, issue regulations to carry out chapter 32 of title 35, United States Code, as added by subsection (f) of this section.

SEC. 6. DEFINITIONS; PATENT TRIAL AND APPEAL BOARD.

(a) Definitions- Section 100 of title 35, United States Code, (as amended by section 2 of this Act) is further amended--

(1) in subsection (e), by striking `or inter partes reexamination under section 311'; and

(2) by adding at the end the following:

`(k) The term `cancellation petitioner' means the real party in interest requesting cancellation of any claim of a patent under chapter 31 of this title and the privies of the real party in interest.'.

(b) Patent Trial and Appeal Board- Section 6 of title 35, United States Code, is amended to read as follows:

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Statement of

HERBERT C. WAMSLEY

EXECUTIVE DIRECTOR

INTELLECTUAL PROPERTY OWNERS ASSOCIATION

Before the

SENATE JUDICIARY COMMITTEE

on

"PATENT REFORM IN THE 111TH CONGRESS: LEGISLATION AND RECENT COURT DECISIONS"

Tuesday, March 10, 2009
10:00 a.m.

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Intellectual Property Owners Association (IPO)

Mr. Chairman and Members of the Committee:

My name is Herbert C. Wamsley. I appreciate the opportunity to be here today to speak on behalf of Intellectual Property Owners Association (IPO). I am the Executive Director of the association.

IPO is a trade association representing companies and individuals in all industries and fields of technology who own or are interested in intellectual property rights. Our members include a broad spectrum of more than 150 large and mid-size companies in industries ranging from information technology to consumer products to pharmaceuticals and biotechnology. We also have small business and independent inventor members. Our members file about 30 percent of the patent applications filed in the U.S. Patent and Trademark Office (USPTO) by U.S. residents. We are proud to say that all four of the companies on the panel today – Micron Technology, Inc., Johnson & Johnson, IBM Corp. and Tessera, Inc. – are IPO members.

We congratulate Chairman Leahy on introducing S. 515 to continue a difficult but critically important effort to improve America's patent laws. We strongly support patent reform and a majority of the provisions in S. 515.

INTRODUCTION

I will comment on several sections of S. 515 and several recent court decisions affecting the patent system. My comments are based on positions adopted by the IPO Board of Directors on similar legislation in the last Congress and in previous Congresses. We are continuing to study the impact of patent reform proposals as well as recent court

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decisions and look forward to working with the committee as the legislation moves forward.

Two major developments have occurred since Congress began working on comprehensive patent reform in 2005, following the reports by the Federal Trade Commission (FTC)[1] and the National Academies.[2]

First, the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit have rendered decisions that have altered the patent system significantly. Cases have been decided involving injunctions in patent cases, the obviousness standard for obtaining a patent, the test for willful infringement and treble damages, the standard for declaratory judgment actions, transfers of patent suits to more convenient venues, and patent-eligibility of certain methods, including business methods. A controversial patent damages verdict was overturned by a district court. These decisions may have eliminated or mitigated the need for some legislation that was proposed in the past two Congresses.

Second, the severe worldwide economic recession is having a dramatic effect on the resources available to patent and trademark departments in U.S. companies. We know of no comprehensive survey of U.S. industry, but IPO has received numerous reports of sharp cuts in the budgets of company patent departments and lower projections for the number of patent applications that will be filed in the U.S. and abroad in 2009 and

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[1] To Promote Innovation: The Proper Balance of Competition and Patent Law Policy. A Report by the Federal Trade Committees ("FTC Report") (October 2003), http://www2.ftc.gov/opa/2003/10/cpreport.shtm (Last Visited: Mar. 6, 2009)

[2] A Patent System for the 21st Century. A report by the National Research Council of the National Academies (Apr. 9, 2004), http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=10976 (Last Visited: Mar. 6, 2009).

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subsequent years. The effects of corporate budget cuts on patent litigation are unknown at this time.

USPTO officials report that the agency's patent user fee income is lower than had been projected. Patent applications filed in January 2009 were slightly lower than in January 2008 after years of steady increases. USPTO trademark processing fee income was 7.5 percent lower for the first five months of the fiscal year than for the same period a year earlier. Further decreases in USPTO patent application filings and user fee income -- perhaps large decreases -- seem inevitable. Comparisons with the Great Depression may be alarmist, but patent applications in the United States fell by more than 10 percent a year in each of the years 1931, 1932, and 1933, and filings did not return to pre-depression levels until after World War II.

In the depressed economic environment, the cost of the patent system to innovative companies, individuals and universities becomes critical. If patent reform raises the cost of obtaining and enforcing patents too much, the incentives provided by the system – the incentives to invent, to disclose new technology, to develop and commercialize new products and services, and to improve and design around patented inventions of competitors – will be weakened.

