

STATEMENT OF
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HEARING ON
“BRIDGING THE TAX GAP”

BEFORE THE
COMMITTEE ON FINANCE
UNITED STATES SENATE

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INTRODUCTION

Chairman Grassley, Ranking Member Baucus, and Members of the Committee:

Thank you very much for inviting me to testify today on the patenting of business method inventions, and specifically on those business method patents concerning tax strategies and financial products, including banking, insurance, and investment products. As you know, patents in this emerging area of innovation are a topic of considerable interest and debate in many circles.¹ As has often been the case in the past with other emerging technologies, concerns have been raised about whether business methods should be patentable and whether business method patents will help or hinder innovation and commerce. More recently, attention has been drawn to those business method patents that involve tax strategies as well as their impact. Given the importance of these issues, particularly in light of our increasingly knowledge and information-based economy, I commend the Committee for holding this hearing.

I. U.S. PATENT SYSTEM

In order to understand the patentability of business method inventions, I believe it is necessary to first review the underpinnings of the U.S. patent system itself and the role of the United States Patent and Trademark Office (USPTO) in administering this system.

¹ Patents of this variety, “methods of doing business” have been awarded to inventors from companies large and small, including Citicorp, The Chase Manhattan Bank, Mellon Bank, Wachovia, Bank One, Merrill Lynch and Goldman-Sachs.

The basis for our patent system is found in Article 1, Section 8, Clause 8 of the Constitution, which provides that Congress shall have the power:

“To promote the progress of science and useful arts by securing for limited times to . . . inventors the exclusive right to their . . . discoveries.”

Following this Constitutional authority, our Founding Fathers designed an extremely flexible patent system based on principles that have proven remarkably suitable to 210 years of technological advancement. The uniformity and flexibility of the patenting standards of novelty, non-obviousness, adequacy of disclosure, and utility -- coupled with the incentives patents provide to invent, invest in, and disclose new technology -- have allowed millions of new inventions to be developed and commercialized. This has enhanced the quality of life for all Americans and helped fuel our country's transformation from a small, struggling nation to the most powerful economy in the world. Equally as impressive, the patent system has withstood the test of time. This is powerful evidence of the system's effectiveness in simultaneously promoting the innovation and dissemination of new technologies and the creation of new industries and jobs.

a. PATENTABILITY CRITERIA

In administering the U.S. patent laws, the USPTO takes its direction on what subject matter is patentable from Congress and our reviewing courts. The current Act that details the standards of patentability, the Patent Act of 1952, specifies four basic statutory requirements that must be met to obtain a patent: (1) the claimed invention must define eligible subject matter and have utility; (2) it must be novel; (3) it must not have been obvious to a person having ordinary skill in the art at the time the invention was made; and (4) it must be fully and unambiguously disclosed in the text of the patent application, so that the skilled practitioner would be able to practice the claimed invention without undue experimentation.

Prior to granting a patent, the USPTO examines each patent application to determine whether it meets these four criteria, as set forth in Title 35 of the U.S. Code. With respect to the first statutory requirement, 35 U.S.C. § 101 states that any person who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent..." subject to the conditions and requirements of the law. Thus, the threshold inquiry as to whether subject matter is eligible to receive patent protection is whether an invention is "new and useful" and whether it fits into one of the enumerated categories.

The courts have recognized the breadth of this statute. In the landmark case of **Diamond v. Chakrabarty**, 447 U.S. 303 (1980), the U.S. Supreme Court acknowledged that Congress intended the statutory subject matter under 35 U.S.C. 101 to include "anything

under the sun that is made by man." The Supreme Court also noted that there are limits to patentability. Indeed, in **Diamond v. Diehr**, 450 U.S. 175 (1981), the Court explicitly identified three specific areas of subject matter that are excluded from patent protection. These three areas are: (1) laws of nature, (2) natural phenomena and (3) abstract ideas. Thus, an invention directed toward a pure algorithm or manipulation of abstract ideas with no practical application is not patentable. The growth and importance of computers and the Internet have led to a significant increase in investment and development in computer-related processes, particularly with regard to electronic commerce. This has inevitably led to more individuals seeking patent protection in these areas. In response to this increased patent activity, a number of cases arose in the 1990s involving issues of defining the boundaries of patent eligibility. Accordingly, the Court of Appeals for the Federal Circuit (CAFC) rendered a series of decisions following the Supreme Court in **Diehr** and **Chakrabarty** that further defined what subject matter can and cannot be patented. I would like to briefly discuss these cases, which very clearly set forth the standards for patentability according to our patent law.

