Patenting of Internet and e-Commerce: An International View

Subhasis Saha†
Hidayatullah National Law University, Civil Lines, Near Raj Bhavan, Raipur, Chattishgarh, 492001

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The large growth of the software industry has lead to an increase in the desire to protect software-related inventions. e-Commerce basically is doing business using computer systems and software, the rise of e-Commerce has led to a large increase in the number of patents on computer-implemented methods of doing business. Keeping in mind that software patents are a relatively new phenomenon, this paper deals with (i) the legal issues concerning patenting of Internet and e-Commerce and (ii) certain pitfalls in regard to e-Commerce patenting. The paper also touches upon various views of the US courts in regard to e-Commerce patenting.

Keywords: Internet, e-Commerce, patent, software, web page, computer

With the exponential growth in the software industry and increasing desire to protect software-related inventions, about 10 years ago it became possible in most of the Western countries to patent software. Patents on computer systems and software, on the other hand, are possible because e-Commerce basically is doing business using computer systems and software, the rise of e-Commerce has led to a large increase in the number of patents on computer-implemented methods of doing business.

What is e-Commerce?

Electronic commerce, commonly known as e-commerce or e-Commerce, consists of buying and selling of products or services over electronic systems, such as, the Internet and other computer networks. It can be broadly stated that e-commerce encompasses all commercial transactions that are conducted electronically. It can be further defined as, any business transactions that are carried out electronically with a view to improving the efficiency and effectiveness of market and business processes. e-Commerce follows the same basic principles as traditional commerce, i.e., buyers and sellers come together to swap commodities for money. But rather than conducting business in the traditional way in shopping stores or through mail order catalogs and telephone operators — in e-Commerce buyers and sellers transact business over networked computers.

The meaning of the term ‘electronic commerce’ has changed over the last 30 years. Originally, ‘electronic commerce’ meant facilitation of commercial transactions electronically, using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). These were both introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically. The growth and acceptance of credit cards, automated teller machines (ATM) and telephone banking in the 1980s were also forms of e-Commerce. From the 1990s onwards, e-Commerce additionally included enterprise resource planning systems (ERP), data mining and data warehousing. Although often confused, e-Commerce and EDI are not the same thing. e-Commerce is a generic term which embraces EDI as well as other electronic communication technologies, such as electronic mail and Internet. It can thus be defined as any form of business or administrative transaction or business information exchange which is executed using information or communications technology.

e-Commerce is generally the ‘in-thing’ today, concept of which covers the global information economy which includes electronic trading of goods and services, electronic fund transfer, online procurement, direct marketing, electronic billing, etc, through the Internet via computer. e-Commerce does not change the core of businesses, which is to generate profitability from transactions, but it is to change the mindset, how to go about generating profits through an efficient manner. From a commercial perspective, the advantages of e-commerce include reducing transaction costs,

†Email: subhasis39@gmail.com
reducing entry barriers, and increased accessibility to name but a few.5

What is an e-Commerce Patent?

What exactly is an ‘e-Commerce patent’? Generally speaking, it is a patent that protects a method of buying or selling something (including goods and services) over the Internet. Examples include the so-called electronic shopping carts; websites that employ auction-like techniques to sell goods; and computer screen designs that make it easier to transact business on the Internet. Can, and should, anyone own patents on the fundamental technologies behind e-Commerce?

Those questions have come up before, and often did so during the heyday of the dot-coms. Then, owning patents for computer-to-computer transaction methods that enabled electronic shopping was a central part of how e-Commerce companies competed. Now, there is a new set of legal disputes over what parts of e-Commerce processes can be protected by patents. Lawsuits brought by Chicago-based Divine Inc, a provider of software-driven and managed enterprise services, charge that several e-Commerce companies have breached its patents. There could be more legal machinations implied, and some sources tell PC Magazine that the disputes could quickly extend to any site doing e-Commerce.7

By the second half of the ’90s, the Internet became centerpiece of attention, and e-Commerce (doing business online) was the main focus point. Selling products or offering services over the Internet is not without its difficulties, and so many new techniques, protocols and systems were developed to make e-Commerce possible. Systems like Secure Sockets Layer (SSL) were introduced to allow secure transmission of customer data over insecure network connections, and a protocol for so-called ‘cookies’ was defined to facilitate electronic shopping carts.

A number of people then reasoned, if it is possible to obtain a patent on a new cash register or a bar-code reader, and why not on a computer system that makes distance selling possible? When the first patent application in this field was accepted without objections by the US Patent and Trademark Office (USPTO), many people were inspired to also patent their new inventions in the field of e-Commerce.

