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PATENT QUALITY ENHANCEMENT IN THE INFORMATION-BASED ECONOMY

HEARING

BEFORE THE

SUBCOMMITTEE ON COURTS, THE INTERNET, AND INTELLECTUAL PROPERTY

OF THE

COMMITTEE ON THE JUDICIARY
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WEDNESDAY, APRIL 5, 2006

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COURTS, THE INTERNET,
AND INTELLECTUAL PROPERTY,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The Subcommittee met, pursuant to notice, at 4:55 p.m., in Room 2141, Rayburn House Office Building, the Honorable Lamar Smith (Chairman of the Subcommittee) presiding.

Mr. SMITH. Subcommittee on Courts, the Internet, and Intellectual Property will come to order. Thank you all for your patience and for waiting. We obviously had a series of votes that we were not exactly expecting at 4 o'clock this afternoon. Plus there was a privileged resolution we weren't necessarily expecting to take up another half hour. I was told this was an angry crowdawaiting us, and I am glad you calmed down a little bit and we will proceed as quickly as we can, but having started late, I also need to say as well that we are expecting another series of votes in 1 hour, so we will probably enforce the 5-minute rule fairly strictly, and try to move along with the testimony with the questions as quickly as we can.

I will recognize myself for an opening statement. Today, the Subcommittee returns to the gift that keeps on giving, patent reform and the 109th Congress. We have devoted much time and energy to this project. And I expect progress to continue.

In light of our ambitiousness and the competing interest involved, perhaps it is not surprising that we haven't eliminated all differences by now. I have announced a new round of hearings for this spring with the intent of further illuminating a need for reform and to nudge the process along. That said, today's hearing addresses patent quality enhancement.

While the Subcommittee has documented a steady increase in application pendency and backlogs at the PTO in recent years, the view among agency officials in the inventor community is that efforts to address these problems should not take precedent over improvement of patent quality. Patents of questionable scope or validity waste valuable resources by inviting third-party challenges and ultimately discourage private sector investment.

At the front end of the system, we can do much to enhance the quality of patents issued by ensuring that PTO is allowed to keep all of the revenue it raises. While money isn't the answer to all of life's problems, American inventors and the public are best served

by a fully-funded agency that can devote sufficient sources to hiring outstanding examiners, retaining experienced workers and modernizing PTO operations.

In addition, every patent reform draft reviewed by the Committee this term has included a provision to allow third party submission of prior art.

This will help examiners to determine whether the inventions under review truly are new and nonobvious.

But no matter how diligent and thorough PTO examiners are, there will also be some patents issued that prompt questions about scope and validity. This is why the Subcommittee is also committed to improving patent quality at the back end of the system. This includes enacting improvements to the underutilized PTO re-examination proceeding.

Significantly, the Subcommittee also is committed to the creation of a post grant opposition system that will enable parties to resolve patent disputes in an administrative setting. In other words, concerns about patent quality can be addressed more quickly and less expensively in such forum compared to litigation in Federal Court.

The final comment on how we should examine quality, it is self-evident that all persons and entities affected by the operations of the U.S. System endorsed patent quality enhancement in the abstract, however, actual patent practice frequently involves the competing and conflicting interests of different businesses and individuals.

For example, a software developer might endorse a specific change to the current statutory treatment of injunctive relief where damages computations set forth in title 35. The same revisions would be opposed by a number of patent interests, especially those in the biotechnology and the pharmaceutical industries.

Different entities use the patent system in different ways, depending on their respective business models. It is important to acknowledge that dynamic when reviewing changes intended to enhance patent quality. That concludes my remarks, and the gentleman from California, Mr. Berman, is recognized for his.

Mr. BERMAN. Thank you, Mr. Chairman, I apologize for being late.

I believe this may be the 6th hearing on patent reform in this Congress. I want to start out by sincerely thanking the Chairman for his hard work in highlighting the need for patent reform in this Congress.

He brought together a large coalition of bipartisan Members to support a patent reform bill and managed to almost achieve consensus among the different party interests.

However, I must state that I wonder about the benefits of pursuing further hearings on the identical issues we discussed last year, if there are few new ideas being proposed and no further clarity about which legislative approaches this Subcommittee should follow regarding patent reform.

I am concerned that merely discussing the issue without any movement on a legislative proposal will further entrench the parties in their respective positions. The recent cases which have been settled, NTP, BlackBerry, or have been granted cert by the Su-

preme Court, eBay versus Merck exchange, demonstrate that the time to address these issues is sooner rather than later.

Past attempts at achieving more comprehensive patent reform have been met with resistance. However, the call for legislative action is loud.

The New York Times has noted "something has gone very wrong with the United States patent system." the *Financial Times* has stated, "it is time to restore the balance of power in U.S. Patent law." therefore, today Congressman Boucher and I have introduced a narrowly tailored patent quality bill to address some of the more urgent concerns.

Once again, I firmly believe that robust patent protection promotes innovation. However, I also believe that the patent system is strongest and that incentives for innovation are greatest when patents protect only those patents that are truly inventive. When functioning properly, the patent system should encourage and enable inventors to push the boundaries of knowledge and possibility. If the patent system allows questionable patents to issue and doesn't provide adequate safeguards against patent abuses, the system may stifle innovation and interfere with competitive market forces.

High patent quality is essential to continued innovation. Litigation abuses, especially those which thrive on low quality patents, impede the promotion of the progress of science and the useful arts. Thus we must act quickly—I hope the 109th Congress—to maintain the integrity of the patent system.

Thank you, Mr. Chairman.

Mr. SMITH. Thank you, Mr. Berman. I am hoping other Members will allow their opening statements will be made a part of the record, but if not, the gentlewoman from California, Ms. Lofgren is recognized.

Ms. LOFGREN. I will be very brief. First, I want to thank each of the witnesses for their really very excellent testimony, which I have had a chance to read. You know, only a few of us who follow these patent issues as closely as the Members here do. I, however, participate in the debate on the floor that is going on at the same time. So I have to apologize in advance for leaving and I wanted to especially let the witnesses know that I have read their testimony. I hope to be back for questions and I thank the gentleman for having this hearing.

Mr. SMITH. Thank you, Ms. Lofgren. Before I introduce our witnesses, would you please stand and be sworn in. Please raise your right hand.

[Witnesses sworn.]

Mr. SMITH. Thank you and please be seated. And we are operating with a makeshift mike up here, which seems to have some back noise here.

Let me introduce our witnesses and we will proceed. Our first witness is Jon Dudas, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office. In his previous life, Director Dudas worked for this Subcommittee. So we welcome him back.

He earned a bachelor's degree in finance summa cum laude from Illinois and a law degree with honors from University of Chicago.

Our next witness is Jim Balsillie, chairman and CEO of Research In Motion, or RIM, the manufacturer of the BlackBerry, which I have in my pocket. He is a graduate of the University of Toronto, and the Harvard School of Business. A chartered accountant, he also holds a doctorate from Wilfrid Laurier University in Waterloo, Ontario.

Our next witness is Robert Stewart, director and chief patent counsel of UBS AG in the Americas. Headquartered in Switzerland, UBS AG is the world's largest wealth management firm for private clients. Mr. Stewart's responsibilities include intellectual property litigation, prosecution, licensing mergers and acquisition and contractual matters for UBS AG. He studied electrical engineering at Polytechnic University located in Brooklyn, and earned his law degree from Georgetown University.

Our final witness is Mark Lemley, the William H. Neukom Professor of Law and director of the Program in Law, Science and Technology at Stanford law School. In addition to his teaching and writing, Professor Lemley is of counsel to the San Francisco law firm of Keker and Van Nest. He earned his undergraduate degree with distinction from Stanford University and his law degree from University of California Berkeley.

Mr. SMITH. Welcome to you all. We have your statements and without objection, they will be made a part of the record. As I mentioned we would like to try to stay in the 5-minute rule so we can try to finish with our questions before the next series of votes commences, and with that, Mr. Dudas, we will begin with you.

TESTIMONY OF THE HONORABLE JON W. DUDAS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE U.S. PATENT AND TRADEMARK OFFICE

Mr. DUDAS. Thank you. Mr. Chairman, Ranking Member Berman and Members of the Subcommittee, thanks for holding this important hearing on patent quality.

Every private property system requires certainty of property rights and a fair method to adjudicate disputes. The quality of patents is a fundamental element of establishing certainty. The intellectual property system in the United States is the envy of the world, and it is a shared responsibility of the courts, the Congress, and the Administration to ensure that the best system in the world gets even better. With the activities in the Supreme Court and in this Committee, it is clear this is a responsibility taken quite seriously.

It is also a responsibility that the Administration takes quite seriously, and we at the USPTO are proud of the progress we have made. I have testified in the past that we would be improving the way we hire, the way we train, the way we promote, the way we reconfirm skill levels, the way we emphasize quality throughout the examination process, and the way we conduct our quality reviews.

We have, and I am happy to report that we have shown measurable improvement in every quality goal I just mentioned. That information is more specifically laid out in my written testimony. But even with improved patent quality, what can you do if you believe

the USPTO has made a mistake? Congress, in anticipating such concern, gave broad rights to all applicants and literally everyone who is concerned about another's patent. And these systems for challenging patents have improved as well.

On any patent the USPTO issues, any person has a right to request a reexamination of a patent that the USPTO has issued. It can be requested at any time. And it can be requested on any patent.

We have greatly improved this process by establishing a central reexamination unit. And in doing so, we have dramatically increased the thoroughness, consistency, the quality and the timeliness of reexaminations. Where once it could take more than 4 years to even see an action is brought down to nearly 2 years in almost all cases. We believe we will have all cases, most all cases done within 2 years, completed within 2 years at the Patent and Trademark Office fairly soon.

So patent applicants, and those who wish to challenge patents issued to others, have important and many options and many responsibilities, and indeed rights. And as I have learned working on important issues in this Committee for 5 years, with every right is a responsibility. So, while most are quick to remind policy makers of their rights, some are a bit more hesitant to raise the issue of their responsibilities. But a private property right system depends on the responsible behavior of all, not just Congress, the courts and the Administration, but every applicant and every entity interested in other patents has responsibilities as well.

Every applicant has a duty to disclose all relevant information and only relevant information. Some applicants give us no relevant information and some give us reams and reams of irrelevant or useless information, virtually burying that which is important—in some cases, not in most. We also sometimes receive multiple continuations, essentially do-overs after a patent application has been rejected in an effort to wear down an examiner who rejected it the first time, or in the hope that another examiner will get the case and grant the patent.

There are many legitimate uses for continuation as well, but we want to address this behavior.

Applications with inordinate numbers of claims are also a problem. All these are choices that some applicants make, choices that degrade the quality of the patent process and the patents issued. The USPTO has proposed rules to address some of these issues and we are considering other proposed rules to address the rest.

There are many things we need to do at the Patent and Trademark Office, and there are many things we need to do throughout our system. But I'd like to take off on the theme that the Chairman and Ranking Member pointed out. I think everyone involved has a responsibility to promote sound proposals that will improve patent quality, even if it means they will not get everything they want immediately.

There are two proposals pending before this Subcommittee that are widely supported throughout the intellectual property community that I think will directly and dramatically improve patent quality. I think we should all support public participation of prior art submissions and post grant opposition. There is plenty of oppor-

tunity to work in good faith to resolve the many remaining issues that are more controversial.

But we may be able to make a real difference now. And we may need to get those provisions enacted now. Both provisions allow everyone to better exercise both their rights and their responsibilities.

Public prior art submissions allow anyone to give the USPTO information believed to help with the quality examination. Post grant opposition allows anyone to challenge an issued patent in the most effective and most efficient manner. We have to approach it with the right balance but philosophically these are largely supported by nearly everyone in the intellectual property community.

I look forward to working with the Subcommittee on these provisions. I look forward to working with the Subcommittee to swiftly resolve the many other important issues we face. I am honored to be here and I look forward to answering all your questions.

Mr. SMITH. Thank you, Mr. Dudas.

[The prepared statement of Mr. Dudas follows:]

PREPARED STATEMENT OF THE HONORABLE JON W. DUDAS

STATEMENT OF

THE HONORABLE JON W. DUDAS

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY
AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE

SUBCOMMITTEE ON COURTS, THE INTERNET, AND INTELLECTUAL PROPERTY
COMMITTEE ON THE JUDICIARY
United States House of Representatives

Oversight Hearing
on
"Patent Quality Enhancement in the Information-Based Economy"

APRIL 5, 2006

Introduction

Chairman Smith, Ranking Member Berman, and Members of the Subcommittee:

Thank you for inviting me to testify today on this important issue. Patent quality is our top priority at the United States Patent and Trademark Office (USPTO) and is the central focus in everything from our day-to-day operations to our strategic planning. We have already implemented several initiatives to improve quality, and will continue to evaluate and implement additional initiatives. We also have proposed changes to our rules of procedure, and we plan to propose more in the future – that will have a positive impact on patent quality.

Background

The importance of intellectual property (IP) is growing -- within the business community, the United States economy, and around the world. According to a recent USA for Innovation Report, U.S. intellectual property today is now worth between $5 trillion and $5.5 trillion, equivalent to about 45 percent of the U.S. GDP -- and greater than the GDP

of any other nation in the world. And, U.S. IP industries contribute nearly 40 percent of the growth achieved by all U.S. private industry -- and nearly 60 percent of the growth of U.S. exports.

Patent applications have increased every year -- a good sign that innovation and competitiveness are alive and well in America.

In fiscal year 2005, we received over 400,000 patent applications -- an eight percent increase over the previous year. Of equal significance, the complexity of patent applications is growing. A greater percentage is now filed in more complex areas such as biotech and telecommunications. These require many more hours to examine than traditional areas, such as general mechanical and chemical. So, our number of hours needed to examine the average application filed is increasing as well.

That volume and growth rate present significant operational challenges as does the increasing complexity of those applications.

It is now taking our Office an average of 21.1 months to take first action on a patent application, and 29.1 months to issue a final decision. The vast majority of that time does not represent actual examination but rather a waiting-in-line status. Without policy and operational changes, our backlog would have continued to grow to unacceptable proportions.

So, the USPTO is taking many steps to address the backlog and improve quality. We hired nearly 1,000 patent examiners last year, and we will hire more than another 1,000 in fiscal year 2006. Before this hiring, we had fewer than 4,000 examiners, so this will represent hiring more than 50 percent of the current professional staff within two years. We are also piloting a Patents' Hoteling Program, which will allow hundreds of patent employees to do their jobs from home.

Quality of the Patent Examination Process

At the USPTO, we have a strict definition of quality. "Patent quality" means that the application examination has been conducted to conform with current law and Office procedure.

The USPTO reviews randomly sampled patent applications – both during the examination process and when the examiner believes the application is ready to be allowed. We check those applications for any type of error. If there is even one allowed claim that our quality reviewers believe should have been rejected or one significant deficiency that would negatively impact the proper advancement of prosecution in the case – that counts as an error.

We have a tremendously dedicated, knowledgeable workforce. Our patent examiners are professionals, and they hate making mistakes. Because of their expertise, we have a very rigorous error standard. Using that standard, in fiscal year 2005, our overall error rate was 4.6 percent. Those are errors we caught on all patent examinations before they were

issued. Significant progress has been made since the midpoint of fiscal year 2005. Over the past 12 months, our allowance error rate has dropped from 5.6% to less than 4%.

In the past two years the USPTO has instituted a number of measures to improve patent quality and also has implemented new metrics to measure the results. Results indicate that quality is improving. The percentage of patent examiners certified for promotion to full performance level increased from 59% in FY 2004 to 70% in FY 2005. The number of preliminary stage office actions complying with applicable laws and rules during examination improved to 86.2% from 82% the previous year. We continue to show significant improvement in this area, with 89% of these office actions currently complying with applicable laws and rules. The compliance rate for allowances improved from 94.7% to 95.4% from FY 2004 to FY 2005.

Initiatives to Improve Patent Quality

The USPTO is working diligently to address quality throughout the patent application review process to ensure the best possible results.

Patent Reviews

We currently have two levels of review for a sample of applications for each examiner. Allowed applications are reviewed as an end-check. Applications are also reviewed at various stages of prosecution. Further, individual technology centers review a sample of allowed and in-process applications.

The USPTO has determined that providing end-check reviews only is not the most accurate and efficient way of assessing quality. We are working this year to place more of our resources into building quality into examiner work product by enhancing the review during the various stages of prosecution. We are exploring ways to leverage the expertise of our quality reviewers so as to use their expertise up front in the examination process rather than using them primarily as end-checkers.

Our concept is to team our current technology center quality reviewers with the Office of Patent Quality Review (OPQR -- an office independent from the patent examination corps) reviewers to do an in-depth assessment of the work product within all art units of a technology center. On a biweekly basis, this team would review sample cases from a particular art unit (a limited group of examiners: 15-20), assess the results, and develop/deliver specific training using examples from the reviews from the unit. This will more specifically tailor the development of training to effectively treat issues at the art unit level, as opposed to a one-size-fits-all training model. Also, we are making better use of the OPQR reviewer experience through the sharing of best practices with the technology centers in an effort to improve the quality of examiners' work product.

Customer Panel Quality Survey

As part of our effort to build quality into examiner work product, we are considering an effort to broaden customer input by conducting quarterly customer surveys on patent examination quality. The surveys would be administered to a representative customer panel and would focus on key examination quality issues.

New USPTO Patent Training Academy

This year our patent organization has implemented a new university-style training program for almost two-thirds of the 1,000 new hires expected this year. This training program is intended to not only provide more intensive technology-based training following an aggressive curriculum, but also free supervisors from this responsibility so they can focus more of their time to mentor and train the junior employees already in their units.

This training program will last for eight months and is intended to return new hires to the examining corps who are capable of writing complete office actions for supervisory review. It is our intention to increase this training program to cover all incoming employees in fiscal year 2007. This new training model will create a higher quality, better-trained new examiner who will be able to examine applications more accurately and thoroughly than our traditional one-on-one training model provides.

Examiner Certification and Recertification

The USPTO has implemented a thorough certification process for any employee seeking to be promoted from the GS-12 level to the GS-13 level. This process includes a review of the work product of the examiner and a certification exam similar to the patent bar exam that patent attorneys and agents must pass. In order to help examiners prepare for the certification exam, we offer a one-week patent law and evidence class, which also assists them in their day-to-day examination practice. In 2004, 178 examiners passed the certification exam; in 2005 we improved, with 275 examiners passing the exam. The promotion to GS-13 represents a level of independence in which the supervisor is no longer responsible for day-to-day intensive review of the examiner's work product. In order for the examiner to achieve this level of independence, we are ensuring that they have the skills required to perform their job requirements with a high level of quality.

In addition to the certification process, we are also currently recertifying our primary examiners. Every three years, we assess the quality of our most senior employees by a thorough review of their written work. This process involves a detailed review of both allowances and rejections written by the examiner and continuing education on patent practice and procedure. By the end of FY 2006, over 1200 primary examiners will have undergone recertification. About 95% of examiners have been successfully recertified in each of 2004 and 2005. The 5% of examiners who were not recertified were subject to an

improvement period and repetition of the recertification review process the following year.

These two programs ensure that those employees who are ready to be promoted are promoted, while others who may require additional coaching and training are provided that opportunity.

Proposed Rules Changes to Improve Patent Quality

Patent applications that are complete, clear, well-drafted with well-identified and pertinent references take less time to properly examine. Better application input contributes directly to more efficient processing and to quality, thereby benefiting both the examiner and the applicant.

We have proposed a new patent rules package that encourages patent applicants to be more open and rigorous throughout the application process. Specifically, our rules package proposes to instill more discipline in filing continuations on patent applications and to focus examiners on representative claims in complex patent applications.

Continuations

In today's legal system, parties in a dispute do not have an infinite number of appeals. Currently, our patent system allows for almost unlimited reworking of applications through "continuations."

In fiscal year 2005, more than 85,000 of the USPTO's 400,000 new patent applications were a continued prosecution of an application that had previously been before an examiner in the examination process. That is, almost one-quarter of the applications that examiners had to review were ones they had previously rejected, that the applicant had then changed in the hope that they now would be acceptable. Our proposed changes will not limit the ability of an applicant to file one continuation. However, second and subsequent requests for continuations would be subject to a more stringent review process before the requests are granted. It is the second and subsequent continuations that account for about 20,000 of the 85,000 total continuations we receive each year.

Representative Claims

Another critical part of the patent application is "the claims," which of course define what is being patented. Every year, a small number of applications are filed with an extraordinary number of claims.

We have proposed rules that will help us find the right balance between allowing inventors to submit such applications when needed, while making it feasible for examiners to effectively examine such a high volume of claims. We have proposed a system in which the applicant and examiner can focus on a set of representative claims initially. In other words, if we received an application with 50 claims, we might look

only at the first 10 claims throughout the process of rejections and amendments. Then, assuming the representative claims were accepted – but before the final patent was issued -- we would examine **all** the claims. We think this approach will improve efficiency and quality.

Legislative Initiatives

There are two proposals pending before the Subcommittee that are widely supported throughout the intellectual property community and would directly improve patent quality: a post-grant review procedure and a new procedure for submission of prior art. The USPTO continues to review other proposals before the Subcommittee.