Patent reform is a jobs issue. The best hope for restoring America's manufacturing base and creating new jobs in this country lies in American workers and American companies innovating new products and services that the people in this country and the rest of the world want to buy. The patent system, properly operating, is a huge stimulus to U.S. innovation and jobs. If the cost of obtaining and enforcing patents increases, the value of patents decreases, so the cost of each patent reform proposal must

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be reviewed for its effect on the affordability of patent rights. IPO continues to support establishing new post grant review proceedings in the USPTO, for example, but the cost of such proceedings to the USPTO and to patent stakeholders must be contained. The goal of patent reform should be to stimulate more invention and investment by improving patent quality at reasonable cost and reducing litigation costs and legal uncertainty without decreasing the value of patents.

PATENT REFORM PROVISIONS IN S. 515

First-Inventor-to-File

Section 2 of the bill adopts a first-inventor-to-file rule for U.S. patent law, replacing the first-to-invent rule for determining which of two inventors may obtain a patent for inventing the same thing. IPO has long supported this change, which will simplify U.S. patent law and avoid expensive and time consuming patent interference proceedings for determining who came up with a specific innovation first. It would also provide more certainty about patent rights. We believe the first-inventor-to-file system is in the best interest of U.S. inventors large and small. Former USPTO head Gerald Mossinghoff conducted a study of the effect of first-inventor-to-file on small inventors by investigating actual cases. The study revealed that small inventors would fare as well under a first-inventor-to-file rule as under the existing first-to-invent rule.[3]

We favor implementation of the first-inventor-to-file rule as soon as legislation can be passed. While all other countries already follow first-inventor-to-file, and

[3] Washington Legal Foundation Civil Legal Issues, No. 129 (April 15, 2005), http://www.wlf.org/upload/0505WPMossinghoff.pdf (Last visited: Mar. 6, 2009).

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adoption of the rule in the U.S. would further the long range goal of international patent law harmonization, implementation of first-inventor-to-file legislation should not be held up in hopes of an international agreement on harmonization. Adoption of a first-inventor-to-file system is a cost saving measure that benefits U.S. inventors and companies. We do not favor a provision in the House counterpart bill that makes first-inventor-to-file contingent on "major patenting authorities" adopting a 1-year grace period for filing patent applications. Such a provision could delay the adoption of the first-inventor-to-file rule in the U.S. for years if not indefinitely.

Willful Patent Infringement

Section 4 of the bill reforms the law of willful infringement and treble damage liability. IPO has supported legislation along the lines of this proposal. When Congress began considering patent reform legislation in 2005, willful infringement was being asserted in nearly every patent litigation case. The FTC and the National Academies reports recommended that treble damages be assessed against infringers only in limited situations. At the time, some companies said they were wary of even permitting their employees to read competitors' patent documents, fearing that the company would be found to be on notice of infringement for purposes of treble damage liability.[4] IPO believes treble damages should be limited to specific situations, such as where the defendant has received a detailed written notice from the patent owner charging infringement that identifies the specific patents and claims and the allegedly infringing products or processes, or where intentional copying occurred.

[4] FTC Report, Chapter 5, page 29 (Fn. 203).

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The courts have attempted to address this particular defect in patent law. In 2007, the Federal Circuit decided *In re Seagate Technologies, LLC*.[5] The Seagate court abolished the "duty of due care" standard for willfulness and replaced it with an "objective recklessness" standard. The Seagate decision was well received by IPO members, but it is too early to say whether the case, which has been applied by courts in several recent cases, has reduced litigation costs and unwarranted suits. Section 4 of the bill grafts the "objective recklessness" standard of Seagate on the language in the bill from the last Congress. While we continue to support requiring more specific notice of infringement for willfulness, we are studying whether legislation on this issue is needed in light of the Seagate decision and, in addition, whether the objective recklessness language is compatible with the remainder of section 4 of the bill.

USPTO Opposition and Reexamination Proceedings

Section 5 of S. 515 is directed to post grant procedures and other quality enhancements. We generally support establishing a new procedure for a post grant review that can be requested within 12 months after the date of patent grant. The 12-month period, a so-called "first window," would afford an additional review of the patent examination process in the USPTO and an opportunity for members of the public to submit information and present arguments that may not have been available to the Office during examination. Such a proceeding should increase the quality of patents. Limiting the time to request a post grant review to 12 months after grant will lessen opportunities to harass patent owners and resolve uncertainty over legal rights early in the life of the patent.

[5] 497 F.3d 1360 (Fed. Cir. 2007).

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Our support for this entirely new 12-month first window proceeding is contingent on keeping the cost of the proceeding reasonable and enabling the USPTO to meet the requirement in S. 515 for making a final determination in every proceeding within 12 to 18 months after the proceeding is instituted. It should be understood by all concerned that this will require more administrative law judges and a significant budget increase for the USPTO, and may require budget increases for patent owners during a severe economic recession.