Patenting of Internet and e-Commerce

Keeping in mind that software patents are a relatively new phenomenon, until the early 1980s, the courts generally considered software to be nothing more elaborate than applied mathematics, and thus not patentable. That’s why the geeks behind such pre-’80s computing wonder as the first-ever database, word processor, and spreadsheet missed the boat. An inventor has just one year from the first public use, printed publication, or commercial promotion of their invention to file for a patent.8

That anti-software bias changed slowly, as attorneys became savvier about describing the unique challenges of programming and judges got hip to the complexities of coding. In 1996, USPTO issued its first guidelines intended to ‘facilitate the patenting of computer software.’ Two years later, the federal case State Street Bank & Trust Co v Signature Financial Group,9 affirmed a relatively low bar for patenting of software, listing a wide range of criteria under which programs could be considered to provide a ‘useful, tangible, and concrete result’—a patent prerequisite. Essentially, State Street case said that any software with a practical use had a good shot at passing muster. Computer-related patent applications nearly doubled.

After software became patentable, most such patents concerned ‘real’ inventions that just happen to be realized in whole or in part in software. These could be, for example, ways to improve quality of a television signal before presenting it on a display, to get faster hard disk access time or to ensure the integrity of data in a database. Although the debate about the level of inventiveness that should be required for patents on such inventions still continues, most patent offices appear to agree that in principle inventions embodied in software are patentable as long as there is a technical system or a technological improvement.

e-Commerce Patenting in Europe

As many firms apply for patents on one invention in multiple countries, the increase in patent applications on e-Commerce in the United States also affected other countries, most notably the European Patent Office (EPO). Although the EPO in first instance did not appear to object against patents on systems for supporting e-Commerce, a recent Board of Appeals decision made clear that patents on e-Commerce were only permitted if they made a
technical contribution or innovation. A landmark new selling technique implemented using standard hard- and/or software is not patentable in Europe.

Because of this decision the number of European e-Commerce patent applications has greatly decreased. This does not automatically mean that anyone is free to implement e-Commerce techniques in Europe that are patented in the United States. If a customer residing in the United States connects to a web server in Europe, and thereby makes use of the patented technique, one could argue that the invention is at least partially used in the United States. The European firm then runs the risk of getting a US lawsuit filed against him.

On a related note, the patent applications on Amazon.com’s one-click system and Priceline’s ‘name your own price’ technique for selling airplane tickets were both rejected by EPO because they were deemed to be obvious to a person skilled in the arts. The corresponding US patents are also taking a lot of criticism on the grounds that they are trivial applications of known technology.

**Legal Issues Concerning Internet Patents**

Internet patents abide by the same rules as other patents. In many respects, drafting an Internet patent application is no different from drafting other software patent applications. However, because of the specific technology involved and because many Internet inventions involve business methods and commerce, there are some special legal issues to be considered when drafting an Internet patent application. The issues revolve around how the Internet patent will be enforced. The list of issues to be considered is:

- How difficult will it be to get personal jurisdiction over an infringer? What if the infringer is an offshore website?
- Who is direct infringer? Is it necessary to sue the end user to snare the manufacturer as a contributory infringer?
- Will the statutory defenses available for business methods weaken the impact of the claims?
- Do the claims raise statutory subject matter questions?

The jurisdiction and infringement issues arise because the Internet detaches structure from function and distributes that function all over the world. Nicholas Negroponte described in his book, ‘*Being Digital*’, the paradoxical way in which legal systems still fail to adequately differentiate between information and tangible things - to differentiate, as Negroponte puts its, between ‘bits and atoms.’ Negroponte describes how he was precluded from carrying a CD-ROM across the Canadian border, which contained a presentation he was giving in Vancouver. Negroponte was permitted to cross, but import/export laws interceded, and his CD-ROM was confiscated at customs. Fortunately, Negroponte had a copy of the same presentation on his Internet website. He simply logged onto the site from Vancouver and downloaded the information. In short, the ‘atoms’ got tangled in the red tape at the border, while the ‘bits’ flowed across without raising even a customs agent’s eyebrow. Patent claims to Internet inventions raise many of these same ‘bits vs atoms’ enforcement issues.