Post-Grant Review Procedure

A new post-grant review procedure, recommended by the USPTO and under consideration in this Subcommittee, is intended to improve upon existing administrative reexamination alternatives. It would serve as a quicker, lower cost alternative to expensive litigation in reviewing patent validity questions. Such a procedure would complement rather than displace ongoing quality-focused initiatives at USPTO, which include measures to address the hiring, training, certification and retention of an adequate number of examiners.

We look forward to working with the Subcommittee in developing a post-grant review procedure that effectively serves the interests of the patent community.

Submission of Prior Art

While the USPTO currently has a procedure for submission of prior art after publication, which allows submission by third parties within two months of publication, the procedure does not allow explanations or other information about the patents or publications. This Subcommittee is examining a procedure for the submission of third-party prior art as part of H.R. 2795, the Patent Reform Act of 2005.

We encourage consideration of a change to the statute governing this procedure to allow protests or oppositions by third parties after pre-grant publication. Such a change would allow those interested parties to explain why the prior art would have a negative impact on the patentability of the claims. This process, which would provide the examiner with information he or she might not otherwise obtain, should result in a higher quality, more reliable patent.

We look forward to working with the Subcommittee to develop a submission procedure that effectively and fairly balances the interests of the patent applicant, interested third parties and the general public.

Business Methods Patents

An area of particular concern in terms of quality is business methods patents. There has been some suggestion that these patents have less stringent standards than those for other patents.

In fact, last year, the USPTO allowed 11 percent of all business methods applications (those in our Class 705 Data Processing: Financial, Business Practice, Management, or Cost/Price Determination). All business methods allowances go through a review process that involves either a patentability conference or a "second pair of eyes" review process. We focus on allowance conferences. However, we conduct a "second pair of eyes" review for those senior examiners who do not participate in allowance conferences.

In fiscal year 2005, we hired 34 examiners for a total of 132 examiners in the business methods area. In fiscal year 2006, our hiring goal is 26 new examiners. So we anticipate having 150 examiners in the business methods area by the end of the year, including attritions.

Further, the USPTO is continuing our partnership efforts with industry and the patent community on business methods patents, and these partnerships have historically been very productive.

Conclusion

The ever-increasing importance of IP in today's economy is putting greater pressures on the patent examination system. The USPTO has taken important steps to improve patent quality and is considering and planning more initiatives to keep up with future demands.

We know that a more quality-focused, efficient patent system benefits everyone and is vital to the American economy. We appreciate this opportunity to discuss with the Subcommittee our efforts to help ensure that our patent system will continue to serve innovation in the 21st century.

Thank you.

Mr. SMITH. Mr. Balsillie.

TESTIMONY OF JAMES BALSILLIE, CHAIRMAN AND CO-CHIEF EXECUTIVE OFFICER, RESEARCH IN MOTION

Mr. BALSILLIE. Thank you very much. Chairman Smith, Ranking Member Berman, and Members of the Subcommittee. My name is Jim Balsillie, and I am chairman and co-chief CEO of Research In Motion. I am pleased to appear here before you to speak on the issue of patent quality in the context of RIM's experience in the U.S. Patent system.

RIM is the leading developer for innovative wireless solutions for the worldwide mobile communications market. RIM's BlackBerry products and services are used by tens of thousands of corporate and Government organizations around the world. Our largest market is United States, which accounts for more than half of RIM's revenues. And our biggest customer is the U.S. Federal Government.

RIM is proud to serve the Department of Defense, the Department of Homeland Security, and the U.S. Congress, just to name a few of our valued Federal customers.

As the Members of the Subcommittee are aware, last month, RIM paid over $612 million to settle a patent lawsuit brought about by a patent holding company NTP. Despite the fact that the Patent Office had rejected all of NTP's patents, and it was very likely to declare these patents invalid, RIM was forced to pay one of the largest settlements in U.S. History in order to end the uncertainty caused by the lawsuit.

By appearing before you today, it is my hope that we are helping to advance patent law reform. The NTP case raises many questions, but there are a few that are particularly relevant to the scope of this hearing.

First, and perhaps most puzzling for those who follow the NTP case, it is the role of the Patent Office versus the courts, particularly in the context of the reexamination process. In our case, our all of the five asserted NTP patents were completely rejected by the PTO in multiple office actions upon reexamination. At the time of the hearing on the injunction on February 24th, two of the three patents remaining had final office actions issued that rejected all of the claims on at least 3 grounds each.

The remaining patent had all of its claims rejected as unpatentable on at least four grounds, including a determination that RIM had invented what NTP was trying to claim for itself.

Even with these patent office rulings, the District Court judge appeared unmoved, and his comments during the proceedings suggested that he viewed the Patent Office rulings as irrelevant to his decision.

A recent article in Newsweek Magazine that compared the NTP case to a judge in a murder case pondering execution while ignoring new DNA evidence that exonerates the accused. Congress should, at a minimum, provide industry with certainty as to the relevance of reexamination proceedings.

Second, it is generally agreed that the Patent Office does not have the resources it needs to effectively review more than 300,000 applications it receives each year. Consequently, concerns have

been raised about the length of time it takes to process a patent application and the quality of patents that ultimately issue. The Patent Office has introduced two proposed changes to address these concerns. The first attempts to limit the number of claims in a patent. The average number of claims in a patent is 22.

In the NTP case, NTP's eight patents had an average of 240 claims each, with one having 655 claims. The NTP patent with 655 claims was initially issued by the Patent Office without a single documented office action.

The second proposed change attempts to place some restrictions on continuation practice. Eight of the nine claims ultimately issued to NTP were continuations filed more than 8—more than 7 years after the initial NTP patent was filed. The Patent Office concluded that six of the nine claims were based on RIM's own technology.

NTP was able to aggressively use the continuation process to copy RIM's ideas and seek an injunction that would prevent RIM from practicing what it invented. We think the facts in our case support the need for reform in these areas.

Third, there is the matter of when an injunction is the proper remedy for patent infringement. We understand and appreciate the concerns that the pharmaceutical biotechnology and some independent vendors have expressed about changes to this standard. However, we firmly believe that the concerns raised by the technology sector can and should be addressed without harming others.

We want to help Congress work with all others interested in improving the patent process so no other company in any industry experiences what RIM endured.

Making technology products available to the public requires an aggregation of hundreds of different ideas in the development of products.

In our case, the District Court was prepared to provide an injunction against us, our partners and customers, even though NTP had publicly acknowledged that they desired a monetary solution and that the threat of an injunction increased their leverage for a higher payout.

Congress has directed courts on how to apply injunctive relief in section 283. At a minimum, it should not allow judges to undermine standards established in the law by this body. This would dramatically reduce the daily Russian Roulette that patent assertion companies are playing on the whole U.S. Tech and telecom system, which is currently condoned.

Further enabling a patentee to obtain compensation for a patent that far exceeds the value of the patent invention cannot help but impact the economic and social benefits that the patent system was introduced to achieve and may well deter rather than promote innovation.

We hope that Congress will keep these serious risks and costs in mind as it goes forward with Patent law reform. Mr. Chairman, thank you again for the opportunity to appear before you today. I will be pleased to take any questions you may have.

Mr. SMITH. Thank you, Mr. Balsillie.

[The prepared statement of Mr. Balsillie follows:]

PREPARED STATEMENT OF JAMES BALSILLIE

INTRODUCTION

Chairman Smith, Ranking Member Berman and Members of the Subcommittee, my name is Jim Balsillie and I am Chairman and Co-Chief Executive Officer of Research In Motion. I am pleased to appear before you today to speak on the issue of "Patent Quality," and am grateful for the opportunity to share with you RIM's experience with the United States patent system.

Research In Motion (RIM) was founded in 1984 and is a leading developer of innovative wireless solutions for the worldwide mobile communications market. Through the development of integrated hardware, software and services that support multiple wireless network standards, RIM provides platforms and solutions for seamless access to time-sensitive information including email, phone, Internet and intranet-based applications. RIM's award-winning BlackBerry products and services are used by tens of thousands of corporate and government organizations around the world.

RIM technology also enables a broad array of third party developers and manufacturers to enhance their products and services with wireless connectivity to data. RIM operates offices in North America, Europe and Asia Pacific and has approximately 5 million subscribers in over sixty countries. Our largest market is the United States, which accounts for more than half of RIM's revenues. Our biggest customer in the United States is the federal government. RIM is proud to serve the Department of Defense, the Department of Homeland Security and the U.S. Congress, just to name a few of our valued federal customers.

As the Members of the Subcommittee are certainly aware, last month RIM paid $612.5 million to settle a patent lawsuit brought by patent holding company, NTP. Despite clear evidence that the Patent Office had rejected the NTP patents and was very likely to declare these patents invalid, RIM was effectively forced to pay one of the largest settlements in U.S. history in order to end NTP's highly publicized threats and the associated uncertainty felt by RIM's U.S. partners and customers.

Underlying virtually every debate about patent laws are two distinct views of the nature of patents. Simply put, are patents an absolute property right, or a property right that must be construed in the context of its Constitutional objectives?

The latter point of view is not new. The Supreme Court in *Graham v John Deere Co.* reiterated Thomas Jefferson's conclusion that the primary objective of intellectual property is to promote the Country's social and economic benefits and not to protect inventors' so-called "natural rights." In other words, patent rights are granted as a means to an end, and not the end itself. If the patent right is asserted in a manner that does not promote social and economic benefit, then it has become unmoored from its Constitutional foundation.

Many, however, are of the view that, because the Patent Act grants the 'right to exclude,' in order to give effect to this right, patentees must have virtually automatic injunctive relief for a breach of their rights. Those that hold this view also generally believe that patentees ought to be free to seek whatever compensation they are able to extract for their invention—even if that compensation bears no correlation to the value afforded by the invention in their patent.

In the end, Congress must choose which characterization of patent rights better reflects its objectives for patent law and the Constitutional mandate that granted patent rights must promote the useful arts. If nothing else, RIM's experience in the NTP case demonstrates that there are significant undesirable social and economic costs contrary to promoting the useful Arts when patents are treated as an absolute property right. We hope that Congress will consider these costs carefully in deciding which is the appropriate characterization of patent rights.

We understand and appreciate the concerns that Pharmaceutical, biotechnology and some independent inventors have expressed regarding changes to patent laws. We continue to firmly believe, however, that the concerns raised by the technology sector can be addressed without harming these other sectors. By appearing before you today, it is my sincere hope that we are helping to advance meaningful patent law reform, thus helping to assure that no other company experiences what RIM endured over the past five years. I believe that RIM's experience will prove instructive for all who care about innovation, competitiveness and free enterprise.

ROLE OF THE U.S. PATENT AND TRADEMARK OFFICE

The NTP case raises many questions, but there are a couple that are particularly relevant to the scope of this hearing. We should first ask: "What is the role of the U.S. Patent and Trademark Office (PTO) in the patent system and how can the quality of patents be improved?"

REEXAMINATION PROCEEDINGS

Perhaps the most puzzling thing for those who followed the NTP case is the role of the patent reexamination process in pending litigation. If the patent system is to function properly, policymakers must clearly define what role the reexamination of patents should play in the patent system and what impact they should have on any court proceeding.

The Patent Office has realistically acknowledged that, with 300,000 applications per year, mistakes are inevitable and the easiest way to deal with this problem in the short term is to focus their limited resources on improving the processes to reexamine patents after they have issued. While historically the Patent Office reexamination process has been criticized, in 2005, the Patent Office established an elite group of examiners to complete reexaminations with the 'special dispatch' required by Statute and its own procedures. According to these procedures, priority is to be given to patents that are in litigation.

RIM commends the Patent Office for implementing these much needed changes in the reexamination process. However, in our case, this initiative came too late. If these new procedures and commitment to special dispatch had been implemented earlier, the first office actions for the reexaminations, which began in December 2002, would have issued by April 2003, several months before the district court ruled on NTP's first injunction request. Instead, the first office actions did not start to issue until March of 2005.

All of the five asserted NTP patents were completely rejected by the PTO in multiple Office Actions upon reexamination. At the time of the hearing on the injunction on February 24 of this year, two of the three patents remaining in suit had final office actions issued that rejected all of the claims on at least three grounds each. The remaining patent is in *inter partes* reexamination in which an action closing prosecution (substantially the same as a final office action in the *ex parte* reexams) had issued rejecting all claims in the '592 patent on at least four grounds each, including anticipation of each claim by RIM's own technology—i.e., a determination that RIM invented what NTP was trying to claim for itself.

Even with the Patent Office issuing these rulings, the District Court hearing the case was unmoved. Although the Court did not formally enter a ruling at that time, the Judge's comments during the proceedings emphatically suggested that he viewed the final office actions as irrelevant to his decision—in spite of the fact that (1) the liability ruling on which injunctive relief would be granted was based on deference given during trial to the Patent Office's expertise in initially granting the patents, (2) the PTO specifically indicated in its office actions during reexam that it was seeking to address the concerns raised by the Court about reexamination timing, and (3) several patent practitioners have noted the exceptional quality of these office actions (as compared to the original examination to which deference was given at trial even though no substantive examination was apparent). Countless media articles commented on the Court's indifference to the PTO's rejections, including a recent article in Newsweek magazine that compared the NTP case to a judge in a murder case pondering execution while ignoring new DNA evidence.

As this Subcommittee contemplates patent reform, RIM respectfully suggests that this circumstance should be addressed and that clarity be given as to the relevance of reexamination proceedings, possibly by providing formal guidance to the courts on what deference to give the Patent Office's reexamination proceedings during its different stages as the Court weighs the procedural options in litigation (e.g., stay the litigation or limit injunctive relief pending the outcome of the reexamination).

GRANT OF PATENTS

It is generally agreed that the Patent Office does not have the resources it needs to effectively review the more than 300,000 applications it receives each year. Concerns have been raised both about the length of time it takes to process a patent application, and the quality of patents that ultimately issue, (e.g. broad and vague specifications, broad and inconsistent claim language, 'obviousness' of claimed inventions, patents seeking to claim technology that already exists in the public domain, etc.).

Few would contest that the Patent Office is overburdened. Last year, Patent Commissioner John Doll was reported saying, "When you've got 1.3 million cases in backlog, and it's taking [four to six] years to take a first office action, you've got to ask the question: Is the patent system still actually working, or are we just stamping numbers on the applications as they come through?"

Commissioner Doll is not alone. In a survey by the Intellectual Property Owners Association of the nation's top patent lawyers, over half rated the quality of patents issued in the U.S. today as less than satisfactory or poor. Unless the Patent Office

gets more resources, including additional qualified examiners, and is able to reduce the demands on its existing resources, the future may not be much better. According to the survey, over two-thirds of respondents said they thought the patent process would get longer, not shorter, over the next three years. And nearly three-quarters said they thought they would be spending more time, not less, on patent litigation over the coming years.

LIMITATION ON NUMBER OF CLAIMS

One of the ways to reduce the demands on the Patent Office's existing resources is to deter patentees from filing excessive numbers of claims in a patent. Why is the number of claims important? The Patent Office's recent figures suggest that the average number of claims in a patent is twenty-two. However, a small number of patentees file patents with many times this number of claims. For example, in the NTP case, NTP's eight patents had an average of 240 claims each, with one having 665 claims!

Patents with an excessive number of claims put a huge burden on the process and can compromise the quality of the patents issued. The analysis required to ensure that the language in a patent claim is unambiguous, properly disclosed in the patent, and not claiming known technology that is already in the public domain, is by its nature a time-consuming one. Our understanding is that with the huge volume of patent applications, examiners' performance is assessed based on "counts" allotted to them when specified activities are completed. They receive the same number of "counts" for allowing a patent, regardless of the number of claims in that patent. Therefore, a patent with an excessively large number of claims may receive less scrutiny per claim and thus be more likely to issue without the substantive examination required to ensure high quality patents.

In our case, an NTP patent with 665 claims issued without a single documented office action. The prosecution history consists solely of references to undocumented meetings with the applicants. Indeed, Qualcomm noted in its request for a director-initiated reexamination of the NTP patents, "[w]e understand that the U.S. Examiner allowed over 1690 claims in five U.S. Patents...without ever issuing an action on the merits, with the exception of one double-patenting-only rejection on the '172 patent."

Excessive claims also result in considerable expense for parties defending actions by patent holders. Patent assertion companies may send letters to a large number of industry participants "suggesting" the desirability of a license, as NTP did to 47 companies, including RIM. The cost of a legal opinion as to the infringement/validity of claims increases with the number of claims. Further, the litigation cost and burden on the defendant of preparing a defense in court increases with the number of claims. For example, NTP sued RIM under all of its claims—over 1,900 in eight patents. Even though NTP ultimately reduced this number to 16 claims in five patents shortly before trial, the strain posed by the initial large number of claims had NTP's desired effect of prejudicing RIM's ability to fully and fairly defend itself in the fast-paced litigation of the so-called "Rocket Docket."

The Patent Office recently has proposed rules changes to limit the initial review of a patent application to ten claims (which would generally include all independent claims) unless the applicant prepares an "examination support document" to reduce the workload of the examiner with respect to additional claims. RIM understands the Patent Office is encountering resistance to its proposed changes from the patent prosecution bar, but nonetheless encourages Congress to support the Patent Office's endeavors to address this problem.

LIMIT CONTINUATIONS

Another issue of patent quality relates to the ability of patent holders to file multiple continuation applications during the life of the patent. In the aftermath of the NTP litigation, we have to ask if the ability to file continuations in this manner is consistent with the objectives of progressing innovation.

Why are continuations an issue? While there are bona fide reasons to file a continuation, patentees can (and do) use continuations to gain a monopoly over later innovations that they never envisioned. In particular, a continuation enables a patentee to draft new claims based on what it has learned about the products of others, years after the patentee initially filed its patent. Giving a patentee the ability to draft claims that copy the independently developed technology of another company—claims the patentee otherwise would not have thought of—and then use those copied claims to shut down or hold-up that company is contrary to the most basic principles of fairness, and to the Constitutional mandate that patents must promote innovation.

In the case of NTP's suit, four of the five patents asserted at trial were continuations. After RIM's success on appeal, there were nine claims in three patents left at issue in the suit, all but one were from continuations. Six of these claims were in the '592 patent, which was a continuation filed more than eight years after NTP's first patent application. NTP filed the '592 patent application six months after RIM launched the BlackBerry solution, and NTP sued RIM on that patent the day after it issued. NTP plainly crafted the '592 patent claims to specifically cover what RIM already had independently developed. Indeed, in the reexamination of the '592 patent, the Patent Office determined that RIM—not NTP—was the first to invent what NTP claimed in its '592 Patent. Thus while RIM never copied the inventions in the NTP patents, NTP was able to aggressively use the current continuation process to copy RIM's ideas and seek an injunction that would prevent RIM from practicing what RIM invented.

Shortly after commencing its lawsuit, NTP refused RIM's request to explain precisely why it thought RIM infringed NTP's patents. NTP indicated that it did not matter whether or not RIM would be found to infringe in the initial trial, because NTP would simply draft another continuation based on what it learned at trial and sue RIM again. In fact, NTP even attempted to add over 32,000 claims in its reexamined patents, including claims intended to cover a design that RIM had confidentially disclosed to NTP.

The Patent Office is proposing restrictions on continuation practice by requiring a patentee to explain why the claims sought in a second or subsequent continuation could not have been included in the original application or first continuation. RIM understands that these proposals are being resisted by the patent prosecution bar for a variety of reasons, some of which reflect valid concerns and a need for further clarification by the Patent Office, (for example the potential impact on existing patents drafted with a view to the continued availability of continuations, and the impact on divisional practice) and others that may simply reflect an interest in resisting any limit on the service they provide for their clients. RIM encourages Congress to support the Patent Office achieving reform in this area.

REMEDIES FOR PATENTEES

A second key question raised by the NTP case is: "Should there be limitations placed on the compensation available to patentees?" In order to ensure that the costs associated with patents do not outweigh the social and economic benefits afforded by them, restrictions must be in place to ensure that the compensation for a patent bears some reasonable relation to the actual value of the invention in that patent. Bringing a single wireless technology product to market and into the public hands is very risky and involves a myriad of complex technologies—e.g., display screen technology, RF technology, application software, etc. Such products typically involve hundreds of inventions as well as the development, production and distribution of hardware and software components. If there are no limits on the compensation each patentee can seek for each of the hundreds of inventions in those products, there may not be sufficient remaining resources to bring the product to market—or even to compensate other patentees. In the NTP case, the Federal Circuit concluded that the patented invention in the NTP patents was the integration of an existing email system with a wireless system.

The patents left it to RIM and others to design and build a two way handheld with desktop computer-like processing power, handheld email applications and operating system software, battery management systems, encryption software, special keyboards, communication protocols across the email and wireless system, redirector software and a relay infrastructure to route data between the email system and the wireless network—as well of course as the pre-existing email system and wireless network. In other words, the NTP patents did not come close to disclosing what is required to place in the hands of the public an actual, commercially viable and useful product. Inventor's rights are important. But if the ultimate objective is to put technology into the hands of the public at a reasonable price, no single patentee should be able to demand compensation that far exceeds the value of its actual and specific contribution to the ultimate product or system.

