“SMEs are often constrained in many more ways than larger enterprises in making an effective and efficient use of the IP system... In the knowledge-based economy, it is their ability to use the IP system efficiently and effectively which will largely influence their capacity to make the most of their creative and innovative capacity and recoup their investments in innovation.
The important question is, therefore, the extent to which SMEs are currently aware of, have access to and are making an effective and efficient use of the IP system and, if not, what are the barriers that are preventing them from doing so.”

"It has been estimated that patent documents contain 70 percent of the world’s accumulated technical knowledge and that most of the information contained in patent documents is either never published elsewhere or is first disclosed through the publication of the patent application.”

— European Patent Office
The EPO Guide to Patent Information on the Internet

"...the point is how many SMEs choose not to pursue patent protection, knowing in advance they do not have the resources to rigorously defend their patent positions.”

— Bill Payne
Ewing Marion Kauffman Foundation

"Does Soft IP fit into our IP norms? Perhaps not. But open debate over the merits and problems of both the existing system and such an alternative system and less concern for maintaining the fiction of a unitary patent system would do us all a world of good.”

— Mark Webbink
Red Hat
Global integration and innovation are reshaping the world’s economies and societies. They offer sustained competitive advantage for companies and the promise of dramatic improvements in the standard of living for citizens. They create massive networks of partners, suppliers and clients of all sizes from all parts of the world who must work together to innovate new products and solutions.

As these entities increasingly collaborate, companies and governments endeavor to maintain an appropriate balance that ensures all participants are fairly represented, protected and compensated. They also strive to provide the necessary rights for intellectual property that results from their collaborations. With dialogue on reform initiatives underway around the world, the voice and concerns of the smaller entity seemed underrepresented.

This is where IBM stepped in and facilitated an online discussion with a range of participants across the invention ecosystem—smaller companies and their larger partners, attorneys and IP experts, government officials, economists and academics. In total more than 400 were registered to participate, including representatives of the U.S. Small Business Administration’s Office of Advocacy; the Ewing Marion Kauffman Foundation, the only large American foundation focused on entrepreneurship; the Association for Competitive Technology, the international grassroots advocacy and education organization representing more than 3,000 small- and mid-size information technology firms; and the United Inventors Association, the worldwide organization focused on inventor and entrepreneurship education.

The 12-week conversation began with an emphasis on ways smaller entities, and those that represent them, can work more effectively with patent offices and legislators, as well as large enterprises, global peers, and their own IP. The dialogue shifted as participants identified key areas where improvements would effect the most significant change, benefiting not only smaller entities but the system and its participants as a whole.

Some of the top ideas discussed in the forum are reflected on the following pages. On behalf of the IBM team, I want to thank everyone who participated in this project.

John E. Kelly III
IBM Senior Vice President
Director of Research
Intellectual property has become a critical business issue for companies of all sizes in all industries. Creating, protecting and capitalizing on innovation for business advantage in the increasingly knowledge-based global economy are now key differentiators for any business.

Patents have become a principal means to establish value for creators and users of intangible assets. A company’s success often depends on the value of its patent portfolio, yet obtaining, maintaining and leveraging these patents is extremely complex.

Governments around the world are exploring options to modernize their patent systems in ways that maintain the systems’ integrity and provide fair, appropriate protection for all participants.

But where does this leave entrepreneurs and the small- and mid-sized businesses—faced with the same complexities but without the resources and access of their large enterprise counterparts? Many find themselves stretched as they try to deal with the complexity and expense of patent systems that are increasingly critical to their success.

The Inventors’ Forum, hosted by IBM, brought together entrepreneurs, business leaders from companies of all sizes,
academics, attorneys and government officials from around the world for a 12-week virtual dialogue on intellectual property issues and their impact on the small- and mid-sized businesses and individual inventors. The group identified a number of issues, reaching consensus on many and continuing to debate on others. These included the following:

1. Intellectual property management has emerged as a critical competency—but university engineering and technical undergraduate education for the most part does not focus future inventors and business leaders on patents and intellectual property management, and the strategic role patents and IP management can play in business and economic development. This gap takes on greater significance as SMEs often lack in-house IP counsel to advise them.

2. Patent offices could exploit technology to offer a host of services that would help smaller businesses with more limited resources navigate the complexities of global patent systems more cost effectively.

3. Many changes called for in the patent reform legislation pending in the U.S. Congress were viewed positively while others were not. The draft legislation is intended to make
the system more balanced, predictable, and less costly by helping to improve patent quality, making it easier to challenge a “meritless” patent, and align the U.S. system with those of other countries. The alignment to a “first-to-file” system was the most discussed and endorsed, while there was greater diversity of opinion on proposed rule changes for how damages are awarded and how patents are challenged after they are granted.