The US patent statute defines what acts constitute infringement at 35 U.S.C. § 271. Most of these statutory provisions were crafted well before the ‘bits vs atoms’ issues was apparent. What does and does not constitute infringement of a patent claim may well depend on where the component parts of the Internet-based system are distributed and how the claim has been drafted.

It was well settled that software, if properly claimed, will constitute statutory subject matter. Nevertheless, courts still have difficulty with the statutory subject matter issue, particularly when data-gathering steps are simple and when the post-solution activity is trivial. At one level, the Internet is simply a new form of information packaging. It is pipeline through which valuable products and services flow to the customers and end users. Having a patent on the pipeline would offer significant commercial advantage. Hence, many Internet patents, if distilled to their essence, attempt to claim the pipeline, or at least as important piece of it.

As demonstrated by the District Court and the Federal Circuit Court decisions in the *AT & T Corp v Excel Communications Inc*, courts still differ in opinion on where to draw the statutory subject matter line. The *AT & T case*, although not Internet Technology *per se*, precisely involved a question of information packaging, specially automatic routing of interexchange telephone calls based on an indicator embedded in the message record associated with each call.
Pitfalls of Internet and e-Commerce Patents

Internet and e-Commerce patents can create special problems. Some of these problems are:

Inappropriate Claiming Strategies

e-Commerce and Internet inventions can present special problems in patent claiming strategies. Because a patent only covers what is recited in its claims, the wording of the claims becomes especially important in the Internet world, where it is sometimes difficult to target a single company or individual as an infringer. If a patent claims a method for transmitting information between two computers, a person having a computer that performs only half of the invention could avoid infringement if the other half is performed by an Internet Service Provider (ISP), such as, America Online. Careful claiming strategies could avoid this problem by drafting claims that cover each half of the invention in such a way that it is patentable and yet covers each partial infringer.

Claims can also be drafted to cover the interface or protocols used between systems, in order to catch infringers who provide partial systems that use the interface or protocol defined in the patent. For software inventions, claims can be crafted to cover unique application programming interfaces (APIs) that, if patented, could prevent a competitor from offering a compatible product. APIs usually define an interface between a high-level language and lower-level elements (e.g. operating system components) that implement a specific function.

Other situations involving off-shore computer servers that transmit web pages into the United States can present enforcement problems if patent claims are not drafted carefully to cover such possibilities. Claims focused on the reception and manipulation of data from an infringing off-shore computer could be used to ensnare ISPs and other intermediaries who contribute to infringement of the patent.

Software patents generally require careful forethought regarding targets of likely infringement. Claims that cover computer-readable media (so-called ‘Beauregard’ claims) can be used to go after mass producers of disks or CD-ROMs who sell infringing software to consumers. Method claims that cover user interface steps can be used to cover website operators (including ISPs) that provide services to consumers. The use of means plus function claim formats should, in the author’s opinion, be avoided.

Written Description Issues

In 1985, Charles Freeny received a US Pat No 4,528,643 for a method of ‘reproducing information in material objects’ at a point of sale location. The basic idea was that a customer could visit a music store and purchase a custom-made music disk. The store would transmit a catalog code to a distant computer, which would authorize the transaction, and an ‘information manufacturing machine’ in the store would then copy the selected information (e.g. music) onto the material object (a disk or tape) for the customer.

Freeny’s company sued CompuServe and a number of other defendants, alleging that the transmission of computer software and documents in digital form over the Internet to home computers infringed the patent. Even though the patent made no mention of the Internet, Freeny’s position was that the patent was broad enough to cover the sale of information over the Internet, and that the home computers were ‘information manufacturing machines’ under the patent. The District Court held a so-called ‘Markman’ hearing to interpret the claims of the patent. As part of this interpretation, the Court concluded that the patent could not be stretched to cover the sale of information over the Internet.

First, the Court concluded that while the claims do not specifically require that the information be pre-stored in the ‘information manufacturing machines,’ the written description portion of the patent made it clear that the information was pre-stored rather than downloaded in real time. Although the patent mentioned the possibility of transmitting the information while the customer waited (instead of pre-storing it), the patent criticized such a scheme as economically unsound. Consequently, the Court ruled that the patent would not apply to systems in which the information was transmitted to home computers while the customer waited.

Second, Freeny alleged that the claimed ‘authorization code’ provided to the ‘information manufacturing machine’ was broad enough to cover an Internet Protocol address assigned to a home computer. The Court rejected that contention, finding that the patent described the ‘authorization code’ as a code that enabled the ‘information manufacturing machine’ to decode or decipher the information stored in the machine.