Although some may ask "why can't we let the marketplace take care of the problem", the reality is that the current law on injunctions effectively gives patentees a gun, and the availability of a gun to one party in negotiations tends to skew the results that would otherwise naturally occur in the marketplace. Patentees are effectively able to use the Courts as a weapon to extort settlement amounts far greater than the reasonable market value of their patents.

INJUNCTIVE RELIEF

As was widely reported during the course of the NTP litigation, and especially in the last six months, RIM faced the very real possibility of an injunction being imposed by the District Court by patents asserted by a patent assertion company.1 NTP further leveraged this threat against RIM by hiring a public relations firm to instill fear amongst RIM's customers and shareholders by way of a publicity campaign, effectively threatening millions of American customers in order to put additional pressure on a public company to capitulate to excessive demands. Even with a solid workaround design, the uncertainty inherent in a threat of an injunction created some disruption of our business. An injunction was not warranted in the NTP case, and the possibility that an injunction was available in such circumstances demonstrates the need for reform. These circumstances include not only those discussed in this section, but the Patent Office reexaminations described earlier, in which the Patent Office had fully and finally rejected all the remaining claims in suit as unpatentable at the time of the hearing in the District Court in February 2006.

In the general case, injunctive relief for patent infringement 1) should not be virtually automatic, and 2) should not be made available where the patentee has clearly acknowledged it is seeking monetary compensation and is using the injunctive remedy as leverage solely to obtain money in excess of market value. Although there is a clear need to ensure that small inventors can receive reasonable compensation in a timely manner for their patents, these objectives can be accomplished without a virtually automatic injunction.

Remedies, as opposed to rights, are typically tailored to the individual circumstances. Injunctions are viewed as extraordinary remedies in other areas of the law and are generally only available upon a demonstration of the inadequacy of money as a remedy—i.e. where the nature of the harm caused to the injured party is such that it cannot be compensated for with money. Even though in Section 283 of the Patent Act Congress appears to have applied the same traditional four part test for the availability of injunctive relief as applies in other areas of the law, the courts appear to ignore this Congressional mandate by creating an attenuated version of the test for patent cases. It is easy to see how in many instances damages would not be an adequate remedy in a patent case, but this should not make it an essentially irrebutable presumption. Where a patentee's business depends on excluding others from using its invention, money would probably not be an adequate remedy. However, an entity whose business is granting non-exclusive licenses has by its nature relied on a business model built on an inclusive, rather than exclusive, use of the technology by others. Such a patentee has no bona fide need to exclude and can be adequately compensated with money. And to be clear, we are not suggesting that such a patentee does not get any remedy. The issue is not whether they get a remedy, but what is the appropriate remedy. In such cases, the proper remedy is monetary relief rather than injunctive.

Some argue that this impacts a patentee's ability to choose its licensees. The reality is that once a patentee has made the decision to grant a non-exclusive license, as opposed to an exclusive one, a patentee is not generally selective about its licensees. Unlike copyright or trade marks, patents tend to cover broad ideas (rather than narrow implementations), and the quality of the implementation of a broad patented idea would rarely reflect negatively on the patentee. Certainly, it would be unusual to find a patent assertion company that was selective about its licensees. The standard non-exclusive licensing business model in our industry is simple—maximize revenue by maximizing the number of licensees. A monetary award, rather than injunctive relief, should not impact on the patentee's ability to acquire other licensees. Indeed, because courts can award enhanced damages and must award at least a reasonable royalty, it is difficult to see how it could promote innovation by enabling a patentee that is not engaged in putting technology into the public's hands to shut down one that is, solely to enable the patentee to extort more than a reasonable royalty. The argument frequently heard that patentees need an injunction to avoid courts imposing their views of a reasonable royalty is specious. Courts award damages in every other area of law, and injunctions in those areas are not issued as a matter of course simply because the litigant might have a different view as to the appropriate amount of the award.

One final point on injunctive relief: even if Congress concludes that damages are an inadequate remedy for patentees engaged in the business of granting non-exclusive licensees generally, injunctions should not be generally available to patent assertion companies. The activities of patent assertion companies are inherently at odds with the objectives of patent law. If every patentee decided to avoid the costs and risk inherent in going into business and instead waited for someone else to

come up with the same idea and implement it and then charge the second company to stay in business—the costs of the patent system would soon outweigh its benefits. The patent assertion model is not the business model of independent inventors and universities seeking to introduce new technology to the market by licensing their technology to third parties for its commercialization. The patent assertion business model requires that the invention already be in the marketplace, else there is literally no one for them to assert the patents against. This business model effectively results in consumers paying twice for innovation—first for the real and substantial independent research and development costs incurred by the alleged infringer and second for the royalties paid to the patentee so that the alleged infringer can use that independently developed technology. There are additional economic costs because the royalties paid by the alleged infringer are not available for research and development or investment in capital infrastructure that might bring prices down. These costs can be significant and may even threaten the ongoing availability of a product or viability of a company, as there is no limit on the amount that the patentee can seek in compensation for the use of its patent—and no incentive for the patentee to limit its demands to an amount reflecting the value of its invention. Congress should take steps to ensure that Courts properly apply the traditional test for injunctive relief in patent cases it mandated in Section 283, and do so in light of the specific Constitutional objective that patents must promote the useful arts.

WILLFULNESS

A finding of willful infringement entitles a patentee to an award of up to treble damages. The standards by which willful infringement is established must also be considered. Does it further the Constitutional objectives of the patent system to place the entire burden of determining whether there is an infringement of a patent on an alleged infringer, as is currently the case? Recent case law suggests that a patentee need only provide notice of a patent to a defendant to establish willful infringement. Under recent case law, patentees apparently are not required to make a clear claim of infringement, or to support their allegations of infringement in order to successfully allege willful infringement. This means that, with the cost of the stamp to deliver a vague letter mentioning its patents to a company, patentees can impose on that company costs easily exceeding tens of thousands of dollars to acquire legal opinions as to the validity and infringement of any patents provided. The patentee does not have to lift a finger to determine whether there is infringement, yet they can impose substantial costs on a targeted defendant to seek legal opinions that meet the rigorous requirements that case law requires for those opinions to be deemed competent.

In the NTP case, NTP mass-mailed letters to 47 companies, including RIM in January 2000. RIM responded with a letter to NTP asking for additional information about its patents. NTP claims never to have received the letter, and made no further effort to contact RIM until NTP filed suit. Nonetheless, RIM was found liable for willful infringement based on what RIM did or did not do after receiving NTP's letter. The fact that the patent owner took no interest and forwarded no claim charts or otherwise showed there was an infringement simply did not matter. A recent case in the Court of Appeals for the Federal Circuit further suggests that, even if NTP had acknowledged receipt of RIM's letter, it would have no obligation to respond to inquiries or to provide support for its claims of infringement in order for it to obtain enhanced damages for willfulness. Thus, even though a patent owner does not deem the potential infringement worthy of investing time and money to do a proper infringement analysis and may never even bring a claim of infringement, the targeted defendant must do so or risk treble damages and the brand of "willful infringer."

To illustrate the economic costs inherent in this bias towards patentees, one need only consider the NTP case. With 1920 claims in the NTP patents, each of the 47 companies would likely have to spend at least $200,000 for a legal opinion of invalidity and/or non-infringement. Thus, for about $19 in postage, a single patentee like NTP can require 47 companies to divert over $9 million from other industry endeavors to obtain legal opinions regarding NTP's patents. Although it is currently rare for that many claims to be asserted, it is common for companies to receive dozens of such letters each year and to spend several hundreds of thousands or more each year on external legal opinions alone (not including the salaries and overhead for those that deal with these issues).

It seems outrageous that companies must invest this sort of money in formal legal opinions as a result of vaguely crafted patent notice letters where the patentee has determined it is not worth its time or money to provide even a basic explanation as to why there may be infringement.

RELATION OF COMPENSATION TO VALUE OF PATENTED INVENTION

Without any restriction on the amount of compensation a patentee is entitled to for its patented invention, there are a number of circumstances in which, rather than promoting the useful Arts, patents can result in a reduction in the technology available to consumers or at least a significant increase in its price.

One such instance is where the royalty rate for a particular patent fails to take into account that a single product requires patent licenses with multiple technology companies covering hundreds of patents. For example, the royalty rate determined by the jury at trial in the NTP case was 5.7% of the gross revenue on RIM's handsets, software and services. Considered in isolation 5.7% may not seem an onerous royalty. However, were each of our existing patent licensors to be entitled to this same 5.7%, neither RIM nor any other technology company could afford to bring the product to market.

Similarly, significant economic and social costs can result from permitting a patentee to recover damages not only on the revenue of a party supplying products that directly or indirectly infringe a patent, but also on bona fide third party products or services used in combination with these products where those third party products or services would not themselves directly or contributorily infringe the patents. For example, there is a growing tendency for patentees with patents covering, for example, a small component of a handheld or a handheld software application, to seek royalties based not only on revenue generated by the handheld manufacturer's products, but on carrier network service revenue as well. These types of patents likely add no innovation to the wireless carrier network, which essentially acts as a pipe to deliver data from the handheld. The carrier's business model requires it to make services available to a wide range of products with no real depth of technical knowledge about these products. If in fact the handheld component or software application does infringe a patent, in these circumstances the carrier might well look to the supplier to indemnify it for any resulting damages. If those damages are calculated based upon not only the manufacturer's revenue, but the revenue from carriers' services as well, the manufacturer may be required to pay damages on money it has never received, and the total damages may exceed its total revenue for the infringing product. This is not only inconsistent with industry patent licensing practices; it simply is not economically feasible.

A patent system that affords patentees ready access to compensation reflecting the value of their patents would seem better suited to achieve both protection for the patentee and the promotion of the useful Arts. RIM encourages Congress to provide guidance to the Courts and certainty to industry to achieve this end.

CONCLUSION

Mr. Chairman, thank you again for the opportunity to appear before you today. I hope that my testimony has been helpful to you and Members of the Subcommittee as you consider reforms to the patent U.S. patent system. If I can be of any further assistance to you with this very important work, I am at your service. I will be pleased to take any questions you may have.

1 A patent assertion company is an entity whose primary business is enforcing its patent portfolio against technology companies that have independently researched, developed and commercialized similar technology. Such patent assertion companies typically do not practice the patented technology at all, but merely expend their energies in drafting claims in their pending continuation patent applications to claim for themselves successful products independently developed by others. Their business model is very different from that of independent inventors and universities that work to place in the hands of the public products that are not already in the marketplace by partnering with industry to commercialize their patented inventions, typically providing substantial know-how to implement their invention and related technology.

Mr. SMITH. Mr. Stewart.

TESTIMONY OF ROBERT A. STEWART, DIRECTOR AND CHIEF PATENT COUNSEL OF AMERICAS, UBS AG

Mr. STEWART. Thank you. Chairman Smith and Ranking Member Berman. My name is Robert Stewart, and I am the chief patent counsel for UBS AG in the Americas. I am pleased to testify today on behalf of the Financial Services Roundtable and BITS, which are affiliated financial services trade associations. The Financial

Services Roundtable represents over 100 of the largest diversified financial institutions who account directly for millions of jobs. The Financial Services Roundtable would like to commend Chairman Smith and the rest of the Subcommittee for their time and effort in an attempt to strengthen the quality of the U.S. Patent system, and encourage innovation without discouraging economic activity.

In particular, I would like to commend Congressman Berman for the introduction of his thoughtful bill today.

As you know, the financial services community is intensely interested in patent quality and litigation issues, and is grateful for you for considering these matters.

It is perhaps too easy and convenient to place the entire burden for patent quality on the staff of the U.S. Patent and Trademark Office, who I will refer to as the PTO.

We believe that Director Dudas and his staff continue to overcome the challenges facing the PTO, including reducing the backlog of pending applications. However, the fact remains that over 800,000 applications are pending in PTO and examiners aren't able to spend enough time to provide meaningful examination. As a result, patent quality has suffered and patents of dubious quality threaten to destruct lawful economic activity. Patent quality can be improved by improving the disclosure of relevant prior art, improving the quality of district court decisions, and the inclusion of an effective post grant opposition proceeding, and we mustn't forget litigation reform measures.

We can improve the disclosure by ensuring that relevant art is disclosed in a meaningful way to examiners that are pressed for time. Any examination by the PTO is only as reliable as the information that the examiner is readily able to apply to the claims under review.

And in furtherance of this goal, we are quite pleased that H.R. 2795 has a third party submission procedure which will allow for more effective disclosure of relevant prior art to the examiners at the PTO.

Also, Congress should adopt an interlocutory appeal of claim interpretation. The Federal circuit frequently overturns claim interpretations, and as you may be familiar with Kimberly Moore's work, 35 percent of District Court claim interpretations were overturned between 1996 and 2003. The inconsistent claim interpretations between the District Court and the Federal Court are representative of the U.S. Patent system's wasteful use of limited judicial resources.

So to further improve the efficiency of the judicial resources, an interlocutory appeal to the Federal circuit should be permitted after a Markman hearing, where the claims are interpreted by the District Court. This new procedure will help mitigate the judicial inefficiency that occurs when a full trial is conducted based on an incorrect interpretation of the patent.

In addition, Congress should support specialized patent courts. Many District Court judges have no special or technical patent expertise, and have never been admitted to practice before the U.S. Patent and Trademark Office, whereas patent attorneys hold technical degrees and pass a special patent bar. Therefore, we encourage preferential venue in the 10 District Courts that currently han-

dle the most patent matters and professor Moore has also been very instructive on this particular matter as well.

We also strongly support the establishment of a post-grant opposition proceeding with a second window that will allow anyone who is threatened with a patent infringement action to follow a request for an opposition proceeding within 6 months after receiving notice. Without the 6-month window, many organizations may not expend the resources necessary to invalidate a patent in an opposition proceeding.

The second window could be subject to a clear and convincing standard of proof.

As for litigation reform, the patent quality problem cited above make the need for litigation reform all the more compelling. Congress can and should provide financed firms and other businesses with the additional safeguards against frivolous claims without impairing the important protections afforded to intellectual property. As owners of intellectual property, we have as much interest as anyone in protecting true innovation that benefits society has a whole.

Specifically, Congress should clarify the damages role with respect to willfulness and apportionment, limit venues to the place of incorporation, expand the scope of prior user rights beyond business methods, and modify the standard for injunctive relief.

In conclusion, the Financial Services Roundtable is a strong believer in the U.S. Patent process as fundamental to a healthy U.S. Economy.

Given the importance of the patent process, the PTO should be fully funded without fee diversion and given adequate resources to perform its duties. At the same time, it is not enough for the PTO to turn out patents in greater quantity if those patents are not of the highest quality.

I know that Director Dudas shares this view, and we appreciate his dedication to patent quality issues. Moreover, because of increases in frivolous claims of patent infringement, we encourage you to continue your focus on appropriate defenses and other tools for litigation risk management. We look forward to participating further as you develop and move legislation to improve the patent laws. Thank you.

Mr. SMITH. Thank you, Mr. Stewart.

[The prepared statement of Mr. Stewart follows:]

PREPARED STATEMENT OF ROBERT A. STEWART

TESTIMONY of
Mr. Robert A. Stewart

"Patent Law Reform: Patent Quality Enhancement in the Information Economy"

BEFORE the

House Judiciary Committee Subcommittee Courts and Intellectual Property

April 5, 2006

Introduction

Chairman Smith, Ranking Member Berman, and members of the Subcommittee, my name is Robert Stewart. I am the chief patent counsel at UBS AG for the Americas. I am pleased to testify today on behalf of The Financial Services Roundtable and BITS, which are affiliated financial services trade associations.

The Financial Services Roundtable (www.fsround.org) represents 100 of the largest diversified financial services companies providing banking, insurance, and investment products and services to American businesses and consumers. Member companies participate through their chief executive officer and other senior executives nominated by the CEO. Roundtable member companies account directly for millions of jobs.

BITS (www.bitsinfo.org) was created in 1996 to foster the growth and development of electronic financial services and e-commerce for the benefit of financial institutions and their customers. BITS provides intellectual capital and addresses emerging issues where financial services, technology and commerce intersect. BITS's Board of Directors is made up of the Chairmen and CEOs of twenty of the largest U.S. financial services companies, as well as representatives of the American Bankers Association and the Independent Community Bankers of America.

As you know, the financial services community is intensely interested in patent quality and litigation issues, and is grateful that you are considering these matters. The subject of today's hearings is "Patent Quality Enhancement in the Information-Based Economy".

It is, perhaps too easy and convenient to place the entire burden for patent quality on the staff of the U.S. Patent and Trademark Office ("PTO"). We believe that Commissioner Dudas and his staff continue to perform admirably to overcome the challenges facing the PTO including reducing the backlog of pending applications. However, the fact remains that over 800,000 applications[1] are pending at the PTO and Examiners are unable to spend enough time to provide a meaningful examination on complex applications.[2] As a result, patent quality has suffered, and patents of dubious quality threaten to injure inventors, licensors, licensees and to disrupt lawful economic activity.

My testimony will cover needed improvements in the areas of patent quality and litigation.

PATENT QUALITY

[1] U.S. PATENT AND TRADEMARK OFFICE, PERFORMANCE AND ACCOUNTABILITY REPORT FISCAL YEAR 2004, *available at* www.uspto.gov/web/offices/com/annual/2004/060405_table5.html (last visited April 27, 2005).

[2] FEDERAL TRADE COMMISSION, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY, A REPORT BY THE FEDERAL TRADE COMMISSION, October 2003, at 5.

Patent quality can be improved by (1) improving disclosure of relevant prior art to the PTO, (2) improving the quality of district court decisions in patent disputes, and (3) the inclusion of an effective post grant opposition proceeding with a second window. In addition, there are various other provisions that can be adopted which will make our patent system an effective and efficient mechanism capable of achieving its mandate to support our economic engine.

Improving Disclosure

The application process must be reformed to ensure that relevant art is disclosed in a meaningful way for Examiners that are pressed for time. Any examination of the PTO is only as reliable as the information that the Examiner is readily able to apply to the claims under review.

In furtherance of this goal, we are quite pleased that H.R. 2795 has a third party submission procedure, which will allow for more effective disclosure of relevant prior art to the Examiners at the PTO.

Improving Quality of District Court Patent Decisions

The quality of district court patent decisions can be improved by enhanced handling of claim interpretation issues between the district court and Federal Circuit and by funneling patent cases to judges that have the most experience handling patent disputes.

District court patent claim interpretations frequently are overturned by the Federal Circuit (e.g., 35% of district court claim interpretations were overturned from 1996-2003).[3] The inconsistent claim interpretations between the district court and the Federal Circuit are representative of ways in which the current system has a deleterious impact and further erodes our Nation's limited judicial resources.

To further improve the efficiency of judicial resources, an interlocutory appeal to the Federal Circuit should be permitted after a *Markman* hearing. This new procedure would help to mitigate the judicial inefficiency that occurs when a full trial is conducted based on an incorrect interpretation of the patent at the district court proceeding and the Court of Appeals for the Federal Circuit modifies or reverses that interpretation and orders a new trial based on that modified interpretation or reversal. Litigants may end up paying for the attorney fees and expenses for two trials, instead of a single trial.

Patent Law Specialization in District Courts

Many district court judges have no special technical expertise, patent law experience, and very few have been admitted to practice before the U.S. Patent and Trademark Office. At law firms, patent attorneys specialize in patent matters and often hold engineering degrees. District court judges that hear patent disputes should be held to no less stringent standards than practicing patent attorneys in order to protect the public interest. Because the district courts and the Federal Circuit appear to be out of synch, appeals to the Federal Circuit are encouraged implicitly. U.S. district courts are not efficient, reliable or

[3] Kimberly Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 Lewis & Clark L. Rev. 231 (2005).

ultimately "competitive" with specialized patent courts of various leading foreign countries (e.g., U.K., Germany, and Japan) with the largest gross domestic products (GDP's).

As an intermediate step to a single specialized district patent court, which may require additional funding and a lengthy approval process, our proposed venue language (set forth below) encourages preferential venue in the ten district courts that currently handle the most patent matters.[4] These ten district courts could be further reduced gradually over time to a single specialized district court to ease the transition and prevent disruptions in the flow of litigation. If venue does not lie where a defendant resides under the new definition or in the preferential district courts, venue is proper consistent with general venue provision under 28 USC § 1391 (e.g., venue applied to foreign corporations with only personal jurisdiction in the U.S.). The proposed venue language allows broad unrestricted venue for federally funded universities to encourage their ability to enforce patent rights resulting from federally funded research. Accordingly, the status quo is preserved with the ability of federally funded universities to bring patent infringement suits in their choice of jurisdiction where there is personal jurisdiction.

We recommend replacing the current language of 28 U.S.C. §1400(b) with the following venue language to promote specialization in patent matters in 10 district courts, where 65% of patent matters are presently heard:[5]

> "Civil actions, suits, or proceedings arising under any Act of Congress relating to patents may be brought (1) in the judicial district where the defendant resides, or (2) in any of the following federal district courts where the defendant is subject to personal jurisdiction at the time the action is commenced to foster judicial expertise in patent matters: Northern District of California, Central District of California, Southern District of New York, Northern District of Illinois, District of Massachusetts, District of Delaware, Southern District of Florida, Eastern District of Virginia, District of New Jersey, and the District of Minnesota. Notwithstanding the definition of resides under 28 U.S.C. §1391(c) "resides" under this section shall mean the judicial district where the defendant is registered as a business entity, incorporated or where its principal business office is located. If the plaintiff cannot bring a proceeding against a defendant under any of the patent venue provisions of this section in a patent matter or if the plaintiff is a university or college that has received federal funding within the last calendar year, or a non-for-profit organization controlled by such university, then the general venue provisions of 28 U.S.C. § 1391 shall apply to that patent matter."