In the case of **In re Alappat**, 33 F.3d 1526 (Fed. Cir. 1994), the CAFC, sitting en banc, found that inventions that include mathematical formulas or algorithms are not unpatentable if they are practically applied. Thus, the mere presence of an algorithm within an invention does not exclude the entire invention from patentability. The key question to be answered is whether the claimed invention, when looked at "as a whole," is an abstract idea, such as a disembodied mathematical concept, or whether the invention produces a practical application, which achieves a "useful, concrete and tangible result."

Four years after **In re Alappat** came the most well-known case with regard to business methods: **State Street Bank and Trust Co. v. Signature Financial, Inc.**, 149 F.3d 1368 (Fed. Cir. 1998). The State Street case involved a patented data processing system that transformed data representing discrete dollar amounts into a final share price momentarily fixed for recording and reporting purposes. The Federal Circuit noted that a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea may be patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection. As such, the court held that a machine programmed to transfer data which represents discrete dollar amounts into a final share price through a series of mathematical calculations does, in fact, constitute the practical application of a mathematical algorithm, formula, or calculation because it produced a "useful, concrete and tangible result." The final share price resulting from this process enabled investors and their brokers to make investment decisions for investment and tax advantage purposes.

It is important to note that the significance of **State Street** goes beyond its immediate holding. The Federal Circuit in **State Street** explicitly rejected the notion that a "business method" exception exists in United States patent law, thereby ending any notion that inventions deemed to be business methods, by whatever criteria, would be excluded from patentability on that basis alone. Thus, the **State Street** decision clarifies that an invention deemed to be a "business method" will be treated in the same manner as any

other method or process invention. In other words, the patent system is technology neutral and there shall be no disparate treatment for different categories of inventions. This was reaffirmed by the Federal Circuit court in 1999, where the court remanded the case of **AT&T Corp. v. Excel Communications, Inc.** back to the district courts and concluded that had the courts applied the proper analysis, they would have realized that the claimed telephone call tracking method falls comfortably within the “broad scope of patentable subject matter under § 101.”

While **State Street** did not change United States law and practice, it did create a new awareness that business method claims could be patented. For example, in fiscal year 1998 there were less than 1500 filings in the U.S. classification area 705, which includes much of what is commonly known as computer-implemented "business method" inventions. By contrast, there were approximately 9,000 filings in fiscal year 2001 and approximately 7,400 filings in fiscal year 2003. It should be noted, however, that despite these increases, Class 705 filings represented only a small fraction (2.2%) of our total patent filings in fiscal year 2003. Moreover, the 479 patents that were granted in Class 705 last year constituted approximately one-quarter of one percent of all patents grants for the year. Today, the computer-implemented “business method” area includes business practices in many fields such as: health care management, insurance and insurance processing, reservation and booking systems, financial market analyses, point of sale systems, tax processing, inventory management, accounting, and financial management.

b. RESPONDING TO CONCERNS

While the courts have made it clear that inventions directed to business methods are patentable subject matter, some have suggested that an increase in the issuance of business method patents may stifle innovation and investment generally. Others are concerned that patents that have been awarded in these areas, while generally appropriate, may in certain cases be overly broad or not truly novel. These fears raise legitimate issues, and the USPTO has taken a number of steps to address these concerns.

In response to these concerns, in March of 2001, the USPTO announced a new Business Methods Patent Initiative. This program established a solid framework that provides the techniques necessary to cope with the ongoing challenges presented by the emerging area of business method patents. Accordingly, we have established enhanced partnerships with affected industries in order to have them educate our examiners so that we can take advantage of their knowledge and expertise in their fields. As part of this partnership, we hosted a Business Method Patents Roundtable on July 27, 2000, with members of industry and other interested parties, during which myriad issues regarding these patents were discussed. In addition, we convened our first meeting of the Business Methods Partnership on March 1, 2001. Since that time, the USPTO sponsors semi-annual Business Methods Partnership meetings with our customers, holding their last meeting on April 27, 2004. Through a fruitful exchange of ideas, these partnership meetings have proven beneficial to both our external users and our examination staff. The USPTO's

Business Methods Patent Initiative also includes specific features to bolster the quality of our patent searches. For example, we have defined a mandatory search template for all applications in the computer-implemented business methods area, including a classified U.S. patent document search and a full text search of U.S. patent documents, foreign patent documents with English language abstracts, and non-patent literature. To assist our examiners in finding pertinent prior art, we also have established "Electronic Information Centers" which provide examiners with access to over 1000 non-patent literature databases, over one-third of which contain business and financial information. As 18-month publication of patent applications has taken effect and as we identify with our industry partners more databases to search, the amount of published prior art available to examiners is also increasing.

