Presentation by Brian Kahin at "Intellectual Property Rights: How Far Should They Be Extended?"- Board on Science, Technology and Economic Policy, National Academies of Sciences, February 2-3, 2000.

First, a disclaimer: I'm a fellow of the Internet Policy Institute, a new, nonprofit, non-partisan institute devoted to policy research and elucidation, not advocacy. The views I express are my own.

Like other members of the panel I am trained as a lawyer, but I am going to take an institutional perspective on the patent system, its gradual abandonment of subject matter limitations, and the larger policy context of electronic commerce and the Internet.

Much of the early debate about software patents focused on algorithms, and specifically the distinction between mathematical algorithms and algorithms used within in the context of physical process. The debate, like the subject was narrow and technically focused, centered on the line between mathematics and industrial application. Now we have more visible and controversy about conceptual patents in an extremely competitive and innovative economic environment, in which business cycles are moving much faster than the administrative and legal processes of the patent system.

By embracing concepts, the U.S. patent system now extends beyond technology. That takes it beyond TRIPs and beyond the realm of international consensus. Ironically, it shifts the focus of competition away from technology, because patents on concepts preempt patents on implementation.

We can expect to see patents -- and attendant controversy -- for things such as organization charts, business strategies, useful information, databases, analytic methods, or scientific principles with demonstrated but unspecified relevance to some field of application.

Despite this radical expansion into the ether, the patent system remains "one-size-fits-all". Just as software is treated like chemicals, concepts are treated like technology.

The explosion of patents on business methods, processes, and models, especially in the wake of the State Street decision has elicited testimonials that business method patents will be the common currency of the knowledge economy. It has also elicited much criticism and anxiety, much of it focused on "quality"

[Slide:]

"The concerns about quality, especially in light of the data on overall volume, point to one conclusion: the patent system is in crisis"

– Robert Merges

I take this quote (from his article, Six Impossible Patents Before Breakfast) as my starting point, but point out that quality means many things.

At the first level, it is linked to the search for prior art. I suspect that the literature for concepts is more dispersed and with many ambiguous or poorly defined terms.

At another level, the perception of quality depends on the notoriously subjective determination of non-obviousness.

Finally, perceived quality is a function of how well the system as a whole is working. Does it function predictably? What does it add to risk, uncertainty, and cost?

To get at this level, one might reasonably subject the system to some sort of outside review (so the Commissioner's suggestion of some kind of third-party assessment is especially welcome). One might ask what recognized innovators think about patent quality within their field? One might take this one step further to ask businesses about the impact of the system on innovation.

The important point is that quality is not just an isolated function of the time the examiner spends searching for prior art. It is a product of the functioning of the system in its component parts and as a whole, and whether there are factors that disrupt, distort, or suppress the flow of information.

There are four institutional phases or settings in the patent system

1. ex parte proceedings by the administrative agency, resulting in privately written rules;

2. extensive private sector activity – research, posturing, strategizing, trade-offs, etc. -- as a prelude to licensing or litigation;

3. initial review by generalist district courts;

4. appellate review by specialized CAFC with revisitation of previously decided issues of law (also direct review of denials and interferences)

Despite the meteoric rise in the number of software and business method patents, there has not yet been a corresponding rise in litigation. There is a lag factor to be sure, but litigation is extremely expensive and burdensome on both sides that it compels parties to seek a private accommodation. So most of the action lies in phase 2. between issuance of the patent and litigation – and takes the form of notice letters, research, opinions of counsel, negotiations, etc. This private and dispersed interaction, in which the patent bar plays a central role, is, in many respects, the heart of the system. However, it is the most difficult aspect to monitor and evaluate and is nearly invisible to policy makers. This is the setting most in need of investigation.

There is no reason to think that the patent system is immune from the limitations and problems that have been documented in other regulatory systems or other agency environments in which government officials interact with the private sector – such as capture and bureaucratic imperative. Indeed, there are a few reasons to think that the patent system may be more susceptible to these problems, and that they are greatly exacerbated by the expansion of the patent system to embrace intangible subject matter.