Finally, the Court rejected Freeny’s contention that the claimed ‘point of sale location’ could be a
customer’s home. Because the patent repeatedly referred to a retail outlet as a ‘point of sale location,’ and because the patent stated that ‘the point of sale location is a location where a consumer goes to purchase material objects,’ the Court ruled that the patent was limited to locations in which a customer travels to purchase the material objects, and that it must be a location that offers for sale blank ‘material objects.’

The Court also concluded that the claimed ‘material object’ could not be a hard disk inside a customer’s computer, and that the claimed ‘information manufacturing machine’ was limited to a machine including four specific components that were described in the patent. Based on these interpretations, the patent could not be used to cover information transmitted over the Internet to home computers.

The CompuServe case illustrates an important point: The written description of patents that were filed before the advent of the Internet will be carefully scrutinized to determine whether they can fairly cover later-developed Internet technologies. Broadly written but vague patents that are later urged to cover Internet technologies will likely be interpreted narrowly in order to give effect to the inventor’s original intent.

Another case illustrating this problem was recently decided by the Court of Appeals for the Federal Circuit. In 1988, Wang Laboratories received a US Pat No 4,751,669 entitled ‘Videotex frame processing.’ In a typical videotext system, text and graphics information is transmitted to subscribers over a telephone or TV system. The Wang invention entailed storage of pages or ‘frames’ of data from different information suppliers. According to Wang, the patent was broad enough to cover AOL’s ‘favourite places’ and Netscape’s ‘bookmark’ features, well-known conveniences on the modern day web.

Wang sued AOL, Netscape and others for patent infringement. The District Court concluded on summary judgment that Wang’s patent was limited to ‘character-based’ frames, and could not be used to cover ‘bit-mapped’ protocols that are used on the World Wide Web (including those used by AOL and Netscape).

On appeal, the Court of Appeals for the Federal Circuit agreed, concluding that the word ‘frame’ as used in the Wang patent was specifically limited to character-based systems. The appeals court pointed to the figures and description in the patent, which repeatedly referred to character-based systems in explaining the invention. Although a bit-mapped protocol was mentioned in the ‘background of the invention’ portion of the patent, that single reference was insufficient to provide support for bit-mapped systems. The Court also found it significant that the Wang inventors had been unable to implement a bit-mapped graphics protocol, further supporting the view that only a character-based system had been intended. In view of the ‘huge’ differences between character-based and bit-mapped systems, the Court also found that no infringement under the doctrine of equivalents was possible.

A plaintiff tried to shoehorn vague terminology to cover Internet software in CIVIX-DDI, LLC v Microsoft Corporation et. al. One of the patents concerned electronic directories that allowed persons to locate businesses based on a geographic location. The patent disclosed and claimed ‘user stations’ from which the directories could be operated. The plaintiffs argued that the claimed ‘user stations’ could cover any computer device (including personal computers).

The defendants argued that ‘user stations’ were limited to public fixtures such as kiosks. The Court agreed with the defendants and granted summary judgment of non-infringement, on the basis that at the time the patent application was filed, one of ordinary skill in the art would interpret ‘user station’ to be a fixed public structure.

In Reiffin v Microsoft Corp, a patent owner who claimed to have invented ‘multi-threading’ for computer programs sued Microsoft over two patents relating to that technology. The District Court ruled that the patent was invalid because the claims failed to include certain necessary elements that were described in the patent (an editor, a compiler, an interrupt means, and a return means).

According to the District Court, the plaintiff’s original patent application strongly suggested that four elements were critical to operation of the invention, yet the claims in the patent as issued made no reference to any of these elements. Finding that the case was similar to the Federal Circuit’s decision in Gentry Gallery Inc v Berkline Corp, the Court invalidated the patents on the ground that the claims improperly omitted these ‘essential elements’ of the original patent application (an appeal is pending).

The above cases illustrate problems with fast-moving technologies like those involving the Internet. If patents are written using vague
terminology, courts may reign in the scope of the patent by assigning more specific definitions to the terminology based on technology in existence at the time the patent application was filed, or by invalidating the patents. New devices, protocols, and techniques that have no counterpart in older technologies may escape the patent altogether. On the other hand, writing patent claims using terminology that is too specific may limit the patent to a narrow field of protection.