As part of our Business Methods Patent Initiative, we also instituted a second-level review of all allowed applications in Class 705 by an additional experienced examiner beyond the examiner who would normally review the application before it could be granted. We also are continually enhancing the technical training for our examiners. For example, we revised our Examination Guidelines for Computer-Related Inventions and training examples for these inventions. These revisions were made in order to update patentability standards in light of the **State Street** and **AT&T** cases, which clarify that business methods should be treated like any other process claims.

Our examination guidelines and training materials specifically address the fact that merely automating a known human transaction process using well-known automation techniques is not patentable. Lastly, to handle the growing number of Class 705 filings, we also increased the number of examiners in this area from 17 in late 1997 to 106 today.

We believe that our Business Methods Patent Initiative and other concerted efforts in this regard have ensured the issuance of high quality business method and software patents. In fact, we are now beginning to see significant results in this regard. For example, our allowance rate in the affected areas of business method inventions has decreased since the time our Initiative was launched three years ago. It is worth noting from recent press reports that some of our customers believe we are being too restrictive in our examination, as evidenced by this reduced allowance rate.

On an additional note, I would also like to point out that the USPTO has been issuing method patents for over a century and a half. We have been issuing patents on methods of teaching since the mid-1800's, including a patent issued in 1864 for a method of teaching penmanship. Moreover, there have been a number of patents regarding innovations in the business and financial fields throughout the history of the USPTO. For example, in 1889, Herman Hollerith received a patent on a method for tabulating and compiling statistical information for a business. The patent he received helped his fledgling company to survive. Later, the company's name was changed to International Business Machine Corporation (IBM). Mr. Hollerith's patented method was probably the first patent issued regarding the automation of business or financial data, and it and the related punch cards were used until the birth of the personal computer.

c. CONGRESSIONAL ACTION

There is one additional important fact concerning this issue, namely that Congress acted promptly in response to the **State Street** decision to limit litigation in this area. In 1999, Congress enacted the landmark American Inventors Protection Act (AIPA) that included a special provision to limit litigation in this area. Congress established a limited “domestic prior user right” (35 USC § 273) specially directed at “methods of doing business.” It is the belief of many that this narrowly tailored provision is a variety of tort reform that has been more than effective in warding-off frivolous patent infringement lawsuits and protecting the public. In fact, there are relatively few recorded infringement suits in the federal courts concerning solely business-method cases.

II. THE USPTO AND THE REEXAMINATION OF ISSUED PATENTS

As previously discussed, the USPTO confers property rights in the form of a patent grant to applicants who meet the previously described criteria established by Congress and pursuant to applicable case law. The essential role of a patent examiner is to make the determination regarding the grant of a patent by assessing all of the relevant evidence in light of these patentability criteria for an invention established under law.

An important check on patent quality relates to the occasions when new prior art (i.e., the relevant evidence bearing on patentability) becomes available that may bear on the validity of an issued patent. Often, this new evidence may be identified and submitted by a third party such as a commercial rival that wishes to challenge the patent’s validity. In its wisdom, Congress established an administrative procedure for the USPTO to take a second look at an issued patent and consider questions of validity during the life of the patent. While this is an important quality check within the patent system, the USPTO has only a limited role in reconsidering patentability decisions after patents issue. The post-grant review of patent claims takes place before the USPTO under several circumstances, including:

- (1) when a patentee files an application to reissue a patent to correct at least one error in the patent,
- (2) when an applicant and a patentee claim the same invention and an interference is declared between the patentee and the applicant, and the applicant seeks judgment based on unpatentability of patent claims, and
- (3) when a patent owner or third-party requests the reexamination of a patent.

Congress has incrementally added to the range of proceedings under the USPTO’s jurisdiction under which third parties could invoke Office review of issued patents. It introduced *ex parte* reexamination in 1980, under which a third party could petition for reexamination of the patent.² In 1984, section 135 of the Patent Act was amended to allow issues of patentability, as well as priority, to be included in interference

² Pub. L. No. 96-517, § 1, 94 Stat. 3016 (1980).

proceedings.³ In 1999, Congress, as part of the landmark patent reform, the AIPA, created *inter partes* reexamination, whereby the third party could participate in the reexamination proceeding and appeal to the USPTO's administrative Board of Patent Appeals and Interferences.⁴ The AIPA's *Inter Partes* reexamination practice was expanded in 2002 to afford third parties the right to appeal to the U.S. Court of Appeals for the Federal Circuit.⁵