LITIGATION

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[4] *See, e.g.*, Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation*, 79 N.C.L. Rev. 934 (2001)(for information on selection of the ten district courts that handle the most patent matters).

[5] Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation*, 79 N.C.L. Rev. 934 (2001).

Regardless of which factors contribute to a lack of patent quality, businesses of all shapes and sizes, including banks, broker-dealers, insurers and finance companies are threatened by a large and growing number of frivolous claims of patent infringement. Currently pending claims of infringement are a serious problem, but they are only the tip of the iceberg because of the lag in allowance of patent applications related to business methods and financial services. After the landmark decision in *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), the number of pending patent applications that involve financial services have surged generally.[6] Because it typically takes more than three years to procure allowance of applications for business methods (e.g., Class 705),[7] the risk of increased litigation for the financial services industry is now present.

While the Patent Act's provisions concerning injunctions and damages would need adjustment even if the Patent Office granted only valid patents, the patent quality problem makes the need for litigation reform all the more compelling. The possibility of a broad injunction and treble damages means that a financial services institution must take even the most frivolous patent infringement claim seriously. The current rules regarding injunctions and damages place all the leverage in the hands of the patent owner, even if the patent is extremely weak. If Congress does not correct the remedies under the patent law, the surge in the number of patents relating to financial services will lead to financial services institutions paying out ever-larger license fees to holders of suspect patents, to the detriment of our customers.

There are steps that Congress can and should take to provide financial firms and other businesses with additional safeguards against frivolous claims, without impairing the important protections afforded to intellectual property under the patent law. Many members of the Financial Service Roundtable are owners of Intellectual Property and we are as interested as anyone in protecting true innovation that benefits the economy and society as a whole. Specifically, Congress should:

- Modify the standard for injunctive relief;
- Clarify the damages rules with respect to willfulness and apportionment;
- Adopt a robust post-grant opposition proceeding; and
- Expand the scope of prior user rights.

Injunctive Relief

In most litigation contexts, the prevailing plaintiff bears the burden of showing that it is entitled to injunctive relief because money damages are insufficient. In patent cases, conversely, if the patent owner shows that a patent is valid and infringed, the court presumes that the patent owner is irreparably harmed by the infringement.[8] In theory, the defendant has the opportunity to rebut this presumption, but as a practical matter, courts treat the presumption as virtually irrebuttable. The threat of a permanent injunction, even in the absence of any real irreparable harm, significantly increases the risk to a defendant

[6] See, e.g., STEPHEN A. MERRILL, RICHARD C. LEVIN, AND MARK B. MYERS, NATIONAL RESEARCH COUNCIL, A PATENT SYSTEM FOR THE 21ST CENTURY, 2004 at 86 (prepublication copy).
[7] *Id.* at 90.
[8] *Jack Guttman, Inc. v. Kopycake Enters, Inc.*, 302 F. 3d 1352, 1356 (Fed. Cir. 2002).

of going to trial to prove invalidity or non-infringement. Accordingly, this presumption forces defendants to settle prematurely, even in cases with weak patents held by patent "trolls."

In the past, the Second Circuit has held "the defendant manufactures a product; the appellant does not. In the assessment of relative equities, the court could properly conclude that to impose irreparable hardship on the infringer by injunction, without any concomitant benefit to the patentee, would be inequitable."[9] In other countries, including Canada and most European countries, injunctive relief is not available for paper patents that have not been worked. In the U.K., a party may apply for a compulsory license if the patentee fails to work the patent at any time after the expiration of three years from the date of the grant of the patent and if relevant grounds are satisfied.[10]

Rather than advocating a "working" requirement provision, we support the moderate step of amending Section 283 of the Patent Act to provide that a court should grant an injunction on a patent only if the patentee demonstrates that it is likely to suffer immediate and irreparable harm that cannot be remedied by the payment of money damages alone, as is the typical standard required for the issuance of an injunction. Only if an inventor can demonstrate a likelihood of irreparable harm should injunctive relief be available.

The Committee Print contained such language on irreparable harm. UnfortunatelyH.R. 2795, does not go as far as the Committee Print to clarify the standard of injunctive relief. Instead, H.R. 2795 implies that the defendant bears the burden of proof concerning irreparable harm, rather than the plaintiff. Still, the language of H.R. 2795 is an improvement over the status quo because it directs a court to "consider the fairness of the remedy in light of all the facts and the relevant interests of the parties...." Even if courts continue to presume that the harm is irreparable, this language makes clear that the presumption is rebuttable.

As many of you may know, this issue is now in front of the Supreme Court in the case of MercExchange V. Ebay.[11] However, a legislative solution that takes into account the full spectrum of opinions on this matter may prove a better and more permanent solution than case law.

Clarify the Damages Rules

The present patent law is subject to abuse by patent holders who go fishing for infringers, or worse, coerce law-abiding companies to pay large licensing fees. By simply sending a letter, at the cost of nothing more than a 39-cent stamp, a patent holder can set in motion a very costly process for the alleged infringer. The recipient of the letter has to undertake an investigation, incurring the cost of personnel time and legal counsel, both of which can be substantial. Failure to conduct the necessary due diligence could later subject the

[9] *Foster v. American Mach. & Foundry Co.*, 492 F.2d 1317, 1324 (2d Cir. 1974)
[10] Section 48(1), U.K. Patents Act of 2004.
[11] For background information, see *MercExchange L.L.C. v. eBay, Inc.*, 401 F.3d 1323 (Fed. Cir. 2005).

alleged infringer to treble damages. The accusing patent holder incurs no risk or cost, other than the cost of a stamp.

The patent law should be modified to provide that enhanced patent infringement damages may be awarded for any infringement only if: (a) the defendant received written notice from the plaintiff of a charge of infringement that identifies the specific patent, claims, and alleged infringing products or services at issue and that is sufficient to give the defendant an objectively reasonable apprehension of suit on the patent; (b) the infringer deliberately copied the patented subject matter with knowledge that it was patented; or (c) the patent was asserted against the infringer in a previous U.S. judicial proceeding, and the subsequent infringement is not materially different from the conduct asserted to be infringing in the previous proceeding.

At the same time, the Patent Act should make clear that enhanced damages should not be available with respect to any period during which the infringer had an informed good faith belief that the patent was invalid or unenforceable, or would not be infringed by the conduct later shown to constitute infringement. This informed good faith belief could be established by advice of counsel. Further, a patentee should not be able to plead willful infringement before a court has determined that the patent is valid and infringed by the defendant. We are pleased that H.R. 2795 contains provisions along these lines concerning willful infringement.

Another area of concern is the apportionment of damages when a patent covers a small component of a larger product. The Act should direct a court to award only the portion of the realizable value of a product that should be credited to the inventive contribution as distinguished from other features of product, the manufacturing process, business risk, or improvements added by the infringer. We are pleased that H.R. 2795 has appropriate language concerning apportionment.

Venue Reform to Curb Forum Shopping

We also urge you to consider an additional provision on venue reform that was not included in H.R. 2795. We previously mentioned venue reform in the context of promoting quality in the disposition of patent disputes within the district courts. Here, we further recommend limiting patent venue to curb the abuses of forum shopping in patent disputes. In general, with appropriate exceptions, patent cases should only be brought in the venue where the defendant is incorporated or in a limited group of district courts that specialize in patent matters, as opposed to anywhere there is personal jurisdiction against the defendant. Such a venue provision would prevent forum shopping and discourage frivolous litigation in patent disputes.

Under current law, plaintiffs and patent "trolls" can sue corporate business defendants for patent infringement anywhere the defendant is subject to personal jurisdiction because of the broad judicial interpretation of "resides" in 28 U.S.C. 1400.[12] In VE Holding Corp., the Federal Circuit applied the broad definition of "resides" under the general venue statute of 28 U.S.C. 1391 to the patent venue statute of 28 U.S.C. §1400, which

[12] *VE Holding Corp. v. Johnson Gas Appliance Co.*, 917 F.2d 1574 (Fed. Cir. 1990).

effectively makes the patent venue limitations of 28 U.S.C. 1400 meaningless for corporate defendants. Instead, to give effect to 28 U.S.C. §1400, its patent venue language should control over the general venue language of 28 U.S.C. § 1391, with respect to patent matters.

Our proposed venue language limits venue to correct the broad definition of "resides" that currently allows corporate defendants to be sued in virtually any district court within the U.S. for patent infringement. The redefinition of "resides" is generally consistent with the pre-1988 standard for patent venue in which patent venue was favored in the state of incorporation or location of principle place of business. It is our understanding that such a limitation would discourage frivolous litigation (e.g., patent trolls). Professor Heller proposed similar venue language for H.R. 2795, which is equally acceptable to our proposal. However, any restriction of venue to reduce forum shopping should be supplemented with a move toward a specialized court for patent matters. To summarize, there are two benefits that can be gained from redefining venue: (1) limiting the applicable jurisdiction to a location that is convenient to the defending organization to discourage frivolous litigation and, (2) developing specialization and expertise in handling patent matters at the district court level, much like the Federal Circuit does at the appellate level.

The Prior User Rights Defense

The prior user rights defense under 35 U.S.C. 273 is an important protection for financial institutions especially due to the recent growth in patent litigation. However, in its current form, the prior user rights defense is merely limited to "business methods." Business methods have proved difficult to define in practice and are not defined anywhere in the Patent Act. Accordingly, a patent owner of a business method patent may characterize its business method as a system or apparatus to circumvent the application of the prior user defense. For this reason, the prior user defense should be modified to apply equally to methods and systems covered by a patent, as proposed in H.R. 2795. Further, we suggest that any bill strike the automatic provision of attorney's fees.

Another problem with the prior use defense is the high level of proof required to successfully assert the prior user defense. Currently, the prior user defense requires "clear and convincing evidence." Although "clear and convincing evidence" is generally appropriate where patent invalidity is invoked as a defense,[13] here under the prior use defense the patent owner's patent is not invalidated and may continue to be enforced against third parties. The limited applicability of this personal defense to circumstances where the defendant's prior use was established before the invention thereof by plaintiff and the absence of patent invalidity supports changing the language of former Section 273(b)(4) from "clear and convincing" to "preponderance of the evidence."

Finally, the prior user right should be available to any entity that controls, is controlled by, or is under common control with the prior user. This is particularly important in the

[13] Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 433 (Fed. Cir. 1986).

financial services industry, where companies tend to establish separate subsidiaries for the provision of new services because of the applicable regulatory framework.

Opposition Proceeding

The PTO proposed a post-grant review of patent claims in its 21st Century Strategic Plan that was released in 2002. We strongly support establishment of an opposition proceeding with a second window.

With respect to the first window, we recommend that the opposition procedure allow the public to petition the PTO to cancel one or more claims in a patent within 12 months of issuance (a timeframe supported by the Administration) under section 323. The counterpart U.K. opposition law provides for an opposition proceeding within 24 months after the date of grant,[14] but the European Patent Convention opposition period is only 9 months.[15] We respectfully suggest the creation of a reasonably moderate time frame of 12 months by changing the language of section 323 in H.R. 2795 from "9 months" to "12 months."

Further, with respect to a second window, we recommend allowing anyone who is threatened with a patent infringement action to file a request for an opposition proceeding within six months after receiving notice of the patent infringement action. Without the six-month window for initiation of an opposition proceeding upon a threat of patent infringement, the opposition proceeding would be seldom used. Organizations would not likely expend the resources necessary to monitor the patents of their competitors or the resources necessary to invalidate a patent in an opposition proceeding without any tangible economic return. However, an infringement action provides a sufficient economic incentive to use an opposition proceeding to avoid paying infringement damages for a questionable patent or a patent of suspect validity. Moreover, the 6-month window for launching an opposition would foster a more detailed scrutiny of patents than ordinarily occurs during the typical 25 hours or less of examination at the PTO.[16] We are pleased H.R. 2795 contains this second 6-month window. However, whereas a first window shall be subject to a preponderance of evidence standard for a showing of invalidity, the second window could be generally subject to a clear and convincing standard for proof of invalidity, consistent with current treatment in trial court to foster efficient use of dispute resolution resources.

H.R. 2795 currently requires the new opposition proceeding to be stayed if the owner of the patent files an infringement action during the 9-month or 6-month windows for filing an opposition. This stay provision should be removed because it encourages costly litigation and allows the patent owner to control the opposition.

Conclusion

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[14] Section 72(2)(b) of the U.K. Patents Act of 2004.

[15] EPC Art. 99.

[16] FEDERAL TRADE COMMISSION, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY, A REPORT BY THE FEDERAL TRADE COMMISSION, October 2003, at 5.

The Financial Services Roundtable membership believes the U.S. patent process is fundamental to a healthy U.S. economy and robust free enterprise system. With increases in pending patent applications and claims of infringement, there is a need for Congressional debate and frank discussion with members of the financial services industry and the patent community at large. Given the importance of the patent process, the PTO should be fully funded without fee diversion and given adequate resources to perform its duties. At the same time, it is not enough for the PTO to turn out patents in greater quantity if those patents are not of the highest quality. I know that Director Dudas shares this view and we appreciate his dedication to patent quality issues. Moreover, because of increases in frivolous claims of patent infringement, we encourage you to continue your focus on appropriate defenses and other tools for litigation risk management, especially efforts to curb the use of injunctive relief.

We look forward to participating further as you develop and move legislation to improve the patent laws.

Mr. SMITH. Professor Lemley.

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

Mr. LEMLEY. Thank you, Mr. Chairman. I think everybody can agree there are bad patents out there. The Patent Office, I think, is doing more and more to try to solve the problem and try to weed out the bad patents. But the reality of the situation is we are never going to find them all. And it's probably not even cost effective to find them all in the Patent Office, because somewhere between 90, 95 percent of patents, once they are issued from the Patent Office, are never heard from again.

Instead, it seems to me if our focus is patent quality enhancement, what we need to do is try to find the patents that matter, weed out the bad patents that actually matter that are going to affect people later in life.

One way to do that is post grant opposition. And endorse both the H.R. 2795 and the Berman-Boucher bill that proposed post grant opposition system. Though, in fact, it seems to me the disputed issue in the post grant opposition area, which is whether we can have a second window, have an opportunity to identify those patents, when they become relevant in litigation, is the critical issue. Without an opportunity for people to file a post grant opposition at the time that they are aware of a patent, the post grant opposition becomes somewhat illusory.

We can go further. In my paper I submitted along with my testimony, I suggest a sort of what you might call a gold-plated patent mechanism, where people could opt in for their most important patents to higher scrutiny, submit a search, ask for more time from the Patent Office, pay a higher fee, and in exchange, get something of value, in exchange get a patent that was treated by the courts with greater respect, with more deference.

Both of these systems would allow us to focus the patents that matter because they would harness the information that private parties have and that the PTO currently doesn't have about which of the patents is important to focus on and which ones are not.

I also think, though, that you can't discuss patent quality without talking about the problem of Patent lawsuit abuse. There is a very real problem out there confined, I think, to some industries, but to a very wide and important sector of the economy, of patent lawsuit abuse. To some extent, those are bad patents being asserted. They are patents that shouldn't have been issued, that are invalid, that people are asserting.

But there is also a problem even with patents that are legitimately issued, when people wait in the wings and surprise a mature industry or a standard setting organization with a patent that he they didn't know about after it has been to—for people who have already made irreversible investments, when people overclaim the breadth of their patents, when they actually invent something, but pop up 10 years later and claim they invented something much broader covering an entire industry that they hadn't thought of at the time, or when they use the threat of injunctive relief or of damages in excess of actual compensatory value to coerce a settlement, that so often happens in patent litigation where the defendant

might have a good claim that the patent is invalid, might have a good claim that they don't infringe, but isn't willing to put their product on the line.

The testimony we just heard about Research in Motion is, in one sense, exceptional. They actually took the case all the way to litigation. Most people aren't willing to take that risk and so they settle.

You can solve those problems, it seems to me, in a couple of ways. You can get at the problem of hiding in the wings with publication and with limitations on continuation practice, and you can get at the problem of holdup or threats of holdup by restricting the ability to claim super compensatory damages to cases in which they are really warranted, where the conduct really is copying, or by giving the district courts, confirming that the district courts have in the existing statute, the discretion to consider equitable factors in deciding whether or not to grant injunctive relief.

Now, the one thing it seems to me that the patent reform process has taught us is that different industries have very different experiences with the patent system. The way the patent system affects you if you are in the IT industry is very different than if you are in the biotech or the pharma industry. I think for that reason it is unlikely you are ever going to get broad industry consensus on meaningful patent reform.

You can either throw up your hands and do nothing, or I think you can try to tailor the patent reform efforts in such a way that they actually target the problems that exist in certain industries without doing real harm to other industries. So you can tailor damages rules to the problem of component industries. You can tailor injunctive relief by giving the District Court the discretion to decide only in a few cases, is injunctive relief inappropriate; and in cases where it is a vital part of the patent right, we should keep it.

You can even tailor things like post grant second window perhaps by having a lack of notice rule. Anyone who is on notice of a patent doesn't get a second window. They have to file in the first window. But if you didn't know about the patent, then you ought to have a opportunity to challenge it.

All of these things, it seems to me, have one thing in common, which is they solve real problems in the patent system that are industry specific, not by writing industry specific laws, but by writing general laws that will effect different industries differently, and that is what I urge you to do.

Mr. SMITH. Thank you, Professor Lemley.

[The prepared statement of Mr. Lemley follows:]

PREPARED STATEMENT OF MARK A. LEMLEY

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 is in need of an overhaul. In particular, improvements can be made in two main areas: (1) finding tailored ways to improve patent quality without wasting money examining unimportant patents; and (2) preventing abuses of the system by people who use patents not for their intended purpose of supporting innovation, but to hold up legitimate innovators.

Let me be clear at the outset that these are both important problems, and patent reform that addresses those problems will be an important step in encouraging innovation in the United States. It is particularly important that Congress act to pre-

vent abuses of the patent system by those who use the patent system not to develop and make products but to squeeze money out of those who do. While there are as yet no reliable statistics on the extent of the holdup problem, there is no question that it is a widespread and extremely serious problem in the semiconductor, computer, Internet and telecommunications industries. Large, innovative companies such as Intel and Cisco never have a week go by without threats of suit from a non-manufacturing patent owner claiming rights in technology that the defendants did not copy from the patent owner—usually they've never even heard of the patent owner—but instead developed independently. While there is a legitimate role for small and individual inventors who patent their technologies and license their ideas to others, increasingly the patent owners are not contributing ideas at all, but popping up years or even decades later and trying to fit an old patent to a different purpose. Unscrupulous patent owners do this because the law permits it, and because it gives them a chance to make a lot of money—under current law, far more money than their technology is worth.

Patent reform needs to deal with these abuses of the system without interfering with the normal, legitimate use of the system to protect and encourage innovation. Doing so requires careful balancing of the interests of patent owners, technology companies, and the public.

One fact that complicates patent reform efforts.is that the patent system works very differently in different industries. *See* Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law,* **Va. L. Rev.** (2003). While innovators in the semiconductor, computer, Internet and telecommunication industries identify abusive patent litigation as the major problem they face, there is no similar problem in the medical device, biotechnology and pharmaceutical industries. Those industries have very different characteristics—pharmaceutical patents are more likely to cover a whole drug, rather than one of 5,000 different components of a semiconductor chip. So patent owners in the pharmaceutical industries don't have to worry about and endless stream of patent owners asserting rights in their drugs. Further, innovators in the biotechnology and pharmaceutical industries consider patent protection far more important to their R&D efforts than do the information technology industries. The challenge is to craft a unitary patent law that can accommodate the very different needs of each of these important industries.

Because patents are so important to a large group of stakeholders, and those stakeholders have such diverse interests, it may not be possible to get universal agreement on all aspects of a comprehensive reform bill. A workable bill will necessarily involve compromises, and won't leave everyone happy. That is not a reason to abandon the effort. It is important that something be done to improve patent quality and reduce patent lawsuit abuse. Rather, it suggests the need to take measured steps towards reforming the system.

In the sections that follow, I discuss a number of proposed reforms. I have also attached copies of two short papers with ideas for dealing with both problems, one entitled "What To Do About Bad Patents" and co-authored with Doug Lichtman at the University of Chicago and Bhaven Sampat at Columbia, and the other a speech I recently gave entitled "Ten Things To Do About Patent Holdup of Standards (And One Not To)." Some of the ideas in those papers are reflected in pending or proposed legislation; other ideas may be worth thinking about as the patent reform effort continues.

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 extremely 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.

Second, post-grant oppositions are a valuable addition to the patent system that will help identify and weed out bad patents without the cost and uncertainty of litigation. The post-grant opposition bill is well-written and will significantly improve the patent system.

The best approach is one that permits a post-grant opposition to be filed either within 9 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 would 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.

