



-----Limited Liability Partnership-----

Patent Protection for E-Commerce Business Models

INTRODUCTION

Until recent years, the Internet had been little more than a glorified playground for the technically inclined. Commercialization of this vast global communications resource was inevitable; easy access to millions of would-be consumers was a powerful lure that enticed capitalists into the realm of e-commerce. The Internet is now redefining the way business is conducted in virtually every industry. Advertisers, retailers, wholesalers, and service providers are scrambling to secure a niche in the Internet marketplace. The scramble to conduct business in this global on-line environment is fueled by the goal of gaining a slice of Internet-driven revenues. Although estimates of the size of e-commerce vary, one estimate placed 1998 Internet-driven revenues at \$74 billion. E-commerce revenues of \$1.4 to \$3 trillion are predicted by year 2003, which represents approximately three percent of the world gross domestic product.

A consumer today is likely to discover numerous competitive Internet Web sites offering the same or similar information, products or services. In 1998, 414,000 active commercial Web sites began operation, which is double the number of new commercial Web sites in the prior year. To succeed in this competitive e-commerce market, a business must attract as many consumers as possible to its Web site, while building and retaining consumer loyalty. Sometimes, a Web site is more attractive to consumers because it is built with cutting edge technology that provides advanced audio/visual user interfaces, services and security measures. E-commerce proprietors have recognized that a competitive advantage may be gained by securing patent protection for such technological innovations. Other times, the appeal of a Web site does not lie in cutting edge technology, but rather is due to an innovative business model. E-commerce proprietors may be surprised to learn that patent protection also may be available to protect innovative business models embodied in computer software.

In the early 1990's, the United States Patent and Trademark Office (USPTO) officially recognized that computer software inventions represent patentable subject matter. This recognition has not only been acknowledged by the judicial system, but it has also been taken a step further by the federal courts. While pure business models have traditionally been considered to be non-patentable, the United States Court of Appeals for the Federal Circuit (CAFC) recently ruled in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* that software inventions embodying business models, such as a mutual fund management model, should not be excluded from the scope of statutory patentable subject matter. The Deputy Commissioner for the USPTO, Q. Todd Dickinson, has confirmed that *State Street Bank* has produced a boom in business model-related patent application filings with the Patent Office. Although non-high tech companies are not yet accustomed to dealing with patents, Mr. Dickinson expects the USPTO to grant over three hundred patents for business models by the year 2000.

The economic reality of the Internet marketplace is that patent protection may provide a competitive advantage that increases the likelihood of success for an e-business. In Georgia, financial institutions, telecommunication service providers, Internet service providers, etc. are all entering the Internet marketplace to extend their traditional business or to enter a new business field. Attorneys should be aware that patent rights may now exist to protect their client's models for doing business on the Internet and related innovative software technologies.

OVERVIEW OF PATENT RIGHTS

Before examining the advantages of patent protection for an e-business, it is useful to first review our patent system and the basic procedures for seeking a patent. A patent is a grant of rights to an inventor by the U.S. government to exclude others from making, using or selling an invention for a limited time. The basis for U.S. patent law is found in the Constitution: "Congress shall have the power . . . to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective inventions and discoveries." A strong public policy also underlies the granting of patents because patents benefit society by stimulating innovation and by promoting the prompt disclosure of new inventions to the public.

There are three types of patents, including utility patents, design patents and plant patents. Utility patents protect utilitarian structure, function, method or composition. Design patents protect only the ornamental appearance of an article and not the structure or function of the article. Plant patents may be obtained by anyone who develops or discovers and asexually reproduces a new variety of plant, *i.e.*, tree, flower, etc. Utility and plant patents are granted for a term of twenty years from the date on which an application was filed in the United States. A design patent

expires fourteen years from the date the patent is issued.

To obtain a patent, an inventor must demonstrate that an invention is directed to patentable subject matter and is useful, novel and non-obvious over the prior art. An invention must fall into one of four classes of patentable subject matter: machines, articles of manufacture, compositions of matter, and processes. For example, a computer software invention can be viewed as a machine when combined with a computer, an article of manufacture when distributed on a diskette or a CD-ROM, or a computer-implemented process. An improvement to an invention included in these classes may also be patentable. Examples of "unpatentable" subject matter include a mere idea, printed matter, an inoperable device, e.g., perpetual motion machine, and an obvious improvement of an old device. Typically, any arguable use for an invention will suffice to meet the usefulness requirement.

To qualify for patent protection, an invention must be novel when compared to prior solutions to the problem solved by that invention, i.e., the prior art. Two broad categories of prior art which may destroy novelty include (1) events which occur prior to the date of invention and (2) events which occur more than one year prior to the filing date of a patent application directed to the invention. If an event satisfies either requirement, it is considered prior art.