Personal Jurisdiction Problems

When an allegedly infringing product is advertised for sale on the Internet on a web page that can be readily viewed from any state, one might assume that it would be a straightforward matter to sue the company that is advertising the product. Similarly, when a website operator uses an allegedly infringing method to display information on a website, one would assume that it would be a clear-cut matter to establish that the party can be sued in a given forum. After all, the patent statute was amended a few years ago to make ‘offering for sale’ an infringing product or service an act of infringement. These assumptions, however, would be incorrect.

A recurring problem that arises in cases involving the Internet is: Where, if anywhere, does the infringement occur? Defendants frequently allege that they have been sued in the wrong forum, or that they cannot be sued at all. A federal judge recently issued a preliminary injunction against a Canadian-based website, CRAVE TV, which was rebroadcasting copyrighted TV programs over the Internet. Because of the Internet’s global reach, anyone in the world (including viewers in the United States) could view the programs. The Canadian company took the position that the rebroadcasts did not violate Canadian law. While this case arose in the copyright context, it is easy to see how the same issue can arise in the context of patent infringement over the Internet.

In Agar Corporation Inc v Multi-Fluid Inc, a Norwegian company advertised allegedly infringing products on its website. The website suggested that persons interested in the products should place a call to the Norway Company or to its Colorado affiliate. The plaintiff sued the Norwegian company and the Colorado affiliate in Texas, asserting patent infringement based on the ‘offer to sell’ provisions of 35 U.S.C. § 271(a). Consistent with other court decisions, the Agar Court dismissed the suit for lack of personal jurisdiction, finding that the website was mostly ‘passive,’ providing information only and not allowing a customer to consummate a purchase. Finding that the website was akin to an advertisement in a national publication that was not specifically directed at Texas residents, the Court concluded that there were insufficient contacts with Texas to assert jurisdiction over the companies.

In CIVIX-DDI LLC v Microsoft Corp, the Court concluded that a Bellsouth Yellow Pages website providing search capabilities was not ‘directed at’ Colorado residents, and dismissed Bellsouth from the lawsuit. The Court found it significant that the defendant derived no advertising revenues from the website, and did not specifically solicit Internet users in Colorado.

The issue is even more acute with respect to companies that transmit information (including offers for sale) into the United States from an off-shore computer. This issue is presently pending in a case in the Eastern District of Virginia styled Addiction Research Institute Inc v Healing Visions Institute for Addiction Recovery Ltd. The defendant, Healing Visions, transmitted offers to treat patients at an off-shore facility using a US-patented method. In its motion to dismiss, Healing Visions contends that it cannot be held liable for infringement in the United States, even though its offer was transmitted into and directed at US residents in Virginia.

The case law so far has generally drawn a distinction between websites that are ‘active’ (i.e. those through which an order can be placed) and those that are ‘passive’ (i.e. those that merely provide general information but do not constitute an offer to sell allegedly infringing material).

Prior Art Searching Problems

When evaluating the patentability of an Internet or e-Commerce invention, searching for prior art can present a tricky problem. Searches through US patents and issued publications frequently fail to turn up related inventions that might be similar to the subject invention. Inventors usually have access to the latest technology, and conventional prior art searches can be shunned in favour of the inventor’s analysis of the closest prior art. Consequently, it may be advisable to search the web for related websites and methods, and to ask the inventors to help identify the closest prior art.
Views of US Courts on e-Commerce Patenting

State Street Bank Case

Even after grant, the legal value of such patents seem doubtful, as US patent law made it quite clear that methods of doing business were not patentable. In 1998, the Court of Appeals for the Federal Circuit declared that this exception could no longer be sustained.24

The first meaningful case applicable to e-Commerce patents was State St Bank & Trust Co v Signature Fin Group.9 Signature Group, respondent in this case, was the assignee of business model patent 056, titled: ‘Data processing system for hub and spoke financial services configuration.’ The patented system consisted on mathematical formulas to be used by administrators of mutual funds when calculating profits and tax advantages for investment capitals.

State Street, plaintiff, was a custodian and accounting agent for multi-tiered partnership financial services. Signature Group and State Street were negotiating the licensing of patent 056. When the negotiations broke, State Street brought a declaratory judgment action against Signature Group claiming invalidity and unenforceability of patent 056, and shortly after filed a partial summary judgment of patent invalidity for failure to claim statutory subject matter under § 101. The District Court granted plaintiff’s motion for summary judgment.

Signature Group appealed the District Court decision. The Federal Circuit Court reversed holding that State Street was not entitled to a judgment as a matter of law for invalidity of patent 056 because the patent claims were directed to a statutory subject matter.