DAMAGES: REASONABLE ROYALTY AND WILLFULNESS

Summary: Changes to the entire market value rule in reasonable royalty damages and limitation of willfulness claims are both important steps that will help deal with serious problems in the patent system. The reasonable royalty portion of H.R. 2795 does not need any modification. The willfulness provision of that bill improves the current law in certain respects, but could be made better still.

Reasonable Royalties. The reasonable royalty provisions in the 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 an empirical study of this "royalty stacking problem" in progress right now. As originally drafted, H.R. 2795 solves this problem by encouraging the courts to consider the contribution of other elements of the invention.

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. The only question is how to get there. H.R. 2795 does so in a straightforward way, by requiring courts to determine the value of the "inventive component" of the product. A proposed "Coalition Draft" of HR 2795 circulated in the fall of 2005 would make a seemingly small change, from "inventive component" to "component of the claimed invention." Unfortunately, this change could have the unfortunate consequence of allowing patentees to manipulate 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 coalition draft may produce just such an effect, since the "claimed invention" is literally the whole car and not just the windshield wiper.

Willfulness. The doctrine of willfulness is a mess. Over 90% of all patent plaintiffs assert willful infringement, even though most of the defendants in those cases developed their products independently and had never heard of the plaintiff or its patent. Patent law currently punishes not just those who copy from the patent owner but also these independent developers. But independent developers are not "willful" in any ordinary meaning of the term. Rather, the way the courts have interpreted patent law has created a bizarre game. By sending a carefully crafted letter, patent owners can cause companies to have to obtain written opinion letters and waive the

attorney-client privilege, and if they don't can declare them willful infringers for continuing to sell products they designed in good faith and without knowledge of the patent. It is important to clean up the willfulness doctrine. [While some have proposed eliminating it altogether, I think that goes too far. Enhanced damages for willfulness serve as an important deterrent in those cases where the defendant really does steal the technology from the patent owner.]

H.R. 2795 makes two important changes that reduce the abuse of willfulness. First, it requires a letter that puts the defendant on notice of a patent to be sufficiently specific that a defendant can file a declaratory judgment action asserting its innocence. This should reduce the casual, off-hand sending of such letters. Second, by requiring the pleading and litigation of willfulness only after a defendant has been found to infringe, H.R. 2795 eliminates many of the harms associated with the court's reliance on advice of counsel, because the defendant will not have to decide whether to waive the privilege until after the primary trial has ended. Further, by requiring bifurcation of willfulness, the bill simplifies the patent litigation process by separating out discovery as to willfulness and eliminating the need for that discovery in the cases where the patent is ultimately held invalid or not infringed. [Once this bifurcation occurs, the same jury that determined validity obviously cannot make the delayed willfulness determination. The sensible way to solve this problem is to make willfulness a question for the district judge, just as the damage enhancement for willfulness already is.].

However, H.R. 2795 as currently written leaves intact the opinion letter "game" for many patent lawsuits. Because a defendant's only defense to willfulness under the statute is the existence of "an informed good faith belief" in invalidity or non-infringement, defendants are as a practical matter extremely likely to decide they have to obtain an opinion, rely on the advice of counsel, and therefore waive the attorney-client privilege. This waiver distorts legal advice in difficult ways, making settlement more difficult. *See* Mark A. Lemley & Ragesh K. Tangri, *Ending Patent Law's Willfulness Game,* **Berkeley Tech. L.J.** (2003).

This problem could largely be solved if defendants could rely on strong (though ultimately unsuccessful) arguments to avoid a finding of willfulness. To do this, section 284(b)(3) of H.R. 2795 should be modified by adding after "under paragraph (2)" the following: "if the infringer offered an objectively reasonable defense in court or". This would make either an objectively reasonable argument or a subjectively good faith belief grounds for avoiding willfulness. It makes little sense to conclude that defendants are acting willfully if the case was a close one. Adding an objective reasonableness defense would permit defendants who think they have a strong argument to rely on that argument, rather than having to waive privilege.

INJUNCTIVE RELIEF

Summary: Injunctive relief is an important part of the patent right, but it is subject to abuse in certain situations. It is important to preserve the right of injunctive relief in the case of legitimate patent claims, while preventing those who abuse the system from using the threat of injunctive relief to extort money from legitimate innovators. H.R. 2795 takes a step in the right direction by giving courts the power to stay injunctive relief pending appeal where doing so wouldn't harm the patentee. It takes another step in the right direction by explicitly introducing fairness concerns, but it is important that those concerns be determinative only in limited contexts and that injunctive relief be available in the normal case of patent infringement.

The goal of any revision to the injunctive relief sections of the patent law should be to ensure that people who actually need injunctive relief to protect their markets or ensure a return on their investment can get it, but that people can't use the threat of an injunction against a complex product based on one infringing piece to hold up the defendant and extract a greater share of the value of that product than their patent warrants.

Section 283 of the Patent Act by its terms provides the tools needed to achieve this goal: district courts are granted the discretion to decide whether and under what circumstances to issue patent injunctions. The statute provides that courts "may" grant injunctions once infringement is found, but only "in accordance with principles of equity" and "on such terms as they deem reasonable." 35 U.S.C. § 283. Those principles of equity are well-established in a long line of cases, both from this Court and from the regional circuits. See, e.g., Weinberger v. Romero-Barcelo, 456 U.S. 305, 312 (1982) (setting out the four equitable factors to be considered in granting injunctive relief: (i) whether the plaintiff would face irreparable injury if the injunction did not issue; (ii) whether the plaintiff has an adequate remedy at law; (iii) whether granting the injunction is in the public interest; and (iv) whether the bal-

ance of hardships tips in the plaintiff's favor); see also Mueller v. Wolfinger, 68 F. Supp. 485, 488 (D. Ohio 1946) (applying the factors under predecessor to Section 283). Before the creation of the Federal Circuit, regional circuits applied these principles, and occasionally denied permanent injunctive relief to patent owners based on their application of traditional equitable principles. See, e.g., Foster v. Am. Mach. & Foundry Co., 492 F.2d 1317, 1324 (2d Cir. 1974); Vitamin Technologists, Inc. v. Wisc. Alumni Res. Found., 146 F.2d 941, 956 (9th Cir. 1945); City of Milwaukee v. Activated Sludge, Inc., 69 F.2d 577, 593 (7th Cir. 1934).

Unfortunately, the Court of Appeals for the Federal Circuit has effectively read the terms "may" and "in accordance with principles of equity" out of the statute. In no case in the last twenty years has the Federal Circuit permitted a district court to apply its equitable powers to refuse a permanent injunction after a finding of infringement.1 Indeed, the court's grant of permanent injunctive relief is so automatic that it rarely even recites the equitable factors any longer, relying instead on an all-but-conclusive presumption that injunctive relief is appropriate. In this case, for example, the Federal Circuit made it clear that a district court had the power to deny injunctive relief only in exceptional circumstances. MercExchange, LLC v. eBay, Inc., 401 F.3d 1323, 1339 (Fed. Cir. 2005). Further, the only exceptional circumstance the court identified was one involving imminent danger to public health, in which case the court suggested it might be appropriate to consider the public interest in access to the invention. While the Supreme Court is considering that case at this writing, there is no guarantee they will interpret the statute as it was actually written rather than as the Federal Circuit has done.

Holdups occur on a regular basis under the Federal Circuit's mandatory-injunction standard. Patentees can obtain revenue in excess of the value of their technology by threatening to enjoin products that are predominantly noninfringing and in which the defendant has already made significant irreversible investments. In numerous cases, the parties settle for an amount of money that significantly exceeds what the plaintiff could have made in damages and ongoing royalties had they won. In these cases it is not the value of the patent but the costs to the defendant of switching technologies midstream that are driving the price. For example, one patent owner charges a 0.75% royalty for patents that don't cover industry standards, and 3.5% for patents that do cover industry standards. Mark R. Patterson, Inventions, Industry Standards, and Intellectual Property, 17 Berkeley Tech. L.J. 1043, 1059 n. 61 (2002). The patent owner can demand nearly five times as much money once the industry has made irreversible investments in a particular technology. Many other patent owners report settling their cases for dollar amounts significantly in excess of what they could have won in royalties. The windfalls to the patentee in these cases stem from the ability to threaten to shut down the defendant's technology altogether.

Holdup is of particular concern when the patent itself covers only a small piece of the product. A microprocessor may include 5,000 different inventions, some made by the manufacturer and some licensed from outside. If a microprocessor maker unknowingly infringes a patent on one of those inventions, the patent owner can threaten to stop the sale of the entire microprocessor until the defendant can redesign its product and retool its plant to avoid infringement. Small wonder, then, that patentees regularly settle with companies in the information technology industries for far more money than their inventions are actually worth. Defendants are paying holdup money to avoid the threat of injunctive relief. That's not a legitimate part of the value of a patent; it is a windfall to the patent owner that comes at the expense not of unscrupulous copyists but of legitimate companies doing their own research and development.

Explicit consideration of principles of equity would give the courts the tools they need to deal with this problem. Patent owners who do not manufacture the patented or any other competing good, and who seek only to license their invention at a reasonable royalty, should be entitled to injunctive relief only if they would be irreparably injured by the infringement. If the patentee has an adequate remedy at law, that fact properly weighs against granting injunctive relief. Those equitable principles would also permit courts to consider the balance of the hardships, so that the ordinary grant of injunctive relief can be avoided where it would have significant negative consequences and little affirmative purpose, as in the case of the 5,000-component invention. At a minimum, courts should delay the entry of injunctions pending appeal in order to give the defendant a chance to implement a design-around if in fact they can do so without infringing the patent.

I should be clear that the application of equitable principles would not mean that injunctions are generally problematic. Injunctive relief is an important part of the patent law, and in most cases there will be no question as to the patentee's entitlement to such relief. To begin, equity warrants an injunction absent extraordinary

circumstances if the patentee practices the patent in competition with the accused infringer. Even if the patentee doesn't sell the patented product, if it sells a different product in the same market, equity should entitle it to an injunction to prevent an infringer from competing with the product it does sell. Similarly, if patentees assign or exclusively license the patent to someone who competes in the marketplace, they should also be entitled to injunctive relief under normal circumstances. And even if the patentee hasn't done these things in the past, if it is actively engaged in research and development and preparing to do so in the future equity might well support injunctive relief. Patentees also ought to be entitled to an injunction in cases where the defendant copies the idea from the patentee, even if the patentee is not participating in the market and has no plans to do so. Infringers shouldn't be able to copy an invention from the patentee, knowing that if they are caught they will still only have to pay a royalty. Even if none of these things are true, some injunctions won't lead to a risk of holdup, and so even patentees who don't meet any of the criteria listed above will often be entitled to an injunction. This is the virtue of equitable discretion—courts can grant injunctions when they are warranted, without being bound to grant them when they create more problems than they solve. The grant of discretion in the statute should be coupled with legislative history making it clear that injunctive relief is the normal remedy and will be available in the circumstances just described. Doing so will help to avoid the risk that other countries will seize upon our equitable doctrines to try to inappropriately limit patent rights.

Permitting stays will further help solve the problem of holdup by threat of injunctive relief. Confirming the equitable power of courts to stay injunctions is a good idea. It will give companies time to retool their factories to avoid infringement. At the same time, the irreparable harm limitation ensures that patent owners that actually need injunctive relief, like pharmaceutical companies litigating against generics, will be entitled to get it.

VENUE

Summary: Some limitation on venue in patent cases is desirable.

Patent cases, unlike general federal civil cases, can today be brought anywhere a patented product is sold or used. In practice, this means that they can be brought in any district in the country. Patent plaintiffs (and declaratory judgment plaintiffs too) engage in forum-shopping, seeking a location perceived as most favorable to their side.

There is no reason the law should permit such forum shopping. A rule that allowed the plaintiff to sue in either its home forum or the defendant's home forum would give ample consideration to the plaintiff's interest in convenient adjudication while reducing the worst abuses. Such a rule wouldn't solve the forum-shopping problem entirely—one can imagine patent litigation companies setting up shop in a favored jurisdiction in order to take advantage of that forum—but it will help.

1 The Federal Circuit occasionally affirms a refusal to grant *preliminary* injunctions, see Hybritech Inc. v. Abbott Laboratories, 849 F.2d 1446, 1458 (Fed. Cir. 1988), or to enter injunctions when the patentee has failed in some other aspect of proof, see Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1273 (Fed. Cir. 1999) (patentee committed laches, and could not enjoin products produced during the period of its laches). But not since the 1984 decision in Roche Products Inc. v. Bolar Pharmaceuticals Co., 733 F.2d 858, 866 (Fed. Cir. 1984), has it refused to enter a permanent injunction because of considerations of equity.

ATTACHMENT 1

Ten Things to Do About Patent Holdup of Standards (and One *Not* [KD1]to)

Mark Lemley
Stanford Law School

Introduction

Congress, the courts, scholars, and the press have focused more and more attention on what is shaping up to be the central public policy problem in intellectual property law today: the problem of holdup by patent owners, particularly but not exclusively in the context of standard setting. I will suggest ten things we might do to deal with this problem, and at least one thing we probably ought not to do.

The Problem

Why is holdup a problem today? The patent system is designed for an era in which a patent covered a machine, and a machine was a fairly basic thing. As Rob Merges puts it, "A hundred years ago, if you put technology in a bag and shook it, it would make some noise."[1] The kinds of things we thought of when we thought about the patent system had a fairly uniform character.

That uniform character is gone. We now have a patent system that, while unitary in nature, has to accommodate pharmaceuticals and biotechnology, DNA products, mechanical devices, medical devices, computer software, computer hardware, and the Internet. What works well in some of those industries doesn't work well in others.[2]

In particular, the one central fact about the information technology sector, especially about the Internet, semiconductors, telecommunications, computer hardware, and computer software, is the multiplicity of patents people have to deal with[KD2]. This is not something you run into if you're a pharmaceutical company. It's not quite one patent, one drug—there have been efforts to try to reach out and get multiple patents on the same drug—but it's pretty close. By contrast, in the information technology industries there are multiple patents – sometimes hundreds or even thousands -- on each new product.

We have over 1.3 million patents in force right now in the United States, and that doesn't count the more than 50% that are dropped for failure to pay maintenance fees at some time in their lives.[3] Those are just the ones that people are willing to continue paying money to hold onto because they

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[1] Robert P. Merges, "As Many as Six Impossible Patents before Breakfast: Property Rights for Business Concepts and Patent System Reform," *Berkeley Technology Law Journal*, 14 (Spring 1999) :2.

[2] For more detailed discussion, see Dan L. Burk and Mark A. Lemley, "Policy Levers in Patent Law," 89 *Virginia Law Review* 89 (2003): 1575.

[3] Patents before 1995 were in force for 17 years, so all patents since January 1989 are potentially enforceable. There are approximately 2,185,000 such utility patents (utility patent number 4,800,000 issued in January 1989, and patent number 6,985,000 recently issued). About 40% of those patents have lapsed for failure to pay maintenance fees, according to the best weighted average estimate. Mark A. Lemley, "Rational Ignorance at the Patent Office," *Northwestern University Law Review* 95 (2001) 1495, 1504 tbl. 3; Kimberly A. Moore, "Worthless Patents" *George Mason Law & Economics Research Paper* No. 04-29 (July 2004). **http://papers.ssrn.com/sol3/papers.cfm?abstract_id=566941.**

think they might turn out to be useful. Not all of those patents are in the IT space, but a significant percentage of them are. Hundreds of thousands of patents cover semiconductor inventions, software inventions, telecommunications inventions, or Internet inventions.

Because of the nature of those technologies and the ways in which they interact, it's almost always the case that a product in the IT field combines a number of different components and therefore combines a number of different patents. Therein lies the basic problem. In the pharmaceutical industry or the medical device field or the traditional mechanical field, you might have a patent on your invention or maybe you have had to combine a couple of different patents. In IT, you regularly have to combine 50, 100, even 1,000, or—as Intel lawyers, themselves, say with respect to their own core microprocessor—10,000 different patent rights together into one product. You've got to clear all those rights or do something about them in order to get your product to market.

Can we solve this problem by getting rid of the patents? I think the answer is no, and in any event I'm not sure that we want to. It seems to me quite reasonable to conclude that there are a number of significant inventions in the IT space that deserve patent protection. There are also a bunch of bad patents out there. But even if we were really good at weeding out all the bad patents, that wouldn't solve the component problem. There would still be a bunch of real patents out there that would have to be dealt with. Furthermore, I think we're not going to turn out to be particularly good at weeding out the bad patents early enough to make a difference, at least not in a cost effective way. We're not going to get the patent office to spend enough time and enough money evaluating all of these patents before it knows which ones are really important, so we can't count on them to weed them out.[4] That means that we're going to have a bunch of patents, some good and some bad, covering any technology in the IT space.

That creates a problem, because various features of the patent system facilitate holdup. Specifically, the system facilitates the ability of patent owners in these component technology industries like IT to capture not just the value of the inventive contribution that they've made, something they ought to be entitled to, but also to capture or lay claim to some greater amount of money, some greater share of the product, than their inventive component is worth.

What are those features? Insufficient discounting in damages is one. If a patent suit goes to court, the plaintiff takes the patent to the jury and takes the Intel microprocessor to the jury and says, "You know, they make billions of dollars on this microprocessor. I've got a circuit that's used in this microprocessor and all I want is one percent. How can that be unreasonable to ask?" One percent is indeed reasonable in a lot of circumstances. It may not be reasonable, though, if there really are 10,000 different inventions bundled together in the microprocessor that Intel sells, because if Intel has to pay one percent ten thousand times, it is not likely to make a profit on its microprocessor.

Time and time again, we've seen this sort of royalty staking problem arise.[5] One great example is 3G Telecom in Europe. The standard-setting organization put out a call for essential patents. They said, "Tell us what patents we must license in order to make the 3G wireless protocol work. Tell us what you're willing to license those patents for." When you added up just the people who

[4] Lemley, "Rational Ignorance at the Patent Office".
[5] For a detailed discussion with examples, see Mark A. Lemley and Carl Shapiro, "Royalty Stacking" (working paper, 2006).

affirmatively responded and put their patents in, the royalty rate turned out to be 130%.[6] This is not a formula for a successful product.

Part of the problem is that the law doesn't adequately take account of the fact that there are other inventions out there. It doesn't show up in court, or, at least, it doesn't show up in court in a useful way. Nobody wants to try a bunch of collateral patent suits. Intel has no motivation to say, "Hey, there are other patents out there that I might be infringing or might have licensed and you ought to take those into account." They are patents it doesn't want to bring up. The patentee obviously doesn't want to bring it up. The judge doesn't want to hear it. She's already had to deal with a complex patent case. So we get royalty rates in court and, therefore, royalty rates in license deals that are substantially greater than the actual inventive contribution of the particular patent.[7] Further, patentees are not limited to their actual damages or to a reasonable royalty if they can prove that the defendant is a willful infringer. If they do, they can get three times actual damages. That is a perfectly reasonable rule in the abstract until we realize that 92% of all patent suits involve claims of willful infringement.[8] This is because the legal rules we've created in the United States to define a willful infringer don't require you to have any state of mind whatsoever at the time you adopt your product. Indeed, most of the people accused of willful infringement had never heard of the patentee or the patent at the time that they adopted their product.[9]

Even more significant, the threat of injunctive relief allows a patent owner to capture a substantially greater chunk of a component invention in a settlement than it otherwise could have, because if the patent is found valid and infringed the injunction is generally going to be effective immediately. If all a patent owner got was an injunction that said, "Next time Intel manufactures a chip, it's got to take this circuit out," the injunction wouldn't have any holdup effect. But, in fact, it can get an injunction that says, "Intel, because it included this circuit in its microprocessor, has to stop selling that microprocessor right now. Only after it builds a new $4 billion facility and two years later comes out with a new line of chips, can it start selling again." The negotiation value associated with that threat of injunctive relief is quite substantial. It regularly leads patent defendants to settle their cases by paying more money than they would have to pay in damages and a going forward royalty had they lost the case in the first place. The only explanation for this is that they are paying to avoid not the threat that they will have to design around the invention, but the threat that the integrated product (including the unpatented components) will be enjoined.

What unifies all of these holdup problems is the presence of irreversible investments by defendants in the industry. If Intel builds a $4 billion semiconductor fabrication plant, designs a line of products, builds a system architecture, and opens it so that other companies can make compatible products, Intel can't get that investment back. Even if Intel could quite easily have avoided infringing the patent if it was aware[03] of the patent before it made the decision to choose this technology rather than a different technology, it still faces an injunction that will render this irreversible investment worthless. When defendants are taken by surprise, when they are unaware of the existence of a patent until after they have made these investments, it is hardly surprising that

[6] Michael R. Franzinger, "Latent Dangers in a Patent Pool: The European Commission's Approval of the 3G Wireless Technology Licensing Agreements," *California Law Review* 91 (2003): 1693.
[7] For more detail on this point, see Lemley and Shapiro, "Royalty Stacking."
[8] Kimberly A. Moore, "Empirical Statistics on Willful Patent Infringement," *Federal Circuit Bar Journal* 14 (2004): 227.
[9] Mark A. Lemley and Ragesh K. Tangri, "Ending Patent Law's Willfulness Game," *Berkeley Technology Law Journal* 18 (2003): 1085.

they will be willing to pay more. These irreversible investments drive the licensing settlement value to a percentage that's much greater than it would be in a system in which we calculated the value that the inventor had actually contributed to the product.