In addition to the novelty requirement, a patentable invention must be non-obvious in view of the prior art. An invention is not patentable if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to which this subject matter pertains. Events which constitute prior art for the purposes of determining novelty also constitute prior art for the purposes of determining obviousness.

In the United States, patent applications may only be filed in the name of the inventor(s) of the patentable subject matter. A patent application describes the invention in detail and specifically states what the inventor believes is new and patentable. Each patent application is examined by the USPTO and, if the invention is determined to represent statutory subject matter and to be useful, novel and non-obvious, a patent is granted for the invention. A patent application includes a specification of the invention and, where necessary for understanding the subject matter of the invention, one or more drawings. While a patent specification may describe a number of aspects of the invention, the only protection given under U.S. patent law is to that subject matter defined in the patent claims.

Patent claims, which are the numbered paragraphs found at the end of a patent publication, define the scope of the invention in a manner similar to a property deed defining the boundaries of a property.

A patent specification must also describe the "best mode" contemplated by the inventors for carrying out the invention at the time of filing the patent application. Thus, the inventor must weigh his or her interests in obtaining a patent against his or her interests in maintaining a trade secret. Also, the patent specification must be enabling, that is, one skilled in the art must be able to make and use the invention without undue experimentation based on the teachings of the patent.

COMPETITIVE ADVANTAGES CREATED BY PATENTS

Why should an e-business seek patent protection for its software technologies or software implemented business models? Simply answered, patents provide a competitive advantage in a marketplace where unprotected technical innovation and marketing no longer guarantee success. A patent provides a powerful legal right to exclude others from making, using or selling a patented feature of a computer program. The number of patents for computer software programs has skyrocketed in recent years. The USPTO granted over twenty thousand patents for software-related inventions in 1998, which represents a forty percent increase over the prior year. The growth of Internet-related patents has matched the explosive expansion of the Internet, with almost sixteen hundred patents issued in 1998, up from only nine patents granted in 1991.

Strong intellectual property protection is required in the software industry because software remains at a much greater risk of being copied or reverse-engineered than other types of electronic technology. Many in the computer industry now prefer patent protection over trade secret and copyright protection because a patent offers a stronger protection mechanism that covers the underlying functionality of a software program. Efforts by software manufacturers to extend copyright protection beyond the literal elements of computer software to cover its functionality have failed. Indeed, software patent litigation has increased over the past ten years as copyright and trade secret protection has fallen out of favor as mechanisms for enforcing rights in technological innovations.

Patents offer at least four critical advantages to businesses engaged in e-commerce:

- (1) A patent may serve as an offensive weapon for battling competitors and protecting market share;
- (2) A patent may serve as a defensive shield for protecting research and development, business, and marketing investments;
- (3) A patent may create corporate value, resulting in the attraction of capital investment; and
- (4) A patent may create licensing opportunities.

On the offense, a patent owner is able to sue an infringer and seek both monetary damages and an injunction to stop the infringer from making, using or selling the infringing product. For example, an established company can use its patent to attack a start-up competitor marketing an infringing product. Because start-ups often lack the financial resources to battle a patent infringement lawsuit, the possibility of patent litigation may deter a start-up from entering a patent owner's market niche.

From a defensive position, the patent owner can use a patent portfolio to discourage a competitor from asserting a patent lawsuit based on the potential for a counterclaim by the patent owner. For example, a company holding a patent portfolio may assert its own patents, where possible, in response to a patent infringement suit. This counterclaim strategy may force a settlement more quickly than otherwise may occur in the absence of a defensive patent portfolio. Because both parties to the litigation hold patent portfolios, this settlement is often structured as a cross-license in which the parties license each other's patented technology.

A patent can contribute to corporate value by preserving investment in research and development and generating revenues from patent license opportunities. A patent also offers an assurance to venture capitalists that others may be reluctant to enter a technical field and dilute the financier's return on investment due to the artificial barrier erected by patent protection for a key innovation. A patent portfolio also may result in an increased valuation of a company by a financier based on potential patent license revenues.

STATE STREET BANK PAVES THE WAY FOR E-COMMERCE PATENTS

Under Title 35 of the United States Code, statutory patentable subject matter is defined as encompassing "*any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.*" Such expansive language in this statutory definition led the Supreme Court to declare that only "laws of nature, natural phenomena, and abstract ideas" are excepted from the definitional scope of patentable subject matter. Early court decisions holding methods of doing business to be unpatentable were correctly based on the rationale that the claimed business methods were nothing more than abstract ideas. For example, these courts found that procedures for book-keeping and other business methods did not produce a useful, concrete and tangible result. The USPTO's recent acknowledgment that computer software falls within the scope of patentable subject matter has had a significant impact on the Supreme Court's exception to patentable subject matter. Still, due to repeated judicial deference paid to the "business method exception," a debate has continued to rage as to whether computer software employing a method of doing business is inherently unpatentable subject matter. However, in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, the CAFC finally put an end to the debates surrounding what the court referred to as the "ill-conceived [business method] exception."