The Federal Circuit Court held that ‘The Court has identified three categories of subject matter that are unpatentable, namely laws of nature, natural phenomena, and abstract ideas. Mathematical algorithms are not patentable subject matter to the extent that they are merely abstract ideas. Certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, i.e. a useful, concrete and tangible result.’ Thus, ‘patentability an algorithm must be applied in a ‘useful’ way.’ Applying this rule to the case at hand, the Court ruled, ‘The transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result — a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades’.

The Federal Circuit Court was clear in stating that business methods are subject to the same criteria for patentability as any other process or method. Thus, a statutory subject matter analysis should not be concentrated on whether the business model is a ‘process,’ ‘machine,’ ‘manufacture,’ or ‘composition matter,’ but rather on the essential characteristics of the subject matter, especially, its practical utility.

The Federal Circuit Court later narrowed its ‘mathematical algorithm exception’ (as the above holding is commonly referred to) in AT&T v Excel Communications.25 In Excel, the Court held the exception applies regardless of how the claim is presented, as machine or process. Thus, ‘physical transformation’ or whether the mathematical formula is an invention is no longer a requirement. Instead, the focus is understood to be not on whether there is a mathematical algorithm at work, but on whether the algorithm-containing invention, as a whole, produces a tangible, and useful result.’

State Street and Excel are relevant to the e-Commerce patents in the sense that many e-Commerce businesses are especially created software or part of. Most software contains mathematical formulas. Thus, mathematical algorithm exception to business model patents is deemed to apply to e-Commerce patents. Additionally, the subject matter discussion is the most common debate regarding e-Commerce patents.

In this ‘State Street Bank’ decision, the patent at issue related to a computerized method to compute the value of a strongly fluctuating stock portfolio. The Court declared that anything under the sun that is made by man, and which produces a useful, concrete and tangible result is in principle patentable in the United States. Generating monetary income, or determining the monetary value of something was held to produce a useful, concrete and tangible result. Shortly after the State Street Bank decision, the USPTO began granting e-Commerce patents, which protect methods of buying or selling something over the Internet.
It is clear that this verdict led to a great increase in the number of patent applications for new e-Commerce techniques, but it also spurred patents on pure business techniques without the use of computers. The number of applications in the United States in this field row from about 700 in 1996 to more than 7,500 in 2000 and to an estimated 12,000 in 2001.

One of the most famous patents on e-Commerce technique is the Amazon.com one-click patent (US Pat No 5,960,411). This technique made clever use of cookies and the customer information database to allow customers to buy books online by pressing a single button. After the patent was granted, it turned out that Amazon.com’s competitor Barnes and Noble had implemented a similar system. Amazon.com was able to get a preliminary injunction that forbade Barnes and Noble from using this technique. As the invention was issued just before December, this greatly affected both companies’ Christmas sales.

However, the Federal Circuit (Patent Appeals Court in the US) issued a landmark decision on 30 October 2008 relating to the patent eligibility of method claims, in In re Bilski. The decision replaced the ‘useful, concrete, and tangible result’ test of the State Street case. In this case, a patent application for a method of hedging risks in commodities trading was filed on 10 April 1997. The patent examiner rejected all the claims on the ground that, they failed to either represent a machine or apparatus, and the method did not involve a transformation of one thing into something different from the original. These grounds were articulated by the US Supreme Court itself in earlier cases. Bilski and Warsaw appealed the rejection to the Board of Patent Appeals and Interferences (BPAT), which affirmed the rejection. Further appeal was made to the Federal Circuit. The Court then ordered an en banc rehearing sua sponte, which was held on 8 May 2008.

The Court also rejected other proposed tests of patent-eligibility that had been suggested by the Supreme Court previously. Several Federal Circuit panel decisions had held that a process was patent-eligible if it produced ‘a useful, concrete, and tangible result’ - such as the transformation of financial data from one form to another form. Thus, in the State Street Bank v Signature Financial Group case, the Court upheld a patent on a tax-avoidance scheme under this standard. The Court now recognized that this test is ‘inadequate’ as a dissenting Supreme Court opinion had already stated and therefore backed away from the language, denying that the Federal Circuit had ever ‘intended to supplant the Supreme Court’s test.’ The Court did not, however, expressly held that State Street should be overruled; it merely dropped a footnote stating that ‘those portions of our opinions in State Street and AT&T relying solely on a “useful, concrete and tangible result” analysis should no longer be relied on.’

