

Agenda for Reform

Patent Reform for a **Digital Economy**

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Dear Friends,

It is with great pleasure that CCIA is issuing this white paper prepared by Brian Kahin, Senior Fellow at the Computer & Communications Industry Association (CCIA). *Patent Reform for a Digital Economy* presents and explains the unresolved problems in our patent system and recommends innovative solutions for solving them.

Why reform patent law? In the 1970s, ill-advised technology policies hindered growth, limited consumer choice, and ultimately delayed the information revolution. Today that revolution has arrived, yet we may still be denied its fruits. Why? Our intellectual property law runs amok. Current patent law encourages fraud, abuse, and opportunism. Patents invade all aspects of modern life. Instead of promoting innovation, patent law often only promotes more patents.

Why do CCIA's members care about patent law? CCIA is a nonprofit membership organization comprised of cutting-edge information, and communications technology companies, represented by their senior executives. CCIA's members depend on a well-functioning patent system to continue innovating. Our diverse membership encompasses telecommunications, Internet, and web service providers, hardware and software developers, resellers, and financial service companies that together employ almost one million workers and generate nearly \$250 billion in annual revenue.

For nearly 35 years, CCIA has worked with our members to further their goals in the legislative and regulatory arenas. Policymakers need to now turn their attention to the patent system. A well-balanced patent system can protect invention and foster innovation in the computer, information, and communications technology industries that CCIA represents. But to do so it must be reformed. With your help, CCIA aspires to create an innovation-friendly landscape.

I trust this white paper will prove to be a valuable tool as we work together to achieve this essential goal.

Yours truly,



Ed Black
President & CEO, CCIA

CCIA Agenda for Patent Reform

CCIA advocates the following strong set of long-range reforms to address underlying problems in the patent system. By offering specific solutions to root causes, CCIA seeks to broaden and deepen the debate – especially for the benefit of leaders in business and policy.

Our proposals:

1. Tailor patent protection to reflect the diversity of innovation environments.

The need for sector-specific tailoring was recognized in the 2005 National Academy of Sciences report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. Following this report, a Senate resolution co-sponsored by 30 senators was introduced, advocating patent reform legislation that “reduces barriers to innovation in specific industries with specialized patent needs.” The Committee for Economic Development has urged Congress to “reexamine the premise that today’s unitary system continues to serve all industrial sectors well, especially given the proliferation of problems regarding software patents.”¹

There are already a number of statutory industry-specific protections in U.S. patent law (nuclear engineering, surgical methods, business methods, biotechnology, and

pharmaceuticals). Professors Dan Burk and Mark Lemley have shown that the Federal Circuit applies basic patent standards differently in different fields.² Empirical studies show that patents are viewed and used differently in different sectors.³ Fundamental differences in experience were documented by the FTC hearings and report⁴ – and conclusively demonstrated by the industry split over patent reform. Given the explosion in kinds and uses of technology and the greatly expanded scope of the patent system, it is clear that one size cannot possibly fit all.

Some claim that language in the TRIPS agreement precluding discrimination based on field of technology requires mechanical application of patent rules and standards. This language was inserted solely for the benefit of pharmaceutical interests, who wanted to insure universal recognition for patents on pharmaceuticals. It has no doctrinal basis in patent jurisprudence and should not be used to lock IT into a system optimized for blockbuster drugs. The true test of discrimination lies in the results: A system that provokes investment in one sector at the expense of another is inherently discriminatory. The economic importance of innovation demands that the U.S. system be responsive to innovator needs, *i.e.*, as intelligently and appropriately fitted for IT as for pharmaceuticals.

¹ Committee for Economic Development, *Open Standards, Open Source, and Open Innovation, Harnessing the Benefits of Openness 7* (2006), available at http://www.ced.org/docs/report/report_ecom_openstandards.pdf.

² Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 Berkeley Technology Law Journal 1155 (2002).

³ W.M. Cohen, R.R. Nelson and J.P. Walsh, *Protecting their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (or Not)*, (National Bureau of Economic Research, Working Paper No. 7552, 2000) (revised 2004).

⁴ Federal Trade Commission Report, *supra* note 13, at ch. 3.

The logical place to start tailoring the patent system is to acknowledge in statute what legal experts have shown – that judges do take industry differences into account as they interpret patent law. This would simply require language such as the following: “In applying the provisions of this Act, courts shall give due deference and weight to the characteristics, circumstances, and practices of different areas of innovation to ensure that outcomes promote innovation in all fields of technology.”

2. Raise the basic threshold: eliminate the “ordinary” from patent law.

Abraham Lincoln spoke of the patent laws as adding “the fuel of interest to the fire of genius.” He would be shocked by today’s entitlement program, in which anything more than the obvious gets a patent. Today, undistinguished patents in IT are so plentiful that innovative producers often inadvertently infringe the patents of others.