Any opposition or reexamination proceeding must be carefully balanced to protect the interests of patent owners and competitors in resolving disputes without opening opportunities for abuse. Section 5 moves in the right direction by eliminating a "second window" post grant proceeding and relying instead on an expanded version of the existing patent reexamination statute as the mechanism for reviewing a patent in the USPTO at any time during the life of the patent. We support expanding the existing *inter partes* reexamination proceeding by striking the "or could have raised" phrase from the estoppel provision that prevents a reexamination requester from subsequently litigating the same patent in court in grounds the party raised or could have raised in the USPTO. This change will encourage parties to use the PTO proceeding at an early date to resolve issues of patent invalidity relatively inexpensively without fear of being prevented from raising other grounds in court later. We also support having *inter partes* reexamination proceedings handled by administrative patent judges and guaranteeing an opportunity for an oral hearing.

We are concerned about the addition of language that permits challenges to patents in a reexamination proceeding on the basis of evidence that the invention was "in

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public use or on sale in the United States" more than a year before patent filing. Existing reexamination proceedings are conducted only to reexamine in light of patents and printed publications – documentary evidence that usually speaks for itself. Evidence of public use or on sale could be fabricated fraudulently by patent challengers. It would be difficult for patent owners to verify or challenge the legitimacy of such evidence, years later, and in a proceeding where discovery and cross examination of live witnesses would be unavailable. Further, the USPTO is relatively inexperienced in evaluating such evidence. In addition, limiting the public use and on sale clause to activities in the U.S. raises a question of whether nationals of the U.S. and other countries are treated equally as required by international agreements.[6] We are reviewing the public use or on sale clause, but tend to believe it makes *inter partes* reexamination the equivalent of a second window post grant review, which we oppose.

Venue for Patent Infringement Suits

Section 8 of S. 515 makes extensive changes in the venue statute that governs where patent infringement suits can be filed. IPO has supported a simple activity-based approach to venue to define a location that has a logical connection to the activity at issue and prevent forum shopping and the filing of suits in districts that are not convenient to either party. Section 8 of the bill, however, is more complex and includes unwarranted exemptions for certain classes of plaintiffs.

[6] Compare the definition of prior art in 35 U.S.C. 102(a) as amended by section 2 of S. 515. That section permits public use and on sale activities occurring outside the U.S. to be used to invalidate patents in court. A patent-barring public use or on sale more than a year before patent filing can be either the inventor's own public use or on sale or another party's public use or on sale.

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Very recently, the Fifth Circuit Court of Appeals in *In re Volkswagen*,[7] and the Federal Circuit, applying Fifth Circuit law in *In re TS Tech USA Corp.*,[8] ordered the transfer of cases from the popular Eastern District of Texas to districts more convenient for the parties. The U.S. Supreme Court denied a petition for review of the Volkswagen case on Feb. 23, 2009. Several commentators view these as watershed decisions that will make it easier to obtain transfers of cases filed in inappropriate districts for forum shopping or harassment purposes. We suggest a review of whether venue legislation should be enacted at this time or whether the courts should be given an opportunity to deal with transfer motions in patent cases on a case by case basis in light of the recent decisions.

Interlocutory Appeals of Patent Claim Interpretations

Section 8 of the bill also creates a right for litigants to take an interlocutory appeal of a patent claim interpretation decision by a district court to the Federal Circuit whenever the district court approves the interlocutory appeal. Supporters believe this provision will reduce costs and speed up patent litigation. IPO opposes this provision because we believe it will have the opposite effect – more expense and delay and more work for the Federal Circuit. It has been a basic tenet of federal judicial procedure for generations that interlocutory appeals usually are unavailable because they would result in piecemeal litigation.[9] This general rule of jurisprudence should continue to apply to patent cases. Judges revise their claim interpretations with some frequency. Immediate review of claim interpretation already is available when a summary judgment motion is

[7] 545 F.3d 304 (5th Cir. 2008).
[8] Misc. Docket No. 888 (Fed. Cir. Dec. 29, 2008).
[9] Interlocutory Appeal Act, Pub. L. 85-919 (1958), codified in 28 U.S.C. 1292(b).

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granted based on a claim interpretation that is dispositive of the case. The Federal Circuit has accepted interlocutory appeals of claim interpretations in a few cases.[10] Interlocutory appeals of claim interpretation as a matter of right, however, would cause cases to be batted back and forth between the district court and the Federal Circuit, delaying the litigation process and increasing the cost of patent infringement trials.

