

INTELLECTUAL PROPERTY UPDATE

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An Effective Patent Strategy: What It Is, and How To Implement It

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More companies rely on technology to fuel their growth and profitability today than ever before. In 1990, the United States Patent and Trademark Office granted 99,077 patents. A decade later that number had nearly doubled to 175,980. It continues to grow in the new century, with 183,975 patents granted in 2001.ⁱⁱ In today's technology- and service-based economy, it is important for companies to possess a clear strategy for managing and protecting their technology and their ability to advance and employ their technology to their advantage. Our advanced economy has made patent strategy a central part of any quality business plan. The race to patent new technologies is on. An ineffective plan for dealing with patents can leave a company unable to penetrate new markets, or, even worse, pushed out of markets in which it presently participates. An effective plan, however, can help enhance a company's profitability.

What Is a Patent?

A patent is a legal monopoly. Like a deed to land, it confers the right to keep others from trespassing on the land within the deed's description – the

patent erects a “picket fence” around the land's boundaries. Unlike a deed to land, however, a patent does not give its owner the right to occupy the land inside the picket fence. That land may already be occupied by third-party patent holders. A “freedom to operate” analysis, which evaluates whether a company may have stepped over a competitor's picket fence – i.e., infringed its patent – is necessary to ensure that a company can occupy the land within its own patent picket fence.

A patent is a powerful legal instrument. A variety of remedies are available when a third party has trespassed – infringed – on the patentee's intellectual property. These include injunctions (preliminary and permanent) and damages. Damages can be based on the patentee's lost profits, but in no event are less than a reasonable royalty. When the infringer has knowledge of the patent but fails to exercise due care, its infringement is said to be willful, and the damages award can be trebled. The infringer also can be forced to pay the patentee's attorney fees.

A proactive patent strategy benefits a technology- or service-based

company in a number of ways. Generally speaking, it can help a company establish a proprietary market advantage and it can improve the company's financial performance.ⁱⁱⁱ

Benefits of a Patent Strategy *Establishing a Market Advantage*

Patents can help a company establish a market advantage by preventing competitors from using that company's technology; by helping ensure a company can practice its own technologies (in combination with the freedom to practice analysis); and by staking a claim to advancements in the field, whether those advancements are to the company's technologies or those of its competitors.

The most common use of patents is to protect a company's core technologies and business methods. Core technologies are those pertaining to products a company presently markets or plans to market in the future. By building the “picket fence” around these technologies, a company can keep out third parties who want to practice the patentee's technology. This ability to exclude obviously gives a company a decided advantage in the marketplace.

History demonstrates what can happen when a company – or even a group of companies – fails to protect their technologies. The Swiss invented the electronic quartz watch movement, but failed to patent it. Japanese watchmakers and Texas Instruments appreciated the potential of the quartz watch movement, and grabbed such a significant market share that the Swiss have yet to recover.^{iv} One particularly startling example of the consequence of failure to patent involves a non-core technology: Xerox's invention of the graphical user interface, or GUI. The GUI is the system of pull-down menus and pop-up boxes that later became the basis for the Apple and Windows operating systems. Xerox's failure to patent the GUI allowed the industry to use the technology without having to pay royalties to Xerox. The GUI royalties Xerox failed to capture (apart from potential market share, had it used its invention) are astonishing, and have been estimated at over half a billion dollars, even at a very low royalty rate.^v

Patents also can create a market advantage by forcing competitors to invest in the development of alternative designs. The alternative design the competitors finally arrive at will often be more expensive to manufacture or a less effective product. Either of these results gives the company holding the original patent a decided edge with consumers.

Patents can be used to gain market advantage in other ways, including maximizing return on research and development (R&D) dollars. Knowing what technologies are patented can allow a company to direct R&D

expenditures toward those that are not. Conversely, a lack of awareness of the existing patent situation in a particular field may result in a large investment to develop a product, only to find out later that a competitor in the field already has set up a picket fence in this area. The result could be a total loss of that R&D investment, and the lost time from having to start the development process anew.

Microsoft is a case in point. In 1994 Stac obtained a \$120 million judgment against Microsoft when Microsoft was found to have infringed Stac's software data compression patents. Stac was awarded its lost profits, based on \$5.50 per unit of MS-DOS 6.0 sold by Microsoft. Facing a permanent injunction, Microsoft chose to settle with Stac on terms that were highly favorable to Stac, rather than appeal.^{vi}

Finally, an effective patent strategy looks to the future and anticipates market shifts and advances. By looking to the future and patenting areas of anticipated expansion of its own technology, a company can create a "blanket" of patents that makes it more difficult for its competitors to compete with it. Similarly, by anticipating the areas into which its competitors will expand, a company can "bracket" its competitors' future technologies, making it more difficult for its competitors to advance and develop their own future product lines. Thus, such foresight will give a company an opportunity to secure the freedom to operate in the future marketplace, or possibly establish the right to exclude potential competitors from the future marketplace.