Only by fixing the statutory language of the standard for patents can Congress convey the message that the threshold is too low. This could be done merely by eliminating one word, “ordinary,” from the standard of skill used to determine obviousness. A hypothetical “person having ordinary skill in the art” may have been appropriate for the local artisan-based economies of the early 19th Century, but not for today’s intensely competitive global economy. In IT, constant innovation is the rule, because it is necessary for day-to-day survival.

It may be preferable to raise the standard higher to guard against erosion and to make it more objective. This could be done with a

standard of “recognized skill in the art,” which could be presumptively tied to peer-reviewed publications and, once the higher standard is implemented, patents. This would provide greater objectivity and an expert standard consistent with the levels of skill needed for genuinely inventive and meaningful contributions to the state of the art.

3. Implement peer review for patent applications.

The Federal Circuit endows patents with an artificially high presumption of validity that can only be overcome with “clear and convincing evidence.” In the long run, of course, we want this kind of confidence in issued patents. For now, the deficiencies of *ex parte* examination and well-publicized problems of patent quality make this standard unrealistic. It encourages the assertion of questionable patents and discourages competitors from submitting prior art to the PTO.

Quality information about prior art is needed early to reduce uncertainty and delay for both patent applicants and innovators who want to avoid infringement. Review by peers, rather than inexperienced examiners, should be explored and developed as a means of reducing costs, improving quality, and expediting the examination process. A pilot is underway in the Peer to Patent project supported by IBM, with the active collaboration of the PTO.⁵

A uniform *ex parte* process may have made sense when innovation was irregular and rare, but it is time to rethink the examination process in light of higher standards, the speed of innovation, and the frequency of independent invention. Applicants

⁵ The Peer to Patent Project – Community Peer Review of Patents, <http://dotank.nyls.edu/communitypatent> (last visited Oct. 16, 2006). However, as implemented, the peer review process only begins after the publication of the patent application (18 months after filing).

should be encouraged to elect peer-review alternatives to conventional examination. By doing so, they would merit a patent with an enhanced presumption of validity. Initial secrecy, currently required for a full 18 months after application, can be retained as an option for inventors that may lose meaningful trade secret protection by publishing a patent application. But secrecy imposes risks and costs on others and adversely affects patent quality. These costs should be recognized in the form of differentiated application fees.

The draft PTO strategic plan argues the case for a menu of examination options.⁶ IBM recently announced that it would lay its patent applications open to public scrutiny upon filing, thereby facilitating timely peer review. These initiatives deserve support as steps toward a more flexible, high-quality patent system.

4. Reward submissions of prior art that invalidate defective patents.

The persistence of questionable patents is costly and potentially disruptive for innovators, producers, distributors, and users of technology. However, there are plenty of disincentives to challenging these patents. Attacking a patent or patent application suggests that the challenger is a present or potential infringer and therefore an obvious target for the patent holder should the challenge fail. Fighting the patent also benefits the challenger's competitors at no cost to them and, tactically, it is better to reserve prior art for trial or for settlement negotiations. None of these factors will change substantially if and when the law provides for opposition proceedings.

These disincentives must be countered with strong incentives to promote efficient flow of knowledge about the state of the art and to eliminate unworthy patents early on, preferably before the patent is granted. Rewards should be paid to those who bear the costs and risks of locating, documenting, and asserting prior art. Timely submission of relevant knowledge would save PTO resources, encourage expert involvement in monitoring patent applications, and reduce waste for applicants, examiners, and competing innovators.

Although it is possible for third parties to submit prior art in response to a published patent application, they must pay a fee (\$180) for the privilege of doing so, and they are not permitted to comment on it. At present, very little prior art is submitted. The reform legislation would require a statement of relevance, but the fee would still be required. If submitters have to pay to do the work of the applicant and the examiner, they should be rewarded to the extent the prior art invalidates the application by receiving a commensurate amount of the application fee. If this proves insufficient to elicit relevant prior art missed by the applicant and the examiner, the reward should be increased by providing it out of a bond required of all patent applicants.

5. Require registration of notice letters.

Some 3,000 patent lawsuits are filed each year, but this is only the tip of the iceberg. An estimated 25 letters asserting patent infringement are sent for every lawsuit filed.⁷ For a few dollars in postage, these letters may be broadcast to dozens of companies, triggering

⁶ United States Patent and Trademark Office, Draft Strategic Plan 2007-2012, <http://www.uspto.gov/web/offices/com/strat2007>.

⁷ H.R. Rep. No. 109-11, pt. 1, at 122 (2005), *available at* http://commdocs.house.gov/committees/judiciary/hju20709.000/hju20709_0f.htm.

the possibility of damages for “willful infringement.” Target companies, especially small ones, may be all too willing to license questionable patents for ten or fifteen thousand dollars, because that is less than the cost of having a lawyer evaluate the patent and assess the likelihood of infringement. These small payments can provide patent trolls with a steady revenue stream to support further threats and litigation.