This is not to say that the law of claim interpretation is without problems. A majority of the current judges of the Federal Circuit have said publicly that they would consider an *en banc* decision to change the law to give more deference to district court claim interpretations when the Federal Circuit is presented with a case where claim interpretation is based on district court fact-based findings and giving deference would make a difference in the outcome. Also, it has been suggested that judicial or USPTO clarification of claim interpretation rules and heightened attention by the USPTO to the statutory requirement for claim definiteness would reduce litigation over the meaning of claims. Some jurisdictions now are adopting local patent rules that might improve claim interpretation hearings.[11] We believe improvements can and should be made, but interlocutory appeals to the Federal Circuit as a matter of right are not the solution.

Authority for the USPTO to Set Its Own Fees

Section 9 of the bill authorizes the USPTO Director to set or adjust by rule any of the user fees established by statute for patent and trademark cases. IPO opposes this

[10]Regents of the University of California v. Dako North America, Inc. 477 F.3d 1335 (Fed. Cir. 2007) (Interlocutory Appeal Accepted When Claim Construction Intertwined With Other Issues); Regents of the University of California v. Dakocytomation California, Inc. 517F.3d 1364 (Fed. Cir. 2008) (Interlocutory Appeal of Claim Construction Issues Accepted When Issues Overlapped With Other Issues on Appeal).

[11] IPO is drafting model local patent rules that it plans to publish this year.

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Intellectual Property Owners Association (IPO)

section and urges its deletion. The dollar amounts of most patent and trademark fees are fixed by statute, except that the Director has authority to make annual cost-of-living adjustments in the statutory fees commensurate with changes in the Consumer Price Index. For three reasons, we believe Congress should retain its authority to set and adjust patent and trademark fees whenever changes other than cost-of-living adjustments are needed:

(1) Congressional control of USPTO spending is critically important to ensure efficiency and prevent waste. An agency that is charged with providing incentives for innovation, not merely selling patents and trademark registrations as commodities, should be subject to strict oversight over the prices it charges.

(2) The relative levels of individual fees such as the patent filing fee, the patent issue fee, and the "maintenance" fees for keeping a patent in force after grant reflect policy decisions that have been made by Congress on how the system should operate. For example, Congress has intentionally kept the filing fee (a "front end" fee) relatively low and obtained more revenue for the USPTO through maintenance fees (a "back end" fee), in order to help patent applicants large and small afford the cost of applying for a patent.

(3) The easy adjustment of USPTO fees through regulation would invite diversion of fees to unrelated government programs, a practice that cost three-fourths of a billion dollars of USPTO fee revenue between 1992 and 2004. Government officials under pressure to find new sources of revenue would be more likely to siphon off USPTO revenues if the agency could simply double or triple fees to make up for the loss.

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Apportionment of Damages

In addition to willful infringement, section 4 of the bill also covers the hotly-debated issue of patent damages, an issue on which IPO members are divided. The 50-member IPO Board of Directors in 2007 by majority vote passed a resolution supporting legislation that would codify the existing law on damages for calculating a reasonable royalty. Unfortunately we have been unable to develop any consensus language to recommend. The dispute involves the analysis used by courts to determine a reasonable royalty for patented inventions that are elements in combinations. In the often-relied-upon *Georgia-Pacific*[12] opinion, a 1970 district court opinion that lists 15 factors for determining a reasonable royalty, factor 13 is the "portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer."[13] Many of our members believe that patent code section 284(c)(1)(C) in S. 515, which was the language used in S. 1145 in the last Congress, is a substantial departure from factor 13 of *Georgia Pacific*. S. 515 limits a reasonable royalty to "the portion of the economic value of the infringing product or process properly attributable to the claimed invention's specific contribution over the prior art," which is interpreted to incorporate a concept of "prior art subtraction." We will be happy to work with the Committee in its effort to find consensus language on patent damages.

[12] *Georgia Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y 1970)
[13] See Report on S. 1145, Senate Judiciary Committee, 110th Cong., 2d Sess. at 11.

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PROVISIONS OMITTED FROM S. 515

Applicant Quality Submissions

We are pleased that S. 515 does not contain the requirement for "Applicant Quality Submissions" recommended by the Bush Administration that was in section 11 of S.1145. That requirement for patent applicants to submit a search report and other information and analysis relevant to patentability was strongly opposed by IPO members and many others. It would have unnecessarily increased the cost of patent applications and would have further increased unwarranted charges of inequitable conduct against patent owners.

Inequitable Conduct Before the USPTO

S. 515 does not include any provision on inequitable conduct, but we understand from the Chairman's remarks on introduction of the bill that this topic will receive further consideration. IPO supports adding a provision to S.515 to address inequitable conduct. We believe the requirements for establishing the defense of inequitable conduct in patent infringement litigation should be raised by appropriately defining the standards for materiality and intent. Such a provision should be carefully balanced. It should continue to aggressively guard against those who might commit fraud before the USPTO, but it should eliminate fears of patent applicants that they will be charged with inequitable conduct for innocent mistakes in citing or characterizing prior art in communications with the USPTO. Applicants need to feel it is safe to single out the most relevant prior art

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documents and other information known to them. Such a change would cause applicants to stop flooding the USPTO with unnecessary references. It would improve communications between applicants and examiners and improve patent quality. We also favor elimination of the statutory requirement for disclosing the best mode of carrying out an invention as recommended in the 2004 National Academies Report, which would remove a subjective issue that has caused unnecessary litigation.