Another famous e-Commerce patent (US Pat No 5,797,127) is the Priceline ‘name your own price’ technique. This technique allows people who want to buy a cheap plane ticket to indicate on Priceline’s website what they are willing to pay most. Priceline then searches for a company willing to fly this person for a lesser amount, arranges a ticket and pockets the difference. A lawsuit with a competitor called Expedia (a Microsoft spinoff) was settled out of court for an unknown amount.

The Pipeline Case

One famous example of a recent e-Commerce patent license resulted from the settlement between Priceline and Microsoft regarding Priceline’s name-your-own-price business model. In October 1999, Priceline sued Expedia and its parent company, Microsoft, for infringement of US Pat No 5,794,207, ‘Method and apparatus for a cryptographically assisted network system designed to facilitate buyer-driven conditional purchase offers.’ On 9 January Microsoft agreed to pay royalties to Priceline to settle the dispute. While the terms of the settlement were not disclosed, both parties stated that it would not have a material impact on their businesses. There are several lessons to be gleaned from this case.

Lessons learnt from Pipeline Case

First, the patent system is still working, even in cyberspace. While the e-patent pundits suggested that the sky would soon fall under the weight of bogus business method patents, the Priceline settlement is an example of the patent system working as it always has. If the Priceline patent was clearly invalid, it is less likely that a corporation of the size of Microsoft would have agreed to pay anything. Instead, the parties behaved normally, implying that the system worked.

Second, this settlement also serves as an example of a conventional licensing strategy: Attract early participants with a lower rate to boost the ultimate success of the licensing program. If Priceline had
asked for too much, it could have faced an invalidity fight that might have destroyed the asset, like the one being waged against another famous e-Commerce patent, the one-click patent no 5,960,411 owned by Amazon.com. After a trial court granted a preliminary injunction against Barnes & Noble in a suit brought in October 1999, the Federal Circuit on 14 February held that Barnes & Noble had ‘mounted a substantial challenge to the validity of the patent’ and that Amazon was not entitled to the injunction. Thus, Amazon is now facing the invalidity fight that Priceline avoided.

Third, the Priceline patent was written with an eye towards marketing it. For example, the claim was written so that infringement would not be obscured by technical intricacies. A method for using a computer to facilitate a transaction between a buyer and at least one of sellers, comprising:

(a) inputting into the computer a conditional purchase offer which includes an offer price;
(b) inputting into the computer a payment identifier specifying a credit card account, the payment identifier being associated with the conditional purchase offer;
(c) outputting the conditional purchase offer to the plurality of sellers after receiving the payment identifier;
(d) inputting into the computer an acceptance from a seller, the acceptance being responsive to the conditional purchase offer; and
(e) providing a payment to the seller by using the payment identifier.

The steps of this claim are lucid and can be readily detected in a potential licensee’s system. By looking at the Expedia web pages themselves, Priceline was able to detect and then argue that each of the claimed steps was performed by the Expedia system.

For patents that lack such easily detectable elements, technical experts are often used to determine whether a claim element is present. For example, variable names and script titles in web page code, as well as URLs that are generated by hyperlinks or that perform actions on web pages, can provide evidence of infringement. By keeping these types of indicators in mind, a skilled e-patent attorney is better able to draft strong claims for e-Commerce patents.

Recent Developments

The recent injunction granted to Amazon.com against Barnesandnoble.com illustrates the power of a single patent. In October 1999, Amazon.com sued Barnesandnoble.com for patent infringement, alleging that Barnesandnoble.com’s website infringed Amazon’s ‘one-click’ patented technology. Amazon’s patented system allows online shoppers to purchase items without filling out registration and shipping information forms each time they make a purchase. Instead, repeat shoppers can merely click an item that they wish to purchase, and the sale is instantly consummated.

Amazon.com obtained its ‘one-click’ patent in September 1999, and sued Barnesandnoble.com barely one month later; alleging that Barnesandnoble.com’s ‘Express Lane’ ordering system copied the patented method. In response to Amazon.com’s motion for a preliminary injunction, Barnesandnoble.com argued that the patented method was obvious, and that the patent was invalid. The District Court rejected these arguments, finding that it would not have been obvious to implement a ‘one-click’ ordering method. The District Court concluded that Barnesandnoble.com’s copying of the patented feature provided additional evidence of its non-obviousness, and enjoined Barnesandnoble.com from infringing the patent. Barnesandnoble.com quickly modified its allegedly infringing design to require additional ‘clicks’ before a consumer could consummate a purchase. In the world of the Internet, its site became slightly less convenient and slower than that of its competitor.