Standard setting makes the problem worse because it is all about the creation of irreversible investments. Standard setting, almost by definition, involves a group of people agreeing that they will invest in a particular technology and forego investment in another technology. They may not affirmatively agree to sell only standardized products, but as a practical matter, they put their money where their mouth is. As a result, if a patent owner shows up in the standard setting process after the irreversible investment is made, you've now got to take all the problems I just talked about and multiply them by all the investments made by everyone in the industry, not just one particular manufacturer. Now everybody is involved. They've all made irreversible investments. The risk is, therefore, that in the standard setting context patent owners can demand sums of money that are far out of proportion to the actual inventive contribution that they've made.

Not surprisingly, patent owners do exactly that. There is a whole cottage industry associated with suing people in the IT space for patent infringement in circumstances in which you can demand a share of the profits significantly in excess of your inventive contribution. It is the business model of the new millennium. Engaging in holdup doesn't make these patent owners evil, necessarily. It makes them capitalists. We've designed a legal system that gives them this opportunity. They are entrepreneurs, if you will, but they're entrepreneurs taking advantage of a system which is screwed up in the first place.

Solutions

In the balance of this article, I consider how we might fix the system. I think we must get at the problem of patent holdup, not by identifying a particular person as a patent troll and saying, "You're a bad guy and so we're going to punish you," but by getting at the root causes of holdup. Our goal should be to create a world in which patent owners can get paid for the technology they contribute, but in which what they get paid bears some reasonable resemblance to what they actually contributed.

So here are ten things we might do. Not surprisingly, none of these have been developed in detail. [SB4]Some of them may be half baked. They might even all be half baked. They are, if I've calculated it correctly, listed in increasing order of controversy. They are divided into two sections. The first five are things that private organizations, in particular standard setting organizations (SSOs), can do. The last five are things the law can do.

Things SSOs Can Do

What might standard setting organizations do, assuming for a moment that the law permits them to? I defer until a later section the question of whether these ideas raise antitrust concerns..

1. RAND Licensing

Most obviously, SSOs can, and many do, impose an obligation to license patents to members on reasonable and nondiscriminatory terms (RAND).

SSOs could impose a royalty free licensing obligation under which members must give up their patents. Some organizations do. I'm actually not a fan of this. I think there are limited circumstances in which royalty free is appropriate, specifically where a software consortium is working in open source, because there may really be no other way to avoid patents covering open source software. But by and large, if what you're trying to say as a standard setting organization is, "We don't want to pay inventors anything for their technology," I think you're going too far. Denying all compensation is not fair to the extent you are coercing member inventors into it. Worse, once they learn of the policy, people who actually have useful innovative technologies aren't going to join such organizations. Beyond that, there are antitrust worries about whether a group of competitors can really compel people to forego all royalties for their licensing. But I think it is legal to get members to agree in advance of knowing what the standard is going to be, and therefore who owns it, that whoever does own it will license on reasonable and nondiscriminatory terms. Not only is it legal, it's a good idea. Some standard setting organizations, the majority in the study that I did in 2002,[10] actually do this. Some, but not all. Some believe it's enough to have disclosure. I think that's a mistake.

If an SSO has a policy that requires members to disclose their IP rights but imposes no commitment to license, nor makes any indication of what the royalty will be when someone does license, its members may learn things they didn't really want to know. Let's suppose the disclosure obligation works. People tell you about all their patents and, indeed, because there is no cost to doing so, they might even over-disclose. IBM comes in and says, "Well, here's a couple hundred patents that might relate to this technology. I'm not going to tell you how much I might license them for. I'm not even going to tell you if I'm going to license them at all." Now, what do you do as a standard setting organization? You haven't solved the holdup problem unless you can get people to commit in advance that they will license their patents, that they're not going to use the threat of injunction later on to hold you up. Worse, you're now on notice of the existence of the patents, and so if you adopt the technology your members will be willful infringers.[11]

2. License Agreement

Second, and directly related to number one, SSOs should bind members to follow the RAND policy. They can do this by making member duties clear, not just including an obligation somewhere in the by-laws and assuming members ought to be aware of it. It should be crystal clear to members that when they join the organization, when they sign the certification that they are willing to license their patents on reasonable and nondiscriminatory terms, they have actually entered into a license agreement, not merely made a vague promise to negotiate a deal sometime later. If members bind themselves to a license for essential SSO patents, the only question that remains are the precise terms of that license, such as what the royalty percentage is going to be. That's important because it takes off the table the threat of injunctive action. Now we've got a deal, and if the parties cannot come to agreement the only question for a court to decide is: Was there a breach of the contract and what is the damage for breach of contract? The patentee has foregone the opportunity to sue for patent infringement and to seek injunctive relief and treble damages.

3. Ex Ante RAND

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[10] Mark A. Lemley, "Intellectual Property Rights and Standard-Setting Organizations," *California Law Review* 90 (2002): 1889.

[11] For more on the problems with a disclosure-only policy, Ibid., 1960-62.

A license precommitment gets us only part way to avoiding holdup, because we still don't know what the royalty rate will be. If the number turns out to be a 25% share of running royalties, licensees aren't going to be very happy. So the third solution is to require patentees to specify the content of their RAND licenses ex ante. We want members to know what they are getting into in as much detail as possible. Standard setting organizations hate this because they are largely composed of technologists who just want to get on with the business of choosing a technical standard and don't want to be bothered with all this pesky stuff about how much it's going to cost in the long run. But their employers are going to be bothered, and they are much better off being bothered ex ante rather than ex post. SSOs need to find out what the true cost of a standard is before they adopt it, not after the fact.[12]

At a minimum, even if SSOs are not willing to go through the license negotiations that would be required in every case, at a minimum they need to set up an internal arbitration or discussion procedure so the group members can figure out the cost of alternative standards without having to go to court while there are still competitive alternatives. Then if the price turns out to be too high, the standards organization can still decide it is going to adopt one of those alternatives, rather than making irreversible investments in a particular standard without knowing how much it will ultimately cost.

4. Penalty Defaults

Fourth, standard setting organizations might want to consider imposing penalty defaults. These are default rules that effectively force disclosure of nonstandard terms by setting a harsh term in the absence of disclosure.[13] Imagine a standard setting organization by-law that said, "The maximum license fee on any patent is $1,000 unless the patentee identifies the patent and the rate they propose to charge." If a patentee is not willing to come out and say, "You know what? I really care about this patent and I'm going to insist on a 2% royalty," then it gets the small default fee. For many patentees, that's probably okay. But if some patentees really want to negotiate a higher rate, a penalty default will smoke them out and make them tell the organization what it's going to cost before the SSO chooses the standard.

Penalty defaults may also solve the problems inherent in SSO patent disclosure rules. Disclosure rules are problematic because they generally don't require corporate representatives to search their patent files, and rarely make it clear whether only essential patents are covered, much less what makes a patent essential or important. With a RAND rule coupled with a penalty default, an SSO doesn't need a separate disclosure obligation. Disclosure will occur naturally for any patent that is likely to matter.

5. Dealing with Aggregation

The final problem standard setting organizations can tackle is that of royalty stacking. Even if an SSO has managed to figure out how much it's really going to cost to license any given patent, it

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[12] While ignoring the problem will sometimes make it go away, because not all patentees will enforce their patents, Mark Rysman and Tim Simcoe have shown that patents disclosed to SSOs are 13 times more likely to be litigated than ordinary patents. Mark Rysman and Tim Simcoe, "Patents and the Performance of Voluntary Standard Setting Organizations," NET Institute Working Paper No. 05-21 (October 2005), **http://papers.ssrn.com/sol3/papers.cfm?abstract_id=851245**.

[13] For a discussion of penalty defaults in contract law more generally, see Ian Ayres and Robert Gertner, "Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules," *Yale Law Journal* 99 (1989): 87, 91.

must deal with the multiplicity of patents. Simply adding up the proposed royalty rates won't do, as the 3G wireless example suggests. The problem is one economists call "double marginalization."[14] They show that if two parties hold monopolies on products, each of which must be aggregated into a single whole, we cannot rely on market pressure to produce an efficient total price. Rather, unless they can coordinate their pricing, each seller will charge its own supracompetitive price, and the resulting integrated product price will be inefficiently high. If, as commonly occurs in SSOs, there are not two patent owners but ten or twenty or ninety, the problem is correspondingly worse.

Here I make my most controversial suggestion for standard setting organizations. I believe SSOs should be able to deal with the double-marginalization problem by establishing what we might call a step-down royalty rate procedure that takes account of the prior disclosure of essential patents. Imagine a rule that said, "We're going to cap the first person who shows up with an essential patent at 5%, and the second person who shows up at 3%, and the third person who shows up at 2%." For subsequent patents, the royalty rate wouldn't go to zero, but would come down to half a percent or a quarter of a percent. What are the incentives? Well, the patent owners now have an incentive to bring their patents in. The SSO has indeed encouraged disclosure of important patents, and members and users of the standard can get a sense of how much the standard will ultimately cost. Best of all, you avoid the 130% royalty on the 3G telecom patents, solving the double marginalization problem by giving the SSO the effective power to coordinate pricing in order to avoid the holdup problem. When a standard attracts many people who want to assert patents, the value of each additional patent will be discounted by the fact that there are a whole bunch of other claimants here. This is as it should be. How much any one patent owner can claim should be a function of how many other patentees the SSO must also satisfy.

While a step-down royalty rate would be a logical way of both encouraging disclosure and resolving the double-marginalization problem, it raises antitrust red flags because it involves buyers in the technology market collectively setting a maximum price they will pay for IP rights. The concept of the step-down royalty is a good one as an economic matter, but antitrust is right to worry that SSOs who see their members as mostly buyers rather than sellers of IP rights will set a total royalty rate that is artificially low. Therefore, organizations may not want to adopt such a proposal without some reassurance from the antitrust agencies that doing so is legal.

Things the Law Can Do

6. Antitrust Law Help for Standards Setting Organizations

The first thing the law can do flows from our discussions of SSO behavior. Antitrust law ought to get out of the way of a number of mechanisms I discussed in the last section that permit standard setting organizations to find out the true cost of a standard and to encourage licensing negotiations over essential patents. Specifically, the law ought to permit standard setting organization members the latitude to discuss royalty rates collectively before the standard is set. They should even allow SSOs to impose a step down royalty scheme, so long as there is not a hard cap of the sort that says "We won't pay more than X regardless of how many people are out there." Now, antitrust law is justifiably nervous about people in an industry getting together to talk about price. But we're going to have to have these conversations individually or collectively anyway. I think it is far better that

[14] Carl Shapiro, "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting." *NBER/Innovation Policy and the Economy* 1, no. 1 (April 2001): 119-150.

we have these conversations ex ante, before the group adopts the standard. The only way to plausibly accomplish this is to do it within the context of the standard setting organization.

This doesn't mean antitrust should impose no limits on such negotiations. We don't want the standard setting organization acting as a monolithic block to try to artificially drive down the price that patent owners can charge. One solution is to say that standard setting organizations can impose such restrictions only with respect to other members of the group. SSOs shouldn't be able to negotiate collectively with respect to outsiders because then they really are going to have a concrete set of interests: they know they represent only defendants and that the outsider is a potential plaintiff. Further, I think such negotiations should only be permitted ex ante, before we know what the standard is, and therefore before we know for sure who is going to actually be the owner and who is going to be the licensee. Both of those things reduce the risk of buyers' cartel behavior—SSO decisions that artificially diminish the royalty charged. I note in this respect that Para. 225 of the EU licensing guidelines, I think quite wisely, affirmatively permits the negotiation of royalty rates in standard setting organizations before the standard is set.[15]

7. Limiting Willfulness

The remaining four solutions are not specific to SSOs, but involve reform of the patent law. All of the things I've talked about so far will help, but they will work only for the subset of patent holdup problems that affect group-adopted industry standards, and only for the subset of people who belong to standard setting organizations already. They will not deal with problems created by the outsider, the person who decides to sit and wait and then bring his patents to bear. Solutions 7 through 10 are directed at these problems.

My seventh suggestion is to make it harder to claim willfulness in patent law. We all have an intuitive understanding as lay people of what it means to act willfully: to do something intentionally, knowing the consequences. Patent law's legal standard for willfulness bears no resemblance to that lay understanding of the term *willful*. We should change the law so it does bear such a resemblance. We could limit willfulness to cases in which a defendant actually copied from the inventor, or at least cases in which the defendant knew of the existence of the patents when it adopted a technology.[16] Right now, willfulness is mostly used in circumstances where the technology has been in existence for four or five years and the patent owner sends a letter saying, "Well, I found that you infringe my patent."[17] Suddenly a company that independently developed the technology becomes a willful infringer.

Alternatively, we could do what HR 2795, the Patent Reform Bill, currently pending in the House, does. It keeps a broad definition of willfulness but makes it much harder to prove in court. It would prevent people from even alleging willfulness until they've actually demonstrated infringement at trial, and would therefore change the dynamics of the settlements in the shadow of willfulness a little bit. At a minimum, in the context of standard setting organizations, we could take a page from a proposal that Representative Zoe Lofgren has circulated, though I don't know that she has specifically endorsed it. This proposal would prohibit a finding of willfulness on the

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[15] European Union, "Licensing Guidelines" ¶ 225.
[16] Lemley and Tangri, "Ending Patent Law's Willfullness Game," 1116-21.
[17] Moore found that virtually all patent owners claim willful infringement, even though in many—perhaps most—cases, there is no claim that the defendant actually copied the technology from the plaintiff. Moore, "Empirical Statistics on Willful Patent Infringement," 7.

part of standard setting organization members unless they receive notice of the patent prior to the adoption of the standard. If members weren't aware of the patent, if they made an investment decision not having any idea the patent is out there, it's hard to call them willful. It doesn't mean they aren't infringers if they use the standard. It doesn't mean they won't be liable for damages, but they wouldn't have acted willfully in adopting a standard so long as they tried to find out whether anyone had patents covering the standard. This too would encourage disclosure of essential patents, since patent owners who wanted to enforce their rights would want to preserve their ability to seek treble damages.

8. Reasonable Royalty Rates and Damages Calculations

My eighth suggestion is that we fix the problem of definitions and proof in reasonable royalties and damages calculation. Carl Shapiro and I are studying the damages rules in royalty stacking cases right now.[18] For a variety of reasons the royalty rates that courts actually award are pretty high. They're actually surprisingly high, I guess, to most people in the IT industry. The average royalty rate on a single patent granted in court is around 13%. It varies a little bit by industry, but not as much as you might expect. In the IT industry, it gets down to 7%, but that's still much greater than what anyone who negotiates patent licenses in the IT industry thinks of as the benchmark. Furthermore, damage royalties drop a little bit for component inventions, but again not much. If the patent is one of several components that have to be aggregated together, the court-ordered royalty drops about 30%. This is less than we would expect it to drop if there were only two components in each component industry technology.

In short, the data suggest that courts don't calculate damages taking full account of the contributions that other people besides the patent owner have made to a defendant's product. But we could. HR 2795 once again takes steps in this direction, requiring that a patent owner seeking damages based on the sale of a multi-component invention demonstrate that the royalty be attributable to the patentee's inventive contribution, as distinguished from all the other aspects of the product that is being sold. That would help to get rid of some of the holdup problem by reducing patent royalty rates in litigation, and therefore in licensing, to something approximating what it is that the patentee actually contributes.

9. Limit Abuse of the Continuation Practice

My ninth suggestion is to limit abuse of the continuation practice in the US patent system. It is one of the oddities of the US patent system, to an outsider, that it is impossible for the US Patent & Trademark Office ever to finally reject a patent application.[19] Patent applicants whose claims are rejected can come back to the PTO an unlimited number of times and try again, saying, "You know what? I didn't like the results I got. I'm going to try again." Even if you persuade the PTO to give you a patent, you can come back and try again. Applicants can and do pull their allowed patent claims and say, "I must not have asked for enough. I'm going to go back and ask for a bit more." Now, I wouldn't have thought, frankly, that restricting this practice was one of the more controversial proposals. There seem to be few good justifications for continuation practice. But there are a lot of people in the patent bar deeply committed to it.. Some patent owners are committed because they get to use continuations to game the system. They can wait and see what the industry is going to do, wait and see what standards get adopted by SSOs, and then redraft

[18] Lemley and Shapiro, "Royalty Stacking".

[19] For a detailed discussion of abuse of continuations and how to solve it, see Mark A. Lemley and Kimberly A. Moore, "Ending Abuse of Patent Continuations," *Boston University Law Review* 82 (2004): 77.

their patent claims around those standards. This is a particular problem in the industries I'm talking about, because technology changes rapidly and unscrupulous patentees can use continuation practice to draft patent claims to cover things they hadn't themselves thought of.

Different patnet owners may support continuations for other reasons, for instance because they are worried about shifts in technology. In the pharmaceutical industry, there's really no cost to using continuations, since the drug is not going to be out of FDA approval for ten years anyway. But, even if there are reasons to retain them in some circumstances, limiting or eliminating abuse of continuations would help solve the holdup problem.

The initial draft of HR 2795 would have expressly granted the PTO the power to limit continuation practice. While that provision is no longer in the current bill, the PTO itself has issued a Notice of Proposed Rulemaking that would limit applicants to one continuation as a matter of right, and permit further continuations only if the applicant could show a special need.[20] While this new rule won't eliminate abuse of continuations, if it is implemented it will be an important step towards curbing patent holdup.

10. Redefining Injunctive Relief

My final idea is the one that is widely considered the most radical one of all: I think we ought to take seriously what the patent statute actually says about injunctive relief. The patent statute says that courts "may" grant injunctions "in accordance with principles of equity on such circumstances as they deem reasonable."[21] The Federal Circuit, by contrast, says that district courts shall grant injunctions regardless of the principles of equity with one possible exception, public health[22][05]— an exception that is probably not of interest to most of the folks in the IT industry. If you win a patent suit, you get an injunction. Period. That rule is quite clear, and it quite clearly contravenes the statute. If we took the statute seriously, we would give district courts the power to consider the consequences to the public interest. Courts could consider the balance of the hardships, whether the patentee really needed injunctive relief or whether they were merely using it to try to negotiate a more attractive settlement because of the threat that their patent posed to the irreversible investments that the defendant had made. Doing so would be the most powerful way to prevent patent holdup. We would once again realign the incentives. Applying equitable principles wouldn't get rid of patent injunctions. My guess is 95% of infringement findings would still result in injunctive relief. But courts would be empowered in cases of holdup to remove the threat that induces defendants to settle for royalties far in excess of the patentee's actual contribution. The Supreme Court has granted certiorari in *eBay v. MercExchange*,[23] and it remains to be seen whether the Court restores that power to district courts.

Antitrust Law Can't Solve the Holdup Problem

Note what's not on this list: antitrust law. I've made ten more or less radical proposals for doing something about patent holdup, and not one of them mentions antitrust, except to say antitrust should get out of the way of standard setting organizations. That's not an accident. I think antitrust

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[20] US Department of Commerce, Patent and Trademark Office, "Changes to Practice for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing Patentably Indistinct Claims," 71 *Federal Register* 71 (Jan. 3, 2006):48.
[21] *Patents, U.S. Code* 35 § 283.
[22] *eBay, Inc. v. MercExchange LLC*, 401 F.3d 1323, 1339 (Fed. Cir. 2005).
[23] 126 S. Ct. 733 (2005).

law serves a valuable purpose, but it's a backstop. In this particular circumstance, it's a backstop that is going to apply only if private efforts in standard setting organizations and intellectual property law have already failed us. Even then, it is not clear that antitrust is up to the task of policing patent holdup. Courts may be reluctant to second-guess what they see as the judgment of patent law to give certain rights to patent owners. Certainly some courts have shown undue deference to patents even in circumstances that more clearly violate the antitrust laws.[24] Further, proving an antitrust violation requires detailed evidence of both causation and intent,[25] something that may be difficult even when as a policy matter a patentee should not be permitted to extend its rights. We have yet to see a successful contested prosecution of standard setting abuse. We did see a consent decree in the Dell case,[26] and we saw some temporary successes overturned at various places.[27] Antitrust law can play a role here in extreme cases. But if we design the patent law and the SSO rules correctly, those cases shouldn't arise.

Conclusion

Patents provide needed incentives. But in certain circumstances, they can give a patentee too much power to restrict an integrated product on the basis of a patent covering a minor component of that product. That fact, coupled with unscrupulous behavior of some patentees, creates serious problems in the IT industry in general and SSOs in particular. Patent law should seek to realign incentives so that the value any given patentee can capture bears a reasonable relationship to the contribution their invention makes. Standards setting organizations should be diligent in finding out what patents exist and what it will cost to license them. And antitrust law should facilitate rather than interfere with this process. If we can accomplish this, we can ensure that patent law serves its proper role in encouraging rather than stifling innovation.

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[24] See, for example: *FTC v. Schering Plough Corp.*, 402 F.3d 1056 (11th Cir. 2005); *In re Tamoxifen Citrate Antitrust Litig.*, 429 F.3d 370 (2d Cir. 2005). For a detailed discussion of these cases and their problems, see Herbert Hovenkamp, Mark D. Janis, and Mark A. Lemley, *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law* (New York: Aspen, 2002-) §7.4e2.