Diversion of USPTO Fees to Unrelated Government Programs

We are disappointed that S. 515 omits the USPTO funding proposal that was included in the bill during the last Congress as reported out of the committee. That section was designed to prohibit permanently the diversion of USPTO user fees to unrelated government programs. The section established a revolving fund called the "United States Patent and Trademark Office Enterprise Fund." All user fees collected by the USPTO would have been deposited in the fund. Funds deposited would have been available only for paying the expenses of operating the USPTO, which currently are about $2 billion a year. This section also included extensive annual reporting and notification requirements to the Appropriations Committees, in order to assure fiscal discipline, responsibility and accountability by the USPTO.

User fees paid to the USPTO by patent and trademark applicants and owners are paid with the expectation that the money will be used to examine their applications and provide other services to them. The $750 million diverted to unrelated government programs between 1992 and 2004 was one of the major causes of the large backlog of unexamined patent applications that the USPTO is still struggling with today, according

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to a report of the National Academy of Public Administration.[14] While no money has been intentionally diverted since 2004, diversion will be a continuing threat to the agency until legislation is enacted to secure the funds paid to it by the public. We urge reinsertion of the revolving fund proposal into the patent reform legislation. This would achieve the goal of permanently ending the diversion of USPTO user fees while preserving the jurisdiction and prerogatives of the Appropriations Committees.

CONCLUSION

IPO strongly supports enactment of patent reform legislation, which we believe will help provide higher patent quality and reduce litigation costs. Patent reform legislation is a critical step toward improving the operation of the U.S. patent system. To be successful, it must be coupled with improvements in USPTO administration to increase the quality of patent examination and speed up the processing of patent applications. We look forward to making suggestions to the Committee and the next USPTO Director for administrative improvements.

Patent reform is not just for information technology, pharmaceuticals, and biotechnology, important as they are. Patent reform is extremely important for innovation in traditional manufacturing industries such as automobiles, aircraft, and consumer products. According to a statement by the AFL-CIO Executive Council last week:

> Today, the automobile industry accounts for fully one-quarter of all American manufacturing jobs and output. The industry represents a complex integration of

[14] U.S. Patent and Trademark Office: Transforming to Meet the Challenges of the 21st Century. A Report by the National Academy of Public Administration (August 2005), http://71.4.192.38/napa/napapubs.nsf/17bc036fe939efd685256951004e37f4/1b930c8f684de52e852570fc00636b70/$FILE/PTO8-25-05.pdf (Last visited March 8, 2009).

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> advanced manufacturing processes, technologies and materials, and is a critical driver of innovation across every manufacturing subsector. . . .
>
> It is vital that we maintain the strength of our intellectual property protections to ensure that innovation, production and jobs can be maintained and increased here at home. Patent protection is a manufacturing *and* a jobs issue.[15]

The key to renewing America's world leadership in traditional manufacturing is a leap forward in innovation. A more effective patent system can make enormous contributions to U.S innovation, leading to more jobs in U.S. industry and new strength in the economy.

I will be happy to answer any questions.

* * *

[15] "America Needs a Program to Maintain and Grow Good Jobs," March 03, 2009, http://www.aflcio.org/aboutus/thisistheaflcio/ecouncil/ec03032009a.cfm (Last visited March 9, 2009).

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March 9, 2009

Honorable Patrick Leahy
Chairman
Senate Judiciary Committee
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Via email: aaron_cooper@judiciary-dem.senate.gov

Honorable Arlen Specter
Ranking Member
Senate Judiciary Committee
224 Dirksen Senate Office Building
Washington, DC 20510
Via email: ryan_triplette@judiciary-rep.senate.gov

Dear Chairman Leahy and Ranking Member Specter:

On behalf of the Wisconsin Alumni Research Foundation ("WARF"), I hereby submit this letter into the record for the Committee's March 10, 2009 hearing on patent law reform.

WARF is the patent management organization for the University of Wisconsin-Madison. Pursuant to agreements, WARF, through its non-profit subsidiary, WiSys, also represents the patent interests of the entire University of Wisconsin System. The WARF mission, to support scientific research at the University of Wisconsin, is accomplished by transferring university technology to the marketplace for the benefit of the university, the inventors and the public. Licensing income is returned to the university to fund further scientific research. Founded in 1925, WARF is one of the oldest organizations in the United States engaged in university technology transfer. Over its 83-year existence, WARF has not only protected the fruits of scientific research, it has actually contributed close to $1 billion of licensing income to cutting-edge UW-Madison scientific research. Of greater significance is the fact that WARF's technology transfer successes have had a profound and positive effect on the welfare, health, and safety of humankind.