Notice letters provide information about the use of patents that has widespread legal, business, and policy consequences. From a policy perspective, broadcast letters are evidence of abuse or of widespread infringement and liability. Either is an indication that the system is not working efficiently.

This activity should be monitored and measured by requiring senders to deposit copies of notice letters with both the PTO and the FTC. This will discourage indiscriminate use of such letters and enable recipients to quickly learn of common threats so they can mount joint defenses that economize on the use of legal and judicial resources.

6. Condition full fee-funding on PTO accountability.

There is widespread support for ending the diversion of patent fees to other purposes, even though this objectionable practice is grafted on top of the dubious practice of fee-funding the PTO. Restoration of PTO fees should be done in a principled manner – not just to throw money at the PTO’s problems. There must be assurance that the additional revenue to the PTO pays off, in terms of enhanced quality as opposed to, for example, controversial overseas advocacy.

Permanent restoration of the full amount of patent fees should be conditioned on a

program of accountability that helps policymakers understand the real costs and benefits of different examination options, such as the second-pair-of-eyes review or deferred examination. This requires developing appropriate standards and metrics for ensuring patent quality and improving examination. Unscientific internal practices that are not documented with objectively reviewable data do not suffice. The agency should be required to report annually on its progress in measuring quality in ways that are transparent, scientific, and accessible to outside review.

7. Put PTO at the forefront of knowledge management and information science.

The PTO must treat the challenges of patent examination aggressively and scientifically. As an agency devoted to innovation, the PTO should be at the forefront of research in knowledge management and information science. It should be engaged in researching techniques and strategies for locating, organizing, and evaluating prior art. It should reach beyond the community of patent professionals to researchers and other agencies working in allied fields, including the National Archives and the National Science Foundation.

To this end, the PTO should be required to expend two percent of its fee income to support research to help it better perform its job. This commitment would give it the credibility and dedicated resources needed to build a community of expertise both inside and outside the agency. It would help ensure that important initiatives, like the peer review project, receive the broad attention, feedback, and support that they deserve.

8. Stop the ambush of openly developed standards.

Standards are critical to advancing innovation and developing markets in the IT industry. Unfortunately, the profusion of patents on IT functions makes it far too costly to clear standards against all possible patents. Nonetheless, standards make very attractive targets for patent holders lucky enough to find that their patents are inadvertently infringed. Luck is not always needed: The more open the standards development process, the more vulnerable it is to capture by opportunists who can rewrite claims in patent applications to cover the standard as it evolves.

Since standards are usually adopted throughout the industry, the potential payoff to infringed patent holders is enormous. A number of well-known standards, including GIF, JPEG, and MPEG4, have been ambushed by patent assertions after they have been developed, adopted, and widely implemented. A patentee who “gets lucky” can benefit most by waiting to assert its patent until large sunk investments are made in reliance on the standard.

In contrast to most IT patents, open standard processes are widely publicized and well-known to professionals in the field. Since there are far fewer voluntary consensus standards than patents, and given the costs and uncertainty of identifying and interpreting IT patents, it makes more sense to put the burden of avoiding conflict on the patent holder. If patent holders claiming against standards are obliged to make their interests known at an early stage, others will have an informed opportunity either to adopt the patented technology or to avoid it.⁸

The equitable doctrine of laches can be applied specifically to the use of patents to ambush standards. The doctrine discourages firms from sitting quietly on their rights to the detriment of others who are not aware of the rights or who reasonably assume that the rights are not going to be enforced. Patent holders should not be allowed to wait until the standard is adopted, implemented in hundreds or thousands of products, and distributed into the hands of millions of users, before springing a trap.

9. Reengineer patent institutions.

Congress should consider reengineering patent institutions to counter their tendency to expand the scope and scale of their operation. Expansion of the patent system is a legislative prerogative that should not be usurped by activist judges or budget-building bureaucracies.

Patent Administration and Policy Development

Fee-funding the PTO should be recognized as poor public policy that induced the agency to adopt the wrong mission and undermined its credibility. Fee-funding failed to insulate the PTO budget from politics, while it created an artificial incentive within the patent operation to stimulate and accommodate customer demand for patents.

Lumping two very different regimes together under an Undersecretary for Intellectual Property is also problematic. The patent operation should be separated from a trademark function that has virtually nothing to do with innovation. Patent examination and policy development logically belong in the Technology Administration of the Department of

⁸ Brian Kahin, *Common and Uncommon Knowledge: Reducing Conflict Between Standards and Patents*, in *The Standards Edge: The Golden Mean* (Sherrie Bolin, ed., 2006), available at <http://www.ccianet.org/papers/Kahin%20on%20Standards&Patents.pdf>.