[25] Ibid., §35.5b.

[26] *In re Dell Computer Corp.*, No. 93-10097 (F.T.C. 1995).

[27] See, for example: *Rambus, Inc. v. Infineon Techs.* AG, 318 F.3d 1081 (Fed. Cir. 2003) (overturning a district court judgment of fraud against Rambus), *In re Rambus, Inc.*, FTC No. 9302 (Feb. 24, 2004) (rejecting the FTC's antitrust claims against Rambus); *In re Union Oil Co. of Calif.*, No. 9305 (July 7, 2004) (reversing an ALJ's decision to dismiss an antitrust claim against Unocal, and remanding for trial before the ALJ).

Do Consumers Value Fuel Economy?

By Molly Espey
Clemson University

EVEN BEFORE THE 2005 HURRICANE season sent gasoline prices to historical highs, rising fuel prices were leading to calls for a political response for relief. Some focused on augmenting supply, renewing the push to open the Arctic National Wildlife Refuge to drilling and to increase offshore drilling. Others focused on decreasing demand by raising fuel economy requirements and encouraging conservation.

Enacted in 1975, the "Energy Policy Conservation Act" established Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks, with a stated objective of doubling new car fuel economy by 1985. In 1986–87, average fleet fuel economy reached 25.9 miles per gallon. Since then, fuel economy has slid back somewhat as sport utility vehicles and light trucks, which are subject to lower fuel economy standards, have become popular, constituting more than 50 percent of new vehicle sales in recent years. Still, current average fuel economy is only seven percent below the 1986–87 high, while vehicle weight has increased 24 percent, horsepower has increased 93 percent, and zero-to-60 mph acceleration has improved 29 percent. In other words, today's vehicle owners enjoy more size and performance while sacrificing only a little in terms of fuel costs.

CONSUMER CHOICES But does the lack of ongoing improvement in fuel economy mean consumers do not value fuel savings? Before the recent price increases, I analyzed model year 2001 new car sales to determine if consumers accurately value the savings of improved fuel economy. In theory, new vehicle buyers should be willing to pay for improvements in fuel economy to reflect anticipated savings given the buyers' expectation of future fuel prices and vehicle miles driven. In an era of relatively stable gasoline prices, buyer expectations about fuel prices would likely be relatively stable, leading to automobile pricing that would reflect fuel savings based on prevailing prices.

Of course, an individual's choice of automobiles depends on more than just fuel prices. People base their choice of vehicle on a variety of characteristics, such as comfort, size, safety, and performance. Fuel economy is often, although not always, negatively correlated with those other vehicle characteristics. Thus, consumers balance potential savings in fuel costs from higher fuel efficiency against a preference for larger, safer, or faster vehicles. As technological improvements over time have led to improvements in fuel economy with fewer sacrifices in size, safety, or performance, consumer aversion to more fuel-efficient vehicles has declined.

The price of an automobile is a function of the vehicle's combination of attributes. Statistical analysis can be used to

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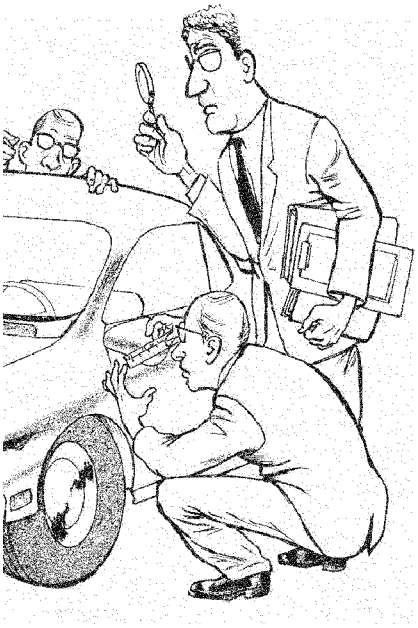
estimate the contribution of each vehicle attribute to the total price of an automobile, and can also be used to estimate the value of an incremental change in a particular attribute such as acceleration or fuel economy.

The data used in this analysis include 130 automobile models, list prices, vehicle attributes, and sales quantities for model year 2001 automobiles. In addition to fuel economy, seven general categories of desirable vehicle attributes were considered: size, power, performance, safety, comfort, reliability, and whether or not the vehicle was classified as a luxury automobile. Because sport utility vehicles, vans, and light trucks are subject to different federal regulations, those vehicles were not included in the analysis.

In addition to desirable vehicle attributes, the negative impact of federal gas guzzler taxes was also taken into consideration. The Energy Act of 1978 established the gas guzzler tax on the sale of new vehicles for which the weighted average fuel economy was less than 22.5 mpg. This tax increases as fuel economy declines for every 1 mpg decrease down to 12.5 miles per gallon, starting at $1,000 and rising to $7,000. All else constant, vehicles subject to the gas guzzler tax would be expected to sell for less, as consumers consider the added cost as part of the total cost of acquiring the vehicle, hence reducing the amount they would be willing to pay for the vehicle.



The U.S. Environmental Protection Agency determines estimated fuel economy for city mileage, highway mileage, and a weighted average based on an assumption of 45 percent highway driving and 55 percent city driving. What an improvement in fuel economy means in terms of actual fuel savings depends on driving conditions as well as total vehicle mileage. The U.S. Department of Transportation reports an average final vehicle mileage of 145,000 miles. Adjusting for actual in-use shortfall, according to EPA estimates, of 90 percent of calculated city mileage and 78 percent of calculated highway mileage, a 1 mpg increase in average fuel economy equates to a 4.8 percent improvement in average fuel economy for the automobiles analyzed in this study. Such an improvement would generate fuel cost savings of about $560 at the then-prevailing fuel price of $1.50 per gallon. In comparison, a 1 mpg increase in average highway mileage would produce a three percent average improvement in highway mileage and generate fuel savings of $110 over the 145,000 mile lifespan of the automobile at fuel prices of $1.50 per gallon. A 1 mpg increase in average city mileage would be equivalent to a 6.4 percent average improvement, generating $514 in fuel savings.

Those calculations suggest that at fuel prices of $1.50 per gallon, automobile buyers should be willing to pay no more than $560 for a 1 mpg improvement in average fuel economy. To the extent that future fuel savings are discounted, that is, not worth as much as the equivalent dollar amount of fuel savings today, the expected willingness to pay for a 1 mpg improvement would be less than $560. So, do people actually pay what fuel economy improvements are worth in fuel savings?

In order to answer that question, I estimated two models: one focused on average fuel economy and the other explicitly separated out the effect of changes in listed city and highway fuel economy. Both models controlled for variation across automobiles in terms of size, power, performance, safety, comfort, reliability, luxury classification, and gas guzzler taxes. The results indicate that for 2001 model year automobiles, consumers valued a 1 mpg improvement in listed city fuel economy at $440, listed highway fuel economy at $242, and average fuel economy at $613. In comparison to the actual undiscounted fuel savings of each of those improvements, it appears that consumers overestimate improvements in highway and average fuel economy while city fuel economy is valued fairly accurately at a relatively low discount rate based on the prevailing fuel prices at the time.

It is possible that consumers do not have an accurate idea of the potential fuel savings associated with improvements in fuel economy. Most proponents of fuel economy improvements cite fuel cost savings, while most opponents focus on safety and freedom of choice issues rather than the declining marginal value of fuel economy improvements as average fuel economy increases. If automobile consumers anticipated rising fuel prices at the time of their vehicle purchase, then they may not have overpaid for improvements in fuel economy. Regardless, they certainly did not underpay based on prevailing price trends at the time. Note that at today's fuel

prices, which are close to twice what they were in 2001, the expected willingness to pay for improvements in fuel economy would be twice as much. How much average fuel economy will increase depends on tradeoffs with other desired vehicle characteristics.

This analysis of actual purchase decisions of 2001 model year vehicles suggests that automobile consumers in the United States do not disregard fuel economy or the potential savings from higher fuel economy. To the extent that the variability in fuel prices has increased since 2001, determining the actual fuel savings to expect from improvements in fuel economy is more difficult for consumers today. However, to the extent that fuel prices have been consistently higher since 2001, rational automobile buyers would be expected to increase their purchases of more fuel-efficient vehicles. In fact, according to a recent Department of Transportation report, new car fuel economy for 2005 is 5 percent above the 2001 figure. Overall, fleet fuel economy for 2005, including SUVs, vans, and light trucks, is about 3 percent higher than in 2001.

Between 1960 and 2001, highway travel in the United States grew about 3.4 percent a year, a 139 percent increase overall—an increase that many attribute to low fuel prices. Improvements in fuel economy of automobiles have nearly offset that increase in terms of overall fuel consumption. Yet, many continue to push for higher fuel economy standards and higher gasoline taxes. Based on the increasing percentage of total passenger vehicles constituted by SUVs, vans, and light trucks, however, federal CAFE standards seem to require automobile manufacturers to produce more fuel efficient cars than a significant portion of the public wants.

Mandating higher fuel economy limits consumers' choices in the marketplace and, many argue, costs lives in terms of reduced vehicle safety. If there are externalities associated with current levels of fuel consumption that are not adequately addressed by existing regulations and taxes, then further increasing the price of fuel would give consumers the incentive to improve fuel economy and drive less while retaining choice of vehicles in the marketplace.

Consumers appear to fully internalize the value of fuel savings associated with increases in fuel economy of conventional automobiles at low discount rates, making rational purchasing decisions in terms of fuel expenditures. Of course, other benefits such as reduced pollution, reduced global warming, or reduced energy dependency may also be associated with improved fuel economy. While this research cannot determine why people value fuel economy, it has nonetheless found that they do positively value it and pay for it via higher automobile prices.

What to Do about Bad Patents?

BY MARK LEMLEY, *Stanford University*
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CONGRESS IS CURRENTLY CONSIDERING the most significant reform to the patent system in nearly half a century. And no wonder. Bad patents are everywhere: covering obvious inventions like the crustless peanut butter and jelly sandwich, ridiculous ideas like a method of exercising a cat with a laser pointer, and impossible concepts like traveling faster than the speed of light. More troubling, countless patents that seem reasonable to a lay audience overreach in technical fields as blatantly as that peanut butter sandwich overreaches in a familiar one.

What to do? The obvious solution would be to throw money at the problem. After all, additional resources would make it possible for the Patent Office to hire more patent examiners and allocate more time to the evaluation of each patent application, and in that way weed out bad patents more effectively.

Admittedly, that would help. It is shocking how little time patent examiners spend evaluating the average patent: approximately 18 hours spread over a three-year period. That is just 18 hours to read the original application, gather information about related inventions, interact with the inventor and his attorney, and ultimately evaluate both the supposed invention and its accompanying legal documentation. Ironically, the average American will spend more time watching television this week than the federal government likely spent reviewing any of the patents that made television possible. No wonder more than three-fourths of all patent applications ultimately result in successfully issued patents. The bigger surprise is that any bad patents get stopped.

Despite its intuitive appeal, however, the "more money" approach has an important flaw: most of any additional resources would be wasted. Why? Think back to the examples we gave in the first paragraph. Yes, there really is a patent on a method of cat exercise and another on a machine that allows for communication at a speed faster than light. But who cares? No one is ever going to be sued for putting Whiskers through her paces. And it is even less likely that anyone will ever be sued for exceeding the speed of light.

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Nor are those isolated examples. Most patents do not matter. They claim technologies that ultimately fail in the marketplace. They protect firms from competitors who for other reasons fail to materialize. They were acquired so as to signal investors that the relevant firm has intellectual assets. Or they were lottery tickets filed on the speculation that a given industry or invention would take off. Those patents will never be licensed, never be asserted in negotiation or litigation, and thus spending additional resources to examine them would yield few benefits.

Some bad patents, however, are more pernicious. They award legal rights that are far broader than what their relevant inventors actually invented, and they do so with respect to technologies that turn out to be economically significant. Many Internet patents fall into this category. Rarely a month goes by that some unknown patent holder does not surface and claim to be the true inventor of eBay or the first to come up with now-familiar concepts like hyperlinking and e-commerce. (A particularly notorious example along these lines is the previously unknown technology firm Acacia, which as of this writing claims that its patent portfolio covers just about every known technique for transmitting and receiving digital audio and video content.)

While some such internet patents may be valid—someone did invent these things, after all—more often the people asserting the patents actually invented something much more modest. But they persuaded the Patent Office to give them rights that are broader than what they deserve, imposing an implicit tax on consumers and thwarting truly innovative companies who do or would pioneer those fields.

Compounding the problem, patents are extremely hard to overturn because courts require a defendant to provide "clear and convincing evidence" to invalidate an issued patent. In essence, courts presume that the Patent Office has already done a good job of screening out bad patents. Given what we know about patents in force today, that is almost certainly a bad assumption.

IDENTIFYING IMPORTANT PATENTS The problem, then, is not that the Patent Office issues a large number of bad patents. Rather, it is that the Patent Office issues a small but worrisome number of economically significant bad patents and those patents enjoy a strong, but undeserved, presumption of validity.

Framed this way, the solution naturally follows: The Patent Office should focus its examination resources on important patents and pay little attention to the rest. But it is difficult for the government to know ahead of time which patents are likely to be important.

There are two groups, however, that have better information about the likely technological and commercial value of inventions: patent applicants and competitors. The patent system currently does little to elicit that information. Changing this is the key to reforming the system.

Our proposal therefore comes in three specific parts. First, we would weaken the presumption of validity for issued patents. A presumption like that embraced by the "clear and convincing" standard must be earned, and under current rules patent applicants do not earn it. Why not replace that high hurdle with a more appropriate level of deference such as the "preponderance of the evidence" presumption currently given trademarks and copyrights? (And, while we are at it, we should apply the presumption with some eye toward reality. The current presumption is so wooden that courts today assume a patent is valid even as against evidence that the patent examiner never saw, much less considered. What is the logic there?)

Second, because legitimate inventors need as much certainty as the law can give them, we would give applicants the option of earning a presumption of validity by paying for a thorough examination of their inventions. Put differently, applicants should be allowed to "gold-plate" their patents by paying for the kind of searching review that would merit a presumption of validity. An applicant who chooses not to pay could still get a patent. That patent, however, would be subject to serious—maybe even *de novo*—review in the event of litigation. Most likely, applicants would pay for serious review with respect to their most important patents but conserve resources on their more speculative entries. That would allow the Patent Office to focus its resources, thus benefiting from the signal

given by the applicant's own self-interested choice.

Third, because competitors also have useful information about which patents worry them and which do not, we support instituting a post-grant opposition system, a process by which parties other than the applicant would have the opportunity to request and fund a thorough examination of a recently issued patent. A patent that survives collateral attack would earn a presumption of validity similar to the one available through gold-plating. The core difference is that the post-grant opposition would be triggered by competitors—presumably competitors looking to invalidate a patent that threatens their industry. Like gold-plating, post-grant opposition is attractive because it harnesses private information: this time, information in the hands of competitors. It thus helps the Patent Office to identify patents that warrant serious review, and it also makes that review less expensive by creating a mechanism by which competitors can share critical information directly with the Patent Office.

A two-tiered patent system would dramatically improve the quality of economically significant patents.

Admittedly, there are administrative and strategic issues to work out in this proposal. Post-grant opposition, for example, introduces some risk of collusion: If an applicant can get a buddy to raise a straw man challenge to his patent and, through that, walk away with a stronger presumption of validity, the whole process will collapse. But any legal system can be gamed, and thus the question here is not whether a two-tiered patent system is perfect—it is not—but whether it is better than what we have now. By subjecting important patents to greater scrutiny, a two-tiered patent system would dramatically improve the quality of economically significant patents. At the same time, the vast majority of patents would undergo the current level of review, at no additional cost to the Patent Office or to society. Moreover, lowering the presumption of validity for most patents would reduce the volume of purely speculative filings, freeing up Patent Office resources for more important inquiries.

Our approach would not completely eliminate bad patents. No matter how the patent system is configured, the occasional peanut butter and jelly sandwich will slip through. But the two-tiered approach would arm the Patent Office with one key weapon it lacks today: information about which patents matter. That would help the Patent Office focus its resources, giving its most careful review to the economically significant patents that should be its bread and butter.

Mr. SMITH. Mr. Dudas, let me direct my first question to you. Everyone in this room has probably read a number of articles about the RIM case, the BlackBerry case. And I would like for you to respond to a couple of points that Mr. Balsillie made and that I would make, and that is the impression that we have had from reading these articles and looking at the case is that the Patent and Trademark Office issued patents that were questionable, and then when it came to the reexamination of some patents did not act with dispatch.

Would you respond to those points?

Mr. DUDAS. Certainly. I think one of the points about reexamination is it shows largely that the process does work in that——

Mr. SMITH. Because it cost BlackBerry over a half a billion dollars to learn that lesson.

Mr. DUDAS. If you look at reexaminations, it gives you an opportunity to challenge a patent that the Patent and Trademark Office has issued. So I think philosophically, it is something we think post grant is better. On special dispatch, I think it is unacceptable to be taking the amount of time that the office had taken just 3, 4 years ago, where it took 4 years before we even touched an action.

I testified before this Subcommittee that that was going to change, that we were going to make certain we had an action on every case before 2 years. We were able to do that I think special dispatch has real meaning now.

The special reexamination unit not only increases quality, it increases consistency. In some cases we are taking 30 times the amount looking at reexamination. Professor Lemley had a good point, there is a difference between 408,000 applications that come in that you have to deal with every single one of those in an appropriate manner, or looking at 540, where someone says we have a substantial question. But I will also point out there is an excellent point on anyone's part, we should have these done. We believe we will be able to get them done eventually within 20 months very soon.

But the other thing to look at as well is the responsibility of the patent applicant who is involved in a reexamination and the responsibility of the requesters. There are many cases where the request for reexamination did not come upon a notice letter, it did not come upon being sued, it did not come upon losing a motion to dismiss. But the reexamination question is not coming in until after that case is lost in court, there is a finding of damages and it goes forward.

If the request comes in sooner, we certainly would be able to get it done sooner. Judges are less likely—the evidence shows both in terms of policy, and in fact—judges are less likely to stay cases once a full decision has gone through a full discovery and a full decision has been made. That is an issue, I think, where there is responsibility across the board. I think we can give folks a stronger sense that the Patent and Trademark Office is doing a better job which makes us a more viable alternative.

Mr. SMITH. Mr. Balsillie are you at least partially reassured by those remarks?

Mr. BALSILLIE. Yes, I am. I think the improvements in the Patent Office are appropriate. And we support them. And I think they

are making some positive directions. And it is too easy to make the Patent Office a scapegoat. Some of the things that I have experienced is that we think when there is reexaminations, there needs to be clarity also to the courts, just what is the strength of the patents and what is the strength of the reexamination rulings?

In our case, all of the final office actions, rejecting all of the claims and yet that had no weight in injunctive relief, so there is a special dispatch element, but there is also an element of waiting and quality that the court should be guided in this case as well.

Mr. SMITH. Thanks. Mr. Dudas, one more question I have actually been waiting weeks to ask you this. Let's assume that we agree that you could be doing a better job when enforcing the nonobvious standard.

And I think you would agree that we would hope that courts, district courts would be a little more strict in how they interpret the nonobvious standard. This is not a issue that was called to my attention, but this is a paper napkin ring that is the kind typically wrapped around napkins of plastic wear, you know rectangular piece of paper with a little glue on one end.

This was patented many years after it allegedly was being used informally. This to me may be an example of a patent that was obvious rather than nonobvious. And I don't know the origin of this, but to me, this has always seemed a little bit like the peanut butter and jelly sandwich that is being patented, and an example, perhaps, of how we can do a better job along the process.

Do you have any comments on that?

Mr. DUDAS. Absolutely. I will comment more generally, and then I will get specifically to that.

Mr. SMITH. Be very quick.

Mr. DUDAS. I will get specific. There is a concern—it is certainly frustrating to some examiners when they feel that they have a finding of obviousness, and they need to show something more specifically. We don't want to have willy nilly discussions of obviousness, et cetera. But there is no question we share the same goals as the Federal circuits and the courts that have given us guidance, which is to not do too much second-guessing. At the same time, we do think it is a worthy area to be looking into.

Mr. SMITH. Thank you, Mr. Dudas. I will have additional questions after the other Members have asked their questions. The gentleman from California, Mr. Berman.

Mr. BERMAN. Thank you. I would like to pick up on the issues raised by the Chairman's initial question, and your response, and I would like to ask, Director Dudas, would you prefer to be Secretary Dudas, which is better? I don't know. But I would like to ask you, and then I would like to ask Mr. Balsallie to comment, and Professor Lemley, if he would, an issue that has come up that you now just discussed, at least I wasn't aware of until last fall, is this issue on inter partes reexamine, where we spoke about the effect of instituting an inter partes after a decision of the District Court.

So what I would like to know at this point is what do you believe the effectiveness of a PTO review, which finds a patent invalid, should be on a district court decision during various trial phases? If the PTO is in the middle of the review and the court is in the middle of the liability phase, should the court stay the proceeding?

