PATENT REFORM: U.S. INNOVATION, ENTREPRENEURIALISM AND COMPETITIVENESS

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IEEE-USA endorses the need to reform the U.S. patent system and believes predictable intellectual property protection for a full spectrum of technologies and applicants is vital. We believe that the proper way to remediate systemic problems requires fixes that address the root cause(s). A collection of ad hoc palliative measures does not address the underlying systemic problem(s) and promotes uncertainty as well as unintended consequences.

At a time when negative events in the financial services sector raise questions about whether or not financial innovation is capable of solely driving the economy, the encouragement of all innovation activities at home (in the U.S.) not only broadens the base of engineering and scientific technology for the public good, it also creates a strong economy by ensuring job availability in the United States. IEEE-USA calls on Congress to amend U.S. patent law in a way that balances the United States' needs and those of users of the U.S. patent system, including the needs of individual inventors to obtain strong, enforceable patents by:

1) *Mandating U.S. Patent and Trademark Office (USPTO) operations to enhance quality, organization and management of examination and grant functions to balance the rights between inventors and society, including,*

a. Establishing metrics and independent review of USPTO operations and quality. USPTO quality and efficiency must be independently measured based on examination of applications in a timely manner, at a reasonable cost, with the expectation that an issued patent will be enforceable, and that applications not meeting statutory requirements will not result in patents. The USPTO must be held accountable when an unwarranted patent is issued, as well as when a warranted patent is not issued. If exclusionary rights are granted in an arbitrary way, the patent system becomes nontransparent -- a "lottery system" where innovators are dissuaded from pursuing their endeavors in the United States. Current USPTO management and quality review incentives discourage patent examiners from granting (when warranted) patent coverage having enough scope to prevent misappropriation of the innovation under current statutes and case law.

b. Changing examiner incentive structure. Examiner performance should be evaluated by an objective review that considers allocation of examiner time based on the number of an applicant's claims, their complexity, and the time necessary to review the materials, as well as work-flow.

IEEE-USA, 2001 L Street, N.W., Suite 700, Washington, D.C. 20036-5104 USA
Office: +1 202 785 0017 ■ Fax: +1 202 785 0835 ■ E-mail: ieeeusa@ieee.org ■ Web: www.ieeeusa.org

c. Modernizing the fee structure. While the idea of having a single patent application fee made sense when the USPTO required applicants to attach a check covering the costs of a patent examination, the use of electronic filing and credit card payment provides reason to implement a scaled fee structure that correlates with the effort needed to perform a quality examination, with reasonable documentation.

2) *Clarifying software patentability*. IEEE-USA has a long-standing position that patents must be available for software-based inventions meeting traditional standards of novelty and nonobviousness. Congress must draw clear lines regarding software patentability and infringement liability that promote innovation, rather than confusing or discouraging it. Such clarity will help provide incentives for companies and individual inventors to develop new ideas at home (in the U.S.). Questions such as “What should be patentable?” and “What should be enforceable?” must be addressed by Congress to provide incentive for new companies to innovate within the U.S. economy.

3) *Not expanding the current USPTO rulemaking authority*. Congress must continue to limit the USPTO's rulemaking authority to that which is necessary for the processing of patent applications. The current statute provides the authority to adjust the agency's operations with new procedures without giving rule-making authority on substantive issues.

4) *Considering alternatives to patent protection for fast moving technology.* IEEE-USA has long advocated alternative protection for certain fast-moving technologies. Under the present system, patent protection may come too late to protect technology during the relatively short period it is commercially relevant, while providing too much protection for too long -- and actually hamper innovation. For some fields of technology, an adjunct to patents that protects against "knocking off" the technology in a new product may provide satisfactory protection at lower cost to the inventor, while lessening the pressures on the patent system.

5) *Addressing recoveries for infringement.* While it would appear simpler to apportion damages based on the actual or potential commercial activity, and the total number of inventions involved, the courts must be allowed the flexibility to direct damage awards based on assessments of the value of the infringing invention(s).