4. A “Soft IP” system as currently proposed to complement the existing system in Europe—in which a patent owner voluntarily forgoes injunctions and accepts some form of compensation for permitting the use of the patented invention—would facilitate the growing global trend where innovation is moving from individual products to complex systems leveraging multiple inventions.

5. Patents and IP should be considered as strategic business assets that can be used to create competitive advantage and drive business growth—not the by-product of other activity. Effective IP management in this context requires a set of skills that are in short supply.
Education
Patents and intellectual property touch upon a spectrum of legal, economic, political, strategic business management and social issues relating to trade, competition, technology dynamics, knowledge building, economic development, and corporate and social accountability.

However, our educational systems approach patents as a narrow legal speciality. Graduate and undergraduate education on patents and intellectual property management is largely relegated to law school and certain MBA-level courses, but even then this education is not uniformly available.

“As a computer science professor with a university-based company, I would be very interested in being able to offer an IPR education program available to both foreign and domestic graduate students, particularly if it addressed both patents and open-source software. This would represent a valuable supplement to their academic programs, providing students with practical knowledge that would allow them to participate in global innovation communities.”

— Rob Cameron
Simon Fraser University

In most engineering and technical school programs, patents and patent management receive only cursory mention. But patents can do more than protect a company’s investment in innovation—they can become an integral element of business growth by showing how to shorten time-to-market for new products, reduce a company’s investment in duplicate or outmoded R&D, or promote cross-licensing of already-patented technologies.

Given the societal importance of IP and the role of patents as a strategic business asset, deeper education should be instituted in computer science, engineering and other areas of technical education.
“Patents and copyrights are therefore not just legal matters best left for corporate attorneys—and should, of course, not only be on the curriculum for law schools. IP should form part of education for both the study of law, economics, business and technology management, politics, business ethics, R&D management in engineering schools, etc.”

— Birgitte Andersen
University of London
“The economics tied to patent development, ownership and exploitation today almost rise to the level of becoming an engineering imperative.”

— Andy Gibbs
Patent Cafe
“It seems a good idea to develop a worldwide database, something that all offices around the world should be obliged to report to, anytime they receive a new filing. That certainly would demand standardizing lots of procedures, not only in filing or recording, but also in keeping such records updated. This can become even more complicated, when we consider the differences each national legislation brings. But everyone’s experience demonstrates that, usually, there are more common points than differences in procedures, and a conversation in this direction must be started.”

— Luciana Esther de Arruda
Arruda e Zamarion Intellectual Property

“Since it is not uncommon for companies to file patent applications in more than one jurisdiction, it would be very beneficial for patent applicants if there were a global database into which all of the search reports and examination results made by all patent offices are uploaded. In this way, examiners could easily share the fruits of their colleagues in other patent offices. And, applicants could also be relieved of the burden of submitting such kinds of materials to each patent office.”

— Deshan Li
Unitalen Attorneys At Law

“A worldwide database, as indicated by Luciana, would be a great idea. But it’s also necessary to harmonize the examiners’ opinions and points of view. The learning process of an examiner is usually developed by each patent office independently. What about centralized worldwide/regional courses for examiners? This way all the examiners would use the same criteria and basic knowledge to ‘judge’ the patents, so interaction and cooperation between patent offices would be easier.”

— Manuel Perez
Clarke, Modet & Co
Infringement Opinion Service

“I think this (an opinion infringement service) would be beneficial. I know you can search existing patents to a degree, but even then it may be difficult to determine whether infringement is a concern. Not only would this save both parties a hassle and potentially money, but it also might help people understand what infringement entails. With patents, copyrights and trademarks sprouting up everywhere these days, the threat of infringement becomes even more real. I believe that an opinion service would encourage infringement awareness and acknowledgment.”

— Rose Harr
BlueWare, Inc.

“Surely the one advantage is the (assumed) neutrality of patent offices. Will such opinions from private sector sources carry the same value into legal arguments or business negotiations?”

— Guy Carmichael
European Patent Office, Scenarios for the Future Project

“Based on what we are seeing of the U.K. opinion service so far, I tend to think it would be useful for more patent offices to offer a similar service. While not perfect, I agree that an opinion from a patent office would be perceived as more neutral than from most other sources. These opinions can be useful to resolve disputes that arise in licensing negotiations, as a kind of non-binding arbitration-like tool.”

— David J. Kappos
IBM
Smaller companies comprise the majority of patenting activity around the world, but these companies and individuals often find it hardest to manage the cost and complexity of navigating patent systems that are increasingly critical to their success.