Through these amendments, the USPTO's role in helping guarantee the efficacy of the patent system after patent issuance has grown. However, none of these procedures alone, or collectively, have proven sufficient to optimize the USPTO's post-grant capability. Congress has labored to strike the right balance in creating an appropriate system that would permit the post-grant review of issued patents but would not lead to the harassment of independent inventors and small businesses. As part of the USPTO's 21st Century Strategic Plan, the Office is developing legislation to create a new procedure for the post-grant review of patents that would overcome many of the problems currently posed by litigation but yet prevent the harassment of independent inventors and small businesses.

III. THE 21ST CENTURY STRATEGIC PLAN

It is my pleasure to report to the Committee the Office's ongoing efforts to ensure the quality of the patent examination process. The USPTO has developed the 21st Century Strategic Plan in response to a congressional requirement.⁶ The Strategic Plan was created after a rigorous top-to-bottom review of all USPTO operations, policies, and procedures. This resulting blueprint for modernizing the Office contains 37 initiatives that focus on quality, productivity, and e-government. As former Under Secretary James Rogan and Acting Under Secretary Jon Dudas have testified before Congress, patent quality is one of the most important, if not the foremost, goals of the agency.⁷

One notable example of a successful quality initiative is expansion of the "second-pair-of-eyes" review, previously discussed. As part of the Business Method Initiative, the Office required additional review of patent applications pending in the fields concerning business method patents. We found it beneficial to devote additional resources to these applications in areas of emerging technology. While this is a resource-intensive

³ Pub. L. No. 98-622, 98 Stat. 33831 (1984).

⁴ Intellectual Property and Communications Omnibus Reform Act of 1999, S. 1948, Pub. L. No. 106-113 (1999).

⁵ *21st Century Department of Justice Appropriations Authorization Act*, Pub. L. No. 107-273, 116 Stat. 1758, 1899-1906 § 13202 (2002).

⁶ See *21st Century Department Of Justice Appropriations Authorization Act*, Pub. L. No. 107-273, § 13104, 116 Stat. 1758 (Nov. 2, 2002).

⁷ See "*United States Patent and Trademark Modernization Act of 2003*" *Hearing before the Subcomm. on Courts, the Internet and Intellectual Property*, 108th Cong. (2003) (Statement of James E. Rogan, Director, United States Patent and Trademark Office); "*Department of Commerce, Patent and Trademark Office*" *Hearing before the Subcomm. On Commerce, Justice, and State, the Judiciary, and Related Agencies*, 108th Cong. (2004) (Statement of Jon W. Dudas, Acting Director, United States Patent and Trademark Office).

initiative, as part of the Strategic Plan, we are also expanding the second pair of eyes to other areas of review.

The Strategic Plan is dedicated to improving the overall quality of the patents that we grant, not only during examination as is the case with the “second-pair-of-eyes” review, but also after a patent is granted. Creating a new procedure to permit the agency to review economically significant patents after they are granted based on the full participation of interested parties is also an important part of the Strategic Plan’s goal to enhance patent quality.

Implementation of the majority of the Strategic Plan’s thirty-seven initiatives is contingent upon adoption of changes in our fee system. That is why last year the Administration proposed as part of the USPTO’s FY 2004 budget an increase in patent fees. These fee changes, which are contained in H.R. 1561, the “United States Patent and Trademark Office Fee Modernization Act of 2004,” permit revisions in USPTO business practices that are necessary for the healthy functioning of the U.S. intellectual property system during the coming century. They raise the funds for essential technology and other investments that will modernize USPTO operations. The proposed fee changes will also benefit USPTO’s user community by allowing applicants to evaluate the commercial value of their inventions and recover the cost of search and examination as the situation warrants. The Fee Bill is necessary for full-funding of the Strategic Plan and the quality initiatives.

The USPTO is committed to hiring high quality people who will make the best patent and trademark examiners. We are committed to certifying their knowledge and competencies throughout their careers. Furthermore, we are committed to focusing on quality in all aspects of the examination of patent and trademark applications. If additional resources are provided to the USPTO through the fee structure in H.R. 1561, we will be able to make even further progress on these and other initiatives outlined in the Strategic Plan to enhance the quality of patent and trademark examination. This will greatly benefit U.S. businesses and IP rights holders by limiting the need for costly litigation in the courts.