As you know, last Congress I was a witness before the Committee on this important subject. I am grateful for that opportunity to testify and would note that the Committee incorporated a number of amendments supported by the university research community into the

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text of S. 1145, as reported favorably by the Committee. The Committee resolved two issues of great importance to scientific research:

- To the extent that the Congress decides to move to "first inventor to file," the Committee determined that there should be a grace period to permit university researchers the opportunity to write about and discuss their findings before filing patent applications for them; and

- Because proposed expansion of prior user rights would shift the balance of power in patent law, which favors publication and disclosure over trade secrets, thereby undercutting any grace period, the Committee resolved not to expand prior user rights.

The Committee was not able to resolve two other significant issues to our research universities:

- Provisions that would modify the apportionment of damages – juries and life-time tenured Federal judges should determine appropriate monetary remedies; any statutory reduction in penalties for infringement will serve as incentives to infringe and will reduce licensing revenues; and

- Open-ended provisions that would permit challenges to patent after grant – patents have value because of certainty; finality is important to the process because investors can develop and market them with a certain degree of confidence.

S. 515, the Patent Reform Act of 2009, does not currently contain solutions to the above two subjects that would be widely accepted in the innovation community. In WARF's view, the proposals set forth in S. 515 (if enacted, without amendment) would chill scientific progress and the transfer of technology by America's research universities to the benefit of the public, and would also increase the costs of protecting and defending federally-funded inventions.

Moreover, S. 515 does not contain any front-end provisions that would enable, or even encourage, the United States Patent and Trademark Office ("USPTO"), to confront serious backlog and pendency problems in the patent application process. Without help, the USPTO threatens to implode. If the USPTO is not able to issue well-examined patents in a reasonable time-period, patents in the United States will have less value and innovation will be harmed. Front-end issues will be inevitably transferred to the back end, either through the post-grant opposition process or decision-making by the Federal judiciary. This is penny-wise and pound

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foolish. A list of WARF's administrative recommendations to reduce USPTO backlogs is attached.

Ultimately, any weakening of patent protection will chill innovation, the creation of start-up companies, production and jobs. WARF agrees with a recent statement of the executive committee of the AFL-CIO (March 3, 2009). As we face the most serious economic crisis since the Great Depression, we should promote innovation and not chill it: "patent protection is a manufacturing *and* jobs issue."

WARF also agrees with a letter sent to the Committee on June 21, 2007 and signed by the presidents and chancellors of the Big Ten universities regarding changes to patent law proposals that impact university-based research. A copy of the letter is attached. Universities in Wisconsin, Minnesota, Iowa, Illinois, Michigan, Indiana, Ohio and Pennsylvania need your leadership and assistance. In advance, thank you for your continuing attention to WARF's views on these extremely important issues.

I look forward to working with you and the Committee to craft widely-accepted compromises that will promote the progress of science.

Respectfully yours,

Carl Gulbrandsen

Carl Gulbrandsen
Managing Director

Enclosures

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THE BIG TEN UNIVERSITIES

June 21, 2007

Senator Patrick Leahy
Chairman
Senate Judiciary Committee
224 Dirksen Senate Office Building
Washington, DC 20515
Via facsimile: 202-224-9516

Senator Arlen Specter
Ranking Member
Senate Judiciary Committee
224 Dirksen Senate Office Building
Washington, DC 20515
via facsimile: 202-224-9102

Dear Chairman Leahy and Ranking Member Specter:

We, the undersigned presidents and chancellors of the Big Ten Universities, want to urge a careful and thoughtful approach to the committee's consideration of patent reform legislations.

The implications for university-based research are serious and have significant consequences. As you know, it is this research that has powered the nation's economy for the past fifty years, creating millions of jobs and untold numbers of new products and technologies. It is also this research that has trained millions of scientists that our nation and region desperately need to keep us competitive, both economically and militarily.

We share the view that our patent system can be improved, and we support several provisions of the legislation now being considered. We agree that a 12-month post-grant opposition window would be an excellent way to resolve patent issues without going to court. Similarly, the ability of third parties to submit information to the Patent and Trademark Office would assist in assuring patent quality.

Nevertheless, we would commend to your attention our views on the following issues:

- Any move to "first inventor to file" must have a grace period to allow university researchers the opportunity to write about and discuss their findings prior to filing for patents on them.
- Legislation should not allow any "second window" for reconsideration of patents. If patents are to have any value, there must be some finality to the process to allow investors to develop them with confidence.
- Expanding prior user rights will shift the balance of power to favor trade secrets, which will undercut any grace period created to protect universities. That provision is extremely problematic for universities.
- We also are concerned about provisions that would change the apportionment of damages. Judges should have discretion to determine the appropriate financial remedies. Diluting this ability will simply encourage people to infringe.