The world’s patent offices could implement new services, mostly through implementing technology, to streamline the patent process while improving the integrity of the system:

1. Enable concurrent national entries from PCT filings to be filed electronically through a single portal or office—to eliminate the cost of having to engage multiple local counsels to file in multiple countries and requiring patent offices to share related filing information.

2. Produce Web-based publication standards—to help reduce language translation issues.

3. Improve the centralized global databases and search tools for patent applications—to help companies search through previous filings and increase harmonization of procedures.

4. Establish a Registry of Patent Pledges, including commitments to standards-setting organizations—to accelerate innovation by providing a repository of available patents to work from without fear of infringement.

5. Institute Infringement and Validity Opinion Services, similar to what has been implemented in the U.K.—to advise whether planned activity would likely infringe on an existing patent and help avoid costs associated with finding out after the fact.

The Patent Cooperation Treaty or PCT is an international agreement for filing patent applications having effect in up to 117 countries.

A key provision of the Patents Act of 2004, the Opinion Service of the U.K. Patent Office allows parties to test the strength of their arguments before—or instead of—resorting to litigation. An opinion is issued within three months.

“...The service was intended to be quick, while offering a high-quality, independent view. It covers both whether a patent is valid and patent infringement. Users have ranged from big companies to Small- and Medium-sized Enterprises (SMEs), meeting our expectation that the service would appeal to a wide cross-section of the market. The straightforward procedures have given eight parties without legal representation the confidence to use the service.”

Patent Reform—
Legislation and Innovation
“... my small clients fear what would happen in a world where their patents continue to be vulnerable indefinitely.”

— David Boundy
Cantor Fitzgerald
Many of the world’s patent systems were developed decades or even centuries ago and have not kept pace with the rapid technological advances of the invention community. The reasons for this gap include legal requirements, policies and patent office resources. Patent systems must take advantage of the same tools helping to accelerate the rate and pace of innovation.

Peer to Patent, or Community Patent Review, a pilot project in the U.S. that will be launched in the U.K. in 2008, could streamline the patent examination process, increase the quality of patent examination, and improve the integrity of the system.

“Damages apportionment is an interesting issue. I think of it as an issue of ensuring patentees are fully compensated for infringement of their patents, while preventing windfall recovery situations. If apportionment is conducted appropriately (whether under current law or under the new law as proposed), the focus of the apportionment analysis should be on the *contribution* made by the invention, not on the nominal elements included in the claim.”

—David J. Kappos
IBM
Ensuring the patent systems fulfill their mission to foster innovation and economic development has become an explicit agenda for many governments. The Patent Reform Act of 2007, introduced in April 2007 in the United States, is intended to improve the protection afforded to patent owners and to make the patent system function in a more balanced and predictable fashion for all participants.

“Damages apportionment was the law until 1946. It was abandoned because it was too complicated and tended to under-compensate inventors.”

— David Boundy
Cantor Fitzgerald

Reforming any complex system leaves many questioning who wins and who loses. How would the changes affect smaller companies? Resolving disputes based on who was first to file for a patent seems to offer financial advantages over proving who was first to invent. Apportioning damages based on the relative contribution can protect an inventor’s right while preventing “windfall” recoveries. Procedures for opposing patents after they are granted also can be less costly than litigation, and good patents are strengthened in the process. But the “second window” provision for post-grant opposition, which allows a challenge to a patent at any point in its life, drew mixed reviews. Some believe the second window will be used to harass, while others support it because in some industries, it takes years to know which patents might warrant opposition.

The reform measures include the following provisions:

- First-to-file rights and elimination of interference proceedings;
- Reform to make it easier to file a patent application without the inventor’s cooperation;
- Limitation of damages to only the economic value of the improvement as compared to the prior art;
- Specific limitations on when damages may be trebled for willfulness;
- Post-grant opposition proceedings with a reduction in the litigation estoppel effect;
- Limitations on patent venue;
- Authority to the PTO director to create further regulations;
- Permit public commentary to the examiner on patent applications.
“As an individual inventor, I like the idea of first to file. I am aware that there are some arguments that SMEs would be disadvantaged by such a system, because, on average they may have a greater time lag between invention and filing than large enterprises who have organized IP protection programs. However, I am loath to be involved in any kind of interference proceedings or litigation about first to invent.”

— Rob Cameron
Simon Fraser University

“First to file favors those with the resources to file quickly; first to invent favors those with the resources to litigate. Small firms are MUCH less disadvantaged in the filing contest than in the litigation contest.”

— Ronald Mann
Columbia Law School
“One advantage of the current system is that a broke inventor can invent something, disclose it and potentially gain a priority date for free, begin the research/development/marketing process, and have a full year to figure out how to fund a meaningful patent. Or, if they can educate themselves enough to figure out how to write a good enough provisional patent, they can buy themselves another year for a relatively small fee.”