Consider some of the salient characteristics of the system…

Ex parte nature of administrative proceedings

The ex parte nature of application process is unique among regulatory systems. It results in marked information asymmetries that necessarily limits of the quality of issued patents. Intended to allow applicants to retain trade secret protection if patent protection is denied (whether or not the invention could actually be protected as a trade secret), it has come to function as a way of protecting small inventors from transaction costs and delay that could imposed by large competitors.

Patents are, in effect, rules that are drafted and proposed by these private customers, approved by the PTO, and then privately enforced. The private applicant is allowed considerably more leeway in formulating and expressing the rules than a public body would have, so that vocabulary and operating terms may vary substantially from patent to patent, especially in the case of non-technical subject matter. Furthermore, the primary motivation of the party drafting the

rules is not to make information accessible and clear but to maximize tactical options in making use of the rules.

The PTO does not oversee infringement actions, and it has no direct contact with how the patent system works once the patent issues. (There is a provision for inter partes reexamination in the patent reform law, but the consensus seems to be that it will not be used to challenge patents because the challenger loses the right to judicial review.) Basically, the PTO engages in no form of external review or quality control and does not take responsibility for the functioning of the system as a whole.

Patent Business

The Patent Business is one of the PTO's three core businesses. The primary mission of the Patent Business is to help customers get patents.

USPTO, Corporate Plan – 2000, p. 20

Most remarkably, it has defined its mission very narrowly in terms of serving patent applicants. This contrasts dramatically with the mission of the trademark side, [slide:]

Trademark Business

The Trademark Business is one of the PTO's three core businesses. Our primary mission is to apply the provisions of the Trademark Act of 1946 in the examination and registration of trademarks.

USPTO, Corporate Plan – 2000, p. 38

which is to examine trademarks. From a political economy perspective, this is prima facie regulatory capture. The agency even offers testimonials from its customers:

Let me share some actual quotes from the surveys with you. You will notice that the comments are consistent with the quantitative findings.

Our patent customers told us:

- *"I am pleased with the customer approach to processing patent applications as opposed to the previous, sometimes adversarial approach."*
- *"Examiners seem flexible and interested in working with applicants to allow patentable subject matter to grant."*

-- Commissioner's Page, PTO Today, Vol. 1 No. 1, January 2000

Significance of patent database

Conventionally, the patent database provides a centralized, running record of the state of the technological arts – as well as a compendium of rules, expressed as property rights, about who can limit market competition in what way.

As a library of innovation, the database implements the quid pro quo of public disclosure in exchange for a limited-term monopoly. At least this is the case in traditional fields where patents are read regularly as a baseline source of knowledge. This is not the case for software. Programmers and designers do not routinely read patents in their field, for several reasons:

that is not they way they traditionally work;

the cost in time relative to the benefits is high because of the perceived low quality of software patents and the way they are written;

and if they find something questionable (which may happen regularly because of the quality problem) they may be obligated to spend time and resources researching the validity – and whether or not their company's present or future products are likely to infringe.

Moreover, their in-house counsel will likely advise against routine reading of issued patents because of the risk of treble damages for willful infringement.

(When I explained this to a 17-year veteran of PTO's Office of Legislative and International Affairs, he was incredulous, insisting that anyone who didn't investigate the patent database did so at their own risk.)

What will be standard practice for reviewing business methods where the infringing acts may be highly visible and large-scale business activities? Again, a little knowledge may well prove a dangerous thing, requiring investigation, leaving evidence in email, increasing the leverage of disgruntled employees. There are some promising frontiers of liability here for lawyers creative enough to explore them.

Advocacy agency

In addition to managing patent and trademark examinations, PTO is charged with advising the executive branch on intellectual property policy and it is the only agency so charged. But, as a strategic goal, PTO goes a step further and undertakes to perform a leadership role in policy development. [slide]

> Strategic Goal:
> Play a leadership role in intellectual property rights policy….
>
> Performance Goal:
> Help protect, promote and expand intellectual property rights systems throughout the United States and abroad.
>
> *US Patent & Trademark Office Corporate Plan – 2000, p. 17*

At the same time, it defines its performance goal as promoting and expanding intellectual property rights systems throughout the United States and abroad. That is, it asserts leadership as an advocacy agency.