In *State Street Bank*, the CAFC traced the roots of the "business method" exception and ultimately determined that the exception was not created with the intent to exclude all methods of doing business from the statutory patentable subject matter. The CAFC reasoned that the case most often cited as establishing the business method exception, *Hotel Security Checking Co. v. Lorraine Co.*, did not rely on the exception to invalidate the patent in issue. Instead, the CAFC confirmed that the *Hotel Security Checking* court had invalidated the patent for lack of novelty and "invention" because "the fundamental principle of the [patented] system [was] as old as the art of bookkeeping, *i.e.*, charging the goods of the employer to the agent who takes them."

The disputed patent in *State Street Bank* involves claims to a data processing system for implementing an investment scheme, whereby mutual funds pool their assets in an investment portfolio organized as a partnership. The CAFC held that the claimed data processing system constituted a practical application of a mathematical algorithm, formula or calculation, because it produced a useful, concrete and tangible result, *i.e.*, a final share price momentarily fixed for recording and reporting purposes. The CAFC further held that since the claimed data processing system produced a useful, concrete, and tangible result, it necessarily involved statutory patentable subject matter, even though the useful result was expressed in numbers, such as price, profit, percentage, cost or loss. Therefore, the CAFC has once and for all declared that patent protection is available for software-related inventions that implement methods of doing business. As a result of denying review of the *State Street Bank* decision, the Supreme Court has effectively endorsed this expansive view of patent protection for computer software-implemented inventions.

IMPACT OF STATE STREET BANK ON ELECTRONIC COMMERCE

The number of patents directed to e-commerce continues to increase as savvy companies take an expansive view of the scope of patent protection available for software-implemented business models. Because e-commerce is still in its infancy, a company seeking a patent for its technological innovation or new business model may be rewarded with broad patent protection. For example, a pioneering Internet business has the opportunity to obtain a dominant patent that can block others from practicing the patented business model. A review of Patent Office records confirms that a flurry of patents have issued for e-commerce applications, as evidenced by the patent awards discussed below.

For example, the USPTO has awarded CyberGold, Inc. a patent directed to a system for providing immediate payment to computer users in exchange for viewing an on-line advertisement. The patent covers an "attention brokerage" scheme, which is an on-line business model based on selling and buying the attention of Internet users. CyberGold operates an on-line business that allows members to earn incentives for viewing advertisements, visiting Web sites or making on-line purchases. A member's account is credited with an incentive payment in response to completing a designated activity; the account can be used to pay a credit card bill, transferred to a bank account or donated to a non-profit organization. Nat Goldhaber, CyberGold's chief executive officer, asserts that "[t]his new way

of brokering the attention of people - offering their attention to other people who want their attention - is pretty much covered [by the patent]."

As another example, Netcentives, Inc. recently received a patent for an on-line frequent-buyer program, referred to as the "ClickReward Scheme," which is the Internet parallel to familiar frequent-flyer programs. On-line shoppers can earn "frequent-buyer" points by making purchases from merchants affiliated with the Netcentive's award program. West Shell III, chief executive officer, has distinguished the Netcentive's business model from CyberGold's business. "[Netcentive's] Web site rewards consumers with frequent-flyer miles and other incentives for purchasing on-line, rather than simply looking at advertising."

Priceline.com, which operates an on-line "reverse" auction system, has been awarded a patent that "covers both the broad concepts and the key functionality of buyer-driven commerce." Priceline's business model is founded on the concept of allowing consumers to name the price that they are willing to pay for a product. In turn, a consumer's "bid" is submitted to participating merchants, who have the opportunity to accept or decline the offer. The first merchant to accept a bid is awarded the sale by the patented system. Priceline.com launched its on-line auction system by offering airline tickets, allowing an airline to offer otherwise empty airline seats to consumers without underselling standard airline fares. The company has reportedly expressed an interest in licensing the patent to other e-commerce vendors.

Open Market, Inc. owns patents that cover technology for conducting business over the Internet, including on-line marketing, purchasing and payment. U.S. Patent No. 5,708,780 covers a process for analyzing how users browse through content on a Web site. U.S. Patent No. 5,715,314 covers the use of "electronic shopping carts," which on-line customers can use to collect items for purchase during an on-line shopping trip. U.S. Patent No. 5,724,424 covers secure, real-time payments completed by the use of credit or debit cards for Internet transactions. Open Market's CEO, Gary Eichhorn, has advised the electronic commerce community that the company "intends to make [the] patents widely available" for licensing.