Improving Financial Performance

A proper patent strategy will identify opportunities for a company to improve its financial performance. Proper organization of a patent portfolio may lead to recognition of valuable non-core technology related patents. Non-core technologies are those related to markets that a company does not presently compete in and does not plan to in the future. To the extent a patent does not protect the company's core technologies and is not serving any purpose directly related to the company's core or future technologies, it may be beneficial to the company to license the patent aggressively, even if the royalty rate is not commensurate with what it would require to license a patent that is directly related to its core activities. Patents in this area often provide very lucrative licensing opportunities, in part because they can be critical to those companies that do compete in the relevant market for the technology. In 2001 alone, for example, IBM was expected to receive license fees of \$1.7 billion – that's "billion," with a "b" – while Texas Instruments developed a licensing program in 1985 that transformed it from a company that was in deep financial trouble into one that generated \$1.5 billion in licensing revenues between 1986 and 1993.^{vii}

Patents that a company chooses not to practice or license also can be donated, resulting in tax benefits for the company. In recent years, corporations have donated patents to dozens of universities and other recipients. One benefit of this corporate benevolence is

a charitable deduction – for example, in 1999 DuPont earned a \$64 million tax deduction when it donated patent assets to three universities, and Lubrizol earned a \$22 million deduction in 2002 for a similar donation.^{viii}

A proactive patent strategy can attract new capital and enhance corporate value. The development of a strong patent portfolio can communicate earnings potential to investors. Savvy investors consider patent portfolios when assessing a company's long term potential. Priceline.com received \$20 million in private financing shortly after being informed by the Patent Office that it would receive a patent for its “reverse auction” approach to Internet business.^{ix}

Even a company in financial difficulty can find reprieve in its patent portfolio. A business that is interested in obtaining rights to a struggling company's patents can provide needed investment in exchange for those rights. Identification and packaging of non-core technologies can lead to investment in start-up companies where the patent holding company retains some ownership in the start-up in return for transferring these patents to the start-up.

Establishing a market advantage and improving financial performance are some of the benefits of a strong, proactive patent strategy. What follows next is a general guide to implementation of that strategy. Each individual company, however, must tailor its patent strategy to its own particular demands and situation.

How to Establish an Effective Patent Strategy

Step One: Perform the Patent Audit

The first step in any patent strategy is to evaluate the company's existing patent portfolio. A patent audit addresses four fundamental issues: Does the company have appropriate patent protection for its core technologies? Does a freedom to practice analysis reveal that the company can practice its technologies without infringing another's patents? Has the company adequately patented advancements and future technologies – both its own and those of its competitors? And has the company fully leveraged its patents by licensing its non-core technologies?

To conduct the patent audit, the company should review and catalogue each of its patents. It should then assign each patent a value – at least in qualitative terms. The valuation should take into account both the present financial value of the patent and the potential future financial value of the patent. The audit should correlate the company's patent portfolio with its core technologies, its non-core technologies, and its and its competitors' future technology developments.

Dow Chemical conducted an audit of its patents in 1994. To assess the value of its patents, Dow first identified the business unit to which each patent's technology was most closely related. It then plotted the patents on a grid, with the vertical axis representing the business units, arranged from the lowest growth unit at the bottom to the

highest growth unit at the top. The horizontal axis represented whether the patents were being used in the unit's current operating plan (at the left), in a future strategic plan (in the middle), or in no plan at all (at the right). Patents in the upper-left had the highest present value, while patents in the upper-middle had the highest potential future value. Patents in the upper-right likely related to non-core technologies and could have licensing value, while those in the bottom-right had little value and were candidates for abandonment.^x Dow then focused its efforts on the patents that were not being used directly by its own business units but that could be of value to its competitors, and was able to increase its royalty revenues from patent licensing from \$30 million to \$125 million over a four-year period.^{xi}

Whatever method is used, it is important that the valuation reflect both present financial value and potential future value. Cataloguing all presently held patents and determining their value will allow a company to make rational decisions about the handling of those patents.