Further, we are grateful for Congress’ consideration of the Administration’s FY 05 budget request for the USPTO of \$1.533 billion. This request is necessary for full-funding of our 21st Century Strategic Plan initiatives, including hiring additional examiners. The full request is also contingent on enactment of legislation, proposed by the Administration with the 2004 Budget, that increases patent and trademark fees by an estimated \$219 million in FY 2005. Full-funding of the Strategic Plan should help facilitate stronger international cooperation and enforcement of intellectual property rights. In addition, it will enable us to carry out our core mission through the implementation of new initiatives dedicated to enhancing patent quality and by providing greater protection of assets of our innovators and entrepreneurs here at home.

IV. PATENTS VS. TRADE SECRETS

As the Committee considers this and other patent issues, we hope that it also acknowledges the importance of a strong patent system in protecting intellectual property and advancing innovation. State trade secret protection for innovative methods and processes is a complement to the patent system, but should not be considered a substitute. Maintaining the availability of patent protection offers significant benefits to inventors and society.

The history of the patent system demonstrates how it benefits the public. Throughout the history of the patent process, all information pertaining to the invention is disclosed upon the grant and publishing of the patent. Through the enactment of the AIPA, Congress established the practice of the early publication of a patent application at 18-months of pendency for most patents. This has helped speed the dissemination of information of new and useful inventions to the public. The hallmark of patents is that they are a form of intellectual property that results in the public disclosure of an invention, advancing the field of endeavor, and increasing the public storehouse of knowledge. In turn, the publication of patented inventions and patent applications offers greater access to these innovations for the public as well as compliance entities. One merely needs to visit the USPTO web site and they will discover one of the largest databases in the world that contains information on millions of U.S. patents.

Trade secret protection is an alternative to patent protection for an innovator. Because trade secret protection does not have a set term of expiration, and by definition does not disclose the nature of the innovation, it provides certain advantages for specific types of innovation, such as methods and processes. However, trade secrecy does not guarantee the inventor protection for any amount of time. Moreover, trade secrecy does not permit the public to build on the new knowledge that is protected. Patents do guarantee protection of the inventor for a limited period of time, and offer the public the further benefit of learning about the invention. The limited monopoly of patent protection was created within the Constitution in order to encourage innovators to share their discoveries. For purposes of the public benefit, patenting is thus the preferred method of protection for utility innovations. The patent process has greater transparency and can inform the public as well as compliance entities as to recent developments. Largely as a result of trade secrecy's non-preferred status, there are a number of problems for innovators when relying on trade secrecy to protect intellectual property.

It is important that inventors and companies have at their disposal patents in addition to trade secrets, since patents offer important advantages in many instances. For example, trade secrecy is a creature of state law; thus inventors face the challenge of protecting their intellectual property through a patchwork of a variety of state regimes. Moreover, trade secrecy generally requires contractual obligations and restrictions to bind the parties, which are often cumbersome. Overall, trade secrecy can result in more uncertainty and greater risk for the innovator and is often only effective if the product kept secret cannot be reverse engineered.

V. CONCLUSION

Mr. Chairman, the USPTO is very pleased with the results thus far of our Business Methods Patent Initiative and the implementation of the other initiatives contained in the 21st Century Strategic Plan. We will continue to closely monitor the situation in order to ensure the issuance of high quality business method patents. Over the past several years, there have been several Congressional oversight hearings in this area, and we are committed to continue to work with Congress in the future. In addition, if further administrative action is needed or warranted by modifications by the Courts, the USPTO will take appropriate action. We can assure that we will comply with the law and reject patent applications that attempt to claim monopolies in obvious or otherwise long-known methods of doing business, in the financial services realm, as in other fields.

Let me assure the Members of the Committee that we are committed to ensuring that our practices and policies promote the innovation and dissemination of new technologies. We are confident that the patenting of business method inventions is consistent with the law and with our practice, and we believe that any arbitrary restriction of patentability in this or other technologies would certainly have negative consequences for our country including causing deserving innovations to go unprotected and causing deserving investments to go unrewarded.

The overwhelming preponderance of evidence throughout the history of the U.S. patent system suggests that robust intellectual property protection supports, rather than impedes, innovation. Indeed, for over two hundred years our patent system has enabled American industry to flourish, creating countless jobs for our citizens. Advanced technologies have been -- and continue to be -- nurtured and developed in our nation to a degree that is unmatched in the rest of the world. In many instances, the availability of patent protection has been integral to these advancements. In this regard, the USPTO and the Administration look forward to continuing to work with you and the Members of the Committee to ensure that the U.S. patent system remains the envy of the world.

Thank you, Mr. Chairman.