CyberGold, Netcentives, Priceline.com and Open Market are not yet household names. Nevertheless, these young businesses, founded during the commercial infancy of the Internet, have already staked a significant claim to the on-line marketplace by obtaining patent protection for models of conducting business on the Internet. Several companies, notably Priceline.com and Open Market, have placed the electronic commerce community on notice that their patents are available for licensing to those that are only now seeking to conduct business on the Internet. Although neither patent licenses nor infringement lawsuits have been widely reported by the trade press following electronic business trends, it is likely that both events will arise in the near future as business model patent owners attempt to protect their market niche by exploiting patent portfolios.

CONCLUSION

The *State Street Bank* decision has opened the floodgates for e-commerce companies to seek patent protection for their innovative models of conducting business via the Internet. Given the rapid growth of e-commerce opportunities, savvy companies have recognized that patents can serve as offensive and defensive tools for warding off competitors. In the on-line environment, patents enable a new company to establish a foothold in a marketplace, opening the door for licensing opportunities and the attraction of capital investments. Indeed, the competitive advantages provided by patents may be vital to the success of any company trying to enter the Internet marketplace. Accordingly, attorneys representing businesses throughout Georgia should be aware that patent rights are available for computer-implemented business models as well as innovative software technologies. Given the rapidly growing number of pending patent applications and issued patents relating to e-commerce, businesses conducting business on the Internet are wise to seek patent protection sooner rather than later. Otherwise, a more aggressive competitor may win the race to secure an on-line market niche based on a patented business model.

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1. E-commerce refers to electronic commerce, which is also commonly described as e-business or electronic business. For the purpose of this article, e-commerce and e-business are used interchangeably and refer to conducting business in an on-line environment, such as the global Internet.
2. Technology Times, *Success at the Crest-The E-Business Tidal Wave*, 4 (Winter 1999) (hereinafter "Technology Times").
3. ***American Civil Liberties Union v. Janet Reno***, 4 ELPR (BNA) 113, 1119 (E.D. Pa. Feb. 1, 1999). See also Technology Times at 4.
4. Technology Times at 4.
5. See *Examination Guidelines for Computer-Related Inventions*, 61 Fed. Reg. 7478 (1996).
6. 149 F.3d 1368 (Fed. Cir. 1998).

7. 3 ELPR (BNA) 1393 (Dec. 16, 1998).
 8. **Id.**
 9. 35 U.S.C. § 154 (1994).
 10. U.S. Const. art. 1. sec. 8, cl. 8.
 11. 35 U.S.C §§ 101, 161 and 171 (1994).
 12. 35 U.S.C. § 101 (1994).
 13. 35 U.S.C. § 171 (1994).
 14. 35 U.S.C. § 161 (1994).
 15. 35 U.S.C. § 154 (1994).
 16. 35 U.S.C. § 173 (1994).
 17. 35 U.S.C. §§ 101-103 (1994 and Supp. III 1997).
 18. 35 U.S.C. § 101 (1994).
 19. **Id.**
 20. 35 U.S.C. § 102 (1994).
 21. 35 U.S.C. § 102 (1994).
 22. 35 U.S.C. § 103(a) (1994 and Supp. III 1997).
 23. **Id.**
 24. *Id.* See also *Graham v. John Deere Co.*, 383 U.S. 1 (1966).
 25. 35 U.S.C. § 111 (1994).
 26. 35 U.S.C. §§ 111-112 (1994).
 27. 35 U.S.C. §§ 101-103 (1994 and Supp. III 1997).
 28. 35 U.S.C. § 111 (1994).
 29. 35 U.S.C § 112 (1994).
 30. **Id.**
 31. *Id.*
 32. B. Sandburg, *Speed Over Substance*, Law News Network, Feb. 2, 1999 (available at <http://www.lawnewsnetwork.com/stories/feb/e020299f.html>) (hereinafter "Sandburg").
 33. **Id.**
 34. See *Lotus Dev. Corp. v. Borland Intl.*, 49 F.3d 807 (1st Cir. 1995), *aff'd mem.*, 116 S. Ct. 804 (1996); *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435 (9th Cir. 1994), *cert. denied*, 115 S. Ct. 1176 (1995).
 35. **See, e.g.**, Sandburg.
 36. 35 U.S.C. §§ 281 and 283-84 (1994).
 37. G. Choi, *Patents Offer Real Value to Businesses in Cyberspace*, *Cyberspace Lawyer*, Oct. 1998, at 7.
 38. **Id.**
 39. *Id.*
 40. **Id.**
 41. *Id.*
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