Step Two: Create Company Protocols for Protecting Present and Future Intellectual Property

Each company should have in place procedures for protecting its intellectual property. One size does not fit all; the procedures should reflect the company's size and business objectives. The company should catalogue all future patents, just as all present patents were catalogued in the patent audit. The company's system should police its patent portfolio so that

infringers can be identified. Companies that desire to aggressively protect (and possibly license) their patents may want to set up a unit that is responsible for obtaining, tearing apart, and assessing potential infringement by competitors' products. Also, policies and procedures must be set out to ensure that intellectual property is not prematurely introduced into the public domain, which could result in the forfeiture of future patent protection. Companies should coordinate patent applications to ensure that the patentability of improvements or extensions of a pioneering patent are not affected by the initial pioneering patent application, or by the routine publication of that application.

If the company is large enough, it is a good idea to establish written company policies on employee handling of intellectual property. It may also be necessary to develop training materials and a training program that will enable employees to identify protectable intellectual property and educate them on the company policies that have been put into place to protect that property. This aim can be advanced by implementing systems for proper documentation and recordation of work and experiments, and by making the filling out of invention disclosure forms a routine practice. Companies should have employees sign agreements that assign their inventions to the company. Such agreements prevent any future ownership disputes, particularly in cases where inventorship is determined later (e.g., in litigation) to be different

from what initially was understood. These agreements also ensure that the employees will not take any intellectual property with them, should they leave the company in the future.

Step 3: Perform the Freedom to Operate Investigation

Possession of patents and the creation of a picket fence does not necessarily mean that a company is free to occupy the land within the picket fence. Competitors may have already occupied this land. This is illustrated, for example, by Stac's judgment against Microsoft. A freedom to operate analysis must be performed to determine a company's ability to operate in a target market and develop technology in that market. It may be that a competitor or multiple competitors have bracketed the company's core technologies and patents. Bracketing occurs when a competitor creates a picket fence around the company's innovative technologies by patenting extensions or

uses or manufacturing processes related to the technology. The result is often that the innovative technology becomes limited in scope or usefulness to the company. In this situation a competitor can then often force the company to cross-license the pioneering technology.

Step 4: Move to Protect Patents That Cover Core Technologies

A primary goal is to make sure a company's technology is protected. This can be done by creating a picket fence of patents around the core technology, as shown in Figure 1. The company also should take proactive steps (1) to ensure that its competitors cannot bracket the company's core technologies in the future, which would keep the company from expanding its own core technologies, and (2) to block its competitors from further restricting its freedom to operate in markets where those technologies already have been mined with patents by competitors. This strategy, which often is also

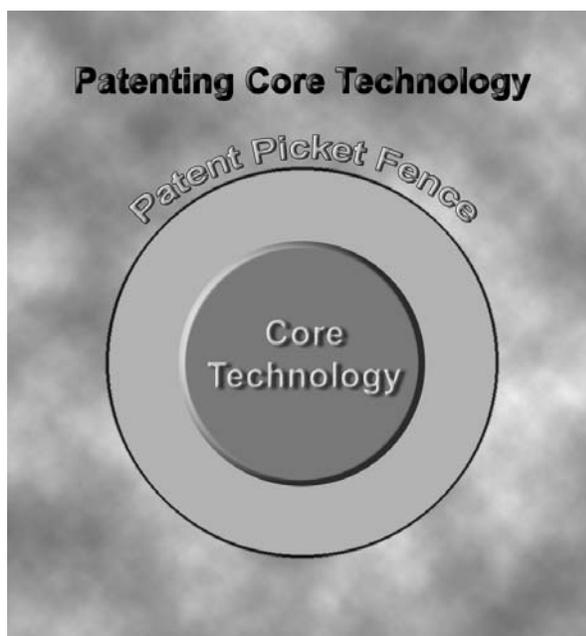


Figure 1

referred to as “blanketing” and is depicted below, involves patenting every possible manufacturing process, use, extension, or improvement of an innovative technology. [See Figure 2]

No core technology should be assumed to be ineligible for patent protection. Business methods and software, along with processes, machines, manufactures, compositions of matter, etc., are patentable. Late last year, AOL announced that it had patented instant messaging. AOL’s patent covers network-like systems that allow multiple users to see when others are present and to communicate with them. AOL’s patent could significantly alter the competitive landscape for years to come. Another example: A company owned by Jay Walker, the founder of Priceline.com, has patented an “upselling” method, being tested by fast food outlets such as McDonald’s, Burger King, and Kentucky Fried Chicken, by which a customer is offered the option of giving up the change from a routine purchase in exchange for a higher priced product, such as a soda or fries.^{xii}

Blanketing can be a very expensive strategy. But even where blanketing is beyond a company’s financial resources, it still is important for the company to protect its technology by making bracketing by its competitors as difficult as possible. A company can do this by using defensive publications to create a public domain buffer. For example, a company can publicly disclose incremental improvements to its core technologies, thus preventing competitors from bracketing its core