Thank you for your attention to our views. This is an extremely important issue for higher education and we respectfully request your assistance in making changes to the legislation to accommodate our concerns.

Sincerely,

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B. Joseph White
President
University of Illinois

Adam W. Herbert
President
Indiana University

Gary Fethke
Interim President
University of Iowa

Lou Anna Kimsey Simon
President
Michigan State University

Mary Sue Coleman
President
University of Michigan

Robert H. Bruininks
President
University of Minnesota

Henry S. Bienen
President
Northwestern University

Karen A. Holbrook
President
The Ohio State University

Graham Spanier
President
Pennsylvania State University

Martin C. Jischke
President
Purdue University

John D. Wiley
Chancellor
University of Wisconsin—Madison

February 4, 2009

Recommendations by the Wisconsin Alumni Research Association ("WARF") for the United States Patent and Trademark Office ("USPTO") to reduce patent examination backlogs.

WARF is the patent management organization for the University of Wisconsin-Madison. Pursuant to agreements, WARF, through its non-profit subsidiary, WiSys, also represents the patent interests of the entire University of Wisconsin System. The WARF mission, to support scientific research at the University of Wisconsin, is accomplished by transferring university technology to the marketplace for the benefit of the university, the inventors and the public. Licensing income is returned to the university to fund further scientific research.

Background about WARF

Founded in 1925, WARF is one of the oldest organizations in the United States engaged in university technology transfer. Over its 83-year existence, WARF has not only protected the fruits of scientific research, it has actually contributed close to $1 billion of licensing income to cutting-edge UW-Madison scientific research. Of greater significance is the fact that WARF's technology transfer successes have had a profound and positive effect on the welfare, health, and safety of humankind. Five successes, among many more, are illustrative.

- First, Professor Hector DeLuca at the UW-Madison has numerous vitamin derivatives (protected by close to 200 U.S. patents) that are widely being used today to treat osteoporosis, renal disease, and other dreaded diseases.

- Second, Professor James Thomson's human embryonic stem cell lines have unprecedented potential for research and clinical application of presently untreatable illnesses such as Parkinson's disease and diabetes. Pursuant to a patent licensing agreement with Geron, the Wisconsin cells will be used by Geron in the first human clinical trial recently approved by the Food and Drug Administration. WARF through WiCell (the home of the National Stem Cell Bank (in Madison, WI)) has distributed the cells to researchers around the world.

- Third, MRI medical imaging technology represents a critically successful collaboration between the academic environment and private industry. GE Medical has engaged in active collaborations with a number of academic institutions, including Wisconsin and Stanford University. Without those collaborations, sophisticated imaging capabilities are available today to diagnose a wide variety of illnesses and injuries.

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- Fourth, digital subtraction angiography has allowed real-time visualization of coronary arteries to determine blockage. This technology is critical to modern cardiac patient care. First developed by UW Professor Charles Mistretta, applied research and development by the private sector have made the technology clinically useful.

- Fifth, Karl Paul Link's discovery of coumarin is the basis for Coumadin, the most widely prescribed blood thinner for cardiovascular disease. Its counterpart, Warfarin (named after WARF), is still the most widely used rodenticide worldwide.

The benefit to the public derived from these and other inventions is incalculable. For more information about the roster of UW-Madison discoveries patented and licensed by WARF, *see* <http://www.warf.org>.

The Need for Administrative Improvements at the USPTO

The health of the U.S. patent system is of critical importance to WARF, UW-Madison, the UW System, the State of Wisconsin and the entire nation. Strong and predictable patent protection is inextricably linked to the innovation pipeline, which starts with a discovery, leads to a description of patent claims and public disclosure, generates technology transfer, attracts venture capital, stimulates the establishment of start-up companies and small businesses, creates jobs, increases the tax rolls and ultimately contributes to a better life for most (if not all) Americans. If properly calibrated, an endless cycle of innovation results.

The efficiency of the cycle is affected by a government agency, the USPTO, which is statutorily assigned the administrative role of processing patent applications, disseminating patent information, and granting (or denying) patents to inventors. The USPTO has, over time, made identifiable contributions to the nation's technological, economic and social progress – contributions that are manifest in the arena of university research and development.

To paraphrase from President Obama's inauguration acceptance speech, today the question is whether any given government agency (in this case, the USPTO) works. In WARF's view, the answer is neither "yes" nor "no" – clearly however, the USPTO can (and must) do better. A broad consensus exists that the USPTO suffers from unacceptably high patent examination backlogs.