This statement was developed by the IEEE-USA Intellectual Property Committee and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of the 215,000 engineers, scientists and allied professionals 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.

"The Patent System Added the Fuel of Interest to the Fire of Genius."[1]

BACKGROUND

The U.S. Constitution states that Congress shall promote the progress of science and useful arts by securing for authors and inventors the exclusive rights to their creations for a limited time. [2] Defining the word "progress" to mean both "to advance" and "to spread," one can conclude that any right to exclude others from the use of writings and discoveries must promote the spread of knowledge and technology. To that end, Congress passed the original patent laws in 1790 and 1793, and initiated a system that has been an innovation catalyst – encouraging start-ups and development of some of the biggest companies in existence.

George Washington stated the importance of giving "effectual encouragement … to the exertion of skill and genius at home" (with "at home" referring to the United States).[3] American competitiveness is directly tied to the innovations of all inventors, including self-employed inventors, and employees at Fortune 500 companies, small businesses and universities. History shows that brilliant ideas emerge from everywhere. The growth of more than one Fortune 500 company can be traced to the success of a start-up, with a handful of inventors who obtained investment funding, due in great part to their ability to protect their intellectual property. As such, the voice and concerns of the independent inventor and small businesses are of the same importance as those of the larger entities using the U.S. patent system.

IEEE's members contribute discoveries in many fields including electronics, software, hardware, medical devices, mechanical devices and alternative energy technologies. In addition, other innovators rely on the U.S. patent system to secure exclusive rights in chemical, biological, pharmaceutical, energy exploration fields, and even simple mechanical fields, such as bicycle design. Even though by 1890 nearly a century of bicycle innovation had occurred, modern bicycles racing in the Tour de France visibly contain many new innovations.

Users of the patent system have criticized recent Congressional reform efforts of being driven by narrowly focused considerations, and for ignoring the demonstrated correlation between effective IP protections and U.S. competitiveness, thus creating a real and ever increasing threat to innovation. For example, the USPTO allows the filing of software patents as protection for this important component of U.S. competitiveness. Software innovations need protection to secure investments in existing and new enterprises based on domestically developed software. However, the U.S. courts found that the current patent system does not always allow effective software protection; particularly, Section 35 U.S.C. 101 (the section protecting free-standing

[1] National Inventors hall of Fame

[2] U.S. Constitution, Article 1, Section 8

[3] George Washington, First Annual Message to Congress New York City, Federal Hall, 1790

software), does not always allow protection of software as it is commercialized. An example of the problems with 35 U.S.C. 101 was addressed in the case, *In re Bilski*, as decided by the Court of Appeals for the Federal Circuit.[4]

As a separate issue, software and other fast-moving technologies with a relatively short market lifespan are not well served by the cost, complexity and long-term protection of a conventional patent. For such technologies, a modified form of protection of shorter duration, one that discourages outright copying and can be awarded quickly, at much lower cost, may be more effective.

During the past two years, both Congress and users of the system have urged improvements to the U.S. patent code. One of the looming issues is the rising cost of bringing an infringement suit to enforce patent rights. Each side in an infringement suit must now set aside at least $1 million per suit (the costs continue to rise), making the task of protecting one's IP prohibitive for small inventors, and burdensome, even for large companies. Some of the rising costs are tied to present changes within the courts with regard to proofs necessary for prevailing in a patent suit, as well as contemplation by the USPTO that possible congressional reforms will put further burdens on both patentees and infringers with regard to proofs of patent viability. The lower probably of success, statutorily reduced damages, and exorbitant costs have chilling effects on innovation and capital investment in inventions.