This undermines and jeopardizes its statutory advisory function, especially since the traditional intellectual property jurisprudence in this country is a utilitarian balancing of interests. (Indeed this is the balancing that Commissoner Dickinson spoke of in his keynote this morning.)

Given this professed expansionist philosophy, can an advocacy agency funded by fees and able to grow with the amount of business it brings in be expected to examine patent applications energetically and even-handedly? – recalling that examination is not its primary mission.

Under these circumstances, is it appropriate that the presumption of patent validity is very high and can only be overcome by *clear and convincing evidence*?

Ironically, this very high standard works against the contribution of prior art to reexaminations, and, generally, against any defensive sharing of prior art. Lawyers choose to hold onto prior art that may be needed to defend against a patent, because they want to be able to present it in court on their own terms, so they must prevent the PTO from citing it in a light that preserves the patent while rewrapping the it in a high presumption of validity that would vitiate any future use of the prior art. For this reason, even when the PTO undertakes to reexamine patents on its own initiative, its calls for prior art from industry draw little response.

Creation of Property Rights

The issuance of property rights as the primary regulatory vehicle conspicuously sets the patent system apart. Property rights diminish the need for costly monitoring to achieve the goals of the system since the interests can be privately enforced. The legal and economic literature views property rights as an efficient means for enabling decisions about the use of resources – if the rights are well-defined and reasonably certain. Conventional chemical and pharmaceutical patents can be defined with reasonable precision; the boundaries of conceptual patents, by their very nature, are less clear. This reflects the degree of abstraction, as well as the management and organization of knowledge in the field. In conventional technologies, knowledge is highly centralized and evolves at a manageable pace – especially when barriers to entry are high and sources of innovation are few. By contrast, innovation in software is decentralized, dispersed, and undocumented, making it difficult to identify prior art with speed and finality.

The grant of property rights makes it difficult to go in and rewrite the rules. Property rights generally can't be modified, unless it is shown that they were granted in error, or unless compensation is made.

In key respects, the system has become so complex and opaque that it can only assessed and debated by the professionals who earn their living from it directly. Patent policy is the province of multinational corporations who have internalized the systems costs and benefits – and of the patent bar, who, like other agents, are not fully motivated to reduce routine transaction costs or limit the scope and operation of the system. Other interested constituencies flare up in response to specific issues – as did inventor groups opposed to the recent reform legislation – but have no permanent presence.

Typically regulatory agencies often evolve an economic framework for decisionmaking – and with it a balance between economic and legal perspectives. However, the Patent and Trademark Office does not employ

economists. Despite the economic rationale for the patent system under our utilitarian, positivist jurisprudence, there is no monitoring its effect on industries or on the economy as a whole.

The lack of economic expertise and analysis might make sense if the mission PTO were only ministerial, but, as noted, the PTO is the agency charged with providing advice to the executive branch on intellectual property.

At the very least, it would be easy to monitor industry perceptions of how well the patent system is functioning. If this were done systematically to include participants of all sizes from all corners of industries, including startups, this could help ensure quality of patents, proper functioning of the system, and broad input into policy development.

Policy context

I finally turn to the question of how patents on business practices and other non-technological subject matter fit into current national and international "macro-policy" on electronic commerce and the digital economy. As I'm sure most of you know, the Administration has had a longstanding initiative on global electronic commerce and has expended considerable effort internationally on securing consensus on basic principles. These principles are expressed in the foundation policy document, The Framework for Global Electronic Commerce, published in July 1997 after a long period of public review and input from the private sector. Europe, Japan, and many other countries developed similar documents.

Five underlying principles are set forth at the beginning of the Framework. The first establishes the primacy of free-market competition.