— Bill Goldblatt
Criterion Dynamics

“The valid argument for first to file in the U.S. is international harmonisation. And I guess that is what everybody should aim for... the only realistic way to harmonise the International System and to fix the U.S. problems is an unilateral move of the U.S. toward the EPC model which bundles quite diverse European patent systems.”

— André Rebentisch
Entrepreneur
Soft IP
“Soft IP” is a proposed system where a patent owner makes technology available under an endorsed “licenses of right” regime. Under a license of right, the patent owner commits to grant patent licenses in exchange for reduced fees to maintain its patent. This would be an option for the patent owner at the time a patent is granted.

Soft IP is a response to the pressure put on patent systems as innovation moves in many technical fields from individual products covered by a single patent to complex systems covered by hundreds or possibly thousands of patents. Translated into the patent world, this implies a high fragmentation of patent rights among many different patent holders, known as “patent thickets.”

The concept of Soft IP may face fewer objections if implemented as an elective in which applicants (or even current owners) elect the regime rather than the existing patent law. The potential enticements might include faster and more efficient patent prosecution, reduced maintenance fees such as with existing license of right systems in Germany and the U.K., or more efficient or advantageous procedures for enforcement actions.

The idea of Soft IP might also be attractive to standards-setting bodies where the problems of injunctions against promulgated standards is a worry—for example, where patents are essential for software interoperability, open source projects, Internet usage, or telecommunication projects where interoperability is critical. In these cases, compliance with the standard—not disregard of the law or IP rights—can cause infringement. A Soft IP approach might reduce the need for prospective (“ex ante”) license negotiation in standards bodies.
“One of the reasons the European Patent Office scenarios projects were so interesting was that they tried to take a global look at the IP regimes over the next 25 years. The problems do not seem to be just European problems but are the same everywhere.”

— Roger Burt
IBM
“In Soft IP you no longer have the right to stop someone from carrying out the patented invention unless he does not meet his licensing obligations. This is the same in open source where you can no longer stop someone from copying unless he hurts the license conditions such as the GPL.”

— Marcus Muller
European Patent Office, Scenarios for the Future Project
Effective IP Management
“How can most SMEs (or even many large enterprises) be expected to be experts in IP management and the development of business-based IP strategies? This is not typically a core competency of most companies.”

— Hance Huston
IBM
“...the management of that IP, e.g., where to focus or not focus patenting and how to extract maximum value, is not so easy to buy or develop. I think that many SMEs, especially smaller entities, have less resources and expertise in this area.”

— Claire Schultz
Cytec Industries
U.S. firms annually waste $1 trillion in underused IP assets by failing to extract full value through partnerships, according to Navi Radjou of Forrester Research. No company would tolerate millions of dollars in physical assets sitting dormant in a warehouse, so why is this allowed for intellectual assets? Probably because these intangible assets are much more difficult to identify, protect and leverage than traditional physical goods.

The challenge for smaller businesses—in addition to understanding the value of using IP strategically—is in finding, developing and then commercializing this innovation, and for the startup, getting the funding. Many companies, large and small, struggle with this. They end up patenting too much innovation that is really incremental in nature and does not engender increased profits for the patent holder or any significant license income.

Turning ideas into assets is one of the most critical functions for companies in today’s knowledge-based global economy. Innovation has long been on CEOs’ agendas, but the creation and management of intellectual property largely has been managed deep in the corners of the legal department. Since this often includes outside legal counsel with hefty hourly rates, many companies view this as a “nice-to-have” luxury. This is no longer acceptable. IP management is too vital for senior managers to ignore.

“The ‘education’ about the value of using IP strategically and the business benefits of using IP, must be provided by the national patent offices. Taking into account the importance of IP in the development of a country, I think it’s the government’s duty (through the national patent offices) to raise the SME’s awareness of the business benefits of using IP.”

— Manuel Perez
Clarke, Modet & Co

Small businesses represent 99.7 percent of all employer firms, employ about half of all private sector employees and have generated 60 to 80 percent of net new jobs annually over the last decade. Small innovative firms produce 13 times more patents per employee than large patenting firms.

— U.S. Department of Commerce, U.S. Small Business Administration Office of Advocacy
“I think the patent system rewards those SMEs and startups that truly develop and patent breakthrough innovation that solves problems in a better way than alternatives in the market, or otherwise satisfies
customer needs that are considered important in the marketplace and worthy of commanding higher prices ... When an SME is successful, the patent system is important to them.”

— Claire Schultz
Cytec Industries
For more information on the GIO and the Inventors’ Forum project, please visit our Websites at
www.ibm.com/gio
www.ibm.com/gio/ip

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