Indeed, if the suggestions made these past years with regard to changes in the patent system are implemented, it is quite possible that infringement claims will no longer be possible because of the complexity of obtaining damages, as well as the parsimonious amounts that would be available for the successful prosecutor of patent infringement. Much of the blame for this problem stems from people who attack the patent system by arguing that patent trolls[5] are causing the system to distort and prevent the innovation it normally encourages.

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4 In re Bilski, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008). Opinion available on-line at: http://www.cafc.uscourts.gov/opinions/07-1130.pdf. At issue was the patentability of a method for hedging risk in the trading of commodities. Simply put, "What constitutes patentable subject matter?" The U.S. Court of Appeals for the Federal Circuit (CAFC) affirmed a previous ruling striking down many (if not most) business method patents, and setting the stage for a likely appeal to the Supreme Court. At stake is whether companies will be able to continue a trend of patenting new business methods, or if such protections will largely disappear, immediately cracking major corporate strategies in industries ranging from high-tech and financial services to biotech, pharmaceuticals and clean tech.

5 Patent troll is a pejorative term used for a person or company that enforces its patents against one or more alleged infringers, in a manner considered unduly aggressive or opportunistic. A related, less pejorative expression is non-practicing entity (NPE) which describes a patent owner who does not manufacture or use the patented invention.

In reality however, costs are not caused by great change in the patent statutes, or by the rules promulgated for such statutes. Further, no change has occurred in computer and other electronic technology, or the methodology of patent enforcement that requires an overhaul of the entire patent system. The only possible change is one that alters how the court system interprets the legal patent system. The courts are designed to uphold the law, not to legislate it. For the most part, the courts have stayed with detailed interpretation of the statute and not made radical changes, except as discussed above with regard to patentable subject matter in the *In re Bilski* case.

Recent events illustrate that the USPTO's operations, organization and management of examination functions have failed to fulfill the agency's mission statement.[6] U.S. patent law gives the USPTO substantial authority to ensure that the system yields quality patent protection, yet weaknesses in the agency's daily management and operations have contributed to many of the current flaws and failures of the system – including, among others, poor retention rates for experienced and professional staff, and an inadequate fee structure that tends to price patents out of reach for many, especially individual inventors and small companies.

The agency has also reduced public confidence by failing to interpret correctly their statutory authority. For example, in 2008 the U.S. District Court for the Eastern District of Virginia ruled that the USPTO exceeded its rulemaking authority by implementing changes to the fundamental way the agency examined patents over the past 50 years,[7] and issued a temporary restraining order and preliminary injunction preventing the rules from coming into effect.

Finally, agency leadership has increasingly applied pressure on the examining corps of the USPTO to turn down patents. From 2006 until 2008, the USPTO repeatedly set new record lows for patent allowance rates, even though nothing compelled changes in the rates or the actual operations of the USPTO. In 2000, the USPTO approved 72 percent of applications. By early 2008, that rate had dropped to 44 percent.

Agency morale and public service may be better served by bettering the current examining rationale, than by demanding changes of a radical nature with regard to procedures in place for the past 50 years. By allowing any federal agency to make unilateral decisions to alter their

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[6] "The USPTO's mission is to foster innovation and competitiveness by providing high quality and timely examination of patent and trademark applications. The strength and vitality of our economy depends directly on effective mechanisms for protecting new ideas and investments in innovation and creativity. The continued demand for patents and trademarks underscores the ingenuity of American inventors and entrepreneurs." Source: http://www.uspto.gov/web/offices/com/annual/2006/30100_mission_org.html. Accessed Nov. 2008.

[7] 72 Federal Register 161 at 46716, "Rules and Regulations Changes To Practice for Continued Examination Filings, Patent Applications Containing Patentably Indistinct Claims, and Examination of Claims in Patent applications; Final Rule." August 21, 2007.

practices, instead of using congressional hearings to assess changes and their impact, the United States risks implementing modifications that have a negative impact on public policy. In this case, independent actions of the USPTO have not served to enhance patent quality or agency management of the examination functions, and have forfeited balancing the rights of inventors and society.