What if the court is in the damages phase, what if the PTO has made a decision that the patent is invalid? What should be the effect on the liability or damages phase? And should those same conclusions apply in where it is an ex parte reexamination proceeding? Also, what should the deference be to the enter party's decision in the district court? And to what extent in all this are you—if what the Chairman originally proposed last year in his legislation—we didn't address this issue then, but in the bipartisan bill that he proposed, that changed, that provided a better kind of balance on the injunction issue and a second window, and a post exam process and a second window and made a number of these changes, should your answers to these questions, would they be different if that were now the law?

Can you answer these 14 questions?

That is a continuation process.

Mr. DUDAS. That is not one question. There are a lot of claims as well. But at any rate, the world we live in now, quickly, I will answer as director. If any ex partes reexamination upon being filed, we will follow through its conclusion regardless of when it's filed. We have no authority to stay that. An inter partes reexamination, we must stay it after a final decision, which means a CAFC decision, or a district court decision that hasn't come forward.

I agree that——

Mr. BERMAN. But if the district court decision has come down finding a patent was valid and infringed, but the other side still has time to file a notice of appeal, or is pursuing an appeal——

Mr. DUDAS. We are not estopped. However in that case, we have the authority, we believe, under good cause, to stay the proceeding within our office, and so as not to waste administrative resources while the CAFC makes that determination. We have done that in a case that is outstanding right now, and there is an action against us in the Eastern District of Virginia suggesting we don't have that authority. We believe we do have that authority.

The law is fairly clear that we are estopped in an inter partes, case after a final decision. It's also clear under the law, we believe, that we must go on in any ex partes reexamination regardless. I think the policy should be that there needs to be certainty. There shouldn't be a policy of who goes first.

I talked to a number of Federal judges about this and off the record the discussion has been along the lines of, if the Patent and Trademark Office can get a reexamination done within a certain amount of time, then they would more likely stay their actions.

But you are in an exact point. The question becomes, I believe, at what point is the reexamination requested? I think there is a difference in judges' minds. There is a difference certainly in our minds, from a policy perspective not from under the law, but from a policy perspective, if a reexamination is filed before you go to court or before the discovery phase versus after a decision has been made, findings have been found, et cetera. That looks more like a second bite at the apple. And it seems to me, as Under Secretary, at this point we need to have clearer rules along those lines.

I think the same is true for post grant. I think the post grant opposition proceeding that we would suggest would have a second

window. It would allow for the PTO to stay an action in the cases—it would only let you in a second window if you had a threat of a lawsuit. And I think there are answers to that where judges have the opportunity to stay and the PTO does. There is a lot more to this answer. I know my time is up, but the key is when is that requested. But I do think certainty will help.

Mr. BALSALLIE. In the case of Research in Motion, it's really a real-life case. It is not a hypothetical case. And when you look at the wireless system that we employ, in our preliminary searches of the Patent Office, there is approximately 1.1 million patents that apply to our wireless system. Now, if you applied 2 to 3 dozen average claims, that means we have 30 million approximate claims that could apply against BlackBerry. And it takes one claim to shut down the whole system. That is what I call Russian Roulette.

And then you come at us and then what happens is with that Russian Roulette, somebody is holding a gun to your business, and has the ability——

Mr. BERMAN. Worse than Russian Roulette.

Mr. BALSALLIE. I am trying to be polite, but there is no limit on what they can ask. For they can ask for $612 million and my kidney. So there is no limit. And that is Russian Roulette and worse.

And then you have—and so definitely, when somebody is not practicing, they are not furthering the arts. And this doesn't prejudice innovators, and it doesn't prejudice those that sell products. And there is a contradiction between somebody wanting to be protected with irreparable harm, but really, all this want is money.

And there is no harm done in just prescribing a royalty and keep it in, keep it paid and just keep it in escrow. There is no irreparable harm.

And in terms of the reexamination process, I have yet to understand why the patent—injunction is a blunt instrument. And the only place where it is used almost absolutely is in the patent process.

Yet, it's this broad system with tens of millions of claims.

It doesn't bear any relation to what would protect the society and furthers innovation. It's an anomaly. And in our case, we actually, they actually did find office actions. They actually did their job. It was done. It was in three cases. And what is ironic is we were stayed as the primary inventor, so we are being shut down for something the Patent Office said shouldn't have been issued, and we are the inventor and the courts gave no weight to it. And in fact, there was some joking by the courts that if we stop wireless e-mail, it won't be "the end of the free world." yet I thought it wasn't about the end of the free world, it was about a balance of equities.

Mr. SMITH. Thank you, Mr. Balsillie. Let me go back to a couple of questions that I had, and give you all a chance to respond as well.

I have an intervenor here. I didn't see you until right now. Welcome back, and the gentlewoman from California is recognized for her questions.

Ms. LOFGREN. Thank you, Mr. Chairman. There are so many questions, but I think I just like each of the witnesses to comment on a back end, if you will, question, with respect to injunctions. We

have been, the three of us and several other Members have been working through these issues in public hearings, in discussions, in various forms and formats throughout this Congress, and one of the things that I have been told, and I would like you to comment on, is that in the area of patent litigation, once there has been an ajudication of infringement, an injunction is awarded against the infringing party in virtually every instance, which is very different from other types of litigation where it is more difficult to get injunctive relief. And I think that is exactly the issue that is before the court today on the Merck exchange eBay case, and I don't think it would be appropriately necessary to talk about that one case.

But I am interested in, one of the prongs of the injunction standard is ordinarily the prospect of irreparable harm, harm that can't be made whole by a monetary award. And it seems to me in a situation where a patentee does not compete in the same line of business as the infringing party, what could the irreparable harm be that couldn't be made whole by a monetary award? And what is the theory of irreparable harm in that case?

And I think probably this had a lot to do with the RIM case and perhaps, Mr. Balsallie, I hope I am not mispronouncing your name, but I am particularly interested in NTP's theory of irreparable harm for injunction as well as, certainly, Professor Lemley. I appreciate you have come all the way from Stanford to be here today. I make that trip every week, so I know it is not easy to do.

Mr. BALSALLIE. Very briefly, because Professor Lemley certainly has great background in this, and I would say that we were puzzled because they put forward that all they wanted was money, but they wanted an irreparable harm remedy. And it was really to extract more leverage than due the value of the patent. It was never clarified. They never answered why. It was just an automatic. They didn't practice anything, any innovation, they didn't further the arts. One of their patents was issued, they filed a suit, it was issued well after BlackBerry had been in the market through continuation. So, I mean, I am at a complete loss to give you any understanding as to why that instrument was used.

Mr. LEMLEY. The existing statute says, courts may grant injunctions in accordance with principles of equity, which seems to suggest that courts and patent cases ought to do exactly what they do in copyright cases, in real property cases, in personal property cases, which is considered irreparable harm, balance of the hardships and so forth. But the Federal circuit, over the last 20 years, has kind of drifted into a rule that really is, I think, unique to patent cases, which is an absolute entitlement to injunctive relief once the patent has been found invalid and infringed.

I think that is a mistake. Now let me be clear. I think injunctions are normally the right remedy. They are the right remedy where you have somebody competing with the patent owner, whether or not the patent owner is practicing the same invention. I also think they are the right remedy where the defendant engaged in copying from the patent owner. You shouldn't be able to copy and then continue using the technology.

But, I think it is important for this Committee to emphasize that the traditional principles of equity and the ability for district courts to sort of think through the question of whether injunctive relief

is appropriate, in any given case, really is and ought to be an important part of the patent system.

Mr. LEMLEY. At the eBay hearing last week, counsel for MercExchange said, well, you shouldn't change this rule of absolute entitlement to injunctive relief because Congress has already thought about changing injunctive relief, and they haven't acted.

Ms. LOFGREN. We actually thought about readopting the statute we have.

Mr. LEMLEY. I heard a proposal on the Senate side you ought to italicize the word "may" in section 283. I don't know whether it's possible to italicize something in the United States Code, but that is not a bad start.

Ms. LOFGREN. If I could, I just have a little bit more time. I'm interested, Professor, you had—we have heard opponents of the coalition draft talk about the ability of courts to reduce damage awards in patent litigation to take account of the portion of an infringing product's value contributed by nonpatent components, and I have heard from proponents that the current law does not actually accomplish this, in part because of the deficiencies we all agree need to be addressed at the front end.

Can you talk just briefly about your view of inventive contribution rather than whole claims under current law?

Mr. LEMLEY. Yes. The current law, like in the injunction context, at least nominally gives you the ability to deal with this problem because it allows courts to take into consideration all of the other nonpatented components of the invention. The problem is courts don't generally do so, or at least they don't do so to a significant extent.

I'm producing an empirical study on this issue right now. What we find is they reduce damages a little bit as royalty percentage in component industries, but not by very much; in fact, so little that on average a component product would have only 1.3 or 1.4 components in it. That's, of course, not true.

You could solve this problem theoretically in the courts if you could get the courts to really take all of this into account, but it's hard to do so, and so I think actually encouraging them specifically to consider this in the statute by focusing on the inventive contribution that is the subject of the patent and how it relates to the broader product will get us damages numbers that are in line with the patentee's actual contribution, which is what I think we want at the end of the day.

Ms. LOFGREN. Thank you very much. Thank you, Mr. Chairman.

Mr. SMITH. Thank you.

Let me return to a subject that is a part of our patent reform effort and, Mr. Stewart and Mr. Lemley, ask you about it. This is the second window review under the postgrant system. I think all of our witnesses support that, as do I, but there are others who oppose the postgrant system because they say that will potentially unsettle any patent title, so to speak, and the owner of that patent will always be concerned that they may be challenged. What is a good response to the concerns of those who oppose the postgrant system. Mr. Stewart and Mr. Lemley.

Mr. STEWART. I agree with the Subcommittee that the postgrant opposition is a very effective tool, and the second window is more

so effective. The postgrant opposition, as I think it's currently situated, gives 9 months after the grant in which you could challenge a patent, and EPO has a similar statute on the books.

This situation with the second window is that typically most firms do not monitor competitors' patents to a large extent, especially in the financial services industry. In addition, when you monitor firms, that opens up a whole another can of worms in terms of liability and willfulness and things of that nature. So if you're not monitoring the competitors' patents that are coming out, you don't have an opportunity to take advantage of that first 9-month window, and it's only when you receive that letter, if you will, or that lawsuit or whatever the case may be at a later point do you have an opportunity to really look at the patent and actually challenge it in the USPTO and take advantage of the opposition precedent. We've had numerous problems with monitoring of competitor patents because of some of the willfulness issues you guys have tried to address.

Mr. SMITH. Mr. Lemley.

Mr. LEMLEY. I think the answer to—what's a good answer to that objection is we already have a system in which you can go back to the Patent Office and ask for a reexamination at any time, regardless of how long you wait, and the reason we have that normal reexamination system is we think it's actually better and cheaper to try to get the patent validity sorted out in the Patent Office without having to go through litigation that costs $5 million a side.

I think of postgrant opposition as a sort of improvement in the reexamination process. It's not and shouldn't be full-fledged litigation, but it ought to be something more and have more involvement than a regular reexamination system. And then it seems to me to be reasonable to say not, as we do with regular reexam, you can bring it at any time, but you can bring it within a few months after you find out about the patent.

That can happen either because the patent issued, I think, in the pharmaceutical industry—everybody is going to know about these patents on basically the day they come out, so second window maybe isn't so necessary. But in the IT industry and the financial services industry, as Mr. Stewart indicates, people don't find out about these patents until years later, or they may read them and not have any idea that they are going to be asserted against a different technology three generations down the line. Giving a limited period of time in which to go to the Patent Office and short-circuit, if we can, patent litigation is the right thing to do.

Mr. SMITH. Thank you, Professor Lemley.

Mr. Dudas, I'd like to propose a question actually from a constituent of mine, but it bears on some of the subjects at hand. RIM is upset that the reexamination of the NTP patents were not conducted with special dispatch as the Patent Act requires. I have also heard this is the constituent patentee who has been stuck in a reexam proceeding for nearly 6 years. As an act of fairness he suggested we require the office to add day-for-day term extension to any patent that is the subject of reexamination when that proceeding has not concluded after 2 years. In other words, if the office has not made a final determination after 2 years, the patent will

receive additional term protection for each day thereafter. What's wrong with that idea, if anything?

Mr. DUDAS. The first thing that is wrong is that the reexamination has taken 6 years. I'm not aware; I can follow up to find out a little bit about that. We have gotten an action on every reexamination pending over 2 years. I don't know if this involves appeals or whatnot, but we have to make certain that's not a case where people are involved in reexaminations for 6 years unless it's caused by their own actions.

The question about patent term extension, I think that is probably not the right answer, because even pending before reexamination, your patent is valid, determined valid, still has a presumption of validity, et cetera. The patent term extension we have now says if the office takes too long, and you don't yet have your patent rights, you're losing under a 20-year filing term, so we'll give that back to you. But under the patent reexamination, the patent is still valid and can still be held.

I think this is an excellent opportunity, and I will invite the oversight of the Subcommittee to make certain that I make good on the pledges I have made that we are going to get these things done more quickly. I think patent term extension might skew the incentives.

Mr. SMITH. Thank you, Mr. Dudas.

Any other questions?

The gentleman from California.

Mr. BERMAN. Thank you, Mr. Chairman.

I want to give Professor Lemley a chance to answer my initial questions, if I could. I also have another question, but I just have to follow up on something.

Are you saying that in your case your opponents ended up through the continuation process filing or refining or changing a patent claim after your product was already out in the market, and that patent, that refined patent, became the basis for the finding of infringement?

Mr. BALSILLIE. That was all but one of the claims in our case, yes. And the patent was issued long after our product was in the market, and then they sued us the day it was issued.

Mr. BERMAN. Was the refinement made after your product was——

Mr. BALSILLIE. Yes, it was.

Mr. BERMAN. They knew what you were doing.

Mr. BALSILLIE. In fact, I'll even tell you we disclosed the work route to them, and they filed continuations on that work route. Absolutely. You bet.

Mr. BERMAN. Mr. Lemley.

Mr. LEMLEY. Just to emphasize, that is actually one of the most problematic abuses of the continuation process is the use to identify something that your competitors come up with and change your patents to do it.

Just briefly on the question of staying litigation pending reexam, I agree with Director Dudas on this, there are reexams filed because people actually want to get the patent's validity determined early on, and there are reexams filed for strategic reasons late in litigation because there is no real cost to doing so.

It seems to me the courts, I think, are, generally speaking, getting it right, staying the litigation if you file your reexam early, not staying the litigation if you're filing your reexam late just as a strategic matter. That seems to me the right result.

Mr. BERMAN. What about after—what if the, quote, infringer has lost a judgment and then asserts reexam?

Mr. LEMLEY. That seems to me sort of very late. If you wait until you have already got your day in court, and then you're going to the Patent Office and saying, I want to use a process that's designed to be less expensive and avoid having to go have my day in court, that's maybe not the way we want the system used.

Mr. BERMAN. Director Dudas, we talked at one point about the issue of quotas for examiners and this whole issue of—is there a disservice in having quotas which keep a patent examiner from spending more time on a particularly complicated case, and has there been any discussion about the wisdom of that in the office?

Mr. DUDAS. Absolutely, vast discussion. The bottom line is more time on a patent application, more time will lead to higher quality. I don't think it's necessarily a one-to-one relationship. All this, though, relies on a balance of 408,000 applications, we have to be able to examine. Right now we examine all claims in every application, and hiring 1,000 examiners a year at an 8 percent rate, we never actually get to the point where we're turning the tide on pendency. Very important, not saying we get it to an ideal point, but turning the tide. A reexamination is very much like that. There are not time limits. If it takes 30 times the amount of time, we take 30 times the amount of time.

One of the things that we are considering, big ideas, is should we be examining every single claim and every single application. And one of our rules actually suggests let's at least look at a couple first, and then we can possibly look at all the rest later unless you abandon some of them. Even further down the line, talk about having a more robust examination for some applications.

Mr. SMITH. Thank you, Mr. Berman, Mr. Dudas.

We are going to vote, and as a result we'll need to adjourn the Subcommittee. But thank you all for your testimony today. It has been very, very helpful. So we will stand adjourned.

[Whereupon, at 6:01 p.m., the Subcommittee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE HOWARD L. BERMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA, AND RANKING MEMBER, SUBCOMMITTEE ON COURTS, THE INTERNET, AND INTELLECTUAL PROPERTY

Mr. Chairman,

I believe this may be the sixth hearing on patent reform this Congress. I must thank the Chairman for his hard work in highlighting the need for patent reform this Congress. He brought together a large coalition of bi-partisan members to support a patent reform bill and managed to almost achieve consensus among the different party interests. However, I wonder about the benefits of pursuing further hearings on the identical issues we discussed last year if there are few new ideas being proposed and no further clarity about which legislative approaches this subcommittee should follow regarding patent reform. I am concerned that merely discussing the issue without any movement on a legislative proposal will further entrench the parties in their respective positions. The recent cases which have been settled (NTP/BLACKBERRY) or have been granted cert by the Supreme Court (EBAY/MERCEXCHANGE) demonstrate that the time to address these issues is sooner rather then later.

Past attempts at achieving more comprehensive patent reform have been met with resistance. However, the call for legislative action is loud. The New York Times has noted, "[s]omething has gone very wrong with the United States patent system." The Financial Times has stated, "[i]t is time to restore the balance of power in US patent law." Therefore, today, Congressman Boucher and I have introduced a narrowly tailored patent quality bill to address some of the more urgent concerns.

Once again, I firmly believe that robust patent protection promotes innovation. However, I also believe that the patent system is strongest, and that incentives for innovation are greatest, when patents protect only those patents that are truly inventive. When functioning properly, the patent system should encourage and enable inventors to push the boundaries of knowledge and possibility. If the patent system allows questionable patents to issue and does not provide adequate safeguards against patent abuses, the system may stifle innovation and interfere with competitive market forces.

High patent quality is essential to continued innovation. Litigation abuses, especially those which thrive on low quality patents, impede the promotion of the progress of science and the useful arts. Thus, we must act quickly during the 109th Congress to maintain the integrity of the patent system.

PREPARED STATEMENT OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS-UNITED STATES OF AMERICA (IEEE-USA)

IEEE's U.S. members are among the most frequent users of the USPTO, and therefore we have a compelling interest in ensuring that legal principles governing patent policy are consistent. By virtue of the practical experience of its members, the IEEE-USA respectfully believes that its views can assist this committee in evaluating the effect of patent reform proposals on technical innovation, especially that of independent inventors and small businesses. We support patent reforms that enhance our members' abilities to secure the patent protection they need, the lack of which would adversely affect our country's competitiveness, economy, and technological advancements.

IEEE-USA believes that our nation's global competitiveness and our economy are directly tied to the innovations made by inventors of all types, including inde-

pendent inventors, inventors employed by small businesses, inventors employed by research laboratories and universities, and inventors employed by Fortune 500 companies. The historical growth of more than one Fortune 500 company can be traced to the success of a startup with a handful of inventors that obtained funding due in great part to being able to protect their intellectual property. As such, the voice and concerns of the independent inventor and of small business entities must be considered along with the voice and concerns of larger entities at all stages of developing and when implementing changes to the patent process.

We commend the Judiciary Committee's efforts to explore the complicated issue of patent reform. However, IEEE-USA believes that an investigation of patent reform requires Congress to assess all concerns, including those relating to the actions of patent infringers and patent trolls. If Congress reacts to concerns about patent trolls without assessing the consequences for patent holders who are subjected to patent infringers, then Congress might risk implementing bad legislation.

Patent reform requires the consideration of all viewpoints. Within IEEE's U.S. membership, there is a diversity of views about patent reform. In contrast, witnesses at the Wednesday, April 5, 2006, Judiciary Subcommittee on Courts and Intellectual Property oversight hearing on "Patent Quality in the Information-Based Economy" presented a surprisingly unified position. Their testimony focused on restricting either the scope of patent coverage or the strength of patent enforcement provisions, without any real consideration of individual patent holders who may have valid concerns about losing their rights. In fact, the hearing presented the views of a Canadian company (Research in Motion), a Swiss Company (UBS), a legal scholar and the Under Secretary of Commerce for Intellectual Property. Many countervailing views, including the views of inventors and small business owners, were not presented.

The IEEE-USA looks forward to assisting the USPTO and Congress in your efforts to improve the efficiency and quality of the patenting process. We believe that the subcommittee should hear a representation of all views before deciding on patent reform. More specifically, IEEE-USA believes that the subcommittee should hear from U.S. companies and at least one practicing patent attorney (that is not directly employed by a single company).

About IEEE-USA

IEEE's U.S. members include inventors, innovators, designers, independent entrepreneurs, small business owners, and employees of firms that acquire, license and exploit intellectual property. Their collective efforts promote our nation's prosperity, security, and competitiveness by fostering technological innovation. IEEE supports the engineering process of creating, developing, integrating, sharing and applying knowledge about electronics, information technologies and physical sciences for the benefit of the profession and humanity.

This statement was developed by the Intellectual Property Committee of the IEEE-United States of America (IEEE-USA) and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA is an organizational unit of the Institute of Electrical and Electronics Engineers, Inc., created in 1973 to advance the public good and promote the careers and public policy interests of the more than 220,000 electrical, electronics, computer and software engineers who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE or its other organizational units.

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