The facts are clear. Currently, more than 1.2 million patent applications are pending before the more the 6,000 USPTO examiners. A four-fold expansion of the examiner corps and a more than ten-fold increase in the USPTO's annual budget over the past decade have not stemmed the ever-growing flood of new applications. Application backlog and average application pendency have increased by more than 50%. Average pendency time is now 32 months. In the foreseeable future, the USPTO's job will not get any easier. Patent application filing rates are estimated to increase by 6 percent annually, continuing their spiral upwards. The rate of foreign-filed applications is escalating at an eye-opening rate of 45%, and is already one of the highest in the industrialized world.

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The USPTO has fought against the ever-growing backlogs. It has requested – and obtained – increased resources (the Office has been fully fee funded since 1990), has established aggressive production goals for examiners, and has hired and trained large numbers of examining staff. However, examiner retention continues to be a problem. And a public perception now exists that, despite the best efforts of the USPTO, patent quality has dropped. Irrespective of the validity of that perception, all would agree that confidence issues must be addressed because the approbation of the people affects the legitimacy of any given government institution. An essential step in restoring confidence in the USPTO is to address the backlog problems.

WARF is a significant user of the patent system. According to statistics compiled annually by the USPTO about U.S. universities receiving patents for inventions, WARF consistently ranks in the "top ten". Since 1925, WARF has processed approximately 5,600 inventions created by UW-Madison faculty and staff. WARF received the 2003 National Medal of Technology and Innovation from President George W. Bush for supporting the process of innovation from invention to commercialization, and contributing to America's competitiveness, standard of living, and quality of life. WARF was the first university technology transfer office to receive this prestigious award.

Consistent with its leadership role, WARF hereby has developed the attached recommendations for the USPTO to consider in reducing its patent examination backlogs. WARF already shared its recommendations with the USPTO. WARF also submitted its recommendations to President Obama's transition team, the Association of University Technology Managers, and members of the Wisconsin congressional delegation. WARF's recommendations are intended to stimulate dialogue and debate, and, hopefully, consensus will be developed about them in the near future. Solutions should address an agency that suffers from workload stress and a lack of public confidence – an agency too important to the U.S. innovation economy to fall short of its constitutional and statutory promises.

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Recommendations*

- Improve incentives for applicants to aid an examiner in the examination process by permitting pre-first action interviews and pre-search interviews.
- Consider a modest change in user fees to fund improved training and examination quality.
- Study the merits of moving the USPTO to a quasi-government corporation.
- Require disclosure of all parties in interest in all patent re-examination proceedings.
- Improve and revamp the patent examiner production system to:
  - Account for complex patent applications;
  - Permit the consideration of amendments and affidavit information after final rejection;
  - Permit limitations on the number of claims in an application that are to be examined for the basic fee; and
  - Permit limitations to the number of pages in an application by increasing costs to applicants and providing examiners extra time if an application exceeds a designated page limit.
- Improve the quality of prior art available to examiners by outsourcing searches, and assess whether authorizing legislation is necessary to accomplish this recommendation.
- Encourage and improve the communication and cooperation among U.S. and premier international examining offices working on corresponding applications; improvements should focus on reducing backlogs and delays.
- Promote balance and a diversity of views in appointments to the Public Advisory Committees by paying careful heed to statutory requirements regarding membership from small business, independent inventors and non-profit organizations, including

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* If implementation of these administrative recommendations does not appreciably reduce backlogs, the USPTO (through the Office of Management and Budget and the Department of Commerce) should ask Congress to consider (1) authorizing the USPTO to exercise regulatory authority to limit claims and to increase fees for excessive claims and to do the same for excessive numbers of pages in an application; and (2) liberalizing the requirements for patent term extension (e.g., if a patent application is not examined with 18 months, an extension for lost patent term protection should be automatically granted).

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universities. If statutory changes are necessary, membership from universities should be individuals with experience in filing or in supervising the filing of patent applications on behalf of the university. Furthermore, the authorizing statute should require a diversity of industry perspectives, with no single sector having more than one appointment.

- Develop better and more attractive employee retention and work-at-home programs for examiners: for example, examiners who live outside the National Capital area should not have to appear in person on a weekly basis at the USPTO and, whenever an appearance is necessary, should be reimbursed on a per diem basis for travel and lodging expenses. If USPTO lacks authority to implement, legislation should be sought.
- Encourage and authorize, if necessary, deferred examinations.
- Continue to improve examiner training through:
    - One-on-one mentoring and collaborative work on applications; and
    - Making use of retired examiners as trainers.
- Monitor and report, on an annual basis, to the House and Senate Judiciary Committees the effectiveness of any, and all, administrative improvements designed to reduce backlogs.

repared by the Wisconsin Alumni Research Foundation (WARF) (December 4, 2008)

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