Commerce, where the patent mission would be complemented by the National Institute for Standards and Technology, a sister operating agency that also serves to support innovation and investment.

Enjoying its considerable autonomy with the Commerce Department, PTO has too often enthusiastically and sometimes aggressively promoted rights internationally that do not exist in the United States (database protection, broadcasting rights, webcasting rights) or that, while embraced enthusiastically by patent practitioners and some stakeholders, remain intensely controversial (software and business method patents).⁹ Instead of acting as an advocate on behalf of proprietary interests, the top priority of the PTO should be an informed and balanced patent system that promotes innovation and operates on behalf of the public, not just the interests of its customers.

Patents carry a large overhead that is borne not just by patent applicants but by competitors, downstream producers, users of technology, future innovators, as well as the general public. Patent policy must be developed cognizant of these costs, as well as the goal of promoting innovation, not just more patents. To this end, the patent office, or its parent agency, needs to take responsibility for how the patent system is working, *i.e.*, for managing and analyzing information about patent use, value, costs, and practices.¹⁰ If the agency is to produce useful information about the patent system or develop credible policies at a national or international level, it should do

so in a farsighted manner informed by real data and economic analysis.

In this spirit, the Patent Public Advisory Committee, which presently serves as a user's council for patent applicants, should be reconstituted as a meaningful set of advisory committees that duly reflect the expanded scope and use of the patent system. These committees should provide input from a full range of business interests and academic perspectives consistent with the growing importance of patents in the global economy.

Adjudication of Patent Validity and Infringement

The costs for full patent litigation when the amount at stake is less than \$1 million now average \$770,000 per side, or over \$1.5 million in all.¹¹ Legal costs of adjudicating validity and infringement far in excess of the amount in controversy show the impracticality of the system for everyday use – as well as the dangers of opportunistic business and legal behavior. It is especially ill-suited for small businesses and for fields, such as software development, where baseline costs of innovation are inherently low.

By lowering standards and by making patenting routine and pervasive, the Federal Circuit has allocated greater responsibility, authority, and resources to lawyers – at the expense of entrepreneurs, engineers, designers, programmers, and other innovators. There is danger that low-cost models of innovation may be held hostage to high-cost models, simply

⁹ See World Intellectual Property Organization, Report of the Seventh Session of the Standing Committee on the Law of Patents 27-30 (2002), available at http://www.wipo.org/scp/en/documents/session_7/pdf/scp7_8.pdf. The U.S. delegation to WIPO argued for business methods as “best practice.”

¹⁰ Better collection of information could also be tasked to agencies that are already responsible for corporate reporting and the collection of industry statistics, including the Securities and Exchange Commission and the Bureau of Economic Analysis.

¹¹ American Intellectual Property Law Associations (AIPLA), Report of the Economy Survey 2005, 1-108.

because low-cost models cannot absorb the costs and risks of patents. Similarly, capital-intensive technologies (where patent costs are not disproportionate) will be favored over fields with low barriers to entry and innovation.

Post-grant opposition proceedings offer a step towards reducing the scope of litigation in favor of a less costly administrative proceeding within an agency that should be expert in patent issues. Could administrative solutions eventually extend to determining infringement and even awarding remedies? The conventional answer is that the Seventh Amendment requires jury trials, so that the enormous costs and uncertainties of civil litigation cannot be avoided.

The spirit of the Seventh Amendment is that disputes should be resolved by the judgment of one's peers, a standard that the patent system needs to embrace in its own terms. As argued above, that means the system should not be designed for the ordinary, but for the extraordinary. Real inventors will have greater confidence in a system that adheres directly to peer review and peer juries with fewer excursions into legal posturing and litigation. At least they should have an opportunity to opt into a less costly administrative

system that can resolve disputes quickly and cheaply, so they can get on with the business of innovation.¹²

In the interim, priority should be given to breathing fresh air into patent jurisprudence, which presently suffers from over-centralization and path dependence in the hands of the Federal Circuit. The Supreme Court's decision in *Holmes Group v. Vornado* gives the regional circuits jurisdiction only when patent issues arise in counterclaims; otherwise the Federal Circuit retains exclusive jurisdiction over patent appeals. In a recent paper, "Rethinking Patent Law's Uniformity Principle," professors John Duffy and Craig Nard analyze the problems of the Federal Circuit and propose a solution: granting concurrent jurisdiction to one of the generalist circuit courts, with appeals assigned on a random basis to prevent forum-shopping.

As in the application of patent law to different fields and models of innovation, and as in the design of the examination process, the shibboleth of uniformity straightjackets the patent system and inhibits innovation, not just in technology, but in the patent system itself.

¹² It may be necessary for defendants to opt in as well (similar to binding arbitration). Otherwise, under a conventional reading of "trial by jury," the Seventh Amendment would preclude damages but could allow for injunctive relief.