> *1. The private sector should lead.*
>
> The Internet should develop as a market driven arena not a regulated industry….
>
> ***[The Framework for Global Electronic Commerce July 1997]***

The second, a corollary to the first, promises governmental restraint. In particular, it warns of government attempts to regulate in the face of rapidly changing technologies and market conditions.

2. Governments should avoid undue restrictions on electronic commerce.

Governments should refrain from imposing new and unnecessary regulations, bureaucratic procedures or new taxes and tariffs on commercial activities that take place via the Internet.

Business models must evolve rapidly to keep pace with the break-neck speed of change in the technology; government attempts to regulate are likely to be outmoded by the time they are finally enacted, especially to the extent such regulations are technology-specific.

The third follows on the first two. Where some kind of regulatory regime is show to be necessary, it should be predictable, simple, and no more intrusive that is demonstrably necessary. This seems to echo the principal industry complaints about conceptual patents – the uncertainty they create, the complexity and cost of both acquiring them and defending against them, and the absence of any objective showing that patents on business methods were needed to motivate innovation.

3. …a predictable, minimalist, consistent and simple legal environment

Where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce… rather than one based on top-down regulation.

The fourth principle could have set the stage for the first three. It states that the Internet is a very different environment, so that old rules and mechanisms don't necessarily apply.

4. Governments should recognize the unique qualities of the Internet.

The genius and explosive success of the Internet can be attributed in part to its decentralized nature and to its tradition of bottom-up governance. These same characteristics pose significant logistical and technological challenges to existing regulatory models, and governments should tailor their policies accordingly.

The explanation of the fourth principle goes on to state that regulatory systems should be extended only when there is broad consensus – which, at least outside of the patent community, is clearly not the case for the patenting of software and business methods.

4. Governments should recognize the unique qualities of the Internet (cont)

Electronic commerce faces significant challenges where it intersects with existing regulatory schemes. Regulation should be imposed only as a necessary means to achieve an important goal on which there is a broad consensus. Existing laws and regulations that may hinder electronic commerce should be reviewed and revised or eliminated to reflect the needs of the new electronic age.

The fifth and last principle is international harmonization.

5. Electronic Commerce over the Internet should be facilitated on a global basis.

The legal framework supporting commercial transactions on the Internet should be governed by consistent principles across state, national, and international borders that lead to predictable results regardless of the jurisdiction in which a particular buyer or seller resides.

However, the issue of business method patents, where there substantially differences between the U.S. and Europe, has not been vetted by the US Government in any public forum such as the World Intellectual Property Organization. (Advocacy of expanded subject matter is conducted by PTO and other agencies in ad hoc informal manner, coordinated with private sector interests, but not on the record.)

As part of the Administration, the PTO is aware of the policy environment, but can protest that it is only following the directives of the CAFC.

Indeed, the State Street Bank decision is oblivious of the Internet and the Framework for Global Electronic Commerce. The essence of the State Street Bank decision is that there never really was a rule against patents on business methods. It relies on an expansive sentence in the legislative history of the 1952 Patent Act that the judge who wrote the decision wrote as a staffer half a century before. There is no consideration of the fact that for hundreds of years businesses have evolved in many ways at the cost of billions into well-established patterns of managerial and marketplace behavior without having to account for patents.

Because the decision validates intellectual property rights, it greatly diminishes the scope for executive and legislative policy making. In this case, the CAFC certainly seems to be displaying the same evidence of bureaucratic imperative that specialized agencies are notorious for, i.e., expanding the scope of their jurisdiction and the significance of their function in the greater scheme of things. In doing so, it reflects the interests of the broader patent community in expanding its visibility, prestige, and market.

In closing, I welcome the Commissioner's invitation to support the PTO budget to achieve better monitoring and to improve the quality of the system. But I would like some assurance that PTO approaches policy development with an open mind and genuine interest in researching how the system plays out beyond the beltway. The problem with digging deeper and looking -- as with reading patents – is that you might find out something you don't want to know.