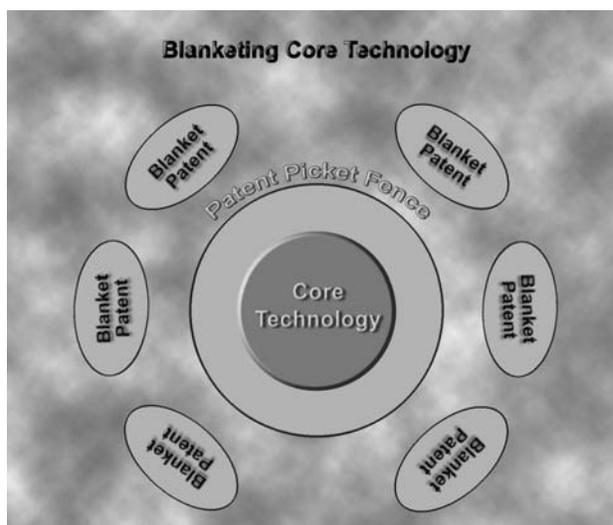


Figure 2

technologies, and ensuring its freedom to use its improvements and to operate around its innovative technology. These public disclosures can be accomplished using product literature, website postings, product sales, submitting papers at conferences, or publishing articles in professional journals. Websites such as IP.com allow a company to publish and date-stamp its technical disclosures, thus ensuring that its advances are prior art to later developments by its competitors. One disadvantage to this strategy (apart from a company’s inability to patent its own inventions) is that, should a competitor obtain a patent notwithstanding the Patent Office’s knowledge of the company’s work, the value of the company’s work as prior art in later litigation against the competitor’s patent is diminished because of the patent’s statutory presumption of validity.

Another way to protect your patents is through litigation. Litigation can be used to enforce patents, regardless of

whether the patents relate to the company’s core technologies, and regardless of whether the company and the alleged infringer are competitors. Litigation has become an increasingly common tool for the protection of patent rights, as evidenced by the doubling over the last ten years of the number of patent infringement suits filed. Whole industries, such as biotechnology, appear to have accepted patent litigation as simply part of the cost of doing business. Damage awards in patent infringement cases have been staggering over the last few years, and include Polaroid’s \$925 million judgment against Kodak; Stac’s \$120 million award against Microsoft; Digital Equipment Corporation’s \$700 million settlement with Intel, etc. Judgments less than \$100 million are no longer even headline news. These staggering damage awards, of course, are as much an incentive to a patentee to enforce its patent rights as they are a warning flare to any competitor to make sure it is not infringing someone else’s patent rights.

Step 5: Bracket Competitors' Technology and Patents

The freedom to operate analysis should identify where competitors have been granted patents. By combining this knowledge with a knowledge of a competitor's core technologies, a company can bracket the competitor's patents and core technologies. The goal is to patent expansion of the company's, and its competitors', future technologies. This will limit the competitor's ability to expand its core technologies or to obtain patents on its expansions of its core technologies. Bracketing a competitor's technologies serves two functions. It frustrates the competitor's efforts to introduce (and patent) new developments, and it also bolsters the company's ability to use those technologies, thereby providing it with freedom to operate. This is depicted in the following diagram: [insert bracketing diagram]. Where the competitor has dominant patents in the area, the company's bracketing patents may enable it to obtain a cross-license to its competitor's core technologies.

Microsoft's patent strategy was forged from its litigation experience. From its inception until 1995, Microsoft had obtained only 113 U.S. patents. But as mentioned above, in 1994 Stac obtained a \$120 million patent infringement judgment against Microsoft. Not long after that verdict, Microsoft increased its patent filings dramatically - by the end of 2001, it had nearly 2000 U.S. patents.^{xiii}

Hewlett-Packard is well aware of its competitors' strategies. H-P says that it "assume[s] our competitors are filing for

patents in all different areas. We don't want to be the last ones on the block." H-P currently is developing strategies to increase its patent filings by 50% to 100% by 2004.^{xiv}

Yamaha has used strategic bracketing to fence in its competitors in the personal watercraft marketplace. To do so, it has aggressively patented improvements, many of them minor, to a variety of features. Yamaha now has some 100 patents directed to every conceivable aspect of jet ski design. Even though Yamaha has incorporated very few of these improvements into its own jet ski designs, it has been able to use its patents to limit its competitors' design options and technology development.