Yahoo! is the latest dot-com company to be sued by a patent infringement plaintiff. The lawsuit, filed in Missouri in November 1999, alleges that Yahoo’s ‘Yahoo! Shopping’ feature infringes a patent owned by Juliette Harrington, a New Zealand woman. The US Pat No 5,825,651 entitled, ‘Integrated interface for vendor/product oriented internet websites,’ allegedly covers a universal shopping cart that permits consumers to purchase items from different websites in a single transaction.

In another recently-filed lawsuit, Trilogy Software Inc sued CarsDirect.com, claiming that CarsDirect infringes its patented method for permitting customers to choose options for a car ordered over the Internet. The patented technique (US Pat No 5,825,651) purportedly guides customers through the selection process by automatically including certain options
and permitting the customer to choose other options, based on compatibility among options. At first glance, the patent appears to cover the mere automation of a car salesman’s ordinary business practices.74

Another company claims to have a patent covering the sale of music in electronic form over the Internet. The company, Parsec Sight/Sound Inc, filed a lawsuit53 against a company for infringing its patented method.36

Doubleclick recently sued L90 in the Eastern District of Virginia for patent infringement, claiming that L90’s advertising serving and tracking software infringes the US Pat No 5,948,061. The patent allegedly covers the concept of targeted advertising on the Internet based on user profiles.

Not even eBay, the pioneering auction website, has been immune from lawsuits. Network Engineering Software Inc of San Jose, California, filed a patent infringement lawsuit against eBay over database technology that allows users to publish information on the web. The US Pat No 5,778,367 is entitled ‘Automated on-line information service and directory, particularly for the world wide web.’

If there is one lesson from the spate of recent lawsuits, it is that patent owners are setting their sights on ‘big target’ defendants. Large corporations with an Internet presence are more likely to be sued for patent infringement than smaller, lesser-known companies. The very nature of the Internet makes it much easier to discover infringement than was previously possible. For example, a website that is launched by a small jazz club can be instantly located and viewed from anywhere in the world. Automated web ‘robots’ can be used to search the web for various keywords or pictures that might suggest infringing conduct. As the number of Internet and e-Commerce patents continues to grow, infringement lawsuits are likely to increase proportionately.

Conclusion

Patents on e-Commerce and methods of doing business are, even more so than patents on software, subject of intense debate. Traditionally speaking the patent system was intended for technical innovations, and for many people it is not acceptable that a non-technical invention becomes patentable solely because it is carried out by a computer. On the other hand one could argue that e-Commerce creates many new business opportunities, which require large investments. Without the protection offered by the patent system it would be hard to recoup those investments. In conclusion, if a patent portfolio is the only thing left standing when a dot-com is dot-gone, strong patents can generate revenue into the future. However, while strong patents in all areas of technology share certain characteristics (like breadth and validity), strongly marketable e-Commerce patents require specialized attention.

References


15. 172 F. 3d 1352 (Fed. Cir. 1999).
21. ESAB Group Inc v Centricut LLC, 49 USPQ2d 1822 (D.S.C. 1999) (Website that offered products but that was not actually used to consummate a sale from South Carolina did not constitute 'purposeful availment' of South Carolina for personal jurisdiction purposes).
22. CIVIX-DDI LLC v Microsoft Corp, 52 USPQ2d 1501 (D. Colo. 1999).
25. AT&T v Excel Communications, 172 F.3d 1352 (Fed. Cir. 1999).
28. Sua sponte, Latin for 'of one’s own accord,’ is a legal term that means to act spontaneously without prompting from another party. The term is usually applied to actions by a judge, taken without a prior motion or request from the parties.
29. In dissenting from the dismissal of certiorari in Laboratory Corp of Am Holdings v Metabolite Labs Inc, 548 U.S. 124, 136-37 (2006), Justice Breyer, with whom Justice Stevens and Justice Souter joined, pointed out how the State Street test makes things patent-eligible that Supreme Court decisions had held patent-ineligible.
30. Priceline v Microsoft, Case No. 399CV1991 (AWT).
33. Harrington v Yahoo! Inc, No. 4-99 CV-1751 (E.D. Mo.).
35. Parsec Sight/Sound Inc v N2K Inc, No. 98-CV-118 (W.D. Pa.).
36. Pat No 5,191,573, entitled ‘Method for transmitting a desired digital video or audio signal’.
37. US Pat No 5,778,367.