The importance of having patents in one's own arsenal as a purely defensive measure cannot be overstated. When a competitor threatens or brings a patent infringement action, the best defense can be the assertion of one's own patents against the aggressor. This can result in an independent

damage award, or an incentive for a cross-license. At the same time, caution is in order. It is all too common for an alleged infringer to countersue with its own patents for the purpose of gaining leverage in settlement talks, rather than out of a good-faith belief that its patents are infringed. This action can result in consequences of its own, including allegations of unfair competition and a claim for attorney fees.

Step 6: Establish a Licensing Program for Non-core Patents

As discussed earlier, patents in high-growth industries that are not being utilized by the company presently and not likely to be utilized in the future are ideal for licensing. A licensing program will enable the company to leverage its non-core assets, and to create a future royalty streams. Profits from this practice can be tremendous – with little or no cost to the company, because a patent is a sunk cost. Revenues from patent licensing increased from \$15 million in 1990 to more than \$110 billion

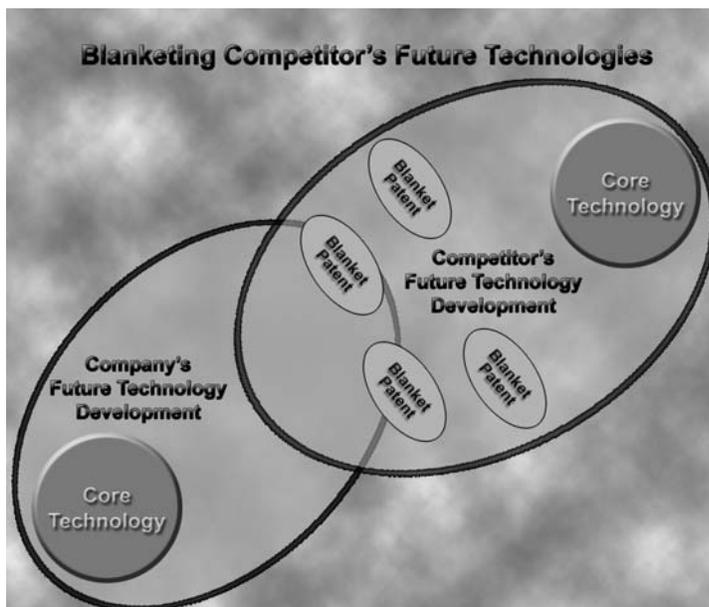


Figure 3

in 2000.^{xv} IBM alone increased its licensing revenues from \$30 million in 1990 to nearly \$1 billion ten years later,^{xvi} while Texas Instruments' current patent-licensing revenues are estimated at nearly \$800 million annually. 3Com states that its intellectual property group was a profit center in 2002, and that its patents generated about \$15 million in revenues - a real boon in a down economic climate.^{xvii}

A proper patent management strategy can help a company establish a market advantage and improve its financial performance. Companies should be careful to establish a patent strategy tailored to benefit their particular needs. No generic system will work for every company. The

important goals to remember when devising a patent strategy are to patent what you sell, identify and circumvent third-party land mines, patent your vision for the future by anticipating expansions and shifts in technology, bracket your competition, and, finally, tap unused patents for new revenue sources through licensing.

- i The authors express their appreciation to Daniel P. Sink, Esq. for his assistance in the preparation of this article.
- ii U.S. Patent Statistics, Calendar Years 1963 - 2001; http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf.
- iii See Kevin Rivette and David Kline, Discovering New Value in Intellectual Property, *Harvard Business Review*, January 1, 2000, 2000 WL 101183720.
- iv Kevin G. Rivette and David Kline, Unlocking the Hidden Value of Patents: Rembrandts in the Attic 100-01 (2000).
- v *Id.* at 99-100.
- vi David Yurkerwich, *Important Lessons in Patent Valuation from the Past 20 Years*, *New York Law Journal*, May 22, 2000.

- vii Joff Wild, *Survey FT Director: A Licence to Collect Money*, *Financial Times*, June 21, 2001.
- viii Barnaby J. Feder, *Patent Donations are Novel Corporate Gift*, *New York Times*, November 17, 2002.
- ix Peter H. Lewis, *Web Concern Gets Patent for Electronic Business Model*, *NY Today*, August 10, 1998.
- x See *supra* note iii.
- xi Jeffry Grainger, *Patent Process Automation: Evolution and Practical Application* at 4 (2001).
- xii Julia Angwin, *'Business-Method' Patents, Key to Priceline, Draw Growing Protest*, *Wall Street Journal*, October 3, 2000.
- xiii Pui-Wing Tam, *More Patents, Please!*, *Wall Street Journal*, October 3, 2002, at B1.
- xiv *Id.* at B1.
- xv See *supra* note iii.
- xvi See *supra* note iii.
- xvii See *supra* note